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ENCYCLOPEDIA OF WORLD WAR II

ALAN AXELROD

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For Anita and Ian

Contents

Introduction

The legendary American commander General George S. Patton, Jr., once observed that next to war, "all other human endeavor paled to insignificance." If we accept this judgment, we may begin to appreciate the magnitude of World War II, in which Patton played so prominent a role. It, after all, was the largest and bloodiest war in history.

Rare was the patch of the planet that was spared involvement in this war, at least at some time during 1939–45; however, the principal combatants were Germany, Italy, and Japan—the Axis powers—and France, Great Britain, the United States, the Soviet Union, and China—the Allies. The butcher's bill created by this conflict was unprecedented in extent and remains unequaled. Most authorities attribute 40 million to 50 million deaths—the vast majority of these civilians—directly to the war. The peak number of troops mobilized by all combatant nations was 72,928,000, and millions more civilians were committed to war-related industrial production (among these both free workers and slave laborers) and to partisan, guerrilla, and resistance activity.

World War II devastated Europe and Asia and left a world-shaping legacy in its turbulent wake. As a result of the war, the power of the Soviet Union was extended to many nations of eastern Europe, and communism also triumphed in China and established footholds in parts of Korea and Vietnam. The world experienced a profound shift in power and influence away from the old states of western Europe and toward the United States and the Soviet Union, which, through some five decades following the war, were the only global superpowers, each armed with another momentous product of the war: nuclear (and, later, thermonuclear) weapons.

World War II is best understood as an extension of the earlier global cataclysm that was World War I (1914–18), which left many territorial issues unresolved even as it created a host of new cultural and economic incentives for war. The article entitled "Causes of World War II" and the articles treating France, Germany, Italy, Japan, and the United States in this encyclopedia provide discussion of the background against which World War II developed, including a straightforward summary of the causes of the war from the perspectives of each of the major combatant powers. While the economic and territorial causes of the war are relatively easy for a modern reader to grasp, the ideological dimensions are both more complex and yet more elemental.

Politically, the war was a contest involving three broad orientations:

1. The combination of German Nazism and Italian fascism (to which may be added Japanese militarism)
2. Soviet communism
3. Western democracy

Although the socioeconomic basis of Nazism, fascism, and Japanese militarism was fundamentally opposed to the communism of the Soviets, the German and Soviet dictators, Adolf Hitler and Joseph Stalin, began the war as unlikely allies. After Hitler betrayed the alliance by invading the Soviet Union in June 1941, Stalin made a new unlikely alliance, this time with the democratic powers, and thus the prewar ideological enmity between Soviet communism and Western democracy was held in

abeyance for the purpose of defeating the common Axis enemy.

Yet the ideological dimension of World War II went far beyond politics to encompass racial mythologies held by Hitler and the Nazis as well as by the Japanese militarists (and to a far lesser degree, by the Italian Fascists), in which the aggressors saw themselves as a master "race" naturally and inexorably opposed to a number of lesser "races" (often defined as subhuman). These lesser races were properly subject to conquest, including economic exploitation for labor and other resources and even genocidal extermination—the latter most infamously exemplified in Nazi anti-Semitism, which gave rise to the "Final Solution" and the "Holocaust," both of which are treated in this encyclopedia, but also evident in Japan's brutal treatment of conquered peoples and defeated armies (see, for example, "Nanking [Nanjing], Rape of"). The mass persecution, torture, and murder of civilian populations were very much a part of World War II, both as a motive and a result, and these subjects are treated in this encyclopedia along with the more conventional military aspects of the war.

At somewhat more than a half million words, the *Encyclopedia of World War II* is intended to be comprehensive, but it makes no claim to being exhaustive. As Patton's assessment of war implies, discussion of World War II properly encompasses every aspect of human endeavor. Here, however, we have been guided by our sense of what subjects are most commonly sought by students and instructors at the high school and undergraduate levels, as well as by others with a nonspecialist interest in World War II. Beyond this, we do not claim to have definitively identified all that is important to the war anymore than we claim to have excluded absolutely all that is of only peripheral interest. We are confident, however, that each of the articles we have included will be useful, relevant, and interesting to the student, instructor, and general reader. Each article includes cross-references to related articles and concludes with suggestions for further reading. These suggestions constitute a specialized bibliography of World War II subjects; readers looking for general works on the conflict should consult the bibliography that concludes the encyclopedia.

Entry List

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Aachen, Battle of

Aachen, near Germany's border with the Netherlands and Belgium, first distinguished in history as the capital of Charlemagne's empire, was the site of the first battle by U.S. forces on German soil and was the first German city to fall to the Allies. Located near the line of German fortifications known as the West Wall, Aachen was a prime gateway into Germany.

During September 12–15, 1944, Courtney Hodges's First U.S. Army attempted a penetration through the south side of Aachen. Repulsed, Hodges began an encirclement and, on October 2, launched a new assault, this time from the north as well as south. By October 16, Hodges completed his encirclement of the city and penetrated it generally. This resulted in days of costly street fighting, which finally produced the surrender of Aachen on October 21.

While Aachen was a major American triumph, it is also true that the German defense of the city, led by Col. Gerhard Wilck (under Gen. Hermann Balck), was highly effective in that it halted the advance of the First U.S. Army for more than five weeks. Hodges suffered nearly 8,000 casualties in operations in and around Aachen.

See also Siegfried Line.

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ABC-1 Staff Agreement

Concluded on March 27, 1941, at Washington, D.C. between naval and military representatives of the United States and Great Britain, the ABC-1 Staff Agreement established the practical basis of Anglo-American cooperation in the event that the United States entered the war. The document consisted of three major provisions:

1. An agreement that both powers would concentrate their efforts on defeating Germany as the most dangerous of the Axis powers
2. An agreement that the chiefs of staff of the British and the American militaries would work together as a single Combined Chiefs of Staff
3. An agreement that the U.S. Navy's Atlantic Fleet would begin assisting the Royal Navy in escorting Atlantic convoys as soon as the U.S. Navy was capable of doing so

Unlike the first two provisions, which would apply only after the United States actually entered the war, the third provision went into effect immediately, and the U.S. Navy, escorting Allied convoys, began what was, in effect, an undeclared naval war against Germany months before Pearl Harbor

thrust the United States into both the Pacific and the Atlantic wars.

See also Armed Neutrality; Atlantic Charter; Naval War With Germany, Undeclared (1940–1941); and Neutrality Acts, U.S.

Further reading: Kemp, Peter. *Decision at Sea: The Convoy Escorts.* New York: Elsevier-Dutton, 1978; Matson, Robert W. *Neutrality and Navicerts: Britain, the United States, and Economic Warfare, 1939–1940.* London: Taylor & Francis, 1994; Rhodes, Benjamin D. *United States Foreign Policy in the Interwar Period, 1918–1941: The Golden Age of American Diplomatic and Military Complacency.* New York: Praeger, 2001.

Acheson, Dean (1893–1971) *U.S. diplomat instrumental in the Marshall Plan*

Although Dean Acheson served in government during World War II as assistant secretary of state from 1941 to 1945, he is most significant for his role in the United States' single greatest contribution to the postwar recovery and welfare of Europe, the Marshall Plan. In 1947, Acheson, at the time undersecretary of state (in the office of Secretary of State George C. Marshall), laid out in broad form the principal points of the great relief, recovery, and redevelopment program, which not only rescued a devastated Europe, but saved much of it from being engulfed by the Soviet Union.

Acheson was educated at Yale University and at Harvard Law School. After serving as private secretary to Supreme Court Justice Louis Brandeis, Acheson joined a prestigious Washington law firm in 1921, then entered government service in the administration of Franklin D. Roosevelt in 1933 as undersecretary of the treasury. During the war years, he served as an assistant secretary of state and, from 1945 to 1947, as undersecretary of state. In this post, Acheson was instrumental in engineering Senate approval of U.S. membership in the United Nations.

In addition to his work in helping to design and promote the Marshall Plan, Acheson also profoundly influenced American postwar policy with his strong stance against the expansion of communism and his formulation of the so-called Truman Doctrine, including its leading theme of "containing" communism whenever and wherever its forcible expansion occurred. Acheson became secretary of state in the cabinet of Harry S. Truman in January 1949 and was instrumental in the creation of NATO, the North Atlantic Treaty Organization.

During the 1950s, despite his strongly anticommunist stance, Acheson became the target of the Red-baiting senator from Wisconsin, Joseph McCarthy, but remained in office until President Truman left the White House in 1953. Returning to the private practice of law, Acheson also continued to serve as a presidential adviser and was the author of several important firsthand histories, including the Pulitzer Prize–winning *Present at the Creation,* an account of his years as secretary of state.

Further reading: Acheson, Dean. *Present at the Creation: My Years in the State Department.* 1969; reprint ed., New York: W. W. Norton, 1987; Lamberton, John. *American Visions of Europe: Franklin D. Roosevelt, George F. Kennan, and Dean G. Acheson.* New York: Cambridge University Press, 1996.

Admiralty Islands, Battle of

The Admiralty Islands are located some 200 miles northeast of New Guinea and, captured by Australian forces early in World War I, became part of the Australian mandate of New Guinea in 1921. The islands were occupied by Japan in April 1942. The Japanese established air bases on them and used Seeadler Harbor at Manus Island as a fleet anchorage.

Pacific Allied theater commander Gen. Douglas MacArthur needed to isolate and reduce the major Japanese base at Rabaul, chief town on New Britain Island, Papua New Guinea. To do this, he understood that the Japanese facilities on the Admiralty Islands would first have to be captured, and he assigned the U.S. Army's 1st Cavalry Division, supported by the 73rd Wing of the Royal Australian Air Force, to seize the islands. Commanded by Lt. Gen. Walter Krueger, the 1st

Cavalry, covered by Australian air support, landed on Los Negros Island on February 29, 1944. After a week of fighting, the 1st Cavalry advanced to Manus Island, where it encountered extremely tenacious resistance from the large Japanese garrison there: two full infantry battalions and various naval units. Fighting, principally on Manus, continued throughout most of the spring before Krueger declared the islands secure on May 18, 1944. Losses to the 1st Cavalry Division were 326 men killed and 1,189 wounded. Japanese losses on Manus were probably about 2,000 killed.

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African-American soldiers, sailors, marines, and airmen

During World War II, the U.S. armed forces were, for the most part, racially segregated. African-American soldiers, sailors, marines, and airmen were trained separately. They served in segregated units, usually commanded by white officers, although a small number of African Americans were commissioned during the war. At sea, black sailors were given segregated quarters, although modest experiments in integration were carried out. For the most part, African Americans served in support and labor units rather than in front-line combat units. In December 1942, President Roosevelt issued an executive order calling for African Americans to make up 10 percent of all personnel drafted for the services.

ARMY

During World War I, some 380,000 African Americans were enlisted or drafted into the army, 89 percent assigned to labor units and only 11 percent committed to combat. After the war, African-American membership in the army fell to just 5,000 enlisted men (2 percent of the service) and five officers. During World War II, black membership in the army rose spectacularly; 900,000 African Americans served by war's end, mostly in support roles, including the famed Red Ball Express truck convoys run during the advance through France following the Normandy landings (D-day). Although black officers were few, there was one African-American brigadier general, Benjamin O. Davis, Sr.

ARMY AIR FORCES

In 1940, President Franklin D. Roosevelt opened the United States Army Air Corps in a limited way to black pilots, who were trained and who served in segregated units. The most famous of these were the Tuskegee Airmen, who served with distinction in the North African and Italian theaters but remained segregated throughout the war. Most African Americans served in labor roles. However, after the war, following President Harry S. Truman's 1948 Executive Order 9981, which mandated an end to segregation in the military and a universal policy of equal treatment and opportunity regardless of race, the U.S. Air Force (which had become an independent service in 1947) was far ahead of the other services in implementing the integration policy.

MARINES

Before World War II, the Marine Corps accepted no black enlistments. On the eve of World War II, President Roosevelt directed the commandant of the Marine Corps to take steps toward incorporating African Americans into the corps. A commission was created to study how black marines could best be used, but actual enlistments were not accepted until after the Battle of Pearl Harbor, December 7, 1941. A short time after this, a segregated training facility, Camp Johnson, was established outside Marine Corps Base Camp Lejeune in South Carolina. The first recruits arrived at Camp Johnson in August 1942 to make up the 51st Defense Battalion. Initially, they were trained by white drill instructors, but they were eventually replaced by black instructors.

The 51st Defense Battalion was brought to a strength of 1,400 and sent to the Pacific, first in the

Ellis Islands and then in the Marshalls. They remained posted there throughout the war. A second black unit, the 52nd Defense Battalion, was established in December 1943 and dispatched to Roi-Namur and then to the Marianas. The black marines were used almost exclusively as stewards and laborers, not as combat troops. In all, 19,000 African Americans served in the marines during World War II, most of them having been drafted. No black marine was commissioned an officer during the war.

NAVY

More than any other service during World War II, the U.S. Navy implemented steps toward racial integration. Black sailors had served in the sail navy during the 18th and 19th centuries, when the labor of handling sails required many hands. After the Civil War, as sails were replaced by steam and the number of hands required diminished, so did naval recruitment of African Americans. Those who did join were typically assigned to service positions, typically as "mess boys," stewards, and orderlies serving white officers. Segregation was enforced aboard ship in eating and sleeping areas. After the United States annexed the Philippines in 1898, black mess, steward, and orderly personnel were increasingly replaced by Filipinos, so that when the United States entered World War I in 1917, Filipinos outnumbered African Americans in the navy. The enlistment of Filipino volunteers declined beginning in the early 1930s, and African American enlistments rose proportionately—although black personnel were still confined to mess and steward positions, and segregation was enforced on board ships as well as in shore accommodations. In 1940, Walter White of the National Association for the Advancement of Colored People (NAACP), together with the black labor leader A. Phillip Randolph and activist T. Arnold Hill, wrote a letter to President Franklin D. Roosevelt protesting the strictures on black employment in the navy. In response, the president approved a plan in support of "fair treatment," but the navy failed to implement it, arguing that morale would suffer if blacks were assigned to nonservice positions. Only after World War II was under way did the NAACP again appeal to the administration, this time to Secretary of the Navy Frank Knox, to expand the role of African Americans beyond service positions. The conservative Knox declined to act, and the NAACP again appealed directly to the president. In June 1942, FDR personally prevailed on top naval command to adopt an expanded assignment policy. New guidelines were formulated that admitted African-American sailors to service in construction battalions, supply depots, air stations, shore stations, section bases, and yard craft. Although this represented an expansion well beyond mess and steward service, the new positions were overwhelmingly labor assignments and not combat postings.

President Roosevelt's December 1942 executive order mandating that African Americans represent 10 percent of the personnel in all the armed services created a dramatic increase in black enlistment in the navy. By July 1943, 12,000 blacks were being inducted monthly. By December 1943, 101,573 African Americans had enlisted, of whom 37,981 (37 percent) served in the Stewards Branch. The rest were boatswains, carpenters, painters, metalsmiths, hospital apprentices, firemen, aviation maintenance personnel, and members of the Shore Patrol. Few nonstewards were assigned sea duty. Nevertheless, by this time, the navy began selecting African Americans for commissioning as officers. The selectees were divided into line and staff officers.

In January 1944, the line officers began segregated 10-week training at Naval Training Center Great Lakes. Of these, 12 commissioned officers and one warrant officer were graduated—the first African-American officers in U.S. Navy history. This so-called Golden Thirteen were assigned to recruit training programs and small patrol craft and tugs.

The staff officer selectees were trained during the summer of 1944. Of the first class, two graduates were assigned to the Chaplain Corps, two to the Dental Corps, two to the Civil Engineer Corps, three to the Medical Corps, and three to the Supply Corps. By the end of the war, just 58 out of 160,000

African-American sailors had been commissioned as officers.

As for enlisted personnel, reform accelerated during 1944, after the death of Knox and his replacement as navy secretary by James Forrestal. A political liberal and civil rights activist, Forrestal launched a trial integration program in which black sailors were assigned to general sea duty positions. As for shipboard segregation, the black sailors were placed exclusively on large auxiliary vessels (such as cargo craft and tankers) and constituted no more than 10 percent of the crew of any one ship. Some 25 ships were integrated in this way with no race relation problems reported. Before the war ended, Forrestal assigned African-American personnel to all auxiliary ships of the fleet, and, even more significantly, segregated training was ended. African-American recruits were assigned to the same training centers as whites.

See also United States Army; United States Army Air Forces; United States Marine Corps; and United States Navy.

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airborne assault

In World War II, *airborne assault* referred to the deployment against the enemy of specially trained troops by parachute or Gliders. The introduction of airborne assault may be dated to 1922, when Red Army troops were first deployed by parachute. Later in the decade, Italy formed a company of military parachutists. By the end of the 1920s, the Soviet Union had created a battalion. France formed two companies of Infanterie de l'Air in 1938. Curiously, the German army, the Wehrmacht, lacked enthusiasm for airborne assault. However, the air force, the Luftwaffe, acting in 1938, created the 7th Flieger Division, the largest unit of paratroopers and glider troops in any nation's army, under the command of Maj. Gen. Kurt Student.

It was elements of the 7th Flieger Division that staged the first airborne assault of World War II during the invasion of Belgium and the Netherlands. This was a glider assault on Belgium's Eben Emael, a fortress that proved unassailable—except by airborne assault. The 7th Flieger Division, attached to the XI Air Corps, was deployed next against Crete in May 1941 and fought the first battle to be won by airborne troops alone. Nevertheless, the victory was purchased with losses so heavy that Adolf Hitler himself forbade further airborne assaults. His elite airborne troops were henceforth used in a ground assault role only.

Despite Hitler's reservations, the British and the Americans (who had yet to enter the war) were both alarmed and impressed by Germany's execution of airborne assault. In response, Britain created the 1st Airborne Division in October 1941, which was followed in May 1943 by the 6th Airborne Division. Each of these units had two parachute brigades, a glider brigade, and divisional troops. Initially, the Royal Air Force provided transport using converted bombers. Toward the end of 1944, these were replaced by U.S.-built C-47 transports, called Dakotas by the British. In 1941, the United States began developing airborne assault as well, ultimately creating five divisions, the 11th, 13th, 17th, 82nd, and 101st. Each American division consisted of three parachute regiments and one glider regiment.

The first Allied airborne assaults took place during the North African Campaigns in 1942–43 and were carried out by the British 1st Airborne Division—initially by its 1st Parachute Brigade and then by elements of the entire division under Maj. Gen. G. F. Hopkinson. This division also participated in the Sicily Campaign and the Italian Campaign during 1943. In February 1942, a company of the British 2nd Parachute Battalion dropped into Bruneval, France, where it successfully captured a new type of German radar installation. In November of that year, a force from the 1st Airborne Division made a pair of glider landings in Norway for the purpose of sabotaging a

German heavy water facility there in an effort to stem German development of an atomic weapon. The raid was unsuccessful.

During November 1943, the 2nd Independent Parachute Brigade Group, commanded by British Brig. Gen. C. H. V. Pritchard, participated in Italian operations, then, through 1945, as part of the 1st Airborne Task Force, fought in southern France and Greece. The British 6th Airborne Division, under Maj. Gen. Richard Gale, joined the U.S. 82nd (Maj. Gen. Matthew Ridgway) and 101st (Maj. Gen. Maxwell Taylor) Airborne Divisions in Operation Overlord in preparation for the Normandy landings (D-day) during June 1944.

After its initial drops, the 101st and 82nd Airborne fought as ground units until they were deployed, with the British 1st Airborne Division (Maj. Gen. Roy Urquhart), as the I Airborne Corps (Lt. Gen. "Boy" Browning), in Operation Market Garden (Battle of Arnhem) during September 1944. The I Airborne Corps was now part of the First Allied Airborne Army, under the overall command of Lt. Gen. Lewis Brereton. The 82nd Airborne (Brig. Gen. James Gavin) and the 101st (Taylor) achieved their objectives in Market Garden, but the 1st Airborne, dropping too far from its objectives, was badly defeated and suffered severe losses. Operation Market Garden failed. Nevertheless, lessons were learned from the failure, and in March 1945, when the XVIII U.S. Airborne Corps (Ridgway), consisting of the British 6th Airborne Division and the U.S. 17th Airborne Division, participated in Operation Varsity, a Rhine crossing, steps were taken to ensure accurate drops. Both divisions quickly achieved their objectives, and the operation was a success. Operation Varsity was, however, the last major airborne assault in Europe.

In the China-Burma-India theater, the Indian Army formed the 50th Indian Parachute Brigade in 1941. It fought extensively in the Burma Campaign. The 44th Indian Airborne Division (later designated the 2nd Indian Airborne Division) was created in 1944 under the command of Maj. Gen. Eric Down. The unit made only a single airborne assault, at Elephant Point, Burma, in May 1945. However, the brilliant Maj. Gen. Orde Wingate, commanding a special force of Chindits, made numerous small drops behind the Japanese lines in Burma. Also in Burma, the United States Army Air Force landed engineer squadrons (as part of the No. 1 Air Commando) by glider to build airstrips. The No. 1 Air Commando also operated P-51 Mustang fighters and L-5 light liaison aircraft in Burma, providing close air support and casualty evacuation.

In the Pacific theater, Maj. Gen. Joseph Swing commanded the 11th U.S. Airborne Division, which was the principal airborne assault unit in this theater. In February 1945, two 11th Airborne battalions dropped at Tagaytay Ridge, on Luzon in the Philippines, and, later in the month, the 503rd Parachute Infantry Regiment dropped on Japanese-held Corregidor. Shortly after this, the 1st Battalion 511th Parachute Infantry Regiment dropped just to the northeast of Tagaytay Ridge to make an assault on a Japanese prisoner of war camp. The unit liberated Allied prisoners held since the fall of the Philippines. Finally, in June 1944, elements of the 11th Airborne Division dropped on Luzon to cut off the Japanese withdrawal.

Despite the pioneering efforts in airborne assault by Italian, Soviet, and German forces, only the British and Americans made significant use of this mode of deployment during World War II. Italy eventually constituted two parachute divisions (each very much understrength) but used them exclusively in a ground role. The Soviets carried out a few small-scale airborne operations during 1943–44 but primarily used their parachute units as ground troops. The Germans, as noted, halted airborne assault operations very early in the war. The Japanese did create airborne assault units but used them only three times, landing at Menado and Palembang in the Dutch East Indies in 1942 and against American airfields at Burauen in the Philippines during December 1944. This was the last airborne assault of the war.

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aircraft, British

When war clouds gathered in the 1930s, Winston Churchill and a minority of others in the British government urged accelerated development and production of military aircraft as it became increasingly apparent that Germany, rearming in defiance of the Treaty of Versailles, was creating a large and advanced air force. The outbreak of war caught Britain with an undersized air force, and the nation consequently relied heavily on a variety of U.S.-supplied aircraft. However, the British aircraft industry also produced some of the most important planes of the war.

Among British bomber aircraft, the most significant were

Armstrong Whitworth Whitley V. Powered by two 1,145-horsepower RR Merlin X engines, the Armstrong Whitworth Whitley entered into Royal Air Force (RAF) service in March 1937. The first of the heavy RAF night bombers, the aircraft was a mediocre performer, with a top speed of 222 miles per hour and a service ceiling of 17,600 feet. Range was 1,650 miles. After 1942, it was used by the RAF exclusively as a trainer and glider tug. A total of 1,737 (all versions) were built. The Royal Navy's Fleet Air Arm operated the aircraft until 1945.

Avro Lancaster I. Becoming operational in March 1942, the Avro Lancaster was powered by four 1,460-horsepower RR Merlin XX engines and had a wingspan of 102 feet, a loaded weight of 68,000 pounds, a top speed of 308 miles per hour, and a ceiling of 24,500 feet. Its effective range was 1,600 miles. This military workhorse, produced in a quantity of 7,377, could carry a maximum bomb load of 22,000 pounds and was one of the great bombers of World War II, deserving a place beside such American aircraft as the B-17, B-24, and B-29. Lancasters were the most heavily used of British bombers, flying in excess of 156,000 operations and delivering 608,612 tons of bombs on target. Reflecting the monumental cost of the Strategic Bombing of Germany, 3,249 Lancasters were lost in action.

Bristol Blenheim Mark IV. This bomber was developed from the Bristol model 142 civil transport, and when it first became operational (in the Mark I version) in 1937, it was actually faster than most RAF fighters. The Mark IV version, operational by 1939, had a top speed of 266 miles per hour, a service ceiling of 22,000 feet, and a range of 1,460 miles. With a wingspan of 56 feet 4 inches, it was powered by two 920-horsepower Bristol Mercury XV engines. Maximum bomb load was 1,325 pounds.

The Mark I version of the aircraft had the distinction of flying the first Allied operational mission of the war, a reconnaissance over Germany. Mark IV was used extensively as a light bomber and also as a fighter, a reconnaissance aircraft, and a close-support aircraft. The aircraft was crewed by three. A Mark V was developed, which increased the service ceiling to 31,000 feet and range to 1,600 miles. In other respects, however, its performance was disappointing, and the Mark V was used almost exclusively in the Far East.

Relatively slow by 1940s standards and with only light defensive armament, the Blenheims were especially vulnerable to fighter attack. They were withdrawn from the bomber role in 1943. About 6,200 (all versions) were built.

De Haviland Mosquito XVI. One of the war's great aircraft, the Mosquito was flown as a night fighter, fighter bomber, bomber, and reconnaissance plane. Crewed by two, it had a remarkable

top speed of 425 miles per hour and a service ceiling of 36,000 feet. In bomber configurations, the XVI version carried no defensive armament but relied on its speed and maneuverability, which could outperform most fighters. Maximum range was 3,500 miles.

Affectionately dubbed the Mossie, the aircraft was first flown late in 1940 and became operational with the RAF in 1942. It served in Europe and Asia and proved so adaptable that it remained in service well after the war, until 1955. A total of 7,781 (all versions) were built.

The Mark XVI version was driven by two 1,680-horsepower Rolls Royce engines. Wingspan was 54 feet 2 inches, and maximum bomb load was 4,000 pounds.

Fairey Battle I. Introduced in 1940, the Fairey Battle I was a two-place light day bomber powered by a single Rolls-Royce Merlin II piston engine, which delivered 1,030 horsepower. With a 54-foot wingspan, it had a top speed of 241 miles per hour, a service ceiling of 23,500 feet, and a range of 1,050 miles. Armed with a forward-firing .303-inch fuselage-mounted Browning machine gun and a rear-facing .303-inch Vickers K machine gun, the aircraft could carry a 1,000-pound bomb load.

Deployed in France at the outbreak of the war in 1940, the Fairey Battle quickly proved inadequate as a day bomber and was withdrawn from such service very early in the war. However, it continued to operate with the RAF as late as 1949 as a trainer, target tug, and communications aircraft. Some 2,200 were built.

Handley Page Halifax VI. This four-engine bomber first flew in prototype in 1939, and the first Mark I version was delivered in 1940. The Mark VII entered production in 1944 and was powered by four 1,800-horsepower Hercules 100s and had a wingspan of 104 feet 2 inches. Maximum speed was 312 miles per hour with a service ceiling of 24,000 feet and a range of 1,260 miles. Maximum bomb load was 13,000 pounds. Although not nearly as well known as the Avro Lancaster, the Halifax was a highly successful heavy bomber, produced in a quantity of 6,176 (all versions).

Handley Page Hampden I. Powered by two 1,000-horsepower Bristol Pegasus XVIII engines, this medium bomber was designed beginning in 1933 and went into production in 1938. With a wingspan of 69 feet 2 inches and a maximum bomb load of 4,000 pounds, the aircraft could make 254 miles per hour and reach a service ceiling of 19,000 feet. Slow and vulnerable to fighters, it made its last bombing raid in September 1942 and was used mainly for training purposes thereafter. A total of 1,430 were built.

Short Stirling III. The Mark I version of this large four-engine bomber was delivered to the RAF in 1940. The first Mark IIIs were flying by 1942. Powered by four 1,650-horsepower Bristol Hercules XVI engines and with a wingspan of 99 feet 1 inch, this heavy bomber could deliver 14,000 pounds of bombs. However, it soon proved unpopular with aircrews because of its low ceiling (17,000 feet) and inadequate maneuverability near its maximum altitude. By 1943, the Stirling III was withdrawn from bombing missions and relegated to duty as a glider tug and transport. Some were adapted as Mark IVs and used as paratroop transports. Total production for all versions was 2,374.

Vickers Wellington III. First flown in prototype in 1936, the Mark I version of this medium bomber entered RAF service in 1938. It proved successful in a variety of roles, and 11,461 were produced before production ceased in October 1945. The Mark III version was powered by two 1,375-horsepower Bristol Hercules III or two 1,425-horsepower Hercules XI engines. Top speed was 255 miles per hour, service ceiling was 19,000 feet, and range was 1,540 miles. The aircraft could deliver a bomb load of 4,500 pounds. Defensive weapons included eight .303-inch machine guns, two in the nose, four in the tail turret, and two in fuselage positions.

At the beginning of World War II, the Wellington was the principal British bomber, and although it continued to fly bombing missions until the end of the war, it was largely supplanted in this role by heavier, four-engine bombers. The Wellington continued to be used very extensively for antisubmarine attacks and for transport duties.

The major British FIGHTER AIRCRAFT of World War II included

Bristol Beaufighter Mark 1. Powered by twin Bristol Hercules XVII fourteen-cylinder radial engines, rated at 1,725 horsepower each, this two-seat fighter had the advantage of long range (1,400 miles) and was used for a variety of missions, most notably as a night fighter. The prototype flew on July 17,1939, and aircraft were delivered to the RAF beginning in October 1940. Equipped with the most advanced RADAR available at the time, the Beaufighter was armed with four 20-millimeter cannon and six to eight rockets. It could also carry a 500-pound bomb load or be modified for torpedo attack. The aircraft saw service in Europe as well as Asia and the Pacific, where the Japanese called it the Whispering Death because of its speed (323 miles per hour) over long range. Service ceiling was 28,900 feet and wingspan 57 feet 10 inches.

De Haviland Mosquito II. Whereas later versions of the Mosquito earned fame as bombers, the earlier versions were used primarily as twin-engine (two Merlin 23s at 1,635 horsepower each) fighters. Equipped with four 20-millimeter and 4 .303-inch machine guns, the Mosquito II had a top speed of 407 miles per hour and an operating radius of 800 miles.

Gloster Gladiator I. First flown in 1934 and acquired by the British military in 1937, the Gloster Gladiator was an evolutionary development of the earlier Gauntlet biplane fighter. From the beginning, however, its biplane design was obsolete among the latest generation of monoplane fighters, and the aircraft was badly outclassed by German fighters when it was deployed in the earliest battles of the war. All Gladiators in the two squadrons sent to France in 1940 were destroyed in 10 days of fighting. While the RAF soon abandoned the Gladiator as a fighter, the Royal Navy used it (as the Sea Gladiator) for AIRCRAFT CARRIER operations.

With a wingspan of 32 feet 3 inches, the Gladiator was powered by a single Bristol Mercury VIII AS engine, which developed 850 horsepower for a top speed of 257 miles per hour. Ferry range was 444 miles and service ceiling 33,500 feet. The fighter version of the aircraft was armed with four .303-inch Browning machine guns.

Gloster Meteor III. During the 1930s, the British aeronautical engineer FRANK WHITTLE developed a practical jet engine, and both the British and the Germans developed and flew JET AIRCRAFT before the war ended—although the novelty of the technology and a multitude of design and production problems kept the aircraft from being deployed in combat in significant numbers. The Meteor series has the distinction of being the only turbojet-powered aircraft flown in combat by the Allies during the war. Meteors were sent to shoot down German V-1 BUZZ BOMBS and V-2 ROCKETS and to engage German jets.

A prototype Meteor first flew in March 1943, and seven Meteor Is were first deployed in July 1944. Meteor IIIs commenced delivery in December 1944. Propelled by a pair of Derwent jets, each making 2,000 pounds of thrust, the Meteor III could reach 490 miles per hour at 30,000 feet (ceiling, 40,000 feet). Wingspan was 43 feet, range was 550 miles and armament consisted of four 20-millimeter cannon. The aircraft was not produced in great quantity during the war, but it continued to evolve afterward. By 1954, when it finally left service, 3,947 had been built.

Hawker Hurricane 1. Although less celebrated than the Supermarine Spitfighter, the Hawker Hurricane, not the Spitfire, was responsible for 80 percent of the German aircraft shot down in the BATTLE OF BRITAIN. Designed in 1935, the Hurricane was introduced into RAF service in 1937. At the beginning of the Battle of Britain, the RAF had 32 squadrons of Hurricanes versus only 19 squadrons equipped with Spitfires. Less agile than the Spitfire and slower than Germany's premier fighter, the Messerschmidt Bf109, the Hurricane was deployed against German bomber formations, whereas the Spitfires were used against German fighters.

At the start of the war, the RAF had 497 Hurricanes. Before the end of the war, the Hawker company delivered 10,030, the Gloster company 2,750, and the Canadian Car and Foundry Company 1,451. Powered by a single 1,030-horsepower Rolls-

Royce Merlin III 12-cylinder engine, the Hurricane had a wingspan of 40 feet and a top speed of 328 miles per hour at 20,000 feet. It was armed with eight wing-mounted .303-inch Browning machine guns.

Hawker Tempest V. Introduced in 1944, the Hawker Tempest V was a major evolutionary development from the Hawker Typhoon I. Featuring a thinner wing, a longer fuselage, and an all-round vision canopy, it was powered by an improved Sabre Mk2 engine, developed 2,000 horsepower, and could reach a top speed of 428 miles per hour. Wingspan was 41 feet, and ceiling was 37,000 feet. Operating radius was 740 miles. The Tempest was armed with four 20-millimeter cannon and could carry eight rockets or nearly 2,000 pounds of bombs. Some 1,418 Tempest Vs were built, including a number after the war had ended. Although introduced late in the conflict, the Tempest, thanks to its speed and maneuverability, was considered one of the best fighters of the war.

Hawker Typhoon I. This aircraft was used by the RAF mainly in a ground attack role rather than in air-to-air combat. Introduced in 1941, some 3,300 (all versions) were built before the end of the war. Powered by a single Sabre Mk2 engine developing 2,180 horsepower, the Typhoon had a top speed of 405 miles per hour and a ceiling of more than 30,000 feet. Wingspan was 41 feet 7 inches. The Typhoon was armed with four 20-millimeter cannon and could carry a bomb load of nearly 2,000 pounds or eight 127-millimeter rockets.

Supermarine Spitfire. Introduced in 1938 and produced in some 40 variants, the Supermarine Spitfire became the single most celebrated fighter aircraft of World War II. Driven by a Merlin Mk III engine making 1,030 horsepower, the version that first entered service had a top speed of about 360 miles per hour and was armed with eight .303-inch machine guns. The Spitfire XIV, introduced in 1944, had a ceiling of 40,000 feet and a top speed of 440 miles per hour and was responsible for shooting down more than 300 German V-1 buzz bombs. The XIV version and several earlier versions as well also had increased armament: two 20-millimeter cannon were added either to the four .303-inch machine guns or to two .50-inch machine guns. Some versions also carried one 250- or 500-pound bomb under the fuselage and one 250-pound bomb under each wing. The Spitfire survived the end of the war and was used by the RAF for photoreconnaissance until 1954. Wingspan for all versions was 36 feet.

An aesthetically beautiful aircraft, the Spitfire incorporated a light-alloy monocoque fuselage and a single-spar wing with stressed-skin covering and fabric-covered control surfaces. The aircraft proved highly maneuverable and was more than a match for the best German fighters during the Battle of Britain, where it earned its first and most enduring glory. Some 20,334 Spitfires (all versions) were produced during the war, and a naval variant, the Seafire, was produced in a quantity of 2,556.

See also Great Britain, Air Force of.

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aircraft, French

Although the French had been early pioneers of military aviation and had developed important combat aircraft during World War I, few French designs played important roles in World War II. The most significant French bomber was the Liori et Olivier LeO 451. Introduced in 1937, this medium bomber, crewed by four, was driven by two 1,060-horsepower Gnome-Rhone 14N engines and could achieve a top speed of 298 miles per hour. Service ceiling was 29,530 feet, and range was 1,802 miles. The LeO 451 carried a bomb load of 3,086 pounds and was armed with a single 20-millimeter cannon and five 7.5-millimeter machine guns. Only 373 of these aircraft had been delivered to French forces before the armistice was signed

with Germany on June 25, 1940. However, more were delivered to the Nazi-controlled Vichy French Air Force.

France produced two significant fighters early in the war. The Dewoitine D520 was introduced in 1940 and was capable of 329 miles per hour at 19,000 feet over a modest operating radius of 310 miles. The powerplant was a single Hispano-Suiza 910-horsepower engine. Wingspan was 33 feet 5 inches. In addition to a single 20-millimeter cannon, the D520 was armed with four machine guns. After Germany seized the unoccupied portion of France in November 1942, 246 Dewoitine D.520C1 fighters were captured, of which 182 were deemed airworthy. These were repainted and reequipped to serve as operational trainers for the LUFTWAFFE. During the Allied invasion of France in 1944, a few of these aircraft were recaptured and flown by Free French and Resistance pilots.

Introduced in 1939, the Morane-Saulnier MS 406 was powered by a single Hispano-Suiza 860-horsepower engine and had a top speed of 302 miles per hour at 16,000 feet. Operational radius was only 250 miles, wingspan was 34 feet 9 inches, and armament consisted of a single 20-millimeter cannon and a pair of machine guns. In terms of numbers, the MS 406 was the most important French fighter of the war, but it was both underpowered and underarmed, vastly outclassed by such German fighters as the Messerschmidt Bf109. In 1940, before the fall of France, 400 of the aircraft were lost, having scored only 175 kills. The Luftwaffe captured the surviving MS 406s and used them as trainers. German allies, including FINLAND, ITALY, and CROATIA, purchased some of the captured aircraft from Germany and used them in combat.

See also FRANCE, AIR FORCE OF.

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aircraft, German

German aircraft designs were consistently among the most advanced and successful of the war. Of all the nations, Germany was the first to begin to make significant use of JET AIRCRAFT, although these nevertheless came too late in the war and in insufficient quantity to have a decisive effect on the course of the air war. The Luftwaffe (German air force) had a few advocates for the production of large four-engine bombers, most notably the prewar chief of staff general Walther Wever. However, with his death in April 1936, the idea of a strategic role for the Luftwaffe also died, and the German air force instead adopted the basic doctrine that bombers should be used tactically to support the ground troops directly by striking targets on or near the battlefield. By the time the war began, German bombers were used strategically to bomb civilian targets, especially London and other English cities during the BATTLE OF BRITAIN. However, because of prevailing Luftwaffe doctrine, Germany, unlike the United States and Great Britain, produced no significant four-engine bombers. Abortive plans were made for the "AMERIKA" BOMBER, a spectacular aircraft of intercontinental range, but nothing came of the project.

The Stuka. Perhaps the most infamous of Germany's bombers was the single-engine Junkers Ju87, better known as the Stuka. Designed in the mid-1930s, the Stuka was a dive bomber, which deployed its 1,100-pound bomb load not from level flight but from low altitude, near the end of a sharp 80-degree dive. This ensured surgical accuracy of the strike. By 1942, it was even fitted with a single 4000-pound bomb, which was used against heavy tanks. After striking its target with bombs, the Stuka often circled around to strafe survivors with its three 7.9-mm machine guns. The aircraft was also fitted with sirens, so-called Jericho trumpets, which produced a truly terrifying scream during the high-speed dive. Thus, the weapon produced as much panic and terror as physical destruction.

Stukas were deployed with great effect in the INVASION OF POLAND, the BATTLE OF FRANCE, and the INVASION OF THE SOVIET UNION. However, after these early operations, the 238-mile-per-hour, poorly

maneuverable Stuka proved increasingly vulnerable to fighter attack and was reconfigured in 1942 as the Ju87G-1, a dedicated antitank aircraft.

The Ju87B-2, best known of the Stuka iterations, was powered by a single 1,200-horsepower Jumo 211 Da engine and had a wingspan of 45 feet 3 ⅓ inches, a service ceiling of 26,250 feet, and a range of 490 miles. It could be configured to carry a maximum of four individual bombs. About 5,700 Stukas were completed before production ended in 1944.

Germany's other significant bombers were twin-engine medium bombers and included the following.

Heinkel He111H-3. Crewed by four or five, the Heinkel first flew in early 1939. It was powered by two Junkers Jumo 211D-2 V-12 engines, each making 1,200 horsepower for a top speed, empty, of 258 miles per hour. Range was 745 miles and service ceiling 25,590 feet. The plane's wingspan was 74 feet 1 ¾ inches. It was heavily armed with 7.92-mm machine guns in the nose cap, in the dorsal position, in a ventral gondola, in waist windows, in a fixed forward-firing position, in the side of the nose (could be operated by the copilot), and in the tail. The plane also had a 20-mm cannon on a fixed mount in the front part of the ventral gondola. Bomb load was up to 4,410 pounds.

Dornier Do 17Z-1. Crewed by four, the Do17Z-1 was introduced in January 1939 and was driven by a pair of Bramo Fafnir 323P 9-cylinder radial engines making 1,000 horsepower each. Wingspan was 59 feet, top speed 263 miles per hour, and service ceiling 26,740 feet. Range was 721 miles. The aircraft was armed with three 7.92-mm machine guns, one manually aimed from a rear ventral hatch, one manually aimed to the rear from a dorsal position, and one fixed forward in the right windshield. The bomber could carry a 2,205-pound load internally. About 1,100 Dorniers (all versions) were produced before the type was phased out in 1942, having taken very heavy casualties in the Battle of Britain.

Junkers Ju88A-4. A very successful design, 14,676 were built in all versions. About 9,000 were configured as medium bombers. The rest were configured mostly as night fighters. The versatile aircraft was used throughout the war, beginning with operations in Poland in 1939 and against just about every enemy Germany fought. The Ju88A4 version was capable of operating as a level bomber, a dive bomber, and a torpedo bomber. Generally, the bomb load consisted of 10 50-pound bombs loaded internally with as many as four bombs of various types fixed to hard points under the wings. A pair of torpedoes could also be mounted under the wings. Wingspan was 65 feet 10 inches, and the plane was driven by a pair of 950-horsepower Junkers Jumo 211 F engines. Top speed was 292 miles per hour, ceiling 26,900 feet, and range 1,106 miles.

Dornier Do 217K/M. The Do 217 series of bombers became operational in March 1941 and represented a significant advance over the Do 17. In addition to serving as a level bomber, the Do 217 could be configured as a night fighter, a torpedo bomber, and a reconnaissance aircraft. By August 1943, the aircraft was also being used to carry antishipping missiles, and by September, it was delivering guided bombs against warships. Production reached 1,905 of all types, including some 1,366 level bombers. The Do 217K and M versions were crewed by four and powered by two 1,700-horsepower BMW 810D 14-cylinder radials (K) or two 1,750-horsepower Daimler-Benz DB603A inverted V12s (M). Top speed was 320 miles per hour, service ceiling 24,600 feet, and range 1,430 miles. Wingspan was 62 feet 4 inches, and, for the M version, armament consisted of four 7.92-mm and two 13-mm machine guns with a bomb load of 8,818 pounds; the K version added two underwing FX-1400 Fritz X radio-controlled bombs, two FX-1400 bombs, or two Hs 293 missiles.

Junkers Ju188E-1. Produced in reconnaissance (designated D) and bomber versions (designated E), the Ju188 series was crewed by five and first flew in 1940. About 1,100 were produced during the war. The Ju 188E was powered by two BMW 801G-2 18-cylinder two-row radials, each producing 1,700 horsepower for a top speed of 310 miles per

hour. Service ceiling was 31,510 feet, and range was 1,211 miles. Wingspan was 72 feet 2 inches. Typically, the aircraft was armed with a single 20-mm cannon in its nose and three 13-mm machine guns, one in a dorsal turret, one manually aimed from the rear dorsal position, and one manually aimed from the rear ventral position; in some configurations, twin 7.92-mm machine guns were substituted for the last position. Typical bomb load was 6,614 pounds loaded internally, or two 2,200-pound torpedoes under the wings.

Heinkel He177A-5. This was the largest bomber Germany actually deployed, with a wingspan of 103 feet 1 ¾ inches and a bomb load capacity of 13,228 pounds. It was powered by two massive 3,100-horsepower Daimler-Benz DB610 coupled engines. This design feature was an innovative attempt to reduce drag, but it created severe reliability problems that often resulted in engine fires. Fully three-quarters of the preproduction prototypes crashed; 1,146 were produced, and while the 3,100-mile range was badly needed by the Luftwaffe, the airplanes were not very effective as strategic bombers. They were used with moderate effectiveness in an antitank role. Top speed was 295 miles per hour and service ceiling 26,500 feet. Armament consisted of one 7.92-mm machine gun manually aimed in the nose, one 20-mm machine gun manually aimed in the forward ventral gondola, two 13-mm machine guns in a front dorsal turret, one in the aft dorsal turret, and one 20-mm cannon in the tail position.

Arado Ar234B-2. Of greater historical than practical significance was the Arado Ar234B-2, the world's first jet bomber, which became operational at the end of November 1944, too late to have any impact on the course of the war. Powered by a pair of BMW 003A-1 jets, each developing 1,764 pounds of thrust, the Arado had a top speed of 461 miles per hour and could carry 4,409 pounds of bombs over a 1,000-mile range. Service ceiling was 32,810 feet. For defensive purposes, the Arado carried two 20-mm cannon. Only 210 were built.

German fighter designs were generally more successful and more innovative than its bomber designs. The two most important fighters were the Messerschmitt 109 series and the Focke-Wulf 190 series.

Messerschmitt 109. The Messerschmitt 109 first flew in October 1935, powered by British Rolls-Royce Kestrel engines. The aircraft entered Luftwaffe service in spring 1937 and received its baptism of fire in the Spanish civil war. By the beginning of World War II, the aircraft existed in a number of variants, and 1,000 were deployed against Poland in September 1939. The 109 was superior to most other fighters at the outbreak of the war but was fairly evenly matched with the British Spitfire and Hurricane in the Battle of Britain. It did have one very significant advantage over these rivals, however. Its fuel injection system allowed for a constant fuel flow even in negative-g conditions, which meant that a pilot could dive or shear away much more quickly than his opponents. This added significantly to the plane's survivability. Counterbalancing this advantage, however, was the 109's limited range—a 300-mile operating radius for the 109G. This gave the fighter precious little combat time over relatively remote targets such as those in England.

Some 109 variants had a cannon placed in the hollowed-out nose cap. In early models, this created an unacceptable level of vibration, which, however, was eliminated in later versions. Additionally, most of the fighters were fitted with two wing-mounted cannons and two machine guns mounted on the top of the nose cone that were synchronized to fire through the propeller arc. The 109G, introduced in 1942, was powered by a Daimler-Benz DB605 1,475-horsepower engine to a top speed of 387 miles per hour at 23,000 feet. Wingspan was 32 feet 6 ½ inches. The backbone of the Luftwaffe, some 30,000 109s were built before the end of the war.

Focke-Wulf Fw 190. Superior even to the formidable Messerschmitt 109 was the Focke-Wulf Fw 190, which made its first flight on June 1, 1939. It first saw action in the Battle of France in September 1941 and was markedly superior to the British Spitfire. Most Fw 190s were the A series, powered by a single BMW 801 2,100-horsepower radial engine. However, late in 1943, the D was deployed

against U.S. bombers, powered by the Jumo 213 inline, liquid-cooled engine, which developed only 1,770 horsepower but had improved performance, producing a top speed of 426 miles per hour, 18 miles per hour faster than the A version. In all, some 20,000 Fw 190s of all types were built before the end of the war. Wingspan of the D type was 34 feet 5 ⅓ inches, and armament consisted of two 20-mm wing-mounted cannon and two 13-mm machine guns in the nose. Range was 520 miles and service ceiling 40,000 feet.

Messerschmitt Bf 110. The twin-engine Messerschmitt Bf 110 made its first flight in May 1936. With all-metal construction and a crew of three, the aircraft was powered by two Daimler Benz DB 601 engines, each making 1,100 horsepower and propelling the plane to a maximum speed of 336 miles per hour over a range of 680 miles. Wingspan was 53 feet 4 inches, and armament consisted of five machine guns and two 20-mm cannon. Formidable as all this seems, the aircraft performed poorly in the Battle of Britain. This prompted a redesign with the inclusion of RADAR, which transformed the Bf 110 into the Luftwaffe's finest night fighter. In all, nearly 6,000 Bf 110s were produced before the end of the war.

Jet and rocket-propelled fighters. Late in the war, in 1944, Germany introduced both jet- and rocket-propelled fighters. The Messerschmitt 163B was powered by a single Walter rocket motor developing 3,700 pounds of thrust and capable of reaching 590 miles per hour at 20,000 feet. Range, however, was extremely limited. Armed with two 30-mm cannon and 24 R4M rockets, the 163B had a wingspan of 30 feet 7 inches. Very few were produced. More significant, however, was the jet-powered Messerschmitt 262A, with two Junkers 004 jets, each making 1,980 pounds of thrust, mounted under the wings. Top speed was 540 miles per hour over a range of 420 miles. Armament was limited to four 30-mm cannon. The aircraft was designed primarily to attack Allied bombers, which it did very effectively. Had the aircraft been introduced earlier and in much greater numbers, its impact on the air war over Europe would have been profound.

See also GERMANY, AIR FORCE OF.

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aircraft, Italian

Like France, Italy, an early aviation pioneer, lagged behind Germany, Britain, and the United States in the design of military aircraft. Nevertheless, Italian designers were resourceful in compensating for deficiencies.

Savoia-Marchetti SM79. The Savoia-Marchetti SM79, Italy's most important bomber, produced in a quantity of 1,330, used wooden construction to conserve scarce wartime metals and was configured as a trimotor, a design that compensated for the low power (780 horsepower each) of its Alfa Romeo 126RC34 engines. As with all Italian military aircraft, weight was further reduced by stinting on both armor and defensive armament (light machine guns only), which proved to be fatal flaws.

The SM79 was crewed by four to five, had a wingspan of 69 feet, and carried a bomb load of 2,755 pounds. After it was generally replaced by the larger (wingspan 81 feet 4 inches; bomb load, 6,615 pounds) CRDA (Cant) Z1007bis early in the war, the SM79 was reconfigured as a torpedo bomber. In this role, it proved quite successful. Top speed for the SM79 was 267 miles per hour, service ceiling was 21,235 feet, and range was 2,050 miles.

CRDA Z1007bis. Crewed by five, the CRDA Z1007bis was a trimotor, like the SM79. Its Piaggio P.XIbis RC40 engines produced 1,000 horsepower each, propelling the bomber to a top speed of 280

miles per hour and a service ceiling of 26,575 feet. Range, however, was limited. Whereas the SM79 had a range of 2,050 miles, the larger and heavier Z1007bis was limited to 1,650 miles, though its bomb load, at 6,615 pounds, was more than twice that of the SM75. About 660 of this aircraft were built.

Fiat BR20M. In between Italy's two trimotors was the twin-engine Fiat BR20M, crewed by five or six and powered by 1,000-horsepower Fiat A.80 RC41 engines to a top speed of 267 miles per hour and a service ceiling of 24,935 feet. This medium bomber had a limited range of 1,243 miles but could carry more bombs than the three-engine SM79: 3,527 pounds. It was deployed in early raids against Britain in November 1940.

Italians flew five significant fighters during World War II, including one, the Macchi C202, that is considered a classic less for its performance than for its beautiful design. All Italian fighters were easily outclassed by the standard fighters of Britain and the United States.

Fiat CR 42. The CR 42 Falco (Falcon) was the last important biplane fighter of the World War II era. It was the product of the success of the CR 32 biplane in the Spanish civil war, and it entered flight testing in May 1938. Manufactured in greater numbers than any other Italian fighter, it was, of course, obsolete from its inception. Although it represented the pinnacle of biplane design—light on the controls and highly agile—it *was* a biplane, and, therefore, doomed to be outclassed by modern monoplane fighters. Nevertheless, it fought in Italy's first World War II campaign, against targets in southern France in 1940. The German Luftwaffe also used the aircraft for night attack and as a trainer throughout the war. Belgian and Hungarian forces also flew the plane. During the Battle of Britain, Italy's Corpo Aero Italiano (Italian Air Corps) contributed bombers, reconnaissance aircraft, and the CR 42 to the effort. Wingspan was 31 feet, and the power plant was a single Fiat A74 engine, developing 840 horsepower. The CR 42 carried two 220-pound bombs and had a pair of 12.7-mm machine guns. Top speed was 266 miles per hour at 13,000 feet.

Fiat G50 (bis). Introduced in 1939 as the G50 and subsequently upgraded in the "bis" version, this fighter was underpowered and was out-gunned by Allied machines, yet it served in every theater in which the Italians fought, most extensively in North Africa. It was powered by a single Fiat A.74 R1C.38 radial engine rated at 840 horsepower. Top speed was 292 miles per hour at 16,405 feet, and wingspan was 36 feet ¼ inch. Armament included two .50-inch machine guns.

Macchi C200. Predecessor to the more famous C202, the C200 was driven by a Fiat AA74 870-horsepower radial engine to a top speed of 312 miles per hour at 14,700 feet. With two machine guns, it could carry a 600-pound bomb load and had a range of 270 miles.

Macchi C202. The C200 was introduced in 1939 and the C202 in 1941. It was an airplane with beautiful lines and saw extensive service in North Africa, where it performed better than any other Italian fighter, which is not to say that it could outperform the Allies. Like the C200, it had a wingspan of 35.1 feet, but it was powered by a single Mercedes-Benz DB601 engine, which delivered more than 1,175 horsepower, giving the C202 a top speed of 370 miles per hour at 16,500 feet. The C202 outgunned its predecessor, with four rather than two machine guns, but it carried the same 600-pound bomb load. Range was reduced from 270 to 240 miles.

Reggiane Re 2001 (Caproni). The last Italian fighter to be introduced in World War II, its predecessor, the Reggiane 2000, had been developed in 1938, but the Italian Regia Aeronautica (Air Force) judged it underpowered and did not buy it. Refitted with a 1,175-horsepower Daimler Benz Bd 601 engine and redesignated the Re 2001, it entered service in 1942 after Caproni completed a series of improvements required by the Regia Aeronautica. Only 237 were built before Italy withdrew from the war.

Although designed as an interceptor, the Re 2001 always flew as a fighter-bomber or as a night fighter. It had a top speed of 349 miles per hour and a ceiling of 36,000 feet. Range was an impressive 684 miles. Armed with four wing-mounted machine guns, it could carry either a 220-pound or

550-pound bomb, but, against naval targets, it even carried a 1,412-pound bomb.

See also ITALY, AIR FORCE OF.

Further reading: Apostolo, Giorgio, and Giovanni Massimello. *Italian Aces of World War II.* London: Osprey, 2000; Gunston, Bill. *An Illustrated Guide to German, Italian and Japanese Fighters of World War II: Major Fighters and Attack Aircraft of the Axis Powers.* London: Salamander, 1980; Gunston, Bill. *Japanese and Italian Aircraft.* London: Book Sales, 1985.

aircraft, Japanese

By the beginning of World War II, the Japanese military had developed a variety of advanced aircraft, both land based and carrier based. Like Germany, the Japanese emphasized the development of fighter planes and, in contrast to the British and Americans, devoted little or no attention to heavy bombers. Like Germany, Japan developed no heavy four-engine bomber.

The "Betty." The heaviest Japanese bomber—which by Allied standards was at best a medium bomber—was the Mitsubishi G4M, which the Allies (to facilitate identification) code named "Betty." Although this twin-engine aircraft flew from land-based airfields, the Betty was designed in 1937 for the Imperial Navy and made its first flight on October 23, 1939. Performance was exceptional—276 miles per hour with a range of 3,450 miles—and the Betty was employed against China during 1941 and against Royal Navy ships in Indo-Chinese waters. However, the great vulnerability of the Betty was its lack of armor, especially in critical crew areas and as protection for fuel tanks. As Allied fighter coverage increased during the course of the war, the Betty became an easy target. Its vulnerability was underscored on April 18, 1943, when, acting on decrypts of Japanese messages, U.S. aircraft targeted and shot down the Betty transporting Admiral YAMAMOTO ISORUKU, the Japanese supreme commander in the Pacific.

The Betty was powered by two 1360kW Mitsubishi MK4T Kasei 25 engines and had a wingspan of 82 feet. Its top speed was 276 miles per hour with a service ceiling of about 30,000 feet and an impressive range of 3,450 miles. Typical armament consisted of three 7.7-mm manually aimed machine guns in the nose, dorsal, and ventral positions and one 20-mm manually aimed cannon in the tail. The internal bomb load was 2,205 pounds or one 17.7-inch torpedo. The plane was crewed by seven.

The Japanese Army Air Force operated three lighter medium bombers, the Mitsubishi Ki-21 (Allied code name "Sally"), the Nakajima Ki-49 Donryu ("Helen"), and the Mitsubishi Ki-67 Hiryu ("Peggy").

Mitsubishi Ki-21 ("Sally"). The Sally was ordered in 1936 and went into service three years later. The aircraft served on all Japanese fronts and was produced in a number of variants, with later models getting the benefit of the extra armor that the Betty lacked. Produced in a quantity of 2,055, the Sally may be considered the most important and certainly the most plentiful of Japan's World War II bombers. Nevertheless, it was obsolete by the beginning of the war.

The Sally was powered by two 1,500-horsepower Mitsubishi Ha-101 radial piston engines to a top speed of 302 miles per hour at 15,485 feet. Its service ceiling was 32,810 feet and its range 1,680 miles. The Sally had a wingspan of 73 feet 9 ¾ inches and a fuselage length of 52 feet, 5 ⅞ inches. Typical armament consisted of five 7.7-mm Type 89 machine guns in the nose, ventral, tail, port, and starboard beam positions as well as one 12.7-mm Type 1 machine gun in a dorsal turret. Maximum bomb load was 2,205 pounds, and the aircraft was crewed by five.

Nakajima Ki-49 Donryu ("Helen"). The Donryu ("Storm Dragon"), code named "Helen" by the Allies, was prototyped in 1939 and was produced in a quantity of 819. Throughout the war, the basic design was subject to several revisions in an effort to improve its overall mediocre performance, but to little avail. By 1944, following the Philippines campaign, the aircraft was generally consigned to KAMIKAZE missions.

Specifications for the most numerous Ki-49-IIa variant included a wingspan of 67 feet ⅛ inch and

a fuselage length of 54 feet, 1 5/8 inches. Top speed was 306 miles per hour at 16,405 feet, with a service ceiling of 30,510 feet and a range of 1,833 miles. The Ki-49-IIa was armed with one flexible 20-mm cannon in the dorsal position and one flexible 7.7-mm machine gun in the nose, ventral, beam, and tail positions. The Ki-49-IIb and Ki-49-III versions had one flexible 20-mm cannon in the dorsal position; one flexible 12.7-mm machine gun in the nose, ventral, and tail positions; and one flexible 7.7-mm machine gun in the port and starboard beam positions. The Ki-58 was equipped with five flexible 20-mm cannon and three flexible 12.7-mm machine guns. For all versions, a normal maximum bomb load was 1,653 pounds, but the aircraft was loaded with up to 3,527 pounds of bombs for suicide (kamikaze) missions. Except in kamikaze missions, the Helen was crewed by eight.

Mitsubishi Ki-67 Hiryu ("Peggy"). The Hiryu ("Flying Dragon"), or "Peggy," entered service late in the war, in 1944, and was produced in a number of variants in a quantity of 696. Relatively few were encountered in action by the Allies, which was a good thing, since the Peggy was certainly the best of Japan's medium bombers, highly capable of destroying ground targets and of deploying torpedoes against surface ships. Both the Japanese Army Air Force and the Imperial Navy adopted the aircraft, which was not only fast, but exceedingly maneuverable. Its powerplant consisted of two Mitsubishi Ha-104 18-cylinder air-cooled radial engines, rated at 1,900 horsepower for takeoff; later variants used two Mitsubishi Ha-214 18-cylinder air-cooled radials, rated at 2,400 horsepower for takeoff, or two Mitsubishi Ha-104 Ru 18-cylinder turbosupercharged air-cooled radials, rated at 1,900 horsepower for takeoff. Wingspan of all versions was 73 feet 9 13/16 inches, and fuselage length was 61 feet, 4 7/32 inches. Maximum speed of the aircraft was 334 miles per hour at 19,980 feet, with a service ceiling of 31,070 feet and a range of 2,360 miles. The final variant of the Peggy was armed with one flexible 12.7-mm machine gun in the nose and beam positions, twin flexible 12.7-mm machine guns in the tail turret, and one 20-mm cannon in the dorsal turret. Normal maximum bomb load was 1,764 pounds. For torpedo attack, the Peggy carried one 1,764-pound or one 2,359-pound torpedo. For suicide attack (kamikaze), the aircraft was loaded with up to 6,393 pounds of bombs. The crew consisted normally of six to eight and was reduced to three for suicide missions.

Whereas Japan produced no heavy bombers and few notable medium bombers, its Imperial Navy and Army did fly an extraordinary array of fighters, the most famous of which was the navy's Mitsubishi A6M Zero (code named "Zeke" by the Allies).

Mitsubishi A6M Zero ("Zeke"). Although hardly graceful in appearance, the Zero was fast and highly maneuverable with very good range. Early in the war, it outclassed anything the United States or other Allies could hurl against it, and it was, prior to the Battle of Midway in June 1942, the only carrier-based fighter in any combatant's inventory that was capable of outperforming and defeating land-based aircraft. In early encounters, American pilots learned quite rightly to fear the Zero.

The Imperial Navy issued highly advanced and demanding requirements for a new carrier fighter in October 1937. Whereas the Nakajima Company rejected the requirements as unrealistic, Mitsubishi forged ahead to design an all-metal low-wing monoplane, with a 780-horsepower Mitsubishi Zuisei 13 engine and (ultimately) a three-bladed propeller. In this configuration, the Zero met or exceeded all navy requirements, except for level speed. After Mitsubishi introduced the more powerful 950-horsepower Nakajima Sakae 12 engine, the Zero exceeded all requirements, and full-scale production began.

The aircraft was first deployed in small numbers in China during 1940. By the end of this year, Zeros had shot down 99 Chinese fighter aircraft, with the loss of only two Zeros—and these to ground fire, not the fire of their aerial opponents. At the beginning of the war in the Pacific, Japan had only 328 Zeros ready for combat. Despite these relatively small numbers, the aircraft was instrumental in Japan's string of early stunning

victories, beginning with the Battle of Pearl Harbor up to the Battle of the Coral Sea in May 1942. While this battle was a tactical victory for the Japanese, it was a strategic defeat, which ended the momentum of the Japanese juggernaut. This was followed by Japan's defeat at the Battle of Midway in June, which included the loss of four Japanese carriers, together with the Zeros (and other aircraft) they carried as well as many of the Imperial Navy's best pilots. This was not only the strategic turning point of the war, but spelled an end to the unchallenged reign of the Zero. The fighter was designed as an offensive weapon, with little armor and no self-sealing fuel tanks. Cast now into the defensive role, it proved increasingly vulnerable, especially as American aircraft improved and American pilots became more skilled. Despite this, Japanese designers continually worked throughout the war to refine the Zero, and it remained a mainstay of the Japanese naval air fleet until the surrender.

While the Zero was the most celebrated Japanese aircraft of World War II, the Allies experienced some confusion concerning nomenclature. The Allies code named the aircraft Zeke beginning in fall 1942, but misidentification of several variants also gave rise to the code names Ben, Ray, and Hamp. Eventually, all these were recognized as variants on the Zeke—yet, amid the confusion, that designation was largely rejected by U.S. military personnel, who universally adopted the English translation of the Japanese name for the aircraft, Reisen, Zero.

All Zero variants were single-seat, single-engine carrier-based fighters, featuring all-metal construction except for fabric-covered control surfaces and crewed by one pilot. Mitsubishi produced 3,840 Zeros, and Nakajima (under license) produced 6,528. The power plant for the A6M2 variant was one Nakajima NK1C Sakae 12 14-cylinder air-cooled radial, rated at 940 horsepower for takeoff. The A6M3 and A6M5 variants had one Nakajima NK1F Sakae 21 14-cylinder air-cooled radial, rated at 1,130 horsepower for takeoff, and the A6M6c and A6M7 variants had one Nakajima Sakae 31 14-cylinder air-cooled radial, rated at 1,130 horsepower for takeoff. The most powerful version, the A6M8, had one Mitsubishi MK8P Kinsei 62 14-cylinder air-cooled radial, rated at 1,560 horsepower for takeoff. Wingspan of the A6M2 Model 21 was 39 feet 4 7/16 inches; A6M3 Model 32, 36 feet 1 1/16 inches; A6M5 Model 52, 36 feet 1 1/16 inches; and A6M8 Model 64, 36 feet 1 1/16 inches. Fuselage length of the A6M2 Model 21 was 29 feet 8 11/16 inches; A6M3 Model 32, 29 feet 8 11/16 inches; A6M5 Model 52, 29 feet 11 7/32 inches; and A6M8 Model 64, 30 feet 3 21/32 inches. The A6M2 Model 21 made 331 miles per hour at 14,950 feet; the A6M3 Model 32, 338 miles per hour at 19,685 feet; the A6M5 Model 52, 351 miles per hour at 19,685 feet; and the A6M8 Model 64, 356 miles per hour at 19,685 feet. Service ceiling for the A6M2 Model 21 was 32,810 feet; the A6M3 Model 32, 36,250 feet; the A6M5 Model 52, 38,520 feet; and the A6M8 Model 64, 37,075 feet. The A6M2 Model 21 had a range of 1,930 miles; the A6M3 Model 32, 1,477 miles; the A6M5 Model 52, 1,194 miles; and the A6M8 Model 64, 1,194 miles. Typical armament for versions A6M2 through A6M5a included two fuselage-mounted 7.7-mm machine guns and two wing-mounted 20-mm cannon. The A6M5b had one fuselage-mounted 7.7-mm machine gun, one fuselage-mounted 13.2-mm machine gun, and two wing-mounted 20-mm cannon, while the A6M5c, A6M6c, and A6M7 versions had one fuselage-mounted 13.2-mm machine gun, two wing-mounted 20-mm cannon, and two wing-mounted 13.2-mm machine guns. The A6M8 had two wing-mounted 20-mm cannon and two wing-mounted 13.2-mm machine guns. For most versions, the normal bomb load was two 132-pound bombs under the wings. However, the A6M7 and A6M8 versions carried one 1,102-pound bomb under the fuselage. For suicide missions, all aircraft were loaded with one 551-pound bomb under the fuselage. A6M6c and A6M8 Zeroes could be loaded with eight 22-pound or two 132-pound air-to-air rockets. To extend range, drop tanks were used—one under-belly 72.6-gallon drop tank for all versions except the A6M7 and A6M8, which could carry two under-wing 77-gallon drop tanks.

Other Japanese naval fighter aircraft of note include the following.

Kawanishi N1K1-J Shiden ("George"). This was a land-based naval fighter, which first flew on December 27, 1942, and entered production the following year. A formidable opponent against U.S. carrier-based fighters and dive bombers, the George was afflicted with manufacturing and reliability problems. A particularly serious flaw was weak landing gear, which were finally modified in the final version of the aircraft, designated NIK2-J. Before the war ended, 1,435 George aircraft, of all variant types, had been produced.

The power plant for the George was one 1,990-horsepower Nakajima NK9H Homare 21 radial engine, the wingspan was 39 feet 4.4 inches, and the fuselage length was 29 feet 2 inches. The George had a top speed of 363 miles per hour at 19,357 feet. Its armament consisted of two 7.7-mm Type 97 machine guns in the nose and four wing-mounted 20-mm Type 99 cannon.

Kyushu J7W1 Shinden. While the Japanese name of the "George," Shiden, means "Violet Lightning," Shinden translates as "Magnificent Lightning." The Allies provided no English-language code name for this innovative fighter, which featured a canard wing forward of the main wing, two wing-mounted vertical stabilizers, and a rear-mounted pusher-type propeller arrangement. The prototype flew on August 3, 1945, just three days before the atomic bomb was dropped on Hiroshima. The aircraft, of course, never entered production or service. Its powerplant was a single Mitsubishi MK9D 18-cylinder air-cooled radial engine, rated at 2,130 horsepower for takeoff. Wingspan was 36 feet 5 9/16 inches and fuselage length, 31 feet 8 5/16 inches. Maximum speed for the Shinden was a stunning 466 miles per hour at 28,545 feet, with a service ceiling of 39,370 feet and a range of 529 miles. The aircraft was armed with four forward-firing 30-mm cannon in the nose, and there was provision under the wings for four 66-pound bombs or two 132-pound bombs.

Mitsubishi A5M ("Claude"). In this aircraft, Japan developed the world's first monoplane shipboard fighter. It was flown in prototype on February 4, 1935, and entered service in 1937, flying extensively in the Sino-Japanese War and in the early days of World War II itself. By the time production ended, 1,094 Claudes had been produced, including a two-seat trainer version, which prepared many pilots for the successor to the Claude, the great Zero.

The A5M variant was a single-seat carrier-based fighter, and the A5M4-K was a two-seat fighter trainer. The aircraft featured all-metal construction with fabric-covered control surfaces and (on later models) one Nakajima Kotobuki 41 nine-cylinder air-cooled radial, rated at 710 horsepower for takeoff. Later models of the aircraft had a wingspan of 36 feet 1 3/16 inches and a fuselage length of 24 feet 9 27/32 inches. Top speed in later models was 270 miles per hour at 9,845 feet, with a service ceiling of 32,150 feet and a range of 746 miles. Typical armament consisted of two fuselage-mounted 7.7-mm machine guns, or two fuselage-mounted 20-mm cannon, or one engine-mounted 20-mm cannon. The aircraft could carry two 66-pound bombs or one 35.2-gallon drop tank.

Mitsubishi J2M Raiden ("Jack"). The J2M Raiden—"Thunderbolt"— was code-named "Jack" by the Allies and was the Imperial Japanese Navy's first fighter expressly intended as a land-based interceptor. Like the army's Nakajima Ki-44 Shoki ("Tojo"), the Jack sacrificed maneuverability, the usual hallmark of the Japanese fighter, for speed and a high rate of climb. Indeed, navy planners had a difficult time accepting this compromise, and the development of the Jack was exceedingly troubled. Although design work began in 1938, a prototype was not completed until February 1942, and even after the navy accepted the interceptor in October, the plane was plagued by problems. By the time these were resolved, production of the aircraft had to give way to the high priority accorded production of the Zero, and only 476 Jacks were built before the war ended.

The Jack saw some service in the Philippines during September 1944, but it was used primarily against B-29s raiding the Japanese home islands. It was highly effective in this mission during the daytime, but, beginning in March 1945, when U.S.

strategists concentrated on incendiary raids by night and when the B-29s were regularly escorted by Iwo Jima–based P-47 Thunderbolts and P-51 Mustangs, the Jack became far less effective as an interceptor.

A single-seat, single-engine interceptor, the Jack had all-metal construction with fabric-covered control surfaces. Its powerplant in later models was one Mitsubishi Kasei 26a 14-cylinder air-cooled supercharged radial, rated at 1,820 horsepower for takeoff. In later models, the wingspan was 35 feet 5 3/16 inches, and the fuselage length 33 feet 7 17/32 inches. At its best, the Jack made 382 miles per hour at 22,310 feet and had a service ceiling of 36,910 feet and a range of 680 miles. Later models were equipped with four wing-mounted 20-mm cannon, and all models had two underwing racks to accommodate two 132-pound bombs.

Nakajima J1N Gekko ("Irving"). The Gekko—"Moonlight"—was the Imperial Navy's land-based, twin-engine, long-range escort fighter. It never fared well in its intended role, however, and was soon used for reconnaissance duty and then as a night fighter. In this latter role, it finally found its niche, although with the advent of the B-29 over Japan itself, the Gekko proved a far less effective contender.

Development of the Gekko began in 1938 in response to the navy's perceived need for a long-range escort in the Chinese theater during the Sino-Japanese War. A prototype flew in May 1941, but, as was so often the case with high-performance Japanese prototypes, the aircraft was plagued with problems; in October it was decided to reconfigure it for the reconnaissance mission. It served in this capacity until spring 1943, when some of the aircraft were converted as night fighters, incorporating two forward- and upward-firing 20-mm cannon in the observer's cockpit and two more that fired forward and downward. Against B-17 Flying Fortresses, the newly reconfigured Gekko proved quite effective, and authorization was given to build more of the night fighter variants.

The first J1N1-S Gekko Model 11, the purpose-built night fighter variant, rolled off the Nakajima assembly line in August 1943. This model either incorporated radar or a nose-mounted searchlight. The limited service ceiling, while sufficient for attacking B-17s, made the Gekko ineffective against B-29s. Before production ended in December 1944, 479 had been built.

A twin-engine, long-range escort fighter, reconnaissance aircraft, and night fighter (depending on the variant), the Gekko was constructed of metal with fabric-covered control surfaces. The night fighter variant was powered by two Nakajima Sakae 21 14-cylinder air-cooled radial engines, rated at 1,130 horsepower for takeoff. It had a wingspan of 55 feet 8 ½ inches and a length of 39 feet 11 17/32 inches. Top speed was 315 miles per hour at 19,160 feet, with a service ceiling of 30,610 feet and a range of 2,348 miles. The night fighter was armed with a pair of dorsal oblique-firing 20-mm cannon, and some aircraft also mounted one forward-firing 20-mm cannon in the nose. The Gekko could carry two 551-pound bombs, and all variants carried bombs when used for suicide attacks. The reconnaissance variant was crewed by three, and the night fighter by two.

Important fighter aircraft flown primarily by the Japan Army Air Force include the following.

Kawasaki Ki-45 Toryu ("Nick"). This twin-engine fighter was designed to operate over greater range than a single-engine plane. Although not designed for the role, the Nick was used mainly as a night fighter. Prototypes were produced in 1939, but flight trials were initially disappointing, especially in terms of speed, and the aircraft underwent many revisions before the required speed of 335 miles per hour was achieved in late 1940. The first production Nicks were not delivered until August 1942, and the aircraft was first used in combat in October in China. Crews welcomed its armor and highly survivable design, and in China it was deployed primarily against naval targets and for ground attack. In other theaters, the Nick was used increasingly for night missions.

Total output of the Nick reached 1,701 aircraft before production ended in July 1945. A twin-engine fighter and ground-attack aircraft, the Nick was of all-metal construction except for its fabric-covered control surfaces. In late models, the power

plant was two Nakajima Ha-102 14-cylinder air-cooled radials, rated at 1,080 horsepower for takeoff. Wingspan measured 49 feet 3 5/16 inches and length 36 feet 1 1/16 inches. Maximum speed of the aircraft was 335.5 miles per hour at 19,685 feet, with a service ceiling of 32,810 feet and a range of 1,243 miles. Late-model Nicks were armed with two nose-mounted 20-mm cannon, one 37-mm cannon in a ventral tunnel, and one rearward-firing 7.9-mm machine gun. Many Nicks were modified in the field with different configurations of armament. The crew consisted of a pilot and radio operator-gunner, who were accommodated in separate cockpits.

Kawasaki Ki-61 Hien ("Tony"). The Tony first saw combat in New Guinea in summer 1943 and was the first Japan Army Air Force fighter to incorporate both armor plating and self-sealing fuel tanks into its design from the outset. Previous fighters, most notably the Zero, sacrificed these in the interest of saving weight and thereby gaining performance, maneuverability, and range. Not only did the Hien ("Swallow") represent a departure from traditional design policy in this respect, it also looked very different from the blunt Zero and other fighters. Its sleek, streamlined profile much more closely resembled the German Bf-109, the Italian Macchi MC-202, or even the American P-51 Mustang. The profile had little or nothing to do with imitation, however, and was largely a function of the incorporation of a liquid-cooled engine, which meant that the forward end of the aircraft could feature a sleek nosecone instead of the blunt, open-ended cowling required by air-cooled radials.

As with the Kawasaki Ki-45 Toryu ("Nick"), the Tony, first prototyped in December 1941, went through many revisions and iterations before production was finally authorized. In the end, the Tony sacrificed a certain amount of maneuverability for high ceiling, high dive speeds, and armor protection. While the Tony proved to be a good fighter, it was chronically plagued by engine reliability problems, but by January 1945, 2,654 had been built. The aircraft operated in New Guinea and Rabaul as well as the Philippines, China, Formosa, Okinawa, and Japan itself, defending against B-29 raids. A formidable opponent in a dogfight, the Tony nevertheless met its match in the P-51D Mustang.

A single-seat fighter, the Tony was of all-metal construction except for fabric-covered control surfaces. In later models, power was provided by a single Kawasaki Ha-140 12-cylinder inverted-V liquid-cooled engine, rated at 1,500 horsepower for takeoff. Wingspan was 39 feet 4 7/16 inches and length, 30 feet 5/8 inches. Late variants could reach 379 miles per hour at 19,685 feet, and service ceiling was 36,090 feet. Maximum range of the Tony was 995 miles. Later models were armed with two fuselage-mounted 12.7-mm machine guns and two wing-mounted 30-mm cannon, or four 20-mm cannon, two in the fuselage and two in the wings. Bomb load for all versions consisted of a pair of 551-pound bombs.

Kawasaki Ki-100 Goshikisen. The Allies first encountered the Ki-100 early in 1945 during attacks on the Japanese home islands. The plane was so new, introduced very late in the war, that Allied observers never got around to assigning it an English-language code name. Nevertheless, the new aircraft outperformed such U.S. carrier-based planes as the Hellcat and even held its own against the land-based P-51 Mustang. As shocking as the sudden appearance of the "new" aircraft was, the Ki-100 was not a radical new design, but was, rather, an extensive modification of the Ki-61, fitted with a larger air-cooled engine and a cut-down rear fuselage to improve the pilot's rear vision. Both these modifications were intended to create an effective high-altitude interceptor to meet the onslaught of the U.S. B-29s over the Japanese homeland. The new, more powerful engine enabled operation at more than 30,000 feet—customary B-29 territory—and the improved pilot visibility was indispensable to an interceptor operating among heavily armed Superfortresses and their Mustang escorts. Total production of the Ki-100, most of which commandeered Ki-61 airframes under construction, was no more than 393. A Ki-100-II, with an even more powerful turbosupercharged engine, was planned and prototyped, but the Japanese surrender came before production was started.

A single-seat fighter, the Ki-100 featured all-metal construction with fabric-covered control surfaces. It was driven by a single Mitsubishi Ha-112-II 14-cylinder air-cooled radial engine, rated at 1,500 horsepower for takeoff, and had a wingspan of 39 feet 4 7/16 inches and a length of 28 feet 11 ¼ inches. Top speed was 360 miles per hour at 19,685 feet, with a service ceiling of 36,090 feet and a range of 1,367 miles. Armament consisted of two fuselage-mounted 20-mm cannon and two wing-mounted 12.7-mm machine guns. There was provision for two underwing 44-gallon drop-tanks or two 551-pound bombs.

Nakajima Ki-27 ("Nate"). This low-wing cantilever monoplane with fixed landing gear first saw service in the Sino-Japanese War that began before World War II proper. Its introduction marked the transition of the Japan Army Air Force into a modern air arm, although the Ki-27 could not have competed with such European fighters as the Messerschmitt Bf-109 and the Hawker Hurricane. The prototype flew on October 15, 1936, and it went into production at the end of the following year. Total production during the war was 3,399. By 1944, the Ki27 was hopelessly obsolete as a fighter, but it continued to be used for advance flight training and, at the end of the war, loaded with some 1,102 pounds of bombs as a suicide aircraft.

A single-seat fighter, the Nate featured all-metal construction with fabric-covered control surfaces. Its powerplant (in late models) was a single Nakajima Ha-1b nine-cylinder air-cooled radial, rated at 710 horsepower for takeoff. Wingspan was 37 feet 1 ¼ inches and length 24 feet 8 7/16 inches. The Nate had a maximum speed of 292 miles per hour at 11,480 feet and a range of 1,060 miles. Typically, the Nate was armed with a pair of fuselage-mounted 7.7-mm machine guns and carried four 55-pound bombs or two 28.6-gallon drop-tanks.

Nakajima Ki-43 ("Oscar"). The Japanese name for the Nakajima Ki-43 ("Oscar"), Hayabusa, means "Peregrine Falcon," and, like its namesake, this aircraft was an extremely agile hunter, similar to the Zero but lighter, sleeker, and even more maneuverable, though rather slow and armed with nothing more than two fuselage-mounted machine guns. Early in the war, the Oscar figured as a very formidable opponent, but it was soon outgunned and generally outclassed by newer Allied fighters. Production reached 5,919 before and during the war.

A single-seat, single-engine fighter, the Oscar was of all-metal construction except for its fabric-covered control surfaces. The power plant in later models was one Mitsubishi Ha-112 14-cylinder air-cooled radial, rated at 1,300 horsepower for takeoff, the wingspan measured 35 feet 6 ¾ inches, and length was 29 feet 3 5/16 inches. The late models reached 358 miles per hour at 21,920 feet and had a service ceiling of 37,400 feet, with a range of 1,990 miles. Armament on later models was two 20-mm cannon, whereas earlier models had two machine guns only. Bomb load was two 66-pound or one 551-pound bombs or two 44-gallon drop-tanks.

Nakajima Ki-44 Shoki ("Tojo"). The Nakajima Ki-44 Shoki ("Tojo") was expressly designed as an interceptor. Shoki, its Japanese name, means "Devil Killer," and its mission was to intercept American bombers. As an interceptor design, the Tojo sacrificed maneuverability, much cherished in other Japanese fighters, for speed and rate of climb. The prototype flew in August 1940, and, after repeated modification, the aircraft was accepted by the Japan Army Air Force in September 1942. It was the fastest Japanese fighter aircraft. Before production ended in December 1944, 1,225 of the planes had been built.

A single-seat interceptor, the Tojo featured all-metal construction with fabric-covered control surfaces. In later models, the power plant was one Nakajima Ha-145 18-cylinder air-cooled radial, rated at 2,000 horsepower for takeoff. Wingspan was 31 feet 1/16 inches and length, 28 feet 9 7/8 inches. The aircraft could hit 376 miles per hour at 17,060 feet and had a service ceiling of 36,745 feet, with a range of 1,056 miles. Late-model Tojos were armed with four 20-mm cannon, two in the fuselage and two in the wings, or two fuselage-mounted 20-mm cannon and two wing-mounted 37-mm cannons.

Nakajima Ki-84 Hayate ("Frank"). This is generally considered the best of the late Japanese fighters, and it saw desperate action in the culminating battles of the Pacific war, beginning with the Allied invasion of the Philippines and throughout the defense of the home islands. The Frank could outclimb, out-run, and out-maneuver both the U.S. P-51D Mustang and the P-47D Thunderbolt. Unfortunately for the Japanese, the aircraft was introduced quite late in the war, and it was built under conditions that tended to produce severe quality-control problems, which made the Frank unreliable. The prototype flew in April 1943, and the plane entered service at the beginning of 1944. Hard-pressed production facilities managed to turn out 3,415 of the aircraft before the end of the war.

A single-seat fighter/fighter-bomber, the Frank was initially produced with all-metal construction and fabric-covered control surfaces. Later models featured a wooden rear fuselage, wingtips, and control rods or lightweight alloys with carbon steel ribs, bulkheads, and cockpit section and sheet steel skinning. The Ki-106 version was made entirely of wood in an effort to conserve scarce metals. For most variants, the power plant was a single Nakajima Ha-45 (Army Type 4) 18-cylinder air-cooled radial engine, rated at 1,800 horsepower for takeoff. Wingspan measured 36 feet 10 7/16 inches, length 32 feet 6 9/16 inches. Top speed was 392 miles per hour at 20,080 feet, and service ceiling was 34,450 feet. Range was 1,347 miles. Typical armament consisted of two fuselage-mounted 12.7-mm machine guns and two wing-mounted 20-mm cannon. The aircraft could carry two 551-pound bombs or two 44-gallon drop-tanks.

In addition to important bombers and land- and carrier-based fighters, the Japanese also operated seaplane fighters.

Kawanishi N1K Kyofu ("Rex"), Nakajima A6M2-N ("Rufe"), and *Aichi E13A ("Jake").* The Rex was a seaplane variant of the Shiden, and the Rufe was a seaplane variant of the Zero. Several other seaplanes saw service with the Japanese forces, the most important of which was the Aichi E13A ("Jake"). Ordered in 1937 by the Imperial Navy as a reconnaissance floatplane, the E13A was prototyped the following year and began production in December 1940. Total production during the war was 1,418. In combat, the Jake was launched from the catapults of cruisers and seaplane tenders and was used not just for reconnaissance but for ground attack and against shipping. The aircraft saw action in China, and, launched from the cruisers *Tone, Chikuma,* and *Kinugasa,* it performed preattack reconnaissance of Pearl Harbor. The versatile aircraft was also used for bombing missions, long-range patrols, staff transport, and air-sea rescue, as well as suicide missions. Its major flaw was a lack of armor protection for crew and fuel tanks and inadequate defensive armament (a single 7.7-mm machine gun mounted in the rear cockpit). However, its endurance was an impressive 15 hours, which made it ideal for long-range reconnaissance.

A single-engine, three-seat, float reconnaissance seaplane, the Jake was built of metal construction with fabric-covered control surfaces. Its power plant was a single Mitsubishi Kinsei 43 14-cylinder air-cooled radial engine, rated at 1,060 horsepower for takeoff. Wingspan measured 47 feet 6 7/8 inches, and length 37 feet 7/8 inches. The Jake's top speed was 234 miles per hour at 7,155 feet, and its service ceiling was 28,640 feet. Maximum range was 1,298 miles. Typical armament included one rearward-firing flexible 7.7-mm machine gun, and some aircraft were field-modified with the addition of a downward-firing ventral 20-mm cannon. The Jake carried a single 551-pound bomb or four 132-pound bombs or depth charges for antisubmarine warfare.

For the transport mission, the Japanese converted two of their bomber types and also flew the L2D ("Tabby"), which was a Douglas DC-3 (civilian version of the military's C-47), built under a license concluded in 1938.

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aircraft, Polish

Like its other military forces at the outbreak of World War II, the Polish air force was gallant and determined but massively outnumbered, outgunned, and outclassed. During the Blitzkrieg Invasion of Poland in September 1939, most of Poland's aircraft were destroyed on the ground. Nevertheless, Poland built one bomber and one fighter of note.

P.Z.L. P.37 LosB. This twin-engine medium bomber was powered by a 918-horsepower Bristol Pegasus XX engine. Top speed was 276 miles per hour, range was 1,615 miles, and bomb load was 4,850 pounds. Three 7.7-mm machine guns provided (wholly inadequate) defensive fire. With a wingspan of 58 feet 10 inches and a service ceiling of only 19,680 feet, the P.37 fell easy prey to German fighters. Only 108 were built.

PZL 11C. The PZL 11C was the principal Polish fighter. Its wingspan was 35 feet 2 inches, and it was driven by a single PZL-built Bristol Mercury 645-horsepower engine, which meant that it was perhaps the most underpowered fighter of the war. Top speed was 242 miles per hour at 18,000 feet. Armament consisted of four machine guns and two 12.3-kilogram bombs. Range was extremely limited: little more than 200 miles. The plane entered service in 1934, making it the oldest active fighter aircraft in Europe.

See also Poland, air force of.

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aircraft, Soviet

That the German military aircraft industry entered World War II with innovative and devastatingly effective designs surprised no one, but little was expected of the Soviets. While it is true that some Soviet aircraft designs were obsolescent or even obsolete at the outbreak of war, the nation also produced a number of superb aircraft.

Ilyushin II-4. Among the bombers, only the major Soviet model is generally classified as a heavy bomber. The twin-engine Ilyushin II-4 was a superb aircraft, with more than 5,000 produced between 1937 and 1944, mostly during the final three years of production. The prototype design dates to 1935, and hard lessons learned during the Red Army invasion of Finland during 1939–40 resulted in improvements to armor protection. Nevertheless, later models of the aircraft replaced many metal parts with wood, which was easier to come by during the war. The II-4 served with the Red Army Air Force as well as with Soviet Naval Aviation, and it was naval pilots who flew the first Soviet air raids over Berlin on August 8, 1941. The aircraft served to the end of the war, although in the final months its age was showing, and it was relegated mainly to glider towing.

General specifications of the II-4 included two 1,100-horsepower M-88B radial piston engines, a wingspan of 70 feet 4 ¼ inches, and a top speed of 255 miles per hour. Service ceiling was 32,810 feet. Defensive armament consisted of 0.5-inch machine guns in the nose, in a dorsal turret, and in ventral positions. The II-4 carried up to 2,205 pounds of bombs or three 1,102-pound torpedoes and was crewed by four.

Like the Germans, the Soviets produced more light to medium bombers than heavy bombers. The three most important were the Tupolev SB-2, the Tupolev Tu-2, and the Petlyakov Pe-2.

Tupolev SB-2. Familiarly called the Katyusha, the Tupolev SB-2 was first flown on October 7, 1933. Intended as a high-speed bomber, it was at the time one of the Tupolev organization's most advanced designs, based on a heavy fighter airframe rather than a bomber. Construction was all metal and, in service during the Spanish civil war,

its 255-mile-per-hour speed outflew many enemy fighters—until the appearance of the German Bf-109 fighter. A total of 6,656 SB-2s were built up to 1940, and some remained in service until 1943, despite heavy losses to the Bf-109s.

The SB-2 was driven by twin 850-horsepower M100 V-12 piston engines to a top speed of 255 miles per hour and a service ceiling of 27,885 feet. Its range was a modest 746 miles. Wingspan was 66 feet 8 ½ inches, and defensive armament consisted of two 0.3-inch machine guns in a nose turret, one in a dorsal turret, and one in the ventral position. Bomb capacity was 2,205 pounds, and the plane was crewed by three.

Tupolev Tu-2. First flown in October 1940, the Tupolev Tu-2 went into production beginning in 1942 and, with the Petlyakov Pe-2, emerged as the most important Soviet bomber of the war. This medium bomber had a maximum speed of 342 miles per hour and had a range of 1,243 miles. It was 45 feet 3 inches long with a wingspan of 61 feet 10 inches. Bomb load was an impressive 6,614 pounds. Along with the Petlyakov Pe-2, the Tupolev Tu-2 was used in large numbers during the war, and some of these aircraft remained in Soviet service during the postwar years, flying in the Korean War with North Korean forces. During the early 1960s, the Tu-2 continued to fly with the Chinese air force and with the air forces of other communist countries. Its general specifications included a power plant consisting of two Shvetsov Ash-82fn 1,850-horsepower 14 cylinder radial engines making a rop speed of 342 miles per hour over a range of 1,553 miles. Defensive armament was two 20-mm ShVAK cannon in wing roots and three 0.5-inch UBT machine guns, two in dorsal positions and one in the ventral position. As mentioned, the bomb load was 6,614 pounds. The aircraft was crewed by four.

Petlyakov Pe-2. This aircraft was produced in a light-bomber configuration and, like the Pe-3, in a fighter configuration. The Pe-2 is generally judged the most important light Soviet bomber of the war, and a total of 11,427 Pe-2s and Pe-3s were produced. By the time of the INVASION OF THE SOVIET UNION on June 22, 1941, only a few hundred Pe-2s had come off the assembly lines. As they reached the front in greater numbers, however, German fighter pilots despaired, because the fast and nimble aircraft was difficult to catch and destroy. The Pe-2 benefitted from continual improvements made in direct response to meetings with front-line pilots. By late 1942, more crew armor and better armament had been added. The ShKAS 7.62- mm dorsal and ventral guns were replaced by Berezin UBT 12.7-mm guns. A turret replaced the hand-held dorsal gun position, and the nose was redesigned to enhance bombardier protection and efficiency.

The final specifications for the aircraft included two 1,100-horsepower Klimov M-105R V-12 piston engines, which made a top speed of 335 miles per hour. Wingspan was 56 feet 3.5 inches, and service ceiling 28,900 feet. For a light bomber, range was excellent at 932 miles. Bomb load was 2,646 pounds, and the plane was crewed by three.

The Red Air Force suffered devastating losses during the opening weeks of the German invasion. Many planes were destroyed on the ground, while others, mostly obsolete or obsolescent, were shot out of the skies by superior German fighters. American and British aircraft were rushed to the Soviets to help make up for the losses, even as the Soviet aircraft industry went into high gear and began turning out some excellent fighters. Certainly, the early losses were devastating, but they also forced a rapid modernization of the Red air force, which threw impressive designs into the fray.

Lavochkin LaGG-3. First flown on March 30, 1940, the Lavochkin LaGG-3 was a refinement of the earlier, grossly underpowered LaGG-1. Built mainly of wood, the LaGG-3 was produced in great quantity (6,528) until mid-1942. Like its predecessor, it was still somewhat underpowered, and pilots grimly dubbed the wooden plane the "Guaranteed Varnished Coffin." Nevertheless, and despite its construction materials, it was remarkably durable and could survive very substantial battle damage. General specifications included a power plant consisting of the 1,050-horsepower Klimov M-105P liquid-cooled in-line engine, which made for a top speed of 357 miles per hour. Service ceiling was

31,825 feet, and maximum range was 404 miles. The aircraft had a wingspan of 32 feet 1 inch. Armament typically consisted of two 12.7-mm UBS machine guns mounted in the engine cowling and one ShVAK 20-mm cannon firing through the streamlined propeller hub. The LaGG-3 could carry six 3.23-inch rockets or 440 pounds of bombs.

Lavochkin La-5 and La-7. As the LaGG-3 was an evolutionary improvement on the LaGG-1, the La-5 and La-7, also from Lavochkin, developed from the LaGG-3. Like its predecessor, the La-5 was made chiefly of wood, but it was designed to accommodate the Shvetsov M-82F radial engine, which produced 1,330 horsepower and drove the plane to nearly 400 miles per hour, making it a match for the best German fighters. Production on the new aircraft began about July 1942, and it proved quite successful. In 1943, Lavochkin added a new power plant, the M-82FN direct-injection engine, which developed 1,630 horsepower and pushed the aircraft beyond 400 miles per hour. The modified plane was designated the La-5FN. Its general specifications included the 1,630-horsepower M-82FN radial engine for a top speed of 402 miles per hour and a service ceiling of 36,089 feet. Range was 475 miles, and wingspan was 32 feet 1 inch. Armament included a pair of 20-mm nose cannon and four 8.2-cm RS-82 rockets or 150 kilos of bombs.

The Lavochkin La-7 pushed the envelope even farther with yet another high-performance ASh-82FN engine, which made speeds of 423 miles per hour. The La-7 was introduced in 1944, when the Soviets had already achieved air supremacy over most of the vast eastern front. Except for the new engine, it was in other respects identical to the La-5FN.

MiG-3. Before the end of World War II and well into the postwar and cold war era, "MiG" would be one of the most widely recognized names in fighter aircraft design. It stands for Mikoyan-Gurevich, and the design team's MiG-3 earned a reputation for extraordinary performance—top speed of 398 miles per hour with a very rapid climb rate of nearly 4,000 feet per minute—that was tempered by the difficulty pilots had handling the machine and its inherently poor armament. Despite its high speed, it could barely hold its own against the German Bf-109.

The MiG-3 went into production in December 1940 and reached the front line fighter squadrons in April 1941. Production continued through December 1941, by which time it had reached some 3,120 aircraft. General specifications included a power plant consisting of a 1,350-horsepower Mikulin AM-35A liquid-cooled V-12 engine, which made 398 miles per hour. Wingspan was 33 feet 5 ½ inches, range 743 miles, and service ceiling 39,370 feet. Armament consisted of a single 12.7-mm machine gun and two 7.62-mm machine guns in the upper nose cowl. Some aircraft were also equipped with a pair of 12.7-mm machine guns mounted under the wings.

Yakovlev Yak series. The Yakovlev Yak series (Yak-1, Yak-3, Yak-7, and Yak-9) was so successful that a staggering 37,000 were produced during World War II, most of them Yak-9s. The Yak-1 first flew in January 1940, and the Yak-9 went into production in summer 1942. It was produced in several specialized variants, the most important of which were the Yak-9T, a ground-attack antitank version; Yak-9B, a fighter-bomber version; Yak-9D, a long-range fighter; Yak-9DD, a very-long-range fighter escort, and Yak-9U, the final evolutionary step of the type, which reached a speed of 435 miles per hour and could easily outperform the Bf-109 and, indeed, anything else the German could throw at it. General specifications of the Yak-9U included a 1,650-horsepower Klimov VK-107A V-12 piston engine, making 435 miles per hour. Wingspan was 32 feet 0.75 inches, and service ceiling was 39,040 feet. The fighter had a range of 541 miles. The Yak-9U was armed with one engine-mounted 20-mm MP-20 cannon and two 12.7-mm UBS machine guns. It could carry two 220-pound bombs on underwing racks.

Ilyushin Il-2. For the close air support or ground-attack role, the Red Air Force used the Lavochkin La-5 and La-7 fighters but also flew two more specialized aircraft, the Ilyushin Il-2 and the Sukhoi Su-2.

The Ilyushin Il-2 was produced in a remarkable quantity of 36,163, according to Soviet historians. The design dates to 1938, when it was conceived as a two-seat aircraft, but it was a lighter single-seat design that first flew, on October 12, 1940. The aircraft proved highly effective against German transport vehicles and tanks, although it was highly vulnerable to fighter attack. In February 1942, therefore, the two-seat design was resurrected, the second seat occupied by a rear-facing gunner who defended against air attack. A version of the aircraft survived World War II and was used in the Korean War. General specifications included a power plant consisting of one 1,700-horsepower Mikulin AM-38F liquid-cooled inline piston engine making a modest top speed of 251 miles per hour—adequate for ground attack. Wingspan was 47 feet 10 ¾ inches. Service ceiling was 19,500 feet, and range was 375 miles. Typical armament included two 37-mm machine guns and two 7.62-mm guns, all wing mounted; one 12.7-mm machine gun was fired from the rear cockpit. Bomb load consisted of up to 200 5.5-pound hollow-charge antitank bombs or eight RS-82 or RS-132 rockets.

Sukhoi Su-2. The Sukhoi Su-2 was produced from early in the war until about 1942 but was badly mauled by German fighters, despite the inclusion of a rear-facing defensive gunner. Late model specifications included one 1,520-horsepower Shvetsov M82 air-cooled radial piston engine, which made for a top speed of 302 miles per hour. Wingspan was 46 feet 11 inches, and service ceiling 28,870 feet. Armament consisted of four forward-firing 7.62-mm wing-mounted machine guns and one or two machine guns in a dorsal turret. The Su-2 could deliver 882 pounds of bombs.

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aircraft, U.S.

The United States Army Air Forces (USAAF) (before 1941, the United States Army Air Corps, USAAC) and the United States Navy and United States Marine Corps flew a variety of aircraft during World War II. This entry surveys the most important of them.

ARMY AIR FORCES AIRCRAFT

Aircraft used primarily for close air support of troops were classified as Attack (designated "A") Aircraft. Although many fighter and medium bomber aircraft were used in close air support, only one USAAF plane was specifically designed for the role.

A-20 Havoc. This aircraft was delivered to the USAAF in a quantity of 7,230 from the Douglas Aircraft Company. The plane went into production at the close of the 1930s and was the first USAAF aircraft type to see action in Europe, arriving in the theater in 1942. The twin-engine craft was nicknamed the "Flying Pike" and had a top speed of 329 miles per hour, a service ceiling of 28,250, and a range of 1,060 miles. Production ended in 1944.

USAAF bomber aircraft were designated "B" and included the following.

B-17 Flying Fortress. The B-17 was the first U.S. bomber built for strategic bombing and the first U.S. four-engine monoplane bomber. The airplane was designed by Boeing, and a total of 12,731 were produced by Boeing and, under license, by Douglas and the Lockheed subsidiary Vega. The aircraft was designed before the war; during the war, it was produced in several iterations, the most successful of which was the B-17G, which was powered by four 1,200-horsepower Wright R-1820-97 engines that drove the 65,500-pound aircraft at 287 miles per hour and to a service ceiling of 35,600 feet. The Flying Fortress could deliver up to 8,000 pounds of bombs and had a fully loaded range of 2,000 miles. It was equipped with a multitude of defensive guns, which made it a most formidable target for fighters. The design and construction of the B-17, especially in the G iteration, which featured a strengthened rear fuselage, was greatly prized for its ability to withstand massive damage from enemy fighters and antiaircraft fire.

B-24 Liberator. The B-17 was a strikingly handsome airplane, whereas the boxy, lumbering B-24 looked rather awkward by comparison. Certainly, it did not command the same level of affection from the public or from air crews as did the B-17, but this Consolidated Aircraft design was actually built in greater numbers: 18,482 produced by five manufacturers. If the B-24 was massive in appearance, it was also a handful actually to fly. Handling the heavy craft was a difficult and fatiguing job, but the B-24 had two undeniable performance edges on the more agile B-17. It had a better maximum speed (300 miles per hour versus 287 miles per hour) and was capable of longer range (2,100 miles versus 2,000), although it is true that the B-17 was capable of considerably greater altitude: 35,600 feet versus 28,000 feet. Despite its limitations, the B-24 proved a highly durable workhorse, which, if anything, could take even more punishment than the B-17, thanks in no small measure to its mid-mounted, high-lift "Davis wing," which not only achieved 20 percent less drag than conventional airfoils of the time, but greatly added to the structural integrity of the aircraft.

B-25 Mitchell. Design work on the B-25 began at North American Aviation in 1938. Whereas the B-17 and B-14 were heavy bombers, the twin-engine B-25, named in honor of controversial military aviation and bomber advocate William "Billy" Mitchell, was a medium bomber, an extremely versatile aircraft that is considered one of the great bombers of World War II. The prototype flew in 1939, and by the time the war was over, more than 11,000 had been built, 9,815 for the USAAC and USAAF. It was first made famous by its highly unconventional use—launched from an AIRCRAFT CARRIER in the DOOLITTLE TOKYO RAID of 1942.

Top speed for the B-25 was 272 miles per hour, service ceiling was 24,200 feet, and maximum range was 1,350 miles with a 3,000-pound bomb load. The versatile B-25 airframe was adapted for use as a transport and as a reconnaissance plane.

B-26 Invader. Built by Douglas, the Invader entered service in 1944 as a very fast twin-engine bomber, with a top speed of 372 miles per hour and a service ceiling of 20,450 feet. It could carry a 4,000-pound bomb load over 892 miles.

B-26 Martin Marauder. The Martin Marauder shared with the Douglas Invader the same B-26 designation and, like the Douglas aircraft, was a twin-engine medium bomber. Unlike the Invader, however, the Martin Marauder was so difficult to master that it was branded a "Widow Maker" because it killed a number of novice pilots. However, by the time the Marauder entered full-time war service, the techniques for flying it safely and effectively had been perfected, and it proved to be a great airplane. More than 5,000 were delivered to the USAAF before production stopped in 1945. Top speed was 283 miles per hour, and the service ceiling was 19,800 feet. It could carry 4,000 pounds of bombs 1,100 miles.

B-29 Superfortress. The most advanced USAAF bomber and the most advanced bomber of its time was the B-29 Superfortress. Deployment of this bomber was restricted to the Pacific theater, where long range was a paramount requirement, and it was the only USAAF aircraft capable of delivering atomic weapons (which were much bigger and heavier than conventional ordnance), including those dropped on Hiroshima on August 6, 1945, and on Nagasaki on August 9. Designing the B-29 was an ambitious undertaking that began at Boeing in 1940. A prototype flew in 1942, but the aircraft was not put into combat service until the final two months of 1944. Two USAAF units were created expressly to fly the new bomber, the Twentieth Air Force and the Twenty-first Air Force.

Four engines drove the B-29 at 364 miles per hour to a service ceiling of 32,000 feet. This giant could carry a 20,000-pound bomb load over 4,200 miles. With a 141-foot wingspan and a 99-foot fuselage, it was by far the biggest bomber not just in the U.S. inventory but in the world at the time.

USAAF cargo and military transport aircraft are designated "C" and included the following airplanes.

C-46 Commando. The C-46 was designed by Curtiss-Wright in 1937 as a twin-engine commercial passenger plane. Shortly before the United

A North American B-25C Mitchell. This medium bomber provided excellent service during World War II and was the most widely exported U.S. bomber. *(San Diego Aerospace Museum)*

States entered World War II, the USAAC ordered a conversion for military transport, and before the war ended, 3,144 of the military version had been built. The C-46 did yeoman service flying The Hump during the harrowing Burma-China airlift. Top speed was 269 miles per hour, and the service ceiling was 27,600 feet. The C-46 could carry a payload of 10,000 pounds over 1,200 miles.

C-47 Skytrain. Dwight D. Eisenhower listed four weapons he deemed indispensable to victory in World War II: the bazooka, the jeep, the atomic bomb, and the C-47 Skytrain. Like the C-46, the C-47 began as a commercial aircraft, the spectacularly successful Douglas DC-3, which first flew in 1935. Before the war ended, 10,000 C-47s (in many configurations) were built for the USAAC and

USAAF. Many were flown by the Allies, especially the British, who called the C-47 the Dakota. This workhorse was used throughout the war to carry personnel and cargo, to tow gliders, and to drop paratroops. Especially valued was its ease of maintenance and its ability to fly into and out of even the most rudimentary of airstrips. The twin-engine C-47 flew at 230 miles per hour and had a service ceiling of 24,000 feet, a range of 1,600 miles, and a payload capacity of 10,000 pounds.

C-54 Skymaster. Another militarized commercial airliner, the Douglas C-54 Skymaster had been developed in the late 1930s as the four-engine DC-4. The first run of this model was entirely commandeered off the assembly line by the USAAF. By war's end, 1,163 were in military service as long-range transports, the primary overwater airlifters across the Atlantic and Pacific. A modified C-54 transported President Franklin D. Roosevelt to the YALTA CONFERENCE in 1945.

Top speed of the C-54 was 265 miles per hour, service ceiling was 22,000 feet, and range was 3,900 miles. The plane could carry 50 troops with complete equipment.

USAAF Fighter aircraft are designated either "P" (for pursuit) or, later, F (fighter).

P-38 Lightning. The twin-engine P-38 Lightning was designed by Lockheed and featured a distinctive twin-boom fuselage, which prompted opposing Luftwaffe pilots to dub it Der Gabelschwanz Teufel, the "Fork-Tailed Devil." Produced in prototype in 1939, it was delivered in a quantity of 9,923 by the end of the war. Interestingly, the P-38 was far more successful against Japanese fighters in the Pacific than against German fighters in the European theater. The fighter's twin engines drove the P-38 at 414 miles per hour to a service ceiling of 44,000 feet. Range was 450 miles.

P-39 Airacobra. Bell Aircraft Corporation's P-39 Airacobra was flown in prototype in 1939. The aircraft was used by the British and the Soviets as well as by the USAAF. Although designated a pursuit plane, the P-39 was actually used mainly for close air support, largely because most enemy aircraft outclassed it in a dogfight. Despite its speed, the P-39 was not highly maneuverable. The P-39 saw some action in the Pacific, but it was used mostly in Europe before it was entirely replaced by the F-47 Thunderbolt early in 1944. Top speed was 399 miles per hour to a service ceiling of 38,500 feet. Range was 750 miles.

P-40 Warhawk. This Curtiss-Wright design achieved its greatest fame in service with the American Volunteer Group, better known as the FLYING TIGERS, a band of American civilian pilots serving under contract with the Nationalist Chinese Air Force against Japan. The P-40's distinctive profile, formed by the large air scoop that fed the supercharged engine, was adorned by the Flying Tigers with a row of tiger teeth, and it was in this battle dress that the plane became an icon of the war.

Although the P-40 was actually verging on obsolescence by the time the war began, it enjoyed the advantage of being ready for production and, shortcomings aside, was produced in a quantity of 13,700 before production ended in 1944. Top speed was 378 miles per hour, service ceiling was 38,000 feet, but range was limited to only 240 miles.

P-59 Airacomet. The P-59 Airacomet was developed by Bell Aircraft Corporation during 1941–42 and was the first U.S. jet aircraft. Only 30 were built, and it was never deployed in action. Its performance was actually inferior to the best piston-powered fighters of the time, and, worse, its design was inherently unstable. Top speed was 413 miles per hour, service ceiling 46,200 feet, and range was 525 miles.

P-61 Black Widow. The Northrup Company built the P-61 Black Widow as the USAAF's first night interceptor, a plane designed to shoot down enemy bombers at night. It was also the first aircraft specially built to accommodate RADAR. The plane's name came from its all-black color scheme. The P-61 first flew in 1942, and 732 were built. Driven by two engines, the P-61 was capable of 366 miles per hour and had a service ceiling of 31,000 feet. Maximum range was 3,000 miles.

P-63 Kingcobra. Bell Aircraft updated the P-39 Airacobra as the P-63 Kingcobra in 1942. Some 3,303 were built, but most went to the Soviet Red Air Force instead of to the USAAF. Top speed was

408 miles per hour with a service ceiling of 43,000 feet and a range of 390 miles.

F-47 Thunderbolt (originally designated P-47). The Republic F-47 Thunderbolt was built in greater quantity than any other World War II USAAF fighter: 15,579. Big and ugly, the P-47 was extremely durable and very powerful. It entered service in 1942 and began combat operations the following year, first with the Eighth Air Force out of bases in England, then also with units in the Pacific and with the Fifteenth Air Force in the Mediterranean theater.

The F-47 was designed specifically as an "air-superiority fighter," with the intention of dominating the skies. It did just this, achieving a spectacular 4.6 to 1 victory rate, which translated into 3,752 enemy aircraft downed. Highly versatile, the F-47 was also a fine close air support craft.

Although equipped with only a single engine, the F-47 was massive and could reach 467 miles per hour and climb to a service ceiling of 43,000 feet. Its range was a respectable 800 miles carrying 2,000 pounds in bombs and other ordnance.

F-51 Mustang (originally, P-51). Many pilots consider the F-51 Mustang the best all-around fighter of World War II. Produced by North American, the Mustang made its first flight in May 1943. Top speed was 437 miles per hour, and service ceiling was 41,900 feet. It also had enough range—950 miles—to escort bombers deep into enemy territory, and, in a dogfight, it could outmaneuver just about anything thrown against it. North American produced 14,490 Mustangs before the war ended.

F-82 Twin Mustang. In addition to the F-51, North American also produced the unique F-82 Twin Mustang as a very-long-range (2,240 miles) escort for bombers negotiating the great distances of the Pacific theater. The F-82 mated two P-51s joined by a center wing section and tailplane. Except for this, each fuselage was entirely independent and had its own engine and pilot. This oddity was never deployed in combat, but it has the distinction of being the last piston fighter acquired by the USAAF.

Gliders (designated "G") were used primarily to deploy airborne troops. Two were prominent.

Waco G-4 and *G-15 Hadrian.* The Waco Aircraft Company built almost 14,000 G-4s, which were made mostly of wood and carried 15 fully equipped troops (or four soldiers and a jeep, or a 75-mm howitzer and crew). The G-4 was replaced late in the war by the G-15 Hadrian, a more airworthy and sturdier craft that could carry 7,500 pounds and soar at about 120 miles per hour.

Trainer aircraft were indispensable to the task of turning out qualified combat pilots. USAAF trainers were designated "PT," primary trainer; "BT," basic trainer; and "T," trainer.

PT-16. The *PT-16*, a military version of the Ryan Model S-T, was the first monoplane the USAAC and USAAF used for training. Ordered in 1940, its production ended in 1942. Top speed was just 128 mile per hour, and service ceiling 15,000 feet.

PT-19. The PT-19 was manufactured by Fairchild and other companies under license beginning in 1940 but was soon replaced by the more capable PT-13 Kaydet.

PT-13 Kaydet. Built by Stearman Aircraft Company, the PT-13 Kaydet was one of the most successful military trainers ever built. The USAAC and USAAF acquired more than 5,000 of them. Top speed was 135 miles per hour, and the service ceiling was 13,200 feet.

BT-13. Basic training was the next step up from primary training. The *BT-13,* manufactured by Vultee Aircraft, Inc., was the most popular USAAF basic trainer during World War II. It made 180 miles per hour and had a service ceiling of 21,650 feet over a range of 725 miles.

T-6 Texan. The T-6 Texan was built by North American Aviation and first flew in 1938. It became the USAAF's advanced trainer during World War II, with more than 8,000 produced for the service. The Texan's top speed was 210 miles per hour, its service ceiling 24,200 feet, and its range 629 miles. It became a favorite with pilots, and a substantial number entered civilian service after the war as general aviation aircraft.

NAVY AND MARINE CORPS AIRCRAFT

The U.S. Navy and U.S. Marine Corps (USMC) flew some of the same planes as the USAAF, but the navy

in particular had two special requirements: fighters that could take off and land on aircraft carriers, and seaplanes. The following are some of the best-known navy and USMC aircraft of World War II.

F2A Buffalo. The Brewster F2A Buffalo was the first monoplane fighter operated from an aircraft carrier. The rather unwieldy fighter was no match for Japanese aircraft and could achieve a top speed of no more than 300 miles per hour. After the navy abandoned it early in the war, the marines used it for land-based operations, mostly in the close air support role. Only 502 Buffalos were built.

TBD Devastator. While the Brewster Buffalo was the navy's first carrier-based monoplane fighter, the Douglas TBD Devastator was its first carrier-launched torpedo bomber. Built to carry a single heavy torpedo under the fuselage, it was a large aircraft powered by a 900-horsepower Pratt & Whitney R-1830 Twin Wasp radial engine, which made a speed of just over 200 miles per hour. A prototype flew in April 1935, and production began in 1937–39, so that the Devastator soon replaced prewar carrier-based biplanes.

In combat, the TBD's slow speed and inadequate defensive armament—one .30-caliber machine gun firing forward and another in the rear cockpit—made it very vulnerable to fire from enemy fighters and ships. At the Battle of Midway, only four of 41 TBDs escaped destruction.

TBF/TBM Avenger. The Grumman TBF Avenger was introduced in 1939 as a replacement for the TBD Devastator and proved so effective that General Motors also began to build the plane (designated TBM) under license in 1942. The large aircraft was equipped with an electrically powered gun turret and an internal bomb bay to accommodate four 500-pound bombs or a single aerial torpedo. Its crew included a pilot, radioman, and gunner. A total of 9,842 TBF/TBM Avengers were produced during the war. The TBM engine was a 1,900-horsepower Wright, and maximum takeoff weight was 17,895 pounds. Top speed was 276 miles per hour, ceiling 30,100 feet, and range 1,000 miles. The aircraft was armed with two 12.7-mm forward-firing machine guns, one 12.7-mm dorsal-mounted machine gun, and one 7.62-mm ventral-mounted machine gun; it could carry up to 2,000 pounds of ordnance.

F4U Corsair. The gull-wing F4U Vought Corsair went into production in 1942 and continued in production well after the war, ending its run in 1952, by which time 12,582 had been built. One of the most successful fighters of World War II, it enjoyed an 11 to 1 kill ratio against Japanese aircraft in the Pacific. The single engine developed a mighty 2,000 horsepower, and the gull wings not only reduced drag, but allowed for shorter landing gear to accommodate an oversized propeller. The wings could be folded over the canopy to save space on the hangar deck. Unfortunately, the big engine required considerable setback of the cockpit, which meant that visibility was poor during landing and takeoff. Also, the plane readily stalled at slow speed, and it also tended to bounce on landing, which made it difficult to engage the arresting hook. For these reasons, the F4U was restricted from aircraft carrier operations until late in 1944. In the meantime, it was extensively used on land by USMC pilots, including the celebrated Gregory "Pappy" Boyington of the Black Sheep Squadron.

F4F Wildcat. The F4F Grumman Wildcat was ordered by the navy in 1938, and by the end of the war some 9,000 had been produced. By 1942, the F4F was being replaced by the F6F Hellcat for carrier operations, although USMC pilots continued to fly the Wildcat with great success. Capable of a top speed of 320 miles per hour, the F4F was armed with six 50-caliber machine guns.

F6F Hellcat. Grumman designed the F6F Hellcat as a replacement for the F4F Wildcat. The new plane benefitted from close study of captured Japanese fighters, and Hellcat pilots eventually achieved a spectacular 19 to 1 kill ratio. Some 12,275 F6Fs were produced between 1942 and 1945—a production rate of one plane per hour during every 24 hours, seven days a week. In hard numbers, the F6F destroyed 5,156 enemy aircraft, accounting for three-fourths of all U.S. Navy aerial kills in World War II. The Hellcat made 380 miles per hour at 23,000 feet and could reach a service ceiling of 37,300 feet. Armament was six 12.7-mm machine guns and a bomb load of 2,000 pounds.

F7F Tigercat. The F7F Grumman Tigercat was ordered in 1941 as the navy's first twin-engine fighter, although it did not fly until 1943. Highly maneuverable and reaching an impressive 400 miles per hour, the F7F had four .50-caliber machine guns and four 20-mm cannon. However, the Tigercat proved too heavy for regular carrier operations and was therefore turned over to the USMC in 1944 for service from shore bases.

F8F Bearcat. The F8F Grumman Bearcat appeared late in the war, in 1945, and was developed largely in response to KAMIKAZE attacks as well as to continue countering general Japanese fighters. The F8F was 20 percent lighter than the F6F and nearly 50 miles per hour faster, hitting 421 miles per hour. Part of the weight reduction was achieved by reducing armament from six to four .50-caliber machine guns. However, two wing pylons, each capable of carrying a 1,000-pound bomb, provided attack capability.

O2SU Kingfisher. The O2SU Vought Kingfisher was the most widely used navy float plane of the war. The aircraft was designed to be carried aboard BATTLESHIPS and CRUISERS. The planes were lowered into the water by a shipboard crane, which was also used to recover them. The O2SU was used on training, scouting, bombing, and other missions. Although most were employed in the Pacific theater, some were used in the Atlantic to hunt German SUBMARINES. The Kingfisher first flew in 1938 and reached a top speed of 170 miles per hour and a ceiling of 16,000 feet.

PBY Catalina. The Consolidated PBY Catalina was produced in great numbers for the U.S. Navy during World War II. Five U.S. and Canadian plants delivered 3,281 of these flying boats, which had begun life in the early 1930s. The PBY-5A was powered by two 1,200-horsepower Pratt & Whitney radial piston engines and had a maximum takeoff weight of 35,420 pounds, a wingspan of 104 feet, and a 63-foot length. Its top speed was a lumbering 179 miles per hour, but at 117 miles per hour it could cruise for 2,545 miles. Typical armament consisted of five 7.62-mm machine guns and as much as 4,000 pounds of bombs or depth charges.

PBM-3 Mariner. The PBM-3 Mariner from Martin was a large flying boat designed for long-range operations as a patrol bomber, convoy escort, and fleet operations scout. It was intended to replace the Consolidated PBY Catalina but ultimately supplemented rather than replaced it. About 1,000 were produced.

SBD Dauntless. The Douglas SBD Dauntless was effectively the U.S. Navy's standard carrier-based dive bomber from mid-1940 until November 1943, when the Helldivers began to replace it. In addition to its carrier use, the SBD Dauntless was flown extensively by the USMC.

Ordered in 1939, delivery began in 1940, and 5,936 were built by the time the aircraft was phased out late in 1944. A single 1,350-horsepower Wright engine lifted a maximum takeoff weight of 9,519 pounds to a top speed of 255 miles per hour and a ceiling of 25,200 feet. Range was 773 miles, and armament included two forward-firing 12.7-mm machine guns in addition to two 7.62-mm machine guns on flexible mounts. Up to 1,600 pounds of bombs could be carried under the fuselage, and another 650 pounds under the wings.

SB2C Helldiver. The Curtiss SB2C Helldiver was designed in 1938 as a scout-bomber to replace the SBD Dauntless. Improvements included a larger fuel capacity, 20-mm cannon, and an internal bomb bay to carry a 1,000-pound bomb. Design problems delayed initial production until June 1942, and then the aircraft was plagued by landing gear failure and a tendency to bounce, which interfered with tail-hook engagement on carrier landings. Eventually, however, the problems were resolved, and 5,500 were produced before the end of the war. The SB2C's single Wright engine developed 1,900 horsepower, enabling a maximum takeoff weight of 16,616 pounds. Top speed was 295 miles per hour, and ceiling was 29,100 feet. The SB2C had a range of 1,165 miles. Armament consisted of two 20-mm wing-mounted cannon and two 7.62- mm machine guns operated by a gunner in the rear cockpit. The bomb bay could accommodate a 1,000-pound bomb, and underwing racks could take an additional 1,000 pounds of ordnance.

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aircraft carriers

Aircraft carriers, large ships specially designed to carry, launch, and recover aircraft, revolutionized naval warfare during World War II and largely displaced BATTLESHIPS as the supreme naval weapon. With aircraft carriers, fleets could now fight each other "over the horizon," and the BATTLE OF THE CORAL SEA was history's first naval engagement in which the opposing ships never sighted one another; all combat took place in or from the air. Moreover, aircraft carriers served as floating air bases, from which air attacks could be launched against targets far beyond the range of land-based aircraft. Traditionally, nations had projected military power with great ships. Now those ships, in turn, could project their power with aircraft.

U.S. carrier pilots get a premission briefing below decks. *(National Archives and Records Administration)*

The history of the aircraft carrier may be traced to November 1910, when an American civilian pilot, Eugene Ely, took off from a platform built on the deck of the U.S. CRUISER *Birmingham.* Ely successfully landed an airplane early the following year, on January 18, 1911, on a platform built on the quarterdeck of the battleship *Pennsylvania.* He used wires extended across the platform and attached to sandbags to serve as arresting gear, an innovation that, with many improvements, continues to be a key feature of carriers to this day, making it possible for aircraft to land in the comparatively short space of an aircraft carrier deck. The British were the first to contemplate introducing a carrier into war, converting a merchant vessel into the HMS *Argus* during World War I. However, the armistice was signed before the ship could be deployed. The example of the *Argus* did inspire both the United States and Japan to experiment with carriers. The U.S. Navy built a flight deck on a converted collier and launched its first carrier, the USS *Langley,* in 1922. Later that same year, the Japanese Imperial Navy launched the *Hosyo,* the first vessel designed and purpose-built as an aircraft carrier.

World War II, which saw the apotheosis of the aircraft carrier, was also the vessel type's first exposure to combat. Japan's devastating attack on Pearl Harbor, December 7, 1941, would have been impossible without aircraft carriers, and it dramatically demonstrated how a nation could project massive air power at great distances from its own land or bases. While the Japanese attack wreaked havoc on the U.S. Navy battleship fleet, the American carriers were out to sea and therefore escaped destruction. They would be vital in the Pacific war, and the combat theater that had been opened by means of the aircraft carrier would, in large measure, be concluded because of the aircraft carrier.

The Washington Naval Treaty of 1922, signed by the great powers as an arms control measure after World War I, allowed each of the major signatories to convert two of their existing capital ships to car-

riers of no more than 33,000 tons. Newly constructed carriers could displace no more than 27,000 tons. No carrier was permitted guns of more than 8 inches, about half the caliber of a modern World War II battleship. In fact, the conversions made by the United States (*Lexington* and *Saratoga*) and Japan (*Akagi* and *Kaga*) exceeded the treaty limit on displacement. The new carriers built by these nations during the 1930s (*Yorktown* and *Enterprise,* and *Hiryu* and *Soryu*) adhered to the 27,000-ton limit, however. Britain converted two World War I–era light battle cruisers, HMS *Courageous* and HMS *Glorious,* to carriers, then began construction on a new carrier, HMS *Ark Royal,* in 1935.

A new prewar naval treaty, concluded at London in 1936, placed more stringent size limitations on new carriers—23,000 tons maximum—but simultaneously removed all restrictions on the number of carriers a signatory might build. Britain's Royal Navy introduced the Illustrious class of 23,000-ton carriers. The United States did not build any more new carriers until the war had begun, an event that rendered the 1936 treaty restrictions moot. The U.S. Essex class displaced 27,500 tons, could carry more than 100 aircraft, and served as the main fleet carriers of the Pacific during the war. Also during the war, the United States began construction of the mammoth 45,000-ton *Midway,* with innovative armored flight decks. These ships were not completed before the war ended, however.

In addition to the principal carriers, the United States, Britain, and Japan also deployed light carriers, ranging from about 9,000 tons to 20,000 tons, which were designed for quick construction. These combatant nations also deployed escort carriers, displacing about 7,000 to 17,000 tons, intended to protect merchant convoys from submarine attack. While some light and escort carriers were designed from the keel up, many were converted from light cruisers (in the case of light carriers) and merchant hulls (in the case of escort carriers). Indeed, Britain's Royal Navy added flight decks to some tankers and grain transports, allowing them to serve as flight platforms without eliminating their original cargo role. These ships, few in number, were designated merchant aircraft carriers, or MACs.

The United States, Japan, and Britain had the major aircraft carrier fleets in the war. However, Germany, Italy, and Canada also possessed carriers. Even the Netherlands had a single ship.

U.S. CARRIER FLEET

***LANGLEY* (1922)**
First U.S. carrier, converted from U.S.S. *Jupiter,* a collier
Displacement: 11,500 tons
Length: 542 feet
Beam: 65 feet
Draft: 18 feet 11 inches;
Top speed: 15 knots
Complement: 468; guns: four 5-inch guns and 55 AA guns.

Langley was converted to a seaplane tender during 1936–37 and, early in World War II, was assigned to American-British-Dutch-Australian forces assembling in Indonesia. She was sunk by Japanese air attack on February 27, 1942.

***LEXINGTON* and *SARATOGA* (both 1925)**
Displacement: 36,000 tons (standard); 47,700 tons (full)
Complement: 2,951 (*Lexington*), 3,373 (*Saratoga* in 1945)
Length: 888 feet
Beam: 106 feet
Draft: 24 feet 1.5 inches
Aircraft: 75
Guns: eight 8-inch, 12 5-inch AA, and four 6-pounder saluting guns; *Saratoga* (in 1945): eight 5-inch AA, 24 40-mm AA Bofors, 16 20-mm AA
Power plant: G.E. turbines, electric drive, 4 screws. S.H.P.: 180,000, 16 boilers
Top speed: 33.25 knots

***RANGER* (1933)**
Fleet carrier
Displacement: 14,500 tons
Complement: 1,788
Length: 769 feet
Beam: 80.1 feet

Draft: 19.7 feet
Aircraft: 86
Guns: eight 5-inch, 38 caliber dual-purpose and 40 smaller guns
Power plant: geared turbines, two shafts, S.H.P.: 53,500, six boilers
Top speed: 29.4 knots

***ENTERPRISE* and *YORKTOWN* (both 1936)**
Fleet carriers
Displacement: 19,900 tons (standard); 25,500 tons (full)
Complement: 2,919
Length: 809.5 feet
Beam: 114 feet (maximum)
Draft: 28 feet (mean)
Aircraft: 89 (if necessary, could carry 100+)
Guns: eight 5-inch, 38-caliber dual-purpose; 16 1.1-inch AA machine guns, and 16 smaller machine guns
Power plant: geared turbines, four shafts, S.H.P.: 120,000, nine boilers
Top speed: 34 knots

***HORNET* (1940)**
Fleet carrier
Displacement: 19,000 tons (standard); 29,100 tons (full)
Complement: 2,919
Length: 827.5 feet
Beam: 114 feet
Draft: 29 feet
Aircraft: 87 (if necessary, could carry 100+)
Guns: eight 5-inch, 38-caliber dual-purpose; 16 1.1-inch AA machine guns; 30 20-mm AA machine guns; and nine 0.5-inch machine guns
Power plant: geared turbines, four shafts, S.H.P.: 120,000, nine boilers
Top speed: 34 knots

***WASP* (1939)**
Fleet carrier
Displacement: 14,700 tons; 20,450 ton, (full)
Complement: 2,367
Length: 741.3 feet
Beam: 80.9 feet
Draft: 28 feet
Aircraft: 80
Guns: eight 5-inch, 38-caliber; 16 1.1 inch AA; and 30 20-mm AA
Power plant: two-shaft Parsons turbines, S.H.P.: 75,000, six boilers
Top speed: 29.5 knots

***SAIPAN* and *WRIGHT* (both 1945)**
Light carriers
Displacement: 14,500 tons; 20,000 tons (full)
Complement: 1,500
Length: 683 feet 7 inches
Beam: 76 feet 9 inches
Aircraft: 48
Guns: four 5-inch, 38-caliber; 40 40-mm AA; and 25 20-mm AA
Power plant: geared turbines, four shafts, S.H.P.: 120,000, Babcock & Wilcox boilers
Top speed: 33 knots

ESSEX CLASS (24 ships, 1940–1944)
Fleet carriers
Displacement: 27,100 tons; 33,000 tons (full)
Complement: 3,240
Length: 888 feet
Beam: 93 feet
Draft: 29 feet
Aircraft: 82 (if necessary, could carry 103)
Guns: 12 5-inch, 38 caliber; 72 40-mm AA quadrupled; 52 20-mm AA quadrupled
Power plant: geared turbines, four shafts, S.H.P.: 150,000, eight boilers
Top speed: 33 knots

INDEPENDENCE CLASS (9 ships, 1941–1943)
Light carriers
Displacement: 11,000 tons; 14,300 tons (full)
Complement: 1,569
Length: 618 feet
Beam: 71.5 feet
Draft: 20 feet
Aircraft: 45

Guns: two 5-inch AA; 16 40-mm AA Bofors; 40 20-mm AA Bofors
Power plant: geared turbines, four shafts. S.H.P.: 74,600, Babcock & Wilcox boilers
Top speed: 31.5 knots

COMMENCEMENT BAY CLASS (19 ships, 1944–1945)
Escort carriers
Displacement: 18,908 tons; 21,397 tons (full)
Complement: 1,066
Guns: two 5-inch, 36 40-mm, and 20 20-mm AA guns
Aircraft: 33
Power plant: geared turbines, two shafts, S.H.P.: 13,500
Top speed: 19 knots

SANGAMON CLASS (4 ships, 1940–1942)
Escort carriers (converted from oilers)
Displacement: 12,000 tons
Complement: 1,000+
Length: 556 feet
Beam: 75 feet
Draft: 30 feet
Aircraft: 34–36
Guns: one or two 5-inch, 51-caliber; eight 40-mm AA; 15 20-mm AA
Power plant: geared turbines, two shafts, S.H.P.: 13,500
Top speed: 18 knots

CASABLANCA CLASS (37 ships, 1943–1944)
Escort carriers
Displacement: 6,730 tons; 10,200 tons (full)
Complement: 800
Length: 498.6 feet
Beam: 80 feet
Draft: 19.7 feet
Aircraft: 40
Guns: one 5-inch, 38-caliber; 24 20-mm AA; some vessels added: eight 40-mm AA and 24 20-mm AA
Power plant: Skinner unaflow engines, two shafts, I.H.P.: 11,200
Top speed: 18 knots

BOGUE CLASS (10 ships, 1942–1943)
Escort carriers
Displacement: 7,800 tons (*Prince William,* 8,300 tons)
Complement: 650
Length: 494 feet (*Prince William,* 492 feet)
Beam: 65.5 feet
Draft: 23.4 feet
Aircraft: 21
Guns: one or two 5-inch, .51-caliber; 16 40-mm Bofors; 20 20-mm Oerlikon
Power plant: Westinghouse geared turbines, two shafts, B.H.P.: 8,500
Top speed: 16 knots

MIDWAY CLASS (3 ships, completed after the war)
Displacement: 45,000 tons; 55,000 (full)
Complement: 4,085
Length: 968 feet
Beam: 136 feet (maximum)
Draft: 32 feet 9 inches
Aircraft: 137
Guns: 18 5-inch, 54-caliber; 84 40-mm AA quadrupled; 82 20-mm AA
Power plant: Geared turbines, four shafts, S.H.P.: 200,000, 12 boilers
Top speed: 33 knots

BRITISH CARRIER FLEET

***ARGUS* (1917)**
Britain's first carrier, a modified ocean liner
Displacement: 14,450 tons (standard); 15,750 tons (full)
Complement: 373
Length: 565 feet
Beam: 68 feet
Draft: 21 feet
Aircraft: about 20
Guns: six 4-inch AA; four 3-pounders; four machine guns; 10 Lewis guns
Power plant: Parsons turbines, four screws, S.H.P.: 20,000, 12 boilers
Top speed: 20.2 knots

***EAGLE* (1918)**
Converted from a battleship
Displacement: 22,600 tons (standard); 26,500 tons (full)
Complement: 1,100
Length: 667 feet
Beam: 105.6 feet (maximum)
Draft: 24 feet (mean)
Aircraft: about 20
Guns: nine 6-inch, 50-caliber; five 4-inch AA; 36 smaller guns
Power plant: Brown-Curtis geared turbines, S.H.P.: 50,000, 32 small-tube boilers
Top speed: about 24 knots

***HERMES* (1918)**
Britain's first ship designed expressly as an aircraft carrier
Displacement: 10,850 tons (standard); 12,950 tons (full)
Complement: 1,000
Length: 598 feet
Beam: 90 feet over flight deck
Draft: 18.75 feet (mean)
Aircraft: about 20
Guns: six 5.5-inch, 50-caliber; three 4-inch AA; 26 smaller guns
Power plant: Parsons all-geared turbines, S.H.P.: 40,000, two screws, Yarrow or Babcock boilers
Top speed: about 25 knots

***FURIOUS* (1916)**
Converted from a cruiser
Displacement: 22,500 tons (standard); 28,450 tons (full)
Complement: 1,100
Length: 786.3 feet
Beam: 89.7 feet
Draft: 21.6 feet (mean); 25 feet (maximum)
Aircraft: 33
Guns: ten 5.5-inch AA; six 4-inch AA; 50 smaller guns
Power plant: Brown-Curtis all-geared turbines, four shafts, H.P.: 90,000, 18 boilers
Top speed: 31 knots

COURAGEOUS CLASS (2 ships, converted in 1924–1928)
Converted from cruisers
Displacement: 22,500 tons; about 26,500 tons (full)
Complement: 1,215
Length: 786.3 feet
Beam: 81 feet
Draft: 22.6 feet (mean), 26 feet (maximum)
Aircraft: about 45
Guns: 16 4.7-inch; four 3-pounders; 50 smaller guns
Power plant: Parsons geared turbines, four shafts, H.P.: 90,000, 18 boilers
Top speed: about 31 knots

***ARK ROYAL* (1937)**
Fleet carrier
Displacement: 22,000 tons; about 27,720 tons (full)
Complement: 1,575
Length: 800 feet
Beam: 94.7 feet
Draft: 27.7 feet
Aircraft: about 65
Guns: 16 4.5-inch; 42 2-pounders; 32 .50-inch AA
Power plant: Parsons geared turbines, three shafts, S.H.P.: 102,000, six Admiralty three-drum boilers
Top speed: 31 knots

ILLUSTRIOUS CLASS (4 ships, 1939)
Fleet carriers
Displacement: 23,000 tons (standard); 25,500 tons (full)
Complement: 1,400
Length: 753,5 feet
Beam: 95.75 feet
Draft: 24 feet
Aircraft: about 45 (*Indomitable,* about 65)
Guns: eight 4.5-inch dual-purpose; various 40-mm and 20-mm AA
Power plant: Parsons geared turbines, three shafts, S.H.P.: 110,000 6 three-drum boilers
Top speed: 31 knots

IMPLACABLE CLASS (2 ships, 1942)
Fleet carriers
Displacement: 26,000 tons; 31,300 tons (full)
Complement: 1,800
Length: 766 feet 2 inches
Beam: 95 feet 9 inches
Draft: 29 feet 4 inches
Aircraft: about 70
Guns: 16 4.5-inch dual-purpose; 77 to 79 40-mm, 20-mm, and 2-pounder pompoms
Power plant: Parsons geared turbines, S.H.P. 110,000, four shafts. eight Admiralty three-drum boilers
Top speed: 32 knots

***UNICORN* (1943)**
Light carrier
Displacement: 14,750 tons (standard); 20,300 tons (full)
Complement: 1,050
Length: 640 feet
Beam: 90 feet
Draft: 19 feet
Aircraft: 35
Guns: eight 4-inch; two multiple pompoms
Power plant: Parsons geared turbines, two shafts, S.H.P.: 40,000, four Admiralty three-drum boilers
Top speed: 24 knots

COLOSSUS CLASS (7 ships, 1943–1944)
Displacement: 13,190 tons (except *Theseus* and *Triumph,* 13,350 tons)
Complement: 840–854
Length: 694 feet 6 inches
Beam: 80 feet 3 inches
Draft: 23 feet
Aircraft: 39–44
Guns: four 3-pounders; 24 2-pound pompoms; 19 40-mm AA; various 40-mm and 20-mm AA
Power plant: Parsons geared turbines. two shafts, S.H.P.: 40,000, four Admiralty three-drum boilers
Top speed: 25 knots

ARCHER CLASS (23 ships, 1939–1940)
Escort carriers
Displacement: 14,500 tons
Length: 492 feet
Beam: 69.5 feet
Draft: 28.5 feet
Guns: 4-inch AA; 4-mm AA; Bofors machine guns; several 20-mm guns

NAIRANA CLASS (2 ships, 1943–1944)
Escort carriers
Displacement: 13,500 tons
Complement: 700–728
Length: 524 feet
Beam: 68 feet
Draft: 25 feet
Aircraft: 20
Guns: two 4-inch AA; 16 2-pounder pompoms; eight 40-mm AA; 16 20-mm AA
Power plant: Diesels, two shafts, B.H.P.: 10,700
Top speed: 16 knots

RULER CLASS (14 ships, 1942–1943)
Escort carriers
Displacement: 9,000 tons
Complement: 373
Length: 514 feet
Beam: 80 feet

JAPANESE CARRIER FLEET

***HOSYO* (*HOSHO*) (1921)**
Experimental prototype
Displacement: 7,470 tons (standard); 10,000 tons (full)
Complement: 550
Length: 551 feet 6 inches
Beam: 59 feet
Draft: 20.4 feet
Aircraft (1942 configuration): 11 (could carry 26)
Guns (1941 configuration): eight double 25-mm AA
Power plant: two sets geared turbines, eight Kanpon boilers, S.H.P.: 30,000, two shafts
Top speed: 25 knots

***AKAGI* (1927)**
Converted battleship
Displacement: 36,500 tons (standard); 41,300 tons (full)
Complement: 1,340
Length: 855.3 feet
Beam: 102.9 feet
Draft: 28.7 feet
Aircraft: 91
Guns: four 8-inch, 50-caliber in 2 twin mountings (as built); six 8-inch, 50-caliber in six single mountings (as built); 10 8-inch, 50-caliber in 10 single mountings (after reconstruction in mid-1930s); 12 4.7-inch, 45-caliber in six twin mountings (as built); 16 5-inch, 40-caliber in eight twin mountings (after reconstruction in mid-1930s); more than 25 25-mm (after reconstruction in mid-1930s); 30 13.2-mm machine guns
Power plant: geared turbines, S.H.P.: 133,000, four shafts
Top speed: 28.5 knots

***KAGA* (1928)**
Converted battleship
Displacement: 38,200 tons (standard); 43,650 tons (full)
Complement: 2,016
Length: 812.6 feet
Beam: 108.75 feet
Draft: 31.3 feet
Aircraft: 90
Guns: four 8-inch, 50-caliber in two twin mountings (as built); six 8-inch, 50-caliber in six single mountings (as built); 10 8-inch, 50-caliber in 10 single mountings (after mid-1930s reconstruction); 12 4.7-inch guns in six twin mountings (as built); 16 5-inch guns in eight twin mountings (after reconstruction in mid-1930s); more than 25 25-mm (after reconstruction in mid-1930s); 30 3.2-mm machine guns
Power plant: geared turbines, D.H.P.: 91,000, four shafts
Top speed: 25 knots

***RYUZYO* (1933)**
Light carrier
Displacement: 12,732 tons (standard); 14,000 tons (full)
Complement: 924
Length: 590.7 feet
Beam: 68.5 feet
Draft: 23.3 feet
Aircraft: 36
Guns: four double 5-inch; 12 double 25-mm AA
Power plant: Geared turbines, Kanpon boilers, S.H.P.: 65,000, two shafts
Top speed: 25 knots

***SORYU* (1937)**
Fleet carrier
Displacement: 18,800 tons
Complement: 1,100
Length: 746.5 feet
Beam: 69.1 feet
Draft: 25 feet
Aircraft: 71
Guns: 12 5-inch AA; 28 25-mm; 15 13.2-mm machine guns
Top speed: 34 knots

***HIRYU* (1939)**
Fleet carrier
Displacement: 20,250 tons
Complement: 1,100
Length: 745.1 feet
Beam: 73.3 feet
Draft: 25.9 feet
Aircraft: 73
Guns: 12 5-inch AA; 31 25-mm guns; 15 13.2-mm machine guns
Speed: 34 knots

***SHOKAKU* and *ZUIKAKU* (both 1939)**
Fleet carriers
Displacement: 25,675 tons (standard); 32,000 tons (full)
Complement: 1,660
Length: 844.1 feet
Beam: 85.4 feet

Draft: 29.1 feet
Aircraft: 75–85
Guns: eight double 5-inch; 96 25-mm guns; six 28-barrel AA rocket launchers
Power plant: Geared turbines, four shafts, S.H.P.: 160,000
Top speed: 34 knots

***ZUIHO* (1940) and *SHOHO* (1942)**
Light carriers
Displacement: 11,262 tons (standard); 14,200 tons (full)
Complement: 785
Length: 674.3 feet
Beam: 59.9 feet
Draft: 21.7 feet
Aircraft: 30
Guns: eight 5-inch guns in four twin mounts; eight 25-mm; 56 25-mm (by 1944); 12 13.2-mm; eight 28-barrel rocket launchers (by 1943)
Power plant: geared turbines, S.H.P.: 52,000, two shafts.
Top speed: 28 knots

***TAIYO,* (1941), *UNYO* (1942), and *CHUYO* (1942)**
Light carriers
Displacement: 17,800 tons (standard)
Complement: 800
Length: 591.4 feet
Beam: 73.1 feet
Draft: 26.3 feet
Aircraft: 27
Guns: eight 5-inch AA (*Taiyo,* eight 4.7-inch); eight (later, 22) 25-mm; 10 13-mm
Power plant: Geared turbines, S.H.P.: 25,200, two shafts
Top speed: 21 knots

***DYUNYO* and *HIYO* (both 1942)**
Fleet carriers
Displacement: 24,500 tons; 26,950 tons (full)
Complement: 1,224
Length: 719.7 feet
Beam: 87.7 feet
Draft: 26.9 feet
Aircraft: 53
Guns: 12 5-inch AA; up to 24 25-mm; six 28-barrel rocket launchers (from 1944)
Power plant: Geared turbines, S.H.P.: 56,000, two shafts
Top speed: 25 knots

***CIYODA* (1943) and *CITOSE* (1944)**
Light carriers
Displacement: 11,190 tons
Complement: 800
Length: 631.7 feet
Beam: 68.3 feet
Draft: 24 feet
Aircraft: 30
Guns: eight 5-inch; 30 25-mm (65 25-mm in 1944); 12 13.2-mm
Top speed: 29 knots

***TAIHO* (1944)**
Fleet carrier
Displacement: 29,300 tons (standard); 37,270 tons (full)
Complement: 2,150
Length: 855 feet
Beam: 90.1 feet
Draft: 30.6 feet
Aircraft: 60
Guns: 12 3.9-inch, 65-caliber; 71 25-mm, 60-caliber machine guns; 22 13-mm, 76-caliber machine guns
Power plant: geared turbines, S.H.P.: 180,000, four shafts
Top speed: 33 knots

***UNRYU* (1944), *AMAGI* (1944), *KATSURAGI* (1944), *ASO* (1944), *IKOMA* (1944), and *KASAGARI* (canceled)**
Fleet carriers
Displacement: 17,250 tons (standard); 22,534 tons (full)
Complement: 1,459
Length: 745.1 feet
Beam: 72.2 feet
Draft: 25.9 feet

Aircraft: up to 70
Guns: 12 5-inch, 40-caliber in six twin mountings; six 4.7-inch, 45-caliber; 89 25-mm; 22 3.2-mm machine guns
Power Plant: Geared turbines, four shafts; *Unryu, Amagi,* S.H.P.: 152,000; *Aso, Katsuragi,* S.H.P.: 104,000
Top speed: *Unryu, Amagi,* 34 knots; *Aso, Katsuragi,* 32 knots

GERMAN CARRIER

Germany completed only one carrier before the war and halted construction of another. Neither was ever used in combat:

***GRAF ZEPPELIN* (1938) and *PETER STRASSER* (never completed)**
Displacement: 19,250 tons
Length: 820.3 feet
Beam: 88.5 feet
Draft: 18.3 feet
Aircraft: 40
Guns: 16 5.9-inch; 10 4.1-inch AA; 22 37-mm AA
Power plant: geared turbines
Top speed: 32 knots

ITALIAN CARRIER

During 1941–43, the Italian navy converted a 1926 liner to a carrier. Work was suspended in 1943, and the ship was never used in combat.

***AQUILA* (1943)**
Displacement: 23,350 tons (standard); 27,800 tons (full)
Length: 759 feet 2 inches
Beam: 96 feet 6 inches
Draft: 24 feet
Complement: 1,420
Aircraft: 36
Guns: eight 5.3-inch single-mounted; 12 65-mm single-mounted; 132 20-mm sextuple-mounted
Power plant: Belluzzo geared turbines, eight Thorneycroft boilers, four shafts, S.H.P.: 140,000
Top speed: 30 knots

CANADIAN CARRIERS

The Royal Canadian Navy operated two carriers during World War II.

***WARRIOR* and *MAGNIFICENT* (both 1944)**
Light carriers
Displacement: 13,500 tons (*Warrior*), 14,000 tons (*Magnificent*)
Complement: 1,350
Length: 693.4 feet
Beam: 112.5 feet
Draft: 23 feet
Aircraft: 40
Guns: 24 2-pounders; 19 40-mm AA (Bofors)
Power plant: Parsons geared turbines, two shafts. S.H.P.: 40,000, four Admiralty 3-drum boilers
Top speed: 25 knots

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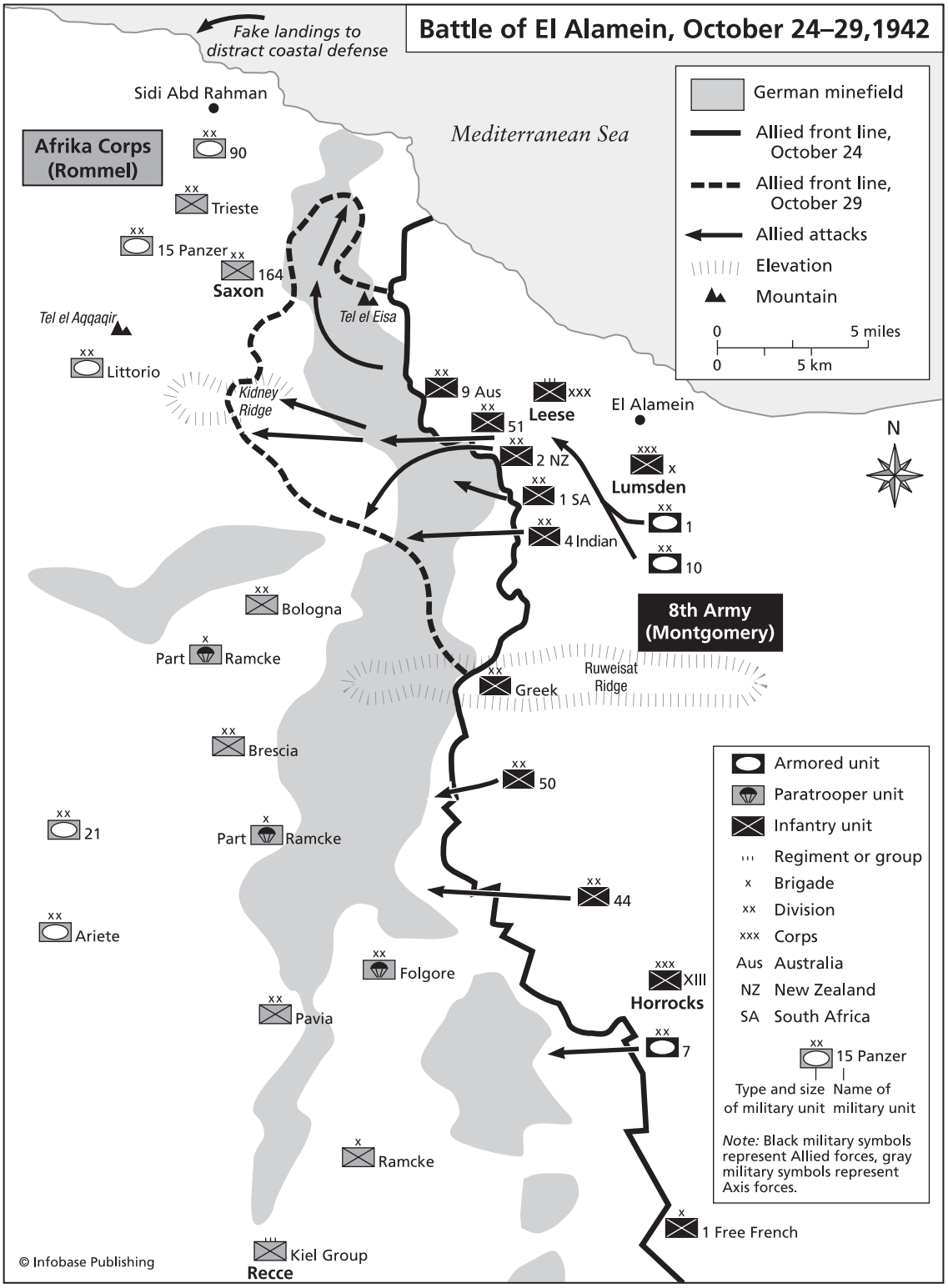
Alamein, Battles of El

El Alamein was a small Egyptian settlement along the railroad that followed the coastline of the Mediterranean Sea. About 60 miles west of Alexandria, it was the scene of two important battles in the Western Desert Campaigns.

The first was a defensive stand by the Eighth British Army under General Claude John Ayre Auchinleck against Erwin Rommel's Panzer Army Africa during July 1–4, 1942. Auchinleck succeeded in checking Rommel's advance at Ruweisat Ridge. Admirers of Auchinleck attribute this success to the


Battle of El Alamein, October 24–29,1942
Fake landings to distract coastal defense
Sidi Abd Rahman
Mediterranean Sea
Afrika Corps (Rommel)
90
Trieste
15 Panzer
164
Saxon
Tel el Aqqaqir
Tel el Eisa
Littorio
Kidney Ridge
9 Aus
51
2 NZ
1 SA
4 Indian
xxx
Leese
El Alamein
x
Lumsden
1
10
8th Army (Montgomery)
Bologna
Part Ramcke
Ruweisat Ridge
Greek
Brescia
50
21
Part Ramcke
44
Ariete
Folgore
Pavia
XIII
Horrocks
7
Ramcke
1 Free French
Kiel Group
Recce
German minefield
Allied front line, October 24
Allied front line, October 29
Allied attacks
Elevation
Mountain
0 5 miles
0 5 km
N
Armored unit
Paratrooper unit
Infantry unit
Regiment or group
x Brigade
xx Division
xxx Corps
Aus Australia
NZ New Zealand
SA South Africa
15 Panzer
Type and size of military unit
Name of military unit
Note: Black military symbols represent Allied forces, gray military symbols represent Axis forces.
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general's skillful determination, whereas his many detractors simply claim that Rommel's troops were exhausted and that the German withdrawal was strategic rather than an actual defeat. In either case, the first engagement at El Alamein resulted in a British defensive triumph.

The prize Rommel wanted was the Suez Canal, and he was determined to strike at the British Eighth Army again. In September 1942, he attacked at Alam Halfa but was again repulsed. After this, Bernard Law Montgomery, the new commander of the Eighth, decided to seize the initiative and to attack Rommel. Montgomery wanted to take advantage of the fact that Rommel had temporarily assumed a defensive position west of El Alamein because he was short of fuel and other supplies. On the move, Rommel was a most formidable opponent, well deserving of his sobriquet "the Desert Fox," but in a situation of static defense, Montgomery reasoned, he was just as vulnerable as any other commander. Worse for Rommel, he had fallen ill and, on September 23, left his 15th Panzer Division to go on sick leave. (He would not return until October 25, two days after the Second Battle of El Alamein had begun.) Before he left, however, he prepared very strong defenses, the most important of which was a dense minefield consisting of some half a million antitank devices. Interspersed among this so-called Devil's Garden were many more antipersonnel mines. Additionally, well aware that the Italian units that now formed part of his force were markedly inferior and therefore vulnerable, Rommel ensured that they were stiffened ("corseted") by German units, which, he hoped, would put some iron into this most dubious of allies. Finally, Rommel gave great thought to the deployment of his defenses, carefully dividing his troops and tanks into six groups ideally placed to detect and repulse attacks from virtually any direction.

Formidable as Rommel had made his position, Montgomery enjoyed significant superiority of numbers: 195,000 troops versus 104,000, of which slightly more than half were Italians; 1,029 medium tanks versus 496; 1,451 antitank guns versus 800; 908 pieces of mobile artillery versus 500; and 530 aircraft versus 350, although an additional 150 were available from some distance. Montgomery devised Operation Lightfoot to pierce Rommel's defenses from the north using four infantry divisions deployed across a 10-mile front. These units would also clear a route through the minefield to accommodate the next wave, the armored divisions of X Corps. This unit was to assume a defensive position at a place called Kidney Ridge, directly facing the panzers. Here the British tanks were to hold in order to fend off any German counterattack while the infantry pressed its offensive, which Montgomery called a "crumbling" process. Only after the infantry had prevailed would X Corps be ordered to assume offensive operations.

The brilliance of Montgomery's plan was that his attack fell precisely where it was least expected: on the most strongly defended German sector. To reinforce this element of surprise, Montgomery employed smaller units to make diversionary attacks in the more obvious sectors. Montgomery saw the battle as a three-stage contest, beginning with what he called a break-in, followed by a "dogfight," and then a break-out. He anticipated that the break-in, benefitting from surprise, would be over quickly, but that the dogfight would consume at least a bloody week of "crumbling."

Surprise was, in fact, achieved, but the break-in attack, beginning on the night of October 23–24, was slowed by the sheer depth of Rommel's defenses. As a result, X Corps armor did not pass beyond "Oxalic," the code name for the initial line of infantry advance, which was well short of the Kidney Ridge objective. Nevertheless, supporting units, including the 9th Australian Division and the 1st Armored Division, made excellent headway, the 1st Armored flanking the Kidney Ridge position. Rommel responded with intensive counterattacks, which were, at significant cost, contained. In the meantime, the grim and protracted process of infantry "crumbling" continued, supported by ceaseless Allied aerial and artillery bombardment. This relentless action was coordinated with the more mobile advance of the Australians, who continually drew off Rommel's best forces, leaving the weaker Italian units exposed and opening up a weak spot against which Montgomery planned to launch a second attack, code named Supercharge.

Viewed from the perspective of hindsight, it is obvious that the Second Battle of El Alamein was going very well for the British. However, at the time, progress fell well behind Montgomery's original optimistic timetable, and Winston Churchill began to despair of its success, especially when Montgomery removed divisions from the front to use in the Supercharge attack. It was not until the night of November 1–2 that Supercharge was launched, north of Kidney Ridge, by the New Zealand Division and other infantry units. These forces quickly penetrated this weakened sector, Rommel's elite troops having had to engage the Australians. Now Montgomery was ready to unleash the full fury of his armored units, in the face of which Rommel understood he had been defeated.

Rommel sent a coded message to Adolf Hitler on November 2 advising him that without fuel, he was in danger of being wiped out. He announced his intention to withdraw to Fuka. British Ultra code-breaking intelligence intercepted Rommel's communications and allowed Montgomery to deploy units to intercept the retreat. However, Montgomery subsequently received a decrypt of Hitler's order in reply to Rommel, denying the German commander permission to withdraw. In obedience, Rommel accordingly attempted to organize a stand, but it was too late to halt all the retreating units. At dawn of November 4, the 51st Highland Division overran the hasty defenses of what was now a mixed retreat and a partial stand. Hitler, belatedly, released Rommel to withdraw his army in toto, and an epic pursuit across the Libyan desert got under way. Montgomery would claim some 30,000 prisoners of war for casualties to the Eighth British Army and associated units of 13,560 killed or wounded. The vaunted Panzer Army Africa was badly beaten and barely intact, the Italians were shattered, and the turning point in the Western Desert Campaigns had been reached. This persuaded the Vichy Government in North Africa to begin cooperating with the Allies.

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Alam el Halfa, Battle of

Commencing on August 31, 1942, a month after the German Panzerarmee Afrika was checked at the Battles of El Alamein, Alam el Halfa was Erwin Rommel's final attempt to break through to the Nile valley in continuation of his frustrated drive across Cyrenaica and western Egypt. Leading the British Eighth Army, Gen. Sir Bernard Law Montgomery deployed his forces near Alam el Halfa, an east-west ridge astride Rommel's path of advance. On the first day of battle, three German armored divisions defeated British forces, turning the Eighth Army's southern flank. However, Montgomery rallied an extraordinary defense—considered by military historians a textbook example of the modern repulse—and, coordinating armor and infantry with air and artillery support, stopped Rommel at the ridge. By the fourth day of the battle, Rommel had been forced into retreat, redeploying his armor in a defensive line running north and south. The battle was over by September 7, by which time Rommel, checked again, had lost significantly more than the 1,750 casualties (killed and wounded) suffered by the Eighth Army.

Historically, the victory here is significant as an outstanding instance of ground-air coordination and the exploitation of intelligence. British breakthroughs in the decryption of the enemy's coded communication proved crucial to the triumph at Alam el Halfa. On August 15, 1942, Rommel, using the Enigma cipher, transmitted his plan of action—to effect a breakthrough to Cairo and the Nile—to Adolf Hitler. Within 48 hours, Montgomery had a decrypted translation of this message. Learning that Rommel intended to move south around the end of the British line, then strike the British flank to cut off the Eighth Army from its base and supplies, Montgomery was able to deploy his forces at the Alam el Halfa ridge and check the German advance.

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Albania

Situated on the western Balkan Peninsula at the Strait of Otranto, the southern entrance to the Adriatic Sea, Albania was, at the outbreak of World War II, a monarchy with a population of a little more than 1 million. During the reign of Albania's King Zog I, Italy became increasingly influential in the country, and on April 7, 1939, the forces of Italy's Benito Mussolini invaded. Resistance was minimal, but two battalions plus a handful of tribal irregulars delayed the Italian advance for 36 hours, just long enough to allow Zog, his queen, and their infant son to flee the country. The royal family took up residence in exile in Britain for the duration of the war, although the British government did not recognize Zog as a head of state; in an attempt to discourage Italy from joining forces with Germany, Britain had, in fact, recognized Italy's annexation of Albania.

Italy's king, Victor Emmanuel III, was proclaimed king of Albania, and a fascist regime was installed in the Albanian capital, Tirana. Early in 1940, the British government supported an abortive Albanian revolt against the Italians. The revolt was led from Kosovo, a Yugoslav province. When Yugoslavia was invaded by the Germans in April 1941, however, Kosovo was transferred to Albanian control, and the revolt collapsed. It was renewed during late 1942 and early 1943 under college professor and communist activist Enver Hoxha, who, encouraged by Yugoslavia's (Josip Broz) Tito, formed a partisan movement. British Special Operations Executive (SOE) operatives coordinated with and supported partisan activities beginning in 1943. Thus, a resistance movement was in place when, in July 1943, Mussolini was overthrown. A general insurrection began. Two of the five Italian divisions occupying Albania obeyed the orders of the new Italian prime minister, Marshal Pietro Badoglio, and joined the partisans. The other three divisions either joined German units or dispersed, and by fall 1943, Albanian guerrillas had seized most of the equipment of the Italian garrison.

Albania was liberated from Italian occupation—only to be overrun by German forces, which instituted a regime of fierce reprisals against the partisans. This had the effect of terrorizing the civilian population, which largely withdrew its support from the resistance. The Germans, however, were more interested in neutralizing Albania than in dominating it. Mehdi Frasheri, a former governor of Jerusalem under the Ottoman Empire, formed a neutral government, which held sway over the cities and the coastal plain. The rest of the country fell prey to a variety of warlords and guerrilla leaders.

Enver Hoxha decided that the time was ripe to exploit the chaos and suppress the anticommunist traditionalist resistance known as the Balli Kombetar. This prompted the Germans to align with the resistance in order to exacerbate internal discord. Through the Tirana government, Germany helped to supply the Balli Kombetar with equipment and weapons. This incited the partisans to accuse the Ballists of collaboration with Germany. The result was outright civil war, which so destabilized Albania that by early 1944, Germany had regained dominion over the coast and the major cities. At this point in the war, the Allies understood that Albania could provide a means by which the German armies could retreat, intact, from Greece. Britain once again worked to encourage and aid Albanians to abandon internecine warfare and to harass the common enemy, the German army. To this end, Britain began supplying the principal Albanian factions with arms. Unfortunately, these were used not against the Germans but to perpetuate the civil war, which expanded. When the German army began its retreat through Albania in September 1944, the tribal leader Abas

Kupi, aided by members of the Balli Kombetar (who were on the run from communist forces), did harass retreating troops, but civil war made it impossible for British agents to incite all of northern Albania against them.

As World War II wound down, the communists gained ascendancy in Albania, and all British operatives were evacuated to Italy, together with Abas Kupi and the major leaders of the Balli Kombetar. Immediately after the surrender of Germany, Albania, under Hoxha, withdrew into extreme anti-Western isolation and remained politically and economically isolated under the dictatorship of the Albanian Communist Party as the People's Republic of Albania, which became, in 1976, the People's Socialist Republic of Albania.

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Aleutian Islands Campaign

The Aleutians are a chain of 14 small islands and about 55 islets separating the Bering Sea from the main part of the Pacific Ocean. The chain extends in an arc that runs southwest then northwest for some 1,100 miles from the tip of the Alaska Peninsula to Attu Island, westernmost island of the chain. At the time of World War II, the Aleutians were part of the U.S. territory of Alaska and are today part of the state of Alaska.

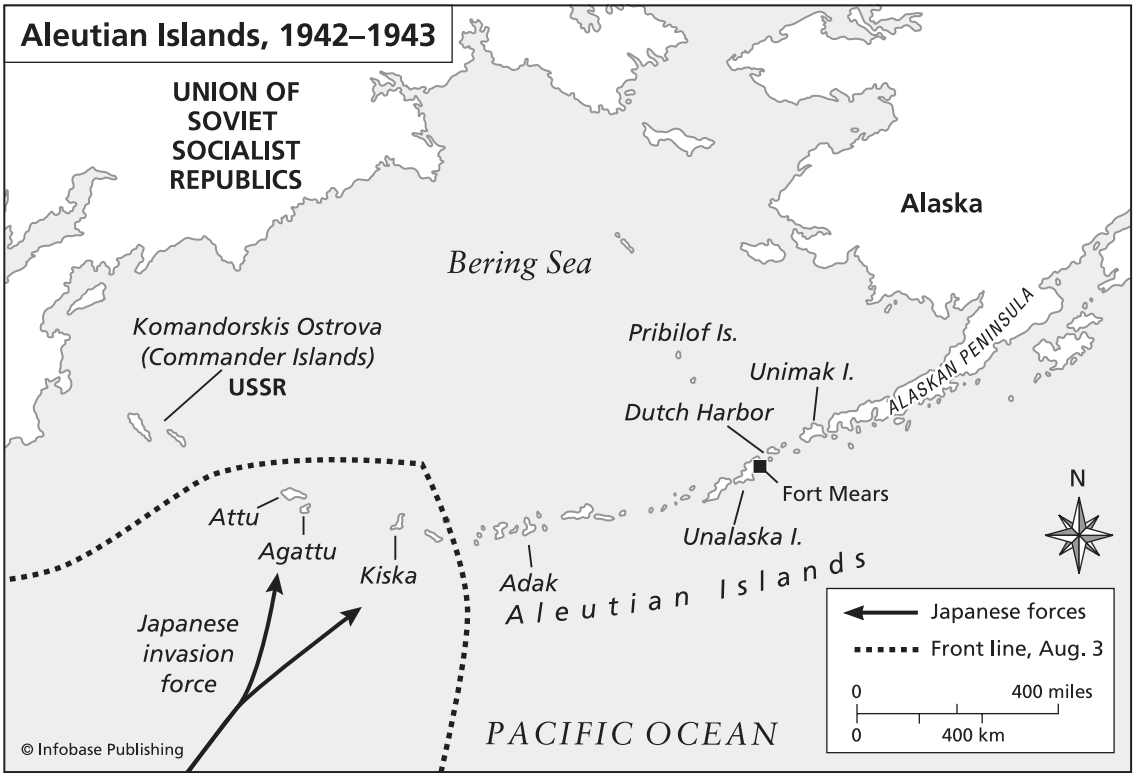
In June 1942, Japanese forces occupied Attu and Kiska, which is the next of the larger islands to the southeast. The principal reason for this occupation was to draw U.S. assets of the Pacific Fleet away from the central Pacific in order to facilitate the planned Japanese attack on Midway Island. Secondarily, Japanese strategists had some fear that American forces might use the Aleutians as a forward base from which bombing raids or even an invasion might be launched against Japan. Thanks to U.S. intelligence, which had broken the Japanese Ultra codes, U.S. Pacific Fleet commander admiral Chester Nimitz was apprised of the Japanese plan and quickly acted to send his most powerful forces to intercept and attack the Japanese fleet under Admiral Yamamoto Isoruku in the vicinity of Midway and also formed Task Force 8 (also known as the North Pacific Force) to defend the Aleutians. Of necessity, this force was composed of older ships, some of which were even obsolescent, including five cruisers, 14 destroyers, and six submarines in addition to 85 USAAF aircraft, all under the command of Rear Admiral Robert Theobald. Opposing his force were elements of the Japanese 5th Fleet, under Vice Admiral Hosogaya Boshiro. These were divided into three groups: Rear Admiral Kakuta Kakuji's Mobile Force (built around two light carriers and a seaplane carrier), the Kiska Occupation Force, the Adak-Attu Occupation Force, and various supply ships, escorted by Hosogaya's flagship, the heavy cruiser *Nachi,* and two destroyers. For a time, a portion of the Midway Force was detached as a fourth group, the Aleutian Screening Force, but soon had to return to Midway. For both sides, the weather was often a more formidable foe than any human adversary. The islands were almost perpetually shrouded in fog and drenched in icy rain, both hazards to navigation and flight. Stiff storms were also a regular feature of life in the region.

In an effort to force Nimitz to divide his fleet, Kakuta's Mobile Force twice raided a U.S. base at Dutch Harbor, Unalaska Island, in the eastern Aleutians. Kakuta also raided U.S. destroyers in Makushin Bay but was repulsed. These actions induced Theobald to conclude that the Japanese intended to use the Aleutians as a base from which to invade the American mainland. As a result, he deployed his forces to intercept the Japanese supply transports, which thereby allowed Japanese troops to land on Attu (June 5, 1942) and Kiska (June 7) entirely unopposed. Indeed, the Americans were unaware of the landings until June 10. In response, U.S. bombers raided Kiska to little effect. Attu was beyond the bombers' range, and naval bombardment of the island proved largely ineffective.

On August 27, the Japanese began transferring most of the Attu garrison to Kiska, only to reoccupy and reinforce Attu in October. Whenever weather allowed, operations were conducted against these garrisons over a nine-month period, both by naval bombardment and by USAAF bombers operating from crude air strips constructed on Adak and Amchitka. These operations did remarkably little to cause attrition among the garrisons, but they did contain the Japanese forces on the islands, and in March 1943 the Americans were prepared to mount a major assault designed to drive the Japanese forces out.

An initial thrust fell short on March 26, when bad weather prevented crucial air support of the naval Battle of the Komandorski Islands. The battle did not dislodge the Attu garrison, but it did prevent the 2,630-man Japanese force from receiving reinforcements before 11,000 troops of the 7th U.S. Infantry Division landed on Attu on May 11, 1943. This assault is of historic tactical significance because air support was provided by an escort carrier—the first time in the war this vessel type was used for this purpose. Under the command of Colonel Yamazaki Yasuyo, the Japanese offered their customarily fierce resistance. Cornered and confined to the island's last high ground by May 29, they launched an all-out BANZAI CHARGE, so stunning that it quickly overran two command posts and a medical station before it was finally checked. After a final attack was crushed on May 30, most of the Japanese survivors committed suicide rather than submit to capture. Of the 2,630-man garrison, a mere 28 prisoners were taken. American casualties were 600 killed and 1,200 wounded.

In January 1943, Vice-Admiral THOMAS KINKAID succeeded Theobald as commander of



Task Force 8. With Attu retaken, he decided to attack Kiska, beginning by setting up a destroyer blockade and ordering aerial and naval bombardment of the garrison. However, during the foggy night of July 28–29, as navy ships refueled, 5,183 Japanese troops and civilians were stealthily evacuated. Despite aerial reconnaissance, the evacuation remained undetected, and, on August 15, 1943, 34,000 U.S. and Canadian troops were landed, unopposed, of course. Within a few days, they discovered that the island was deserted.

Regarded by many as a sideshow to the greater struggles in the Pacific theater, the Aleutian Campaign was a harsh and dangerous mission, in which the elements posed as great a danger as the enemy. For the Japanese, the campaign was a costly disaster that diverted assets better used elsewhere. Although invasion via the Aleutians was almost certainly never a real danger, it was nevertheless vitally important for American morale to rid U.S. soil of an invader. Moreover, the Aleutian Campaign served as a proving ground for amphibious assault tactics, which would be applied in more desperate combat farther south.

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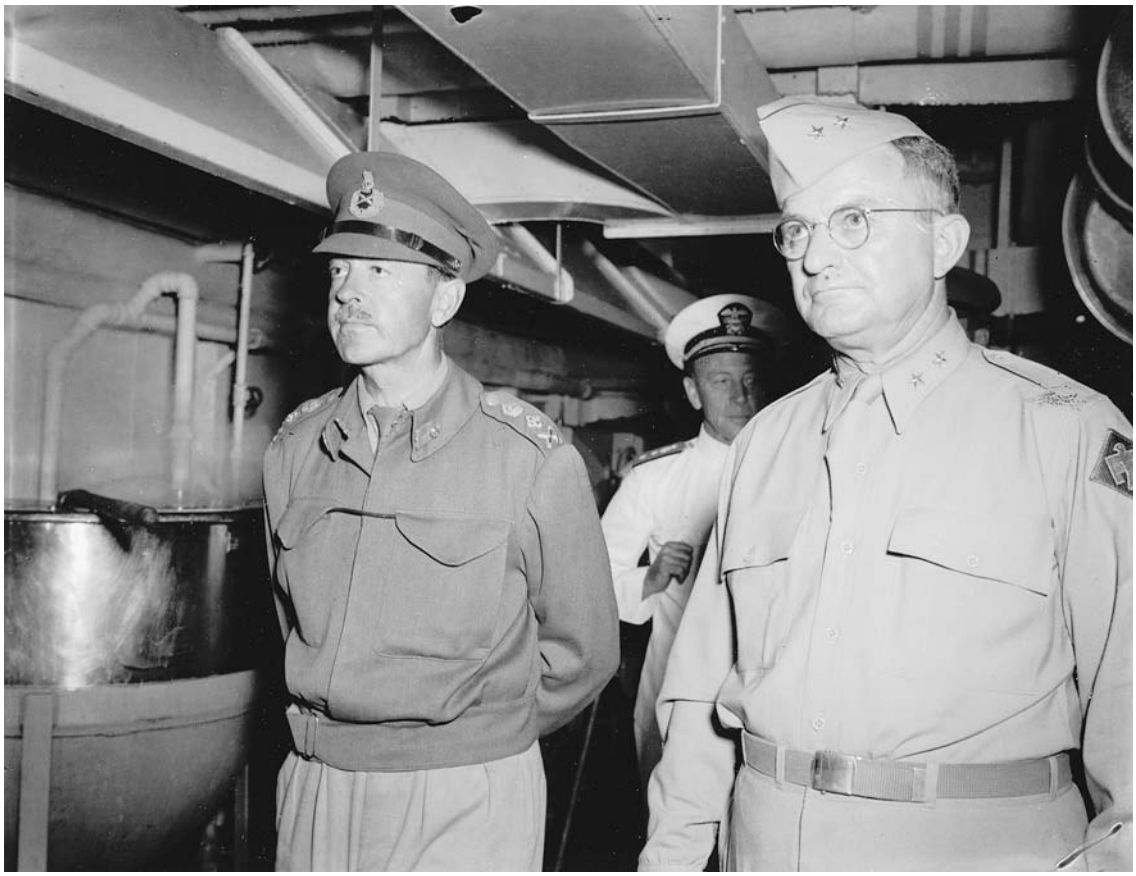
Alexander, Harold (1891–1969) *Allied commander of the Mediterranean theater*

Harold Rupert Leofric George Alexander was born in London but was raised on the Ulster estate of his wealthy English-Irish family. Educated at Sandhurst, Britain's elite military academy, he earned renown for his service with the Irish Guards on the western front in World War I. Rising to divisional command by 1939, he was in charge of the rear guard at the Dunkirk Evacuation, and the success of that desperate operation owed much to his leadership. Posted to India after Dunkirk, it fell to Alexander to command the British withdrawal from Burma, another lifesaving action for which Alexander is generally given credit, although much of the success of the withdrawal was due to the brilliant and unconventional generalship of William Slim.

In 1942, Alexander was named to the theater command of the Middle East, replacing Claude John Ayre Auchinleck after the disaster of Tobruk. He was fortunate to have as his immediate field subordinate Sir Bernard Law Montgomery, who had just taken over command of the Eighth British Army. The two commanders worked together very effectively, Alexander providing Montgomery with the logistical and strategic support necessary to turn the tide in North Africa by defeating the forces of Erwin Rommel at the Battles of El Alamein in the Tunisia campaign. This success allowed Montgomery's Eighth Army to link up with the newly landed U.S. forces of Operation Torch.

The unified American and British forces were under the overall command of American general Dwight D. Eisenhower, with Alexander assuming responsibility for the next phase of the Anglo-American effort in Sicily and mainland Italy. Alexander worked very effectively with Eisenhower, and, like him, was wholly committed to making the Anglo-American alliance an operational success. However, he often experienced friction with the egocentric Montgomery and, indeed, sometimes had trouble managing other subordinates, both British and American. Some considered his persona as a gentleman commander outmoded in a 20th-century war.

Late in 1943, Alexander was given command of the Mediterranean theater and successfully pushed for the liberation of Rome in June 1944. His inability to govern the actions of Fifth U.S. Army com-



British field marshal Harold Alexander (left) with U.S. major general Troy Middleton *(National Archives and Records Administration)*

mander Mark Clark, however, contributed to the escape of most of the German army, which withdrew largely intact from Rome. This resulted in a heartbreaking impasse short of the Po River Valley, so that the final Allied push through Italy was not completed until April 1945, weeks before the war in Europe ended.

After the war, Alexander became governor general of Canada, serving in that office from 1946 to 1952. Created an earl in 1952, he became Winston Churchill's minister of defence, serving from 1952 to 1954.

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Algeria

Located in North Africa, Algeria, at the time of World War II, was a French colony of 6.6 million, about 1 million of whom were European. With the fall of France and the creation of the Vichy government, General Maxime Weygand became the Vichy delegate-general of Algeria in September 1940. Essentially dictator of the colony, Weygand, in conformity to Nazi and Vichy policy, acted against Jews by stripping them of their French citizenship. He also acted harshly against native

nationalist Muslims. This had the effect of radicalizing hitherto moderate Muslims, thereby laying the foundation for the Algerian nationalist movement that would greatly erode France's hold on the colony during the postwar years and ultimately result in independence after a costly insurrection in 1962.

In December 1941, Weygand was replaced by General Alphonse Juin, who turned against Vichy to side with the Allies, whose forces occupied Algeria in November 1942, early in the North African campaign. This proved especially fateful for the Algerian independence movement. Free French authorities reconstituted Algerian military units as part of the Free French Forces. This, in combination with the presence of the Allies in Algeria, emboldened Ferhat Abbas, one of the moderate Muslims radicalized during the Weygand regime, to present an independence manifesto to Governor General Marcel Peyrouton. He not only accepted the manifesto, but acknowledged the pressing need for change. However, in June 1943, the Committee for National Liberation appointed General Georges Catroux to replace Peyrouton. Although he introduced a number of liberal measures into the colonial government, he blocked the movement for immediate independence. Violent insurrection did not erupt during the war, but V-E Day did unleash the pent-up rage of Algerian nationalists, who rose in armed protest.

During World War II itself, several native Tirailleur (sharpshooter) regiments fought in Europe against the invading Germans before the fall of France. Another two Tirailleur units fought on the side of the Allies during the campaign in North Africa.

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Alsace-Lorraine

Located on France's border with Germany, Alsace-Lorraine encompasses two predominantly German-speaking regions (in German, Elsass and Lothringen), which have frequently been disputed between France and Germany. The provinces fell to France in the late 17th century and early 18th, but as a result of France's humiliating defeat in the Franco-Prussian War of 1871, all of Alsace and the northern portion of Lorraine (mainly Moselle) were annexed to the new German empire, the Second Reich, which emerged as a result of the war. Under German rule, the province was called Reichsland, the inhabitants were given the choice of remaining in the province or leaving for France (45,000 left), and the Second Reich set to work exploiting the rich coal fields of Lorraine, producing coke that fed the fires of Germany's great arms manufacturers. In Lorraine were forged many of the weapons with which World War I would be fought.

Germany's defeat in World War I resulted in France's recovery of Alsace and Lorraine, but the fall of France in 1940 meant that once again the territory would be annexed by Germany—this time to the Third Reich. The provinces were designated two *Gaue* (administrative districts) of the Reich, each governed by a *Gaueleiter,* or manager, who answered directly to Berlin. In contrast to 1871, the French-speaking minority of Alsace-Lorraine were not asked to choose their nationality. Some 200,000 individuals were summarily evicted from the region and sent into occupied France with only such property as they could carry.

Different treatment was given to certain other groups within the two *Gaue.* Jews and others deemed by the Reich undesirable were deported to Concentration and Extermination Camps, imprisoned, or summarily executed. French soldiers who had been born in the region and who had been made prisoners of war during the Battle of France were, for the most part, conscripted into the Wehrmacht. A significant number of pro-German soldiers thus conscripted were subsequently transferred from the Wehrmacht into the Waffen SS. Most of the rest of the region's inhabitants, though they spoke German, identified more readily with

France and certainly did not embrace Nazism. These individuals were subject to typical iron-fisted Nazi rule, and the resistance was never as active in the former Alsace-Lorraine as in central and southern France. This gave the German overlords a substantially free hand in exploiting the rich coking coal reserves of the region, which, as was the case before World War I, once again fed the furnaces of the German arms industry. After the German surrender in 1945, Alsace-Lorraine reverted to French control, and the region's inhabitants all became, quite automatically, French citizens once again.

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"Amerika" bomber

In contrast to Britain and the United States, Germany never produced in quantity long-range heavy BOMBER AIRCRAFT. Nevertheless, the Reichsluftfahrtministerium, the Reich Aviation Ministry, in charge of aircraft production for the Luftwaffe from 1933 to the end of the war in 1945, sought to develop a very large, very-long-range bomber capable of a round-trip transatlantic mission to strike the United States from Germany. Early in the war, before the United States even became a combatant, the ministry requested design proposals from all the major German aircraft manufacturers. The goal was to create what was generally dubbed the "Amerika" bomber.

Messerschmidt, Focke-Wulf, and Junkers all submitted designs that were quite sound and quite conventional, similar to the heavy bombers of the United States and Great Britain. Focke-Wulf's Fw 300 was based on the existing Fw 200 Condor, a four-engine bomber often used as a transport and capable of a 2,210-mile range. Junkers's Ju 390 was a development from the Ju 290, an existing four-engine maritime patrol craft, transport, and bomber, capable of an impressive range of 3,843 miles. In contrast to these two companies, Messerschmidt presented the Me 264, an entirely new design. Like the other proposed craft, the Me 264 was driven by four engines and was designed to make a round-trip flight from Germany to New York City. One prototype was built, but the aircraft never went into production because the Reich Aviation Ministry announced its selection of the Ju 390. This aircraft was first prototyped in 1943 and had a range in excess of 6,000 miles. The largest aircraft ever built in Germany—112 feet, 2 inches long and with a wingspan of 165 feet, 1 inch—the prototype flew on October 20, 1943, and performed so well that the ministry ordered 26 of the craft. None, however, were produced before the "Amerika" project and the Ju 390 were cancelled in 1944.

Although ultimately abortive, the "Amerika" bomber project also elicited a number of proposals for highly forward-looking, radical designs. The aeronautical scientist Dr. Eugen Sänger was well known in German aviation circles for his speculative articles on rocket-powered aircraft. At the behest of the German government, he worked at a secret aerospace laboratory in Trauen to design and build an aircraft to be called *Silverbird.* Propelled by liquid-fuel rocket engines and piloted by a single aviator, the *Silverbird* was to be capable of great speed and of attaining low Earth orbit. For the "Amerika" program, Sänger modified the *Silverbird* design as an aircraft capable of supersonic flight in the stratosphere. Often called the *Sänger Amerika Bomber* and, alternatively, the *Orbital Bomber* and the *Atmosphere Skipper,* the aircraft design featured a flat fuselage, a very advanced lifting body design that allowed for short, wedge-shaped wings. This reduced drag and the structural hazards inherent in supersonic large-wing designs. As designed, the main rocket engine produced 100 tons of thrust and was flanked by a pair of smaller rocket engines. The pilot was housed in a pressurized cockpit. A single, centrally located bomb bay would have held

just one 8,000-pound bomb, perhaps laced with nuclear material to create what today would be called a "dirty bomb" (not a true atomic weapon, but a bomb packed with conventional explosive and designed to scatter radioactive material to contaminate its target area). Because the aircraft would operate far beyond the range of any interceptors, it was fitted with no defensive armament.

Sänger imagined that his rocket plane would take off down a 1.9-mile-long rail, boosted by a rocket-powered sled developing 600 tons of thrust for 11 seconds. Assuming a 30° angle, the aircraft would attain an altitude of 5,100 feet at 1,149 miles per hour *before* its own main rocket engine would be fired for eight minutes. This would bring the craft to a speed of 13,724 miles per hour and loft it to an altitude in excess of 90 miles. At this point, the accelerating aircraft would descend due to gravity, but, in so doing, would encounter denser atmosphere at about 25 miles, which would cause it to skip back up, much as a stone does when it is skimmed across a lake. The flight would consist of a series of gradually shorter skips, until the plane would glide back into the lower atmosphere and, ultimately, to a landing, having covered, according to Sänger's calculations, 14,594 miles.

Sänger's project was cancelled in the summer of 1941, shortly after the German INVASION OF THE SOVIET UNION. The German military, it was decided, could not afford to expend time, effort, and cash on theoretical and experimental work. After the war, Sänger worked briefly for the French Air Ministry.

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amphibious warfare

Military assault involving a combination of sea and land operations, usually with the object of invading enemy territory from the sea, amphibious warfare played a role of unprecedented importance during World War II. While the earliest amphibious assault recorded in Western history is the Battle of Marathon, 490 B.C.E., and the U.S. Army's first true amphibious operation was Winfield Scott's 1847 assault on Veracruz during the U.S.-Mexican War, it was not until World War II that the tactics and techniques reached maturity. The Allies brought the doctrine of amphibious warfare to an especially high state of development, both in the Atlantic (culminating in OPERATION OVERLORD, including the NORMANDY LANDINGS [D-DAY]) and the Pacific, where the intricate integration of air, sea, and land forces was the key element of victory. As fully developed, Allied amphibious warfare doctrine delivered large numbers of specially trained troops, together with equipment, vehicles, and other materiel via

Marines disembark during the Guadalcanal Campaign. *(National Archives and Records Administration)*

LANDING CRAFT onto the hostile beach, which, typically, had been "prepared" or "softened up" by naval and aerial bombardment. During the landing itself, naval and air elements provided supporting fire to suppress enemy resistance. In some cases, as in Overlord, airborne troops preceded the seaborne landings. These troops worked behind enemy lines to draw defenders away from the beaches and to disrupt lines of supply, reinforcement, and communications.

Early in the war, from 1939 to 1942, amphibious warfare was largely a matter of improvisation, but as the central importance of this assault mode became increasingly apparent, Allied strategists and tacticians rapidly produced a specialized doctrine, which divided assault forces into distinct functional components. The *assault formations* were the vanguard. They were "combat loaded" on their assault craft, their supplies and equipment stowed so they could be unloaded precisely in the order in which they were needed. Thus, the first elements of the invasion would be delivered complete and ready to fight from the moment they hit the beach. Behind the assault formations came the *follow-up formations,* whose equipment was "tactically loaded," that is, stowed in a way that compromised between combat loading and loading to maximize space aboard transport craft. Finally came the *build-up formations,* which could afford to deploy more slowly and, therefore, had their equipment loaded exclusively to make the most use of available transport space.

Assault formations, which were landed from landing craft or even smaller amphibious vehicles, were divided into "flights," each flight a complete military unit, which were in turn subdivided into "waves." It was deemed of critical importance to keep each wave together and to coordinate the landing of the waves in the proper, most effective tactical order. This ensured that troops would not be landed piecemeal, vulnerable to defeat in detail by the defenders.

After the assault formations had gained a toehold on the beach, the follow-up formations were deployed to supply the strength necessary to secure the beachhead. Once this was accomplished, the assault and follow-up formations began their push inland, and the build-up formations were deployed on the secure beachhead to begin the full-scale exploitation of the amphibious attack: the invasion proper.

While it was the Allies who brought amphibious warfare to near perfection during World War II, it was the Japanese, during the SINO-JAPANESE WAR (which preceded World War II and, ultimately, was absorbed into it), who first landed troops from specially designed ships at Tientsin in 1937. In contrast to Allied amphibious doctrine, which was led by the navy, Japanese doctrine was driven by the army, with the Imperial Navy playing very much a supporting role. Also key to Japanese amphibious warfare doctrine was the night landing. The Japanese saw amphibious assault less as invasion than as infiltration preparatory to invasion, and they prized the cover of darkness. In consequence, Japanese doctrine emphasized almost rigidly mechanical coordination of large elements to avoid confusion in a low-visibility environment. This proved a double-edged sword, because, while highly disciplined, Japanese amphibious formations lacked individual initiative and were therefore less able to cope with unexpected resistance or other exigencies.

Japan's theater of war, which encompassed the vast Pacific, required extensive amphibious operations. Germany's theater, more concentrated on the European continent, demanded fewer amphibious operations. Nevertheless, the April 1940 invasion of Norway showed that German forces were indeed capable of highly effective amphibious warfare. However, WEHRMACHT leaders never became comfortable with amphibious warfare and failed to integrate it into their doctrine. This may well explain the general hesitation to invade England early in the war. Similarly, the Soviet Red Army was slow to develop amphibious doctrine but, by late in the war, had formed and trained some 40 "naval infantry" brigades—perhaps 340,000 men—for amphibious warfare.

Notable amphibious warfare operations during World War II include, in the African and European theaters: the DIEPPE RAID of August 1942, the landings of the NORTH AFRICAN CAMPAIGN in

November 1942, the landings of the Sicily Campaign in July 1943 (which made extensive use of amphibious vehicles), the landings preceding the Battle of Salerno in September 1943, and, of course, the D-day landings of Operation Overlord. Pacific amphibious assaults were many, the most notable coming at the Guadalcanal Campaign and in the Aleutian Islands Campaign, the Marshall Islands Campaign, the Philippines, and the Okinawa Campaign. In the Pacific, it was the United States Marine Corps that made the great advances in amphibious warfare, including the employment, beginning in January 1944, of a specialized HQ (headquarters) ship to coordinate assault operations. The marines also perfected new techniques of preparatory artillery fire, including bombardment from positions much closer inshore than before and the use of unoccupied islets as bases for artillery positions. Some landing craft were specially modified to fire rockets, which supplemented bombardment by naval guns. The marines also used specially trained underwater demolition teams to clear obstacles, both natural and artificial, thereby enabling landing craft to approach beaches much more closely and expanding the role of amphibious vehicles. Despite these advances, Pacific landings were almost invariably resisted fiercely, even suicidally. Typically, only badly wounded Japanese defenders were ever taken prisoner. The rest fought to the death. The final amphibious operation of the war actually took place after the Japanese surrender, when British troops landed unopposed near Port Swettenham, Malaya, to retake that former British possession.

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Anami Korechika (1887–1945) *Japanese general, vice minister of war, and militarist*

Anami was an important Japanese general, who, as vice minister of war in the cabinet of Prince Konoye Fumimaro, led the faction that elevated General Tojo Hideki to power as Japan's generalissimo in October 1941. In the field, Anami commanded the Eleventh Army in China and the Second Area Army in Manchukuo. When portions of the Second Area Army were transferred to New Guinea in November 1943, Anami took command there. He was appointed inspector general of the army in December 1944 as well as chief of the army's aviation department, then was made minister of war in the cabinet of Suzuki Kantaro in April 1945. Unlike many of his military colleagues, Anami was not an uncompromising fanatic. Well aware that Japan had lost the war militarily, he struggled with what he saw as irreconcilable alternatives: continued war and certain total destruction versus a logical, humane peace, which, however, entailed a dishonorable surrender. His emotional and moral dilemma prompted him, on the one hand, to express sympathy for those who vowed to defy Emperor Hirohito's decision to surrender, yet, on the other hand, to refuse to support any action against the decision. This lack of support ensured the failure of the attempted coup d'état by a cabal of junior officers, who, on August 14, 1945, raided the royal palace to find and destroy the emperor's recorded surrender message, which was to be broadcast the next day. As soon as he had confirmed the failure of the coup, Anami committed *seppaku,* the ritual suicide of the traditional Japanese warrior. The note he left explained that his death had been offered in expiation of the army's sins and failures. In the absence of Anami's leadership, the army quietly acquiesced in Japan's surrender.

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Anderson, John (1882–1958) *British home secretary and civil defense advocate*

John Anderson (later Sir John Anderson, first viscount Waverley) was born at Eskbank by Dalkeith in Midlothian and was educated at the University of Edinburgh and Leipzig University. After service in World War I, Anderson entered the British government as chair of the Board of the Inland Revenue in 1919 and then as governor of Bengal, India, in 1932. He was elected to Parliament as member for the Scottish Universities in 1938 and served as home secretary in the cabinet of Neville Chamberlain from late 1938 to 1940. Almost immediately upon assuming his cabinet post, and with war clouds rapidly gathering, Anderson proposed the design, manufacture, and distribution of domestic bomb shelters. The result was the Anderson shelter, which proved highly successful during The Blitz.

From 1943 to 1945, Anderson served as chancellor of the exchequer in the cabinet of Winston Churchill. His most enduring contribution in this post was the introduction of the Pay-as-You-Earn (PAYE) system for income tax payment. Anderson was knighted in 1919 and raised to the peerage in 1952.

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Anderson shelter

The Anderson shelter was a personal bomb shelter used by some 2.25 million London families during The Blitz. The shelter consisted of 14 sheets of corrugated iron or corrugated galvanized steel, which were assembled to form a shell 6 feet high, 4.5 feet wide, and 6.5 feet long. The structure was assembled in a 4-foot-deep pit dug in the family garden, then it was covered with at least 15 inches of earth.

A London family enters an Anderson shelter. *(Museum of the City of London)*

The idea of domestic air raid shelters is generally attributed to Home Secretary John Anderson, who had responsibility for civil defense. On November 10, 1938, Anderson tasked William Paterson, an engineer, with designing a suitable shelter. Working with his business partner, Oscar Carl Kerrison, Paterson produced a blueprint for the shelter within a week of receiving the assignment. A week after this, he delivered a prototype. It is said that Anderson "tested" the prototype by jumping on it with both feet. However, he also turned the prototype and blueprints over to the Institution of Civil Engineers, which supplied expert evaluation by three engineers, David Anderson (no relation to John), Bertram Lawrence Hurst, and Sir Henry Jupp. This committee approved of the design, and the Anderson shelter went into production. By February 28, 1939, the first shelters were delivered to householders in Islington, North London. They were issued free to all households earning less than £250 annually and at a charge of £7 for those with higher incomes. Before production and issuance of the shelters was discontinued in mid-1941 due to a shortage of iron and steel, 2.25 million had been erected. They were of use only to families who had a garden in which to erect and bury them.

Although families did their best to make the shelters comfortable, even installing bunk beds in them, they were cold and subject to flooding. Yet

they were quite effective during The Blitz, affording protection from everything except a direct hit.

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Anschluss

The German word for "joining together" or "union," *Anschluss* describes the March 1938 political union of Austria with Germany that resulted when Adolf Hitler unilaterally annexed Austria to the Third Reich. *Anschluss* was originally an initiative of an Austrian political party, the Social Democrats, who agitated for it from 1919 (after the Austrian government rejected it) through 1933, at which point Hitler's sudden elevation to power made the prospect of *Anschluss* look more like a German conquest of Austria, and even the Social Democrats withdrew their support for it. However, in July 1934, Austrian and German Nazis collaborated in an attempted coup d'état, which would have brought *Anschluss.* When the coup collapsed, a stern right-wing government ascended in Austria. Through authoritarian measures, lingering agitation for *Anschluss* was suppressed. However, in February 1938, Hitler invited Austrian chancellor Kurt von Schuschnigg to a meeting at Berchtesgaden, Hitler's Bavarian mountain retreat. There Hitler intimidated Schuschnigg into giving the Austrian Nazis a free hand. Returning to Austria, Schuschnigg repudiated his concessions to Hitler and determined to hold a plebiscite on national independence on March 13. Hitler, however, bullied Schuschnigg into canceling the plebiscite and resigning, with a final order to the Austrian army to refrain from resisting the Germans. When Austrian president Wilhelm Miklas then defiantly refused to appoint the Austrian Nazi Arthur Seyss-Inquart to replace Schuschnigg as chancellor, Hitler's minister Hermann Göring ordered Seyss-Inquart to send a telegram requesting German military aid. This Seyss-Inquart refused to do. Undaunted, however, Göring arranged to have the telegram sent by a German agent stationed in Vienna. Thus armed with a fabricated request for "aid," Hitler invaded Austria on March 12. As Schuschnigg had ordered, no resistance was offered. Indeed, Austrians turned out to greet the German troops, which moved Hitler to annex Austria on the following day, March 13. In a gesture to legitimate the *Anschluss,* a thoroughly controlled plebiscite was held on April 10, which returned a 99.7 percent approval of the annexation. *Anschluss* was the first in a series of aggressive expansions that preceded and ultimately triggered World War II in Europe. As for Schuschnigg, he was imprisoned almost immediately after resigning and was not released until the war ended in May 1945.

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antiaircraft weapons

Air attack, including tactical attacks against ground troops, ground installations, and naval targets as well as strategic attacks against cities, factories, and other ostensibly civilian targets as well as major military installations, was a major component of combat in World War II. Accordingly, the warring powers made extensive use of a variety of antiaircraft weapons. The antiaircraft artillery (AAA) of this period consisted of conventional artillery, sometimes improved to achieve greater muzzle velocity and, therefore, to hurl projectiles higher, and improved ammunition. Some ammunition was not only designed to maximize velocity and, therefore, altitude, but also to explode in the air, broadcasting hundreds of large, jagged-edged metal fragments, or shrapnel. This meant that a fired

round did not actually have to hit an enemy aircraft to destroy it—and a distant, fast-flying target was extremely difficult to hit—but that the aircraft had merely to fly through a shrapnel burst to be damaged, perhaps fatally. The German term for antiaircraft artillery was *Fliegerabwehrkanonen,* typically contracted to the word *flak.* This contracted term was adopted by the Allies as well, not used to describe the artillery pieces themselves, but the bursting shells fired against the aircraft. Flak was most effective when fired by many massed antiaircraft guns, which thus created a "field" of flak into which enemy bombers had to fly. The likelihood of inflicting damage was multiplied in such flak barrage fields. Allied air crews often spoke of flying through flak thick enough to walk across. While flak was intended first and foremost to disable or shoot down aircraft, it was also effective directly against aircrews. Because of weight considerations, it was impossible to equip bombers with "flak-proof" armor, and many airmen were wounded or killed by pieces of flak (that is, shrapnel) that penetrated the fuselage or entered through windshields, cockpit canopies, and so on. Allied airmen were issued "flak jackets," heavy-fabric body armor, which afforded a degree of protection to vital organs. In 1944 alone, flak accounted for 3,501 American planes shot down, compared with about 600 shot down by fighter aircraft during this period.

Sighting and aiming (often called by artillerists "laying") were critical to antiaircraft defense. Early in the war, sights consisted of simple arrangements of concentric rings, which yielded little accuracy. More sophisticated optical sights were developed as the war continued, as was a rudimentary computer called a "predictor." This electromechanical device could be made to follow a target, calculating its course and speed as well as the projectile's direction and velocity with the object of predicting the future position where the two would actually meet. The predictor generated information on bearing and elevation, which was fed to the gun via a pair of motors, which, in turn, automatically adjusted bearing and elevation. Because the predictor was bulky and required a large generator as well as careful calibration to align the guns to coincide with the alignment of the predictor, this device was generally installed on more-or-less permanently emplaced guns. In the field, with mobile artillery, manual sighting ("open sights") were generally more practical, despite their shortcomings.

The single greatest advance in directing antiaircraft fire was RADAR, which was especially effective at night and in conditions of low visibility. Combined with powerful, long-range antiaircraft artillery, radar greatly extended the range of AAA fire, allowing gunners to commence firing—effectively—much earlier in an attack.

Another aid to laying fire accurately was provided by the ammunition itself. Tracers were elements within the ammunition designed to burn through to the explosive and detonate the fuse if the (nonflak) round failed to hit a target. This provided an explosion clearly visible from the ground, which aided gunners in adjusting their aim for subsequent rounds. By igniting the round in the sky, the tracer also ensured that the shell would not fall back to Earth, hitting friendly targets.

The term *antiaircraft artillery* generally refers to antiaircraft cannon, firing more-or-less heavy shells. These were used mostly to defend against large bombers making strategic attacks against cities and other substantial installations. To defend against tactical attack by lighter aircraft, including fighters, ground-attack aircraft, and fighter-bombers, *light antiaircraft artillery* was employed. These were essentially large-caliber machine guns, capable of firing many rounds per minute. Their range was limited, but they were effective against aircraft coming in low for tactical bombing or strafing attacks. Typically, tracer rounds were inserted into the ammunition supply (often at every eighth round), so that the gunner could more easily follow, direct, and adjust his stream of fire.

GREAT BRITAIN

Early in the war, London and other British cities were subject to massive German air raids, and so Great Britain developed and deployed an array of antiaircraft artillery. The most common early weapon, first produced in 1936 by the Bofors arms firm of Sweden, was a 40-mm gun commonly

called the Bofors gun. The Bofors was very widely used, and it was manufactured under license by Austria, Belgium, Finland, France, Hungary, Italy, Norway, and Poland as well as by Great Britain. Those nations whose manufacturers did not license it merely copied it. Officially designated by the British the QF 40-mm AA gun, it was typically mounted on a mobile platform. It could throw a shell to an altitude of 8,400 feet.

In the course of the war, the main British AAA weapon became the QF 3.7-inch Mk III, which fired a 28-pound shell to an altitude of 32,000 feet, much more effective against the high-altitude bombers that raided London and other cities. Even heavier was the QF 4.5-inch AA Mk II, which fired a 54-pound shell to an altitude of 42,000 feet and, with automated ammunition handling, could fire faster than hand-loaded weapons. The Mk II was so heavy that it also served in coastal defense as an antiship weapon.

The British used a variety of light AAA, including the Swiss 20-mm Oerlikon and the American Maxson Mount, but the British firm Polsten produced the nation's own 20-mm piece, which could fire at an impressive 450 rounds per minute. Inexpensive to manufacture, the Polsten was produced and issued in great quantity for defense against low-level air attack.

See also Artillery, British.

FRANCE

France was caught critically short of AAA at the outbreak of the war. Its most important weapon was the 25-mm Hotchkiss gun, which was used against ground as well as air targets. Although its rate of fire was rapid, its range was short, and it was not available in sufficient numbers to defend against Germany's massive tactical deployment of ground-attack aircraft during the Battle of France.

See also Artillery, French.

GERMANY

German AAA was extensively developed during World War II. Light AAA consisted of a miscellaneous host of machine gun weapons, but heavy AAA, designed to defend against the ruinous combined strategic assault of British and American heavy bombers, came in five important versions.

The 20-mm Flak series consisted of many variations with a variety of mounts, but all were rapid-fire weapons on a par with the British Polsten. The 37-mm Flak came in even more varieties than the smaller 20-mm Flak, including naval mounts, towed mounts, and self-propelled versions. The gun could also be permanently mounted in static locations.

Germany's heavier AAA weapons included the Flak 38, Flak 40, and Flak 88. The Flak 38 fired a 105-mm shell to a ceiling of 7,218 feet. Its rate of fire was 420 to 480 rounds per minute. Too heavy to be transported readily, it was used in advanced stationary positions. The Flak 40 was a 128-mm weapon introduced in 1942. It fired twelve 26-pound shells per minute to an altitude of nearly 35,000 feet. Heaviest of all was the Flak 88, a gun of extreme versatility, which was used against ships and tanks as well as aircraft. Many weapons historians consider it the premier artillery piece of World War II. It lofted a 20-pound shell to 37,000 feet and was renowned for its extreme accuracy.

See also Artillery, German.

ITALY

Notoriously weak in armor and artillery, Italy nevertheless fielded four significant AAA weapons. Two 20-mm guns served the light AAA function. The 20-mm Breda had the advantages of light weight and mobility, whereas the 20-mm Scotti, more numerous, was heavier but also had a high rate of fire.

Italy's most important heavy AAA weapon was the Cannone DA 75/46 C.A. Modello 34, which fired a 14-pound shell to altitudes in excess of 27,000 feet. Like the Cannone DA 90/53, which followed it, the DA 75/46 was plagued by production problems, which kept the numbers deployed quite small. German forces, however, thought enough of the 75/46 that they readily took it into their AAA arsenal.

See also Artillery, Italian.

JAPAN

World War II Japanese military doctrine emphasized rapid, highly mobile conquest. As a result, the

nation produced virtually no heavy artillery and precious little antiaircraft artillery of note, relying instead on a miscellany of naval weapons and weapons captured from the Allies. The American bombers that attacked the Japanese mainland during 1944 and 1945 encountered far less flak than their colleagues flying against Germany.

See also ARTILLERY, JAPANESE.

SOVIET UNION

The Soviet Union produced some fine artillery, including the 85-mm AA Gun Model 1939, the nation's most important AAA weapon. The Model 1939 fired a 20-pound shell to 34,000 feet. As a result of the BATTLE OF STALINGRAD and subsequent Red Army victories, huge numbers of German 88-mm guns fell to the Soviets. These were used extensively to supplement the Model 1939 for fixed AAA defense.

See also ARTILLERY, SOVIET.

UNITED STATES

The principal U.S. AAA weapon was the MI 90-mm gun, which could fire a 23-pound shell to an altitude of 39,000 feet at an astounding rate of 27 rounds per minute. Ammunition was typically fitted with altimeter or radar proximity fuses for greater effectiveness. Between this behemoth and the light AAA Maxson Mount was the medium MI 37-mm AA gun, which could fire 120 37-mm rounds per minute to an altitude of 18,000 feet.

The Maxson Mount, the main U.S. light AAA weapon, consisted of four .50-caliber Browning machine guns mounted on an electrically driven pedestal. With the four guns ganged in this fashion, the Maxson could pour a stream of fire at the withering rate of 2,400 rounds per minute, more intense than any other AAA weapon. Even a marginally competent gunner could achieve excellent results, provided the attack aircraft drew within range.

See also ARTILLERY, U.S.

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antiarmor weapons

The tank was developed during World War I as a proposed answer to the trench warfare stalemate on the western front. Not only could the vehicles—when they worked—traverse trenches, their armor was impervious to machine gun and rifle fire. Although tanks were neither sufficiently numerous nor sufficiently reliable to make a decisive impact on combat in World War I, their potential had been demonstrated, and, in the early phases of World War II, the Germans used greatly improved tanks to stunning effect in the early BLITZKRIEG invasions. Antiarmor, or antitank, weapons rapidly emerged as of great importance in World War II. They were of two broad types: antitank artillery and infantry antitank weapons. A third category, the tank destroyer, is, in fact, a fast, lightly armored tank and is therefore treated in ARMOR, FRENCH; ARMOR, GERMAN; ARMOR, ITALIAN; ARMOR, JAPANESE; ARMOR, SOVIET; and ARMOR, U.S.

BRITISH ANTITANK ARTILLERY

The British fielded three major antitank guns, the Ordnance, Q.F., 2 pdr, Ordnance, Q.F., 6 pdr, and Ordnance, Q.F., 17 pdr.

The Q.F. 2 pdr fired a two-pound, 40-mm round at 2,626 feet per second, which was capable of piercing 2.08 inches of armor at 500 yards. It had the advantage of being small and light and was usually towed by a small truck or jeep. Its great failing as a weapon was that it had been designed pursuant to 1934 specifications, when tank armor was relatively thin. By the time the war began, the gun was obsolescent, if not obsolete, as German tanks

were very heavily armored. Nevertheless, the gun saw service throughout the war, especially in Far East theaters against Japanese tanks, which were much more lightly armored.

Two years after the Q.F. 2 pdr was ordered, work was begun on the design of a heavier weapon. However, the Q.F. 6 pdr was not deployed until late in 1941. Yet it was a case of better late than never. The new weapon (which would go through four iterations, from Mk. I through Mk. IV) had a muzzle velocity of 2,700 feet per second with a 6-pound projectile, which could penetrate 2.7 inches of armor at 1,000 yards. Although still outclassed by the heaviest of German tanks, the 6 pdr could handle a wide array of Axis armor.

By 1941, with the 6 pdr deployed, it was recognized that an even heavier antitank gun was required. The O.F. 17 pdr began production in August 1942 and became the standard British antitank gun by the final year of the war, 1945. The 17-pound projectile the large and heavy field gun fired was of 3-inch caliber and could penetrate more than 5 inches of armor at 1,000 yards. Even the most advanced German tanks could not stand up to it. Muzzle velocity was 2,900 feet per second. While the 17-pound gun proved to be one of the Allies' most effective antiarmor weapons, it had the disadvantage of being large, heavy, and awkward to move. At 6,444 pounds, it was almost three times the weight of the 2,471-pound 6 pdr.

FRENCH ANTITANK ARTILLERY

France fielded a number of 25-mm antitank guns, the first, Canon léger de 25 antichar SA-L mle 1934, was produced in 1934. This gun fired a 0.7-pound projectile through 1.57 inches of armor at 440 yards—performance that was quite inadequate against modern tanks. The Germans captured many of these guns during the Battle of France, but even they found no use for them after 1942.

Much more impressive was the Canon de 47 antichar SA mle 1937. It fired a 47-mm, 3.8-pound shell through 3.15 inches of armor at 220 yards. The gun was good enough for the Germans to employ against the Allied Normandy landings (D-day) in 1944.

GERMAN ANTITANK ARTILLERY

German forces deployed three mainstream antitank guns, the 3.7-cm Pak 35/36, the 5-cm Pak 38, and the 7.5-cm Pak 40. In addition, relatively small numbers of innovative taper-bore guns were produced. These featured special tungsten-core projectiles, with outer flanges of much softer metal. The bore of the rifled barrel tapered, and as the shell moved out of the barrel, its flanges folded. This resulted in less loss of the gas produced by detonation and, therefore, an increase in muzzle velocity. The increased muzzle velocity, combined with the extremely dense tungsten core of the projectile, resulted in enhanced armor penetration.

Pak stands for *Panzerabwehrkanone,* "antitank gun," and the 3.7-cm Pak 35/36, first produced in the early 1930s, soon revealed its inadequacy against the heavier tanks of World War II. Muzzle velocity was 2,495 feet per second, projectile weight was three-quarters of a pound, and armor penetration at 400 yards was a mere 1.48 inches.

The 5-cm Pak 38, which went into production in 1939 and first saw service in summer 1940, figured importantly in the invasion of the Soviet Union in 1941. Its 4.45-pound shell left the muzzle at 2,460 feet per second and could penetrate almost 4 inches of armor at 820 yards—quite effective against just about any Allied tank. The guns were produced in large quantities and in many versions, including one that was modified for antiaircraft use.

On the eve of the war, in 1939, German intelligence began learning of the heavy armor planned for the new generation of Soviet tanks. Accordingly, a gun even heavier than the Pak 38 was ordered. The 7.5-cm Pak 40 began production in 1940 and started to reach eastern front troops late in 1941. It fired a 15-pound projectile at a muzzle velocity of 2,460 feet per second and could pierce 3.86 inches of armor at 2,190 yards. At 500 yards, penetration increased to some 6 inches. The versatile gun could fire a wide range of ammunition and was readily towed.

The taper-bore weapons were never produced in great quantity, but their advantage was that they produced significantly increased muzzle velocities

that drove the tungsten-core shells through many inches of armor. The extremely light 2.8-cm sPzB 41 threw a .27-pound shell through 2.205 inches of armor at 400 yards. The 4.2-cm Pak 41 had a three-quarter-pound projectile and could penetrate 2.835 inches of armor at 500 yards. The heavy 7.5-cm Pak 41 thrust a 5.5-pound round through 6.73 inches of armor at 500 yards. These were advanced weapons, but they were costly to produce. The tapered bore required engineering to extremely close tolerances, and the tungsten required for the ammunition was very scarce in wartime Germany.

JAPANESE ANTITANK ARTILLERY

Japan fielded only one antiarmor gun of note, the 47-mm Antitank Gun Type 1. It fired a projectile that weighed somewhat more than three pounds and could penetrate no more than two inches of armor at 1,000 yards. The limited penetration was offset somewhat by two advantages. The gun could be fired rapidly, at the rate of about 15 rounds per minute, and it was light, just 1,660 pounds. Japanese defensive doctrine during the Pacific campaign typically took little advantage of the gun's mobility. Japanese defenders usually dug these pieces into highly prepared static defenses, determined to die rather than retreat.

SOVIET ANTITANK ARTILLERY

The most important Soviet antitank guns were several versions of a 45-mm and a 76.2-mm piece. The M1942 45-mm gun fired a 3.151-pound projectile through 3.74 inches of armor at 330 yards, inadequate against the best German tanks. The M1942 76.2-mm gun, also called the ZiZ-2, was a highly maneuverable, relatively lightweight piece—3,770 pounds—that fired a 16.79-pound projectile through 3.86 inches of armor at 545 yards. The gun was widely used but, again, was barely adequate against the more advanced German tanks.

UNITED STATES ANTITANK ARTILLERY

The two most important U.S. Army antitank guns were the 37-mm M3 and the 3-inch M5. The first, developed in the late 1930s, was inspired by the German Pak 35/36, but with armor penetration of just one inch at 1,000 yards, it was no match against German tanks. Nevertheless, its light weight—just 912 pounds—was welcome in mobile and amphibious operations, and it was sufficiently versatile to have been produced in a quantity of 18,702 by the end of the war.

The heavier M5 antitank gun was introduced late in 1941, and while it proved to be a reliable weapon, it was heavy at 5,580 pounds and required a 6-by-6 truck for towing transport. It sent a 15.43-pound projectile at a muzzle velocity of 2,600 feet for armor penetration of 3.31 inches at a very impressive 2,000 yards.

INFANTRY ANTITANK WEAPONS

The most familiar infantry antitank weapon was the American BAZOOKA. This weapon was so effective that the Germans imitated it in the *Raketenpanzerbüchse,* or RpzB 43. This widely distributed weapon electrically fired an 88-mm rocket projectile to a maximum of 164 yards and could penetrate more than 6 inches of armor. Almost twice as heavy as the bazooka, it was also much longer and could not be shoulder fired. Nevertheless, it was highly effective against Allied tanks.

The Germans also fielded the *Panzerfaust,* or "tank devil," which was lightweight with a launching tube capable of projecting a hollow-charge grenade. Introduced in 1943, the *Panzerfaust* was a personal antitank weapon, operated by an individual soldier. The original model, *Panzerfaust* 30, had a range of about 30 meters (just over 30 yards); subsequently, a *Panzerfaust* 60 and *Panzerfaust* 100 were fielded. Over their short ranges, these weapons launched a finned grenade, which could penetrate (in later models) nearly eight inches of armor. Allied tanks were extremely vulnerable to such a weapon. The disadvantage of the *Panzerfaust* was that, although simple and cheap to produce, it could be used only once, and that was a major problem, as German raw materials resources dwindled after 1943.

The British counterpart of the American bazooka and German *Panzerfaust* was the Mk. 1 PIAT (Projector, Infantry, Anti-Tank). Although it resembled the bazooka and the *Panzerfaust,* it did

not use an electric charge to ignite the charge in the projectile but, rather, a spring mechanism. The weapon fired a 3-pound finned grenade a maximum of 370 yards (practical range was closer to 110 yards), which was capable of piercing even heavy German armor. Although the weapon was an effective tank killer, the British Tommies did not much like it. It was a heavy load to carry at about 37 pounds, and it required two men to operate it.

Germany, Japan, and Britain fielded specially designed antitank rifles, while the United States produced antitank grenades that could be fired from the standard M1 rifle.The German rifles were all 7.92-caliber weapons, which fired armor-piercing rounds. Because these rounds could penetrate no more than an inch of armor at about 300 yards, the rifles were of very limited effectiveness against modern tanks. The Japanese Antitank Rifle Type 97 fired a 20-mm round, which could penetrate 1.18 inches of armor at 273 yards, barely sufficient to penetrate lightly armored tanks. Although the weapon was of little use against American Sherman tanks, the Japanese persisted in using it, and they even developed a grenade that could be launched from it. The British Boys Antitank Rifle fired a 13.97-mm round capable of penetrating 0.827 inches of armor at 330 yards. Long and heavy, the Boys could be carried and operated by one man, but they were most often mounted on a vehicle. Of no use against modern tanks, they were employed with success against such lightly armored vehicles as armored cars.

The U.S. Army did not devote resources to developing a weapon it considered of limited effectiveness. Instead, the Antitank Rifle Grenade M9A1 was designed to be fired from the standard-issue M1 rifle. Its range was a little over 100 yards, and its hollow-charge warhead had an impressive four-inch armor-piercing potential. The versatile grenade could also be launched from an M1 carbine using an M8 launcher attachment.

The British Grenade, Hand, Antitank, No. 75, more familiarly known as the Hawkins Grenade, could be thrown or laid as a mine to be detonated by the weight of a tank's treads. This grenade was intended to disable the treads. The Grenade, Hand, Antitank, No 74 (ST) was better known as a sticky bomb because it was coated with an adhesive that stuck to the side of the tank when thrown. The drawback of this weapon was obvious: The adhesive would stick to anything, including the hand or glove of the would-be thrower.

The Soviets developed the RPG, the most successful of which was the RPG 1943. Despite the initials, which commonly denote rifle-propelled grenade, the RPG 1943 was hand thrown. What made it reasonably effective on lightly armored tanks was a fabric tail that deployed as the grenade was hurled. This tail ensured that the warhead end of the grenade would strike the target, thereby directing the blast toward—and, hopefully, through—the armor plate.

The Soviet RPG 1943 was inspired by the German *Panzerwurfmine,* an antiarmor hand grenade that incorporated four canvas fins that unfolded when the weapon was properly hurled. The fins stabilized the flight of the grenade and directed its hollow-charge warhead directly toward the target. A surprisingly powerful weapon, it was capable of penetrating most Allied armor plating.

Infantrymen devised and improvised other, less conventional, antitank weapons. The best known of these is the Molotov cocktail, named after Soviet foreign minister Vyacheslav Molotov and first used during the Spanish Civil War in 1936–39. The weapon, readily improvised, consisted of a glass bottle filled with gasoline (or other combustible liquid). An oil-soaked rag was tied around the bottle's neck, and, just before the bottle was thrown, the rag would be ignited; it would act as the fuse that touched off the gasoline when the bottle burst against its target. Of little effect against armor plate, the Molotov cocktail could be quite deadly if aimed at any openings in the tank, such as vision slits or engine louvers.

Japanese infantry troops sometimes made kamikaze attacks against Allied tanks. They would load a backpack with about 20 pounds of high explosive to create a satchel charge. As the target tank approached, the soldier, backpack on his back, would dive under the tank and simultaneously pull a lanyard that would ignite a short time-

delay fuse. As the tank rolled over the soldier, the backpack would ignite, destroying both the tank and the attacker. In a somewhat more humane version of this type of attack, the Soviets experimented with affixing a satchel charge to the back of a dog. A wooden rod projected from the top of the dog's back pack. The dog would be sent toward an approaching tank, which, when it rolled over the dog, would push the projecting rod. The rod was attached to an ignition device, which detonated the explosives—to the detriment of the tank as well as the dog. This antitank method was rarely used.

See also ARTILLERY, BRITISH; ARTILLERY, FRENCH; ARTILLERY, GERMAN; ARTILLERY, ITALIAN; ARTILLERY, JAPANESE; ARTILLERY, SOVIET; and ARTILLERY, U.S.

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Anti-Comintern Pact

The Anti-Comintern Pact was concluded on November 25, 1936, at Berlin between Germany and Japan. On November 6 of the following year, Italy joined Germany and Japan in the pact. Ostensibly a defensive alliance against the perceived menace of the Soviet-controlled "Communistic International," or Comintern, the document was also the formal basis of the Tokyo-Berlin-Rome Axis, the World War II ideological and military alliance among Germany, Japan, and Italy.

The Bolsheviks formed the Soviet Union in 1922 after the Russian civil war. Through the Communist International, or Comintern, the Soviet Union intended to operate as the center of world revolution, dedicated to the overthrow of capitalism everywhere. The Comintern created a high degree of instability throughout Europe, adding to the instability wrought by the politically and economically punitive TREATY OF VERSAILLES in Germany and its former World War I allies. In the 1930s, the Italian fascists and the German Nazis, as well as the Japanese militarists, sought to legitimate themselves, especially in the eyes of the Western democracies, by portraying themselves as united against Soviet expansion. The two Anti-Comintern Pacts defined, albeit vaguely, that unified front.

The 1936 document is brief enough to reproduce its entire substantive text:

> The Imperial Government of Japan and the Government of Germany, In cognizance of the fact that the object of the Communistic International (the so-called Komintern) is the disintegration of, and the commission of violence against, existing States by the exercise of all means at its command;
>
> Believing that the toleration of interference by the Communistic International in the internal affairs of nations not only endangers their internal peace and social welfare, but threatens the general peace of the world;
>
> Desiring to cooperate for defence against communistic disintegration, have agreed as follows:
>
> Article i
> The High Contracting States agree that they will mutually keep each other informed concerning the activities of the Communistic International, will confer upon the necessary measures of defence, and will carry out such measures in close cooperation.
>
> Article ii
> The High Contracting States will jointly invite third States whose internal peace is menaced by the disintegrating work of the Communistic International, to adopt defensive measures in the spirit of the present Agreement or to participate in the present Agreement.
>
> Article iii
> The Japanese and German texts are each valid as the original text of this Agreement. The Agreement shall come into force on the day of its signature and shall remain in force for the term of five years. The High Contracting States will, in a reasonable time before the expiration of the said term, come to an understanding upon the further manner of their cooperation . . .

Supplementary Protocol to the Agreement Guarding against the Communistic International on the occasion of the signature this day of the Agreement guarding against the Communistic International the undersigned plenipotentiaries have agreed as follows:

(a) The competent authorities of both High Contracting States will closely cooperate in the exchange of reports on the activities of the Communistic International and on measures of information and defence against the Communistic International.
(b) The competent authorities of both High Contracting States will, within the framework of the existing law, take stringent measures against those who at home or abroad work on direct or indirect duty of the Communistic International or assist its disintegrating activities.
(c) To facilitate the cooperation of the competent authorities of the two High Contracting States as set out in (a) above, a standing committee shall be established. By this committee the further measures to be adopted in order to counter the disintegrating activities of the Communistic International shall be considered and conferred upon . . .

In signing on to the pact, Italy joined Germany and Japan to oppose the expansion of Soviet communism, thereby creating the kernel of the Axis that would oppose the Allies during World War II. The substantive text of 1937 follows:

The Italian Government; the Government of the German Reich, and the Imperial Government of Japan,

Considering that the Communist International continues constantly to imperil the civilized world in the Occident and Orient, disturbing and destroying peace and order,

Considering that only close collaboration looking to the maintenance of peace and order can limit and remove that peril,

Considering that Italy—who with the advent of the Fascist regime has with inflexible determination combated that peril and rid her territory of the Communist International—has decided to align herself against the common enemy along with Germany and Japan, who for their part are animated by like determination to defend themselves against the Communist International,

Have, in conformity with Article II of the Agreement against the Communist International concluded at Berlin on November 25, 1936, by Germany and Japan, agreed upon the following:

Article 1
Italy becomes a party to the Agreement against the Communist International and to the Supplementary Protocol concluded on November 25, 1936, between Germany and Japan, the text of which is included in the Annex to the present Protocol.

Article 2
The three Powers signatory to the present Protocol agree that Italy will be considered as an original signatory to the Agreement and Supplementary Protocol mentioned in the preceding Article, the signing of the present Protocol being equivalent to the signature of the original text of the aforesaid Agreement and Supplementary Protocol.

Article 3
The present Protocol shall constitute an integral part of the above-mentioned Agreement and Supplementary Protocol.

Article 4
The present Protocol is drawn up in Italian, Japanese, and German, each text being considered authentic. It shall enter into effect on the date of signature.

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Antonescu, Ion (1882–1946) *Romanian dictator during the World War II era*

As dictator of Romania during World War II, Antonescu aligned his nation with the Axis. He was born in Pitesti, Romania, on June 15, 1882, and served in the Romanian army during World War I.

After the armistice, he remained in the army as military attaché in Paris and then in London. Returning to Romania, he became chief of the general staff in 1934, then minister of defense in 1937. After King Carol II created a new dictatorial government in 1938, Antonescu was dismissed as minister because he was associated with the Romanian fascist party known as the Iron Guard. But in 1940, it was Antonescu and the Iron Guard who came into power following the June–September partition of Romania among the Axis powers and the Soviet Union.

Antonescu consciously emulated Adolf Hitler in setting himself up as absolute dictator of the remaining portion of Romania, and he vowed allegiance to Germany. When his own Iron Guard instituted a reign of terror and corruption during 1940–41, Antonescu successfully suppressed the group, then recovered widespread public favor by instituting a program of domestic reform. He brought the country into World War II on the side of Germany, pouring massive numbers of troops into what became the lost cause of the Russian front.

There is no question that Antonescu was a fascist tyrant, yet he was substantially less brutal than Hitler or the leaders of other Axis regimes. Nevertheless, as Romanian war losses escalated and the civilian population suffered, support for Antonescu eroded, and the nation's new king, Michael, led a successful coup d'état against him in August 1944. Deposed, Antonescu was imprisoned, then tried by officials of the new communist regime in the Romanian Communist People's Court. Convicted of war crimes, he was executed near Jilava on June 1, 1946.

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ANZAC

ANZAC is an acronym for Australian and New Zealand Army Corps, a military formation created during World War I, in December 1914, by combining the Australian Imperial Force and New Zealand Expeditionary Force stationed in Egypt under the command of Lt. Gen. William Birdwood. It is believed that the acronym originated with Sgt. K. M. Little, a New Zealand clerk in Birdwood's headquarters, who needed something that would fit on a rubber stamp. Before the end of World War I, *Anzac* was used as a label for any Australian or New Zealand soldier.

A new Anzac Corps was formed during the World War II campaign in Greece in 1941, and the acronym *ANZAC* was loosely applied to Australian and New Zealand forces throughout the war, while *Anzac* continued to serve as a familiar name for Australian and New Zealand troops, much as *G.I.* served for Americans.

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Anzio Campaign

The Italian Campaign proved to be far more difficult than Allied planners had imagined, and when the advance that followed the Salerno landings stalled, it was decided to make a second landing on Italy's west coast in an effort to break through the Winter Line and speed up the capture of Rome. In conference at Marakesh, the Allies decided on Operation Shingle, sending Maj. Gen. John Lucas with elements of the VI Corps of the Fifth U.S. Army to land along a 15-mile beachhead near the resort town of Anzio, 30 miles south of Rome, on January 22, 1944. Units committed to the landings included the U.S. 3d Infantry Division; the British 1st Infantry Division and 46th Royal Tank Regiment; the U.S. 751st Tank Battalion, the 504th Parachute Infantry Regiment of the 82nd Airborne Division, and the 509th Parachute Infantry Battalion; two British Commando battalions; and three battalions of U.S. Army Rangers. The U.S. 45th Infantry Division and Combat Command A (CCA), a regimental-sized unit of the U.S. 1st Armored Division, were to land as reinforcements once the beachhead was established.

The landings were textbook perfect and encountered very little German resistance. Progress inland was rapid, with British and American units attaining their first day's objectives by noon. Before the end of the day, they had advanced three to four miles. Indeed, the Germans did not anticipate an amphibious assault at this time or place, but Lucas failed to move aggressively and thus lost the advantage gained by the element of surprise. Over the next week, his units busied themselves with consolidating their positions preparatory to the major breakout. This gave the Germans ample time to redeploy, and what had started with an easy landing would stretch agonizingly into a savage four-month campaign. Although Lucas would receive much blame, he was, in fact, acting on his understanding of the orders of Fifth Army commander Gen. Mark Clark. Clark outlined two missions for VI Corps: to divert enemy strength from the south and to prepare defensive positions in anticipation of a violent German counterattack. He was further instructed to advance toward the Alban Hills and points east to link up with the rest of Fifth Army seven days after the landings. Lucas did not see his mission as immediately capturing the Alban Hills.

In support of the landings, some 2,600 Allied aircraft were available, as was a large naval flotilla, comprising ships from six nations. To preserve the element of surprise, the naval forces did not launch a major preinvasion bombardment.

German general Albert Kesselring ordered a counterattack for January 28, but his subordinate commander, Eberhard von Mackensen, requested postponement until February 1, by which time the Fourteenth German Army in the area numbered some 70,000 troops. Lucas now raced to press the attack so that he could link up with Fifth Army forces in the south before the Germans counterattacked. However, thanks in no small measure to the vagueness of Clark's orders, Lucas had sacrificed the advantages of the surprise achieved by the landings. Kesselring had deployed a cordon around Lucas. Rangers under Col. William O. Darby made an initial attack on Cisterna. The 1st and 3rd Ranger Battalions were to spearhead the assault, infiltrating the German lines to seize Cisterna until the 4th Rangers and 15th Infantry arrived. The German defenders, however, ambushed the Rangers. Of 767 men in the two battalions, only a half dozen returned to Allied lines. By January 30, Lucas had suffered 5,100 casualties, 3,000 American and 2,100 British. He was forced to relinquish the offensive and assume a defensive posture.

Yet the picture was not entirely bleak. Thanks to the Allies' having broken German Ultra codes, Lucas had a remarkably thorough picture of Mackensen's plans and the German tank strength in the area. This allowed him to make a highly effective defense, which was very costly to the German counterattackers. Moreover, while Kesselring anticipated achieving a high degree of surprise with a counteroffensive near Aprilia, the Ultra decrypts tipped the Allies off, and the major operation was checked by February 20, just four days after it had been launched. Not only did the counteroffensive fail to push the Allied troops back, it cost the Germans 5,389 casualties.

Yet Lucas's superiors were persuaded that wars are not won by defensive operations, no matter how well executed, and, on February 22, Lucas was relieved and replaced by his deputy commander, the highly aggressive Maj. Gen. Lucian Truscott. He quickly beat back a renewed German assault on February 29, and it was now Kesselring's turn to readjust his objectives. He had hoped to wipe out the landings. He now knew this would not happen. Nevertheless, this tenacious commander maintained a stout perimeter around the Allies and kept their positions under almost continuous fire. What he could not prevent, however, was the steady reinforcement of VI Corps. Nevertheless, it was not until spring that Truscott felt sufficiently strong to make the final breakout.

On the morning of May 23, he opened an artillery barrage on the Cisterna front, followed by violent armor and infantry attacks along the entire line of German defenders. By that evening, the enemy's main line of resistance had been breached. Cisterna, long the nexus of German strength, fell on May 25, and on that same day, elements of VI Corps began the link up with the main body of the

Fifth Army—the union that was supposed to have taken place within one week of the Anzio landings.

The Anzio Campaign was concluded. During the campaign, the Allied VI Corps had suffered 29,200 combat casualties (4,400 killed, 18,000 wounded, 6,800 prisoners or missing) and 37,000 noncombat casualties. German losses were about 40,000, including 5,000 killed and 4,838 captured. They were losses the Germans could not replace.

There can be no doubt that the campaign failed in its immediate objectives of outflanking the German positions and thereby restoring mobility to the Italian campaign and speeding the capture of Rome. Lucas complained that he had never been provided forces adequate to his mission, and most recent historians agree, although most also believe that Lucas was, indeed, insufficiently aggressive. Costly and disappointing as it was, however, the Anzio Campaign did, in effect, monopolize the troops of the German Fourteenth Army for four months, preventing these forces from being deployed elsewhere. The campaign intensified a war of attrition the Germans simply could not afford.

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appeasement policy

In May 1937, Neville Chamberlain replaced the retiring Stanley Baldwin as prime minister of Great Britain. Against the vigorous objections of a faction of Parliament led by Winston Churchill, the Baldwin government had maintained an essentially pacifist policy with regard to preparedness for war. At the same time, Great Britain was bound by a number of military treaties, chiefly with France, Czechoslovakia, and Poland, which could well draw Great Britain into war if any of those nations were attacked. Seeking a means of avoiding conflict, Chamberlain proposed a policy of "active appeasement" with regard to an increasingly voracious Germany. Chamberlain's idea was to discover what Adolf Hitler wanted and then, if possible, to give it to him. In this way, Chamberlain hoped to conserve military resources to fight what his government considered the most immediate and serious war threats: from Italy and Japan, not from Germany.

On March 13, 1938, Hitler invaded Austria, his army receiving opposition from neither Italy (at the time perceived as a potential rival to Germany) nor from Austria itself. Hitler proclaimed *Anschluss,* the joining of Austria to Germany as a province of the German Reich, or government.

The easy success of *Anschluss* emboldened Hitler and put Germany in position to make its next move—into Czechoslovakia. Although he was intent on appeasing Hitler, Chamberlain warned him to negotiate with the Czechs. In response, Hitler blustered and stood firm. For his part, Chamberlain caved in. Hat in hand, as it were, he flew (in an age when executives of state rarely traveled by air) to Berchtesgaden, Hitler's Bavarian mountain retreat, and simply proposed to give Hitler all that he demanded. Almost taken aback by this bounty, Hitler demanded cession of the Sudetenland, the German-speaking region of Czechoslovakia. Chamberlain agreed, asking only that Hitler delay invasion until he could persuade Paris and Prague to go along with the plan.

British prime minister Neville Chamberlain returns from the Munich Conference. *(Author's collection)*

The French government was appalled by the proposal and appealed to President Franklin D. Roosevelt, who was, however, unable to move Congress to alter U.S. neutrality. Thus rebuffed, France declined to stand alone against Germany and agreed to hand over the Sudetenland to Hitler. Pursuant to this agreement, Chamberlain organized the Munich Conference on September 29–30, 1938, which formalized the betrayal of the Czechs, ceding the Sudetenland to Germany in return for Hitler's pledge that he make no more territorial demands in Europe.

Chamberlain returned to London from the Munich Conference and announced the triumph of "active appeasement," declaring that he brought back from Hitler "peace for our time." The sense of relief was short lived. On March 16, 1939, Hitler effectively repudiated his pledge to take no more territory when he sent German army units to occupy Prague. The entire Czech nation suddenly ceased to exist, and Poland would be next. The appeasement policy not only failed to avert war, it made war inevitable by encouraging Hitler in his program of territorial aggression.

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Arctic convoy operations

The Allies' merchant marine resources undertook some of the most arduous and dangerous missions of World War II, and none was more harrowing than the Arctic convoys that transported war materiel from ports in Great Britain and Iceland to the Soviets. Some 4.43 million tons of supplies were shipped by Arctic convoys, representing 22.7 percent of the supplies the USSR received under Lend Lease. Losses were very high: 7.8 percent of ships bound for Soviet ports were sunk, as were 3.8 percent of those returning. This loss rate was much higher than the rate for all other convoy routes. The first Arctic convoy sailed on August 21, 1944, from Scotland; the last convoy sailed on April 16, 1945.

The Arctic convoy routes connected Great Britain and Iceland with Soviet ports via the Norwegian and Barents Seas, but they were restricted by climate and geography, particularly the extent of ice fields. These same conditions, however, made it more difficult for submarines as well as surface raiders to attack convoys. Also, the long Arctic nights provided a welcome cloak of darkness. Counterbalancing these advantages was the necessity of hugging the Norwegian coast to avoid ice, which meant that convoys were thrust closer to German coastal forces stationed there. Escort vessels consisted mainly of a close escort of destroyers and distant escort of cruisers. Most of these were Royal Navy ships, but the U.S. and Soviet navies also supplied escort ships. Air support was used but was severely limited by range and weather conditions.

All the convoys were dangerous, but Convoy PQ17, which sailed from Iceland on June 27, 1942, demonstrated just how disastrously dangerous this mission could be. Attacked by submarines and aircraft, 26 of the convoy's 37 ships were sunk with the loss of 3,850 trucks and vehicles, 430 tanks, and 2,500 aircraft. Thanks to efficient rescue and recovery, only 153 merchant seamen were lost—a remarkably small number, considering the number of ships sunk.

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Ardennes, Battle of the (Battle of the Bulge)

One of the key battles of World War II in Europe, the so-called Battle of the Bulge was the final Ger-

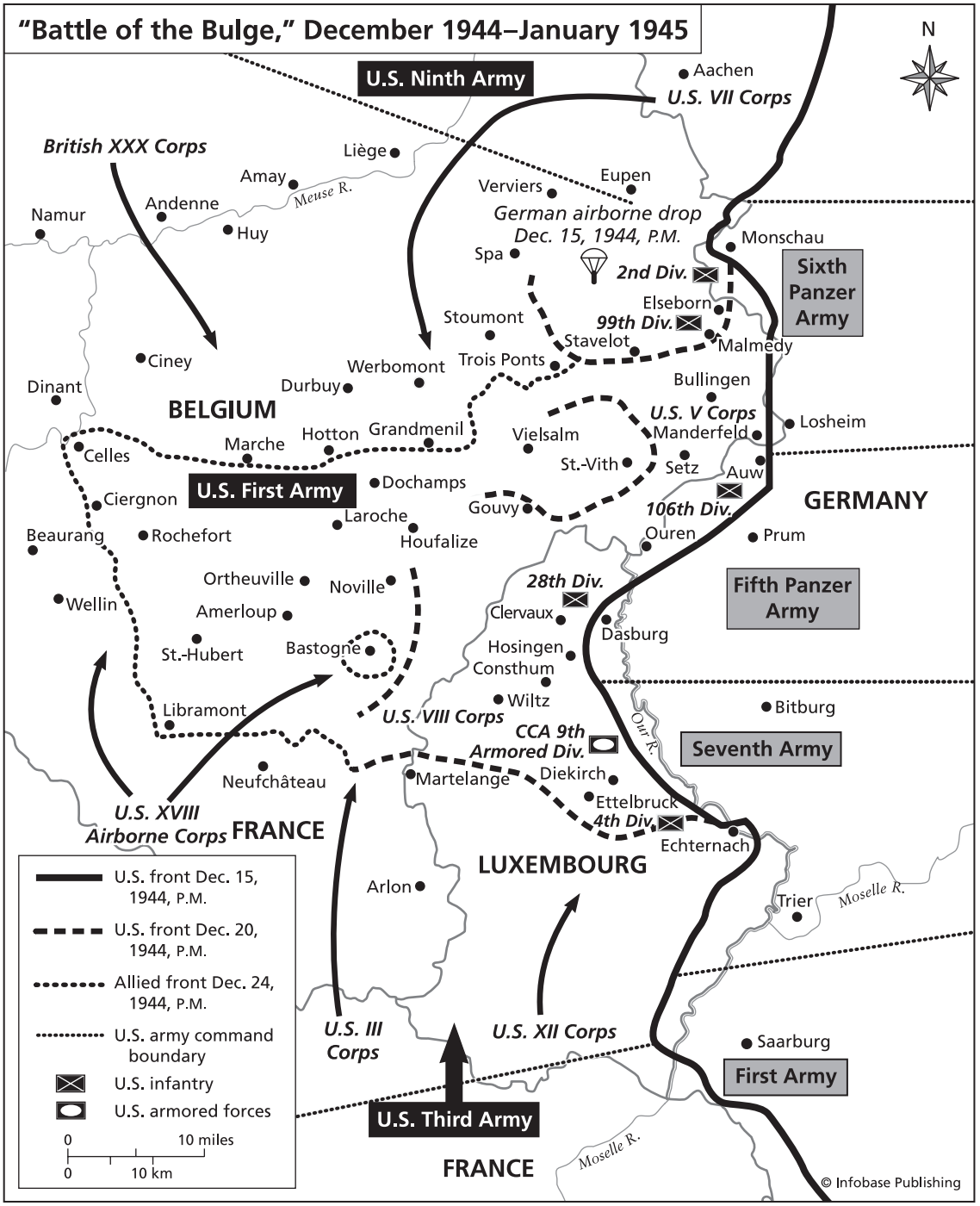
man offensive of the war and came as a great surprise to the Allies, who widely assumed that the German armies had been beaten to the point that they were incapable of any offensive action. In sum, the battle began on December 16, 1944, when 25 German divisions attacked a thinly held portion of the Allied lines in the Belgian Ardennes Forest. Initially, the attack broke through the five green or recuperating U.S. divisions that had been assigned to what was considered a quiet sector, and the battle took its popular name from the bulge, or salient, the Germans achieved by penetrating nearly as far west as the Meuse River. The German plan was to cross the Meuse and divide Allied forces by penetrating all the way to Antwerp, Netherlands, the Allies' principal supply port. When Allied high command recognized the danger posed by the surprise offensive, reinforcements were rushed to the area, and the U.S. 101st Airborne and U.S. 10th Armored Division were ordered to hold Bastogne, completely encircled by the Germans, at all costs, until the main body of reinforcements could arrive. In bitter winter action, Bastogne was held, and elements of the U.S. First and Third Armies, supported by heavy British and U.S. air support (initially delayed by bad weather), managed to turn a potential Allied catastrophe into a decisive German defeat, after which, for the rest of the war, German forces were continually on the defensive and continually in retreat. It was the largest single battle fought by U.S. troops in Europe.

Some military historians look upon the Ardennes offensive as evidence of Adolf Hitler's heedless desperation in the closing phase of the war. There is a certain merit in this view, but the offensive was also a brilliantly staged, bold, violent, and ruthless thrust, which came remarkably close to achieving its objective of splitting the Allied lines and capturing the Allies' most important supply port. Hitler's generals made highly effective use of the element of surprise and, even more, of the weather. By attacking during a prolonged winter storm, they ensured that the Allies' overwhelmingly superior air power would be useless, at least in the important early stages of the offensive. It is unclear whether Hitler actually imagined that victory in this battle would reverse the course of his defeat. However, he had rational reason to hope that such a victory would so dispirit the Allies that they would negotiate a peace rather than demand unconditional surrender.

For purposes of this offensive, Hitler created the Sixth SS Panzer Army, consisting of four Panzer divisions under the command of Josef A. "Sepp" Dietrich, an SS officer both fierce and trusted. From the northern Ardennes in the vicinity of Monschau, Dietrich would lead the *Schwerpunkt* (principal thrust) of a classic Blitzkrieg offensive. Supplementing this principal thrust would be another new Panzer force, the Fifth SS Panzer Army, under Hasso-Eccard von Manteuffel, assigned to attack in the center, and, in the south, the Seventh Army, under Lt. Gen. Erich Brandenberger. In all, German strength amounted to 30 divisions with grossly inadequate air support—about 1,000 fighters—from the badly depleted Luftwaffe (Brig. Gen. Dietrich Peltz's 2nd Fighter Corps).

As the Allies had deceived Hitler before and during the Normandy landings (D-day), so Hitler and his commanders prepared their massive offensive, code named "Wacht am Rhein" ("Watch on the Rhine," suggesting a defensive operation) in profound and highly effective secrecy, even deceiving and bypassing the German commander in chief, Gerd von Rundstedt. This was understandable, because the realistic Rundstedt would doubtless have tried to veto a plan that seemed ultimately doomed to fail, even if successful in the short term. Even the commander Hitler chose to carry out the operation, Walther Model, thought the offensive too ambitious and suggested a modified operation he considered more feasible. Hitler listened but rejected the proposal out of hand.

The offensive included an airborne assault, which the Germans had not used since the very earliest days of the war, and a special unit, the 150th SS Brigade under Otto Skorzeny, the bril-


"Battle of the Bulge," December 1944–January 1945
N
U.S. Ninth Army
Aachen
U.S. VII Corps
British XXX Corps
Liège
Amay
Meuse R.
Verviers
Eupen
Namur
Andenne
Huy
German airborne drop
Dec. 15, 1944, P.M.
Spa
Monschau
2nd Div.
Sixth Panzer Army
Elseborn
Stoumont
99th Div.
Stavelot
Malmedy
Ciney
Werbomont
Trois Ponts
Bullingen
Dinant
Durbuy
BELGIUM
U.S. V Corps
Losheim
Manderfeld
Hotton
Grandmenil
Vielsalm
Marche
Celles
St.-Vith
Setz
Auw
Dochamps
U.S. First Army
Ciergnon
Gouvy
106th Div.
GERMANY
Laroche
Houfalize
Beaurang
Rochefort
Ouren
Prum
Ortheuville
Noville
28th Div.
Fifth Panzer Army
Wellin
Amerloup
Clervaux
Dasburg
St.-Hubert
Bastogne
Hosingen
Consthum
Wiltz
Bitburg
Libramont
U.S. VIII Corps
CCA 9th Armored Div.
Our R.
Seventh Army
Neufchâteau
Martelange
Diekirch
Ettelbruck
4th Div.
U.S. XVIII Airborne Corps
FRANCE
Echternach
LUXEMBOURG
Arlon
Trier
Moselle R.
U.S. front Dec. 15, 1944, P.M.
U.S. front Dec. 20, 1944, P.M.
Allied front Dec. 24, 1944, P.M.
U.S. army command boundary
U.S. infantry
U.S. armored forces
0 10 miles
0 10 km
U.S. III Corps
U.S. XII Corps
Saarburg
First Army
U.S. Third Army
FRANCE
Moselle R.
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liant special forces commander who had successfully pulled off the rescue of overthrown Italian dictator Benito Mussolini. The paratroops were to secure and hold key Meuse bridges in order to facilitate the German advance after it had broken through the Allied lines, and Skorzeny's command, which included English-speaking troops dressed in American uniforms and driving American vehicles, was to infiltrate and disrupt the American rear area. Unfortunately for the Germans, the airborne drops were poorly executed, the troops landing too widely dispersed to carry out their mission against the bridges. While Skorzeny's forces did cause significant confusion, they achieved little of tactical significance, and soldiers captured in American uniforms were summarily executed. Nevertheless, the very tip of Dietrich's 1st SS Panzer Division, Col. Joachim Peiper's armored *Kampfgruppe,* made an early lightning thrust deep into American-held territory, through Malmédy, Belgium (*see* Malmédy Massacre), west of which it was finally destroyed.

As Hitler took advantage of the weather, so he exploited Allied weakness in the Ardennes sector. U.S. Lt. Gen. Courtney Hodges, in command of the First Army (part of the Twelfth Army Group commanded by Gen. Omar Bradley), had responsibility for Ardennes, but, acting in accordance with Bradley's instructions and those of higher Allied command, concentrated on the Aachen area with the object of capturing the vital Roer dams. The 80-mile Ardennes front was regarded as a quiet sector, which could be adequately defended by battle-weary units in need of rest and recuperation and by green units, which could benefit from gradual exposure to the line. In place at the time of the initial attack were the 99th and 106th Divisions from the First Army's V Corps, and the 28th and 4th Divisions from VIII Corps. The 9th Armored Division was held in reserve. Hodges and his superiors believed that careful intelligence would provide warning of any highly unlikely build-up of German forces in the area, affording sufficient time to reinforce the position, if necessary. However, the Germans were carrying out their build-up in such secrecy, amid absolute radio silence and under cover of weather that grounded Allied aerial reconnaissance, that neither Hodges, nor Bradley, nor British general Sir Bernard Law Montgomery, overall commander of Allied ground forces, were aware of the gathering danger. The only clue came from Ultra intercepts and decrypts, which revealed a build-up, but which the Allied commanders dismissed as a build-up being assembled to counter the next Allied offensive.

The attack, then, at 5:30 on the morning of December 16, came as a complete surprise. Worse, because German artillery had knocked out telephone lines, word of the attack reached Bradley's headquarters only after much delay and, even then, was misinterpreted as merely a local attack. Bradley's conclusions was overruled by the judgment of Supreme Allied Commander Dwight D. Eisenhower, who ordered the 10th Armored Division of George S. Patton's Third U.S. Army and the 7th Armored Division of the Ninth U.S. Army to reinforce the Ardennes line. This enabled the beleaguered 99th Division, reinforced by the 1st, 2nd, and 9th, to hold out against the attack in the north, while the 4th held the line against Brandenberger in the south. But between these, in the center, which had been hit hardest, resistance by the U.S. 28th and 106th Divisions collapsed. Two regiments of the 106th were captured, and a third division, reinforced by the 7th Armored Division, held St. Vith until December 22, when these units were ordered to withdraw to a position behind the Salm River. Despite this withdrawal, Allied high command deemed the village of Bastogne, with its important crossroads, too important to lose. The 101st Airborne and the 10th Armored Division were ordered to hold it, even as Manteuffel encircled it. Throughout the rest of the Ardennes offensive, Bastogne would form an Allied enclave within newly acquired German territory.

In the meantime, Ultra decrypts persuaded Eisenhower that the German objective was the Meuse. On December 19, accordingly, Eisenhower suspended the general Allied offensive and ordered Patton to turn his entire Third Army from its ongoing westward advance 90° to the north. His mission was to counterattack—massively—in the

Ardennes. The speed and efficiency with which Patton carried out this change in direction was one of the most remarkable tactical achievements of the entire war, and it spelled the beginning of the end of the German offensive. Patton would not only relieve the encircled 101st Airborne and 10th Armored Division, he would enable Hodges to realign his First U.S. Army and thereby transform his posture from one of defense to counterattack.

Dietrich's advance in the north was thwarted, but Manteuffel, in the central position, continued to drive on. Hitler gave permission to transfer the bulk of the attack to support Manteuffel, who reached the village of Foy-Notre Dame, a mere three miles east of the Meuse, on December 24. However, by December 22, the weather improved, allowing the Allies to call in air support, which they did—massively—flying 1,300 sorties on December 23 and some 2,000 on December 24. The effect was devastating on German supply lines, which had already been stretched to the breaking point. The Luftwaffe launched a truly desperate raid on Allied airfields on January 1, managing to destroy some 156 Allied aircraft, but at a staggering loss of more than 300 of its own craft. Already reeling, the Luftwaffe was now neutralized as an effective force in the war.

Manteuffel's advance to Foy-Notre Dame marked the farthest extent of the German "bulge." Pounded by Hodges from the north and drained by the continued resistance of encircled Bastogne, Manteuffel stalled. On January 3, Hodges's VII Corps attacked southward against Manteuffel, intending to crush him in a pincer action, of which Patton's Third Army formed the northward thrust. Once again, however, the weather intervened, bringing heavy snows that slowed the advance of both American armies, and it was not until January 16 that Hodges and Patton converged on Houffalize, by which time Manteuffel had withdrawn. Thus, an opportunity to destroy outright most of the German units committed to the offensive was lost. Nevertheless, the Americans inflicted some 100,000 casualties against an attacking force of 500,000, suffering, in turn, casualties almost as heavy. Yet there was no doubt as to the victor. The last German offensive had been crushed, and whereas the Americans could make up their losses, the Germans could not. Hitler's gamble at the Ardennes had spent much of his irreplaceable last combat-worthy reserves and had exposed his Luftwaffe, already in extremity, to a blow that effectively destroyed it.

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armed neutrality, U.S.

The U.S. Neutrality Acts of 1935, 1937, and 1939 ostensibly codified in law U.S. neutrality in the gathering European conflict. However, each act also incrementally aligned the "neutral" United States with the Allies and against Germany and Italy. Although in its original form the final Neutrality Act (1939) prohibited the arming of merchant vessels, Congress amended the act on November 17, 1941, after encounters with German U-boats and the torpedoing of the U.S. destroyer *Reuben James.* The amendment authorized the arming of merchant vessels and permitted these ships to transport cargoes directly to the ports of the belligerents. This amendment officially inaugurated a U.S. policy of armed neutrality—which, of course, proved short lived, since the Japanese attack on Pearl Harbor on December 7, 1941, immediately thrust the United States into the war.

Even before passage of the amendment, the United States had clearly embarked on a de facto policy of armed neutrality, the first major feature of which was passage of the nation's first ever peacetime draft in September 1940. The ABC-1 Staff Agreement, concluded between British and American military and naval officials on March 27, 1941, stipulated that the U.S. Navy's Atlantic Fleet would begin assisting the Royal Navy in Atlantic convoy escort duty as soon as it was able. This may be seen as the effective commencement

of armed neutrality. On April 10, 1941, the U.S. destroyer *Niblack* depth charged a German U-boat while rescuing the crew of a torpedoed Dutch freighter. This was the first hostile U.S. naval action against a vessel of the Axis powers. Between this event and Pearl Harbor, a low-intensity, undeclared naval war existed between the United States and Germany in the Atlantic (*see* NAVAL WAR WITH GERMANY, UNDECLARED [1940–1941]). On September 11, the U.S. freighter *Montana* was sunk en route to Iceland; on September 19, the armed U.S.-Panamanian freighter *Pink Star,* also bound for Iceland, was torpedoed and sunk; on September 27, the U.S.-Panamanian tanker *I. C. White* was sunk en route to South Africa; on October 16, the U.S. tanker *W. C. Teagle* and the U.S.-Panamanian freighter *Bold Venture* were sunk; on October 17, the destroyer *Kearny* was torpedoed and damaged with the loss of 11 American sailors; on October 19, the U.S. freighter *Lehigh* was sunk in the south Atlantic; on October 30, the U.S.-Panamanian armed tanker *Salinas* was damaged by German torpedoes; and on October 31, the U.S. destroyer *Reuben James* was sunk with the loss of 115 sailors. On November 24, U.S. Army troops were sent to occupy Dutch Guiana (Suriname) on the northeast Atlantic coast of South America. The objective was to protect the bauxite (aluminum ore) mines there.

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armor, British

The most important category of armored vehicle is, of course, the tank, and, during World War I, the British took the lead in developing this weapon. They continued work during the interwar years but, in a political climate of wishful pacifism, soon lost their pioneering advantage. As a result, the British tanks of World War II were markedly inferior to those of the Germans.

Vickers Light Tanks. Of all the British tanks, the Vickers Light Tank best exemplified the technical disparity between British and German armor. The basic design dated to the late 1920s, and many versions and variations were produced. But even the latest, the Mark VI, was a comparatively diminutive, lightly armored vehicle that was no match for even second-line German tanks.

The Mark VI series began production in 1936, and the Mark VIB was the principal light tank deployed by the British Expeditionary Force (BEF) to France in 1940. That so many of these vehicles were abandoned in the DUNKIRK EVACUATION was perhaps no great loss.

General specifications for the Mark VIC light tank included:

Weight: 5.2 tons
Length: 13 feet 2 inches
Width: 6 feet 10 inches
Height: 7 feet 5 inches
Power plant: six-cylinder, 88-horsepower Meadows engine
Armament: one Besa 7.92-mm gun and one Besa 15-mm gun
Top speed: about 35 miles per hour
Crew: three

The next Vickers design was the 1938 Light Tank Mark VII Tetrarch. The design, which featured four large independent road wheels on each side (the so-called Christie road wheel concept and suspension) and a large, two-man turret able to mount a large-caliber gun, was innovative. The performance of light tanks in the Spanish Civil War was generally disappointing and did not augur well for the Mark VII, the production of which was delayed until July 1940, too late to make an impact on the BATTLE OF FRANCE. Indeed, the fate of the light tank in that battle prompted the British government to cut back its orders of the Mark VII, which was used mainly with airborne troops during the NORMANDY LANDINGS (D-DAY) in 1944 and the D-day invasion in 1944 and the Rhine crossings

in 1945. The Soviet Union received Mark VIIs as part of Lend-Lease.

General specifications included:

Weight: 7.5 tons
Length: 14.12 feet
Width: 7.58 feet
Height: 6.96 feet
Power plant: one 165-horsepower Meadows 12-cylinder gasoline engine
Armament: one 40-mm gun or one 3-inch howitzer; one machine gun
Top speed: 39.74 miles per hour

Cruiser Tank A15E1, Mark 6 Crusader. During the first year of the war, British manufacturers scrambled to produce heavier tanks that could go up against their German opponents. The Cruiser Tank A15E1, Mark 6 Crusader was introduced in 1941 and was produced through 1943 in a quantity of about 5,300. It was powered by a Liberty aircraft engine and incorporated the Christie suspension used on the Mk VII Tetrarch. Rushed into production, the Crusader was still too lightly armored to be an adequate match against German firepower, and it had an unfortunately deserved reputation for mechanical unreliability. Nevertheless, the Crusader was one of the main British tanks used in the North African Campaign.

General specifications included:

Weight: 44,240 pounds
Length: 19 feet 8 inches
Width: 8 feet 8 inches
Height: 7 feet 4 inches
Armament: one 2-pounder gun and one machine gun
Top speed: 27 miles per hour
Crew: four

Cromwell series. The Cromwell series of tanks was put into production in 1943 in an ongoing effort to match the Germans. Armor was heavier, and the 75-mm gun used on the Mark VIII version was at last heavy enough to penetrate German armor—at least at relatively close ranges. The Cruiser Tank A27M, Mark VIII Cromwell emerged as the most important British tank by the time of the Normandy Landings in 1944. Armor was heavy, and construction was welded rather than riveted, which gave the vehicle a high degree of survivability against heavy German firepower.

General specifications included:

Weight: 28 tons
Length: 20 feet 10 inches
Width: 9 feet 6.5 inches
Height: 8 feet 2 inches
Power plant: 600-horsepower Rolls-Royce Meteor V-12 gasoline engine
Armament: one 75-mm gun and one or two machine guns
Top speed: 40 miles per hour
Crew: five

Cruiser Tank A27L, Mark 8 Centaur. Contemporary with the Cromwell was the Cruiser Tank A27L, Mark 8 Centaur, which was similar to the Cromwell but used the Liberty aircraft engine instead of the Rolls-Royce Mercury. Centaurs were used mainly for training from 1942 to 1945. Specifications included:

Weight: 27.5 tons
Length: 20 feet 10 inches
Width: 9 feet 6 inches
Height: 8 feet 2 inches
Power plant: 395-horsepower Liberty
Armament: one 6-pounder and one or two machine guns
Top speed: 27 miles per hour
Crew: five

Cruiser Tank Challenger. Responding to an urgent need to mount a bigger gun—the 17-pounder—designers stretched the Cromwell and produced the ungainly looking Cruiser Tank Challenger. By the time the tank was put into service, the British army was accepting into service the American-built Sherman Firefly tank instead. Few Challengers, therefore, saw combat. Specifications included:

Weight: 32 tons
Length: 26 feet 4 inches
Width: 9 feet 6.5 inches
Height: 8 feet 9 inches

Power plant: 600-horsepower Rolls-Royce Meteor V-12 gasoline engine
Armament: one 17-pounder and one machine gun
Top speed: 32 miles per hour
Crew: five

British tanks designated "Cruisers" were designed for speed, whereas those designated "Infantry" were more heavily armored and were intended to be used in conjunction with infantry, so speed was less important. The distinction between the two tank types was, in fact, a dubious one, and no other combatant nation adopted it.

Matilda Infantry Tanks. The Mark I and Mark II Matilda infantry tanks were inexpensive Vickers designs, the first of which was delivered in 1936. Most of the Matildas—the name was intended to reflect the vehicle's ducklike gait and appearance—were lost during the Battle of France in 1940. Although slow, the Matildas were heavily armored and readily withstood fire from the German tanks used in France. They had some success in the North African Campaign, where their 2-pounder cannon had very good armor penetration. However, as the new German tanks introduced heavier armor and bigger guns, the Matilda was outclassed and was replaced by the adoption of such American-built tanks as the Lee, Grant, and Sherman.

Specifications included:

Weight: 11 tons
Length: 15 feet 11 inches
Width: 7 feet 6 inches
Height: 6 feet 1.5 inches
Power plant: 70-horsepower Ford V8
Armament: one 2-pounder gun and one machine gun
Speed: 8–15 miles per hour

Valentine Infantry Tank series. Another rush to production was the Valentine series of infantry tanks. Designed in 1938–39, the first Valentine tank was prototyped on February 14, 1940, Valentine's Day, and by the end of production in 1944, 8,275 Valentines had been built. They went through many major iterations and many modifications, some performed in the field, and proved to be sturdy and reliable, especially after the initial riveted construction had been replaced by welding.

Specifications included:

Weight: 16–17 tons
Length: 17 feet 9 inches
Width: 8 feet 7.5 inches
Height: 7 feet 5.5 inches
Power plant: one AEC gasoline engine or an AEC or GM Diesel, developing 131 to 165 horsepower
Armament (Marks 8–10): one 6-pounder and one machine gun
Top speed: 15 miles per hour
Crew: three or four

Churchill Infantry Tank series. The first of the Churchill series of infantry tanks was delivered in mid-1941 and was beset by mechanical problems. Once these were resolved, however, the Churchill became the most familiar tank in the British inventory. It served as a platform for modification to suit a variety of specialty roles. In many ways a throwback to the era of trench warfare, the Churchill was lumbering but heavily armored and could accept a heavy gun. General specifications included:

Weight: 38.5–40 tons
Length: 24 feet 5 inches
Width: 10 feet 8 inches (most models)
Height: 8 feet 2 inches (most models)
Power plant: 350-horsepower Bedford twin six-cylinder
Armament: Varied, but up to one 95-mm cannon and two machine guns
Top speed: 15 miles per hour
Crew: five

Archer Tank Destroyer. The tanks of World War II were always tradeoffs among speed, armor, and firepower. A new breed of tank emerged, however. The tank destroyer sacrificed armor and speed for firepower. The weapon was specifically designed to kill other tanks, even if this meant exposing crews to return fire. The Germans built several tank destroyer types, but the British fielded only one, the Archer. It was converted from the Valentine

chassis and had a large *rear-facing* turret that mounted a spectacular 17-pounder gun, capable of a high degree of armor penetration. The rear-facing configuration was necessary to maintain stability with such a long and heavy piece of ordnance. Also, this orientation was used to tactical advantage. The Archer was generally hidden in ambush, fired on its prey, then withdrew, its gun still pointing rearward.

General specifications included:

Weight: 38,840 pounds
Power plant: one 192-horsepower GM 6-71 six-cylinder diesel
Length: 21 feet 11 inches
Width: 9 feet 5 inches
Height: 7 feet 4.5 inches
Top speed: 20 miles per hour
Crew: four

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armor, French

France produced four important tanks that were used in World War II, three reflecting the thinking of World War I and one of an exceptional new design.

Hotchkiss light tanks. The Hotchkiss light tanks (H-35 and H-38/H-39) were intended to support cavalry units. They were, accordingly, light and relatively fast, with a top speed of 22.67 miles per hour. Armament consisted of a short-barreled 37-mm main gun and a 7.5-mm machine gun, wholly inadequate against modern tank armor. The Hotchkiss's own armor plating was very thin. Designed with little foresight and based mainly on the state of tank design at the end of World War I, then deployed during the Battle of France in piecemeal fashion rather than in potentially effective massed formations, the Hotchkiss light tanks were readily picked off. Captured by the Germans after the fall of France, they were used by second-line units only. Specifications included:

Weight: 26,680 pounds
Length: 13.85 feet
Width: 6.4 feet
Height: 7.05 feet
Armament: 37-mm main gun, 7.5-mm machine gun
Power plant: 120-horsepower Hotchkiss six-cylinder gasoline engine
Top speed: 22.67 miles per hour
Crew: two

Renault R-35. While the Hotchkiss was a "cavalry" tank, the Renault R-35 was an "infantry" tank, with somewhat more armor and a much lower maximum speed. It was the most numerous French light infantry tank during the time of the Battle of France, with more than 1,600 having been produced by 1940. Like the Hotchkiss, the Renault reflected the state of the art as of the end of World War I. It was prototyped in 1934 and went into production the following year. The tank mounted a long-barreled version of the 37-mm SA 38 L/33 cannon and also had a machine gun. The R-35 was not a standout as a performer, but it was neither better nor worse than most other tanks at the outbreak of war. Like other Allied tanks, it was quickly outclassed by newer German weapons, but the Wehrmacht itself made use of captured Renaults against inferior opponents in the Balkans and, for a time in 1941, against the Russians as well. Specifications included:

Weight: 23,375 pounds
Length: 13 feet 9.25 inches
Width: 6 feet 0.75 inch
Height: 7 feet 9.25 inches
Armament: one 37-mm SA 38 L/33 cannon and one machine gun
Power plant: 85-horsepower Renault four-cylinder gasoline engine

Top speed: 12.42 miles per hour
Crew: two

SOMUA S-35 medium tank. The standout among French tanks was the SOMUA S-35 medium tank, which, in contrast to the other French tanks, looked forward rather than backward in its design. Turret and hull were cast and welded components rather than riveted plates. The armor was thick and shaped to deflect incoming rounds, a design feature that would later appear on the most advanced German tanks. Its eight-cylinder engine gave it a respectable top speed of 24.85 miles per hour, and it mounted a 47-mm SA 35 gun, one of the most potent in 1940 and still a decent contender by 1944, when the Germans fielded captured units.

An S-35 prototype was produced late in 1934, and by May 1940, the French army had more than 400 in service. Specifications included:

Weight: 42,997 pounds
Length: 17 feet 7.8 inches
Width: 6 feet 11.5 inches
Height: 8 feet 7 inches
Armament: one 47-mm SA 35 main gun
Power plant: 190-horsepower SOMUA V-8 gasoline engine
Top speed: 24.85 miles per hour
Crew: three

Char B1-bis heavy tank. The only significant French heavy tank was the Char B1-bis, which was the most backward-looking of the generally backward-looking French tanks. Its design dated to 1916–17, yet it was an excellent vehicle, overall—and one capable of mounting a 75-mm or even 105-mm gun. Unfortunately for the French, it was never used efficiently. Whereas the Germans developed superb tank tactics and doctrine, massing and coordinating firepower, the French tended to deploy their tanks in piecemeal and static fashion, making them relatively easy targets for attackers.

Specifications of the Char B1-bis included:

Weight: 41 tons
Length: 27.34 feet
Width: 6.5 feet
Height: 9.33 feet
Power plant: 240-horsepower Renault V-12 gasoline engine
Top speed: 17.4 miles per hour
Armament: one 75-mm or 105-mm gun and two 8-mm machine guns
Crew: seven

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armor, German

Except for the Soviet T-34, German tanks were the most advanced and most formidable of World War II. The best of them were engineering masterpieces, a fact, however, that also limited their ultimate effectiveness as weapons. As German tanks became more complex, they became more difficult and time-consuming to manufacture. The most advanced models could not be produced in strategically sufficient quantities. Moreover, the complexity, the "overengineering," of the German tanks made field maintenance difficult and sometimes impossible. German tanks were reliable and had great durability, but when disabled by mechanical breakdown or battle damage, they often could not be readily made operational again.

The most famous and most numerous series of German tanks were the Panzerkampfwagenen, the Panzers. The Panzer program was instigated by Heinz Guderian, the father of German armor. Despite the success of British tanks in World War I, the conservative German military establishment of the early 1930s resisted the concept of armored warfare. In 1933, however, Guderian staged a demonstration of mobile tank warfare for Adolf Hitler, who instantly grasped the potential of the weapon and authorized Guderian to develop tanks and a tank corps, giving both the highest priority.

Panzer I. The Panzer I was developed beginning in 1933 and was first deployed in the Spanish Civil War. By 1939 and the INVASION OF POLAND, it had been produced in a quantity of 1,445. Even for its time, the tank was small and light, crewed by just two men, a driver and a commander, and armed with nothing more than two light 0.3-inch machine guns. Lightly armed and thinly armored, the Panzer I was not used in great quantity during the BATTLE OF FRANCE, and by the end of 1941, these tanks were no longer used in front-line service at all, except for a version modified as a command tank, equipped inside with a small map table and extra radio equipment for use by Panzer unit commanders. Some other Panzer Is were converted for carrying either ammunition or an antitank gun, but even these were phased out well before the end of the war.

General specifications included:

Weight: 13,230 pounds
Length: 14 feet 6 inches
Width: 6 feet 9 inches
Height: 5 feet 8 inches
Power plant: one 100-horsepower Maybach NL38 TR six-cylinder gasoline engine
Top speed: 25 miles per hour
Armament: two 0.3-inch machine guns

Panzer II. The next development was the Panzer II, a three-man light tank designed in the mid-1930s and intended as an interim design while the Panzer III and Panzer IV medium tanks were under development. Although the Panzer II was used as a main battle tank in the invasions of Poland and France in 1939 and 1940, its longer-term purpose was primarily for training. About a thousand Panzer IIs took part in the Polish and French BLITZKRIEG operations. The tank was also used in the INVASION OF THE SOVIET UNION in 1941, but by that time it was certainly obsolescent, weak on armor as well as firepower.

The Panzer II chassis was used as the basis for such specialized vehicles as a fast reconnaissance tank and for Germany's first amphibious tank, complete with a propeller and intended for use in OPERATION SEALION, the planned invasion of England in 1940. Fitted with a pair of flamethrowers and christened Flammpanzer II, the Panzer II saw service as a flamethrower vehicle beginning in 1942. Some obsolete Panzer II models were also converted to self-propelled antitank guns, mounting captured Soviet 76-mm Marder I guns or German 75-mm Marder IIs. After the Polish occupation, the Panzer II sometimes carried a 105-mm Wespe.

General specifications of the Panzer II included:

Weight: 22,046 pounds
Length: 15 feet 3 inches
Width: 7 feet 6.5 inches
Height: 6 feet 7.5 inches
Power plant: one 140-horsepower Maybach six-cylinder gasoline engine
Top speed: 34 miles per hour
Armament: one 20-mm gun and one coaxial 0.3-inch machine gun

Panzer III. The Panzer III, a five-man medium tank, was also conceived in the 1930s and was formally accepted for service in 1939, at which time mass production commenced. Some of these tanks did see service in the invasion of Poland, but in the Soviet Union they met their match going up against the T-34. In response, a bigger gun was installed, but the real solution was the Panzer IV.

Despite its shortcomings, the Panzer III was the main German tank from 1940 to 1942, and some 15,000 were rolled off assembly lines before production ended in mid-1943. Even after this, the Panzer III continued to serve as the platform for a self-propelled gun, which was produced through war's end. Some models were modified as command tanks.

General specifications included:

Weight: 49,160 pounds
Length: 21 feet
Width: 9 feet 8 inches
Height: 8 feet 2.5 inches
Power plant: one Maybach 300-horsepower 12-cylinder gasoline engine
Top speed: 25 miles per hour
Armament: First models had a 37-mm gun; first combat models were fitted with a 50-mm

gun; later models received a 75-mm gun to counteract the firepower of the Soviet T-34. All models had two machine guns.

Panzer IV. Commencing production in 1936, the five-man Panzer IV medium tank was produced throughout World War II and was the principal German tank, production totaling some 9,000 units. The tank was variously and continuously modified during the war, but the basic chassis remained unchanged. Heinz Guderian relied heavily on the Panzer IV and repeatedly called for increased production. Hitler, however, always enamored of new weapons systems, diverted production to the Panzer V (Panther) and the Panzer VI (Tiger), huge, heavy, complex vehicles that required long production schedules. Shortages of the Panzer IV crippled German armored forces, but the tank itself was extremely formidable and, on a one-to-one basis, outgunned everything thrown against it.

General specifications included:

Weight: 55,115 pounds
Length: 23 feet
Width: 10 feet 9.5 inches
Height: 8 feet 9.5 inches
Power plant: one Maybach 300-horsepower 12-cylinder gasoline engine
Top speed: 24 miles per hour
Armament: short-barreled 75-mm gun, later replaced by a more powerful long-barreled 75-mm gun; two machine guns (one mounted coaxially and one as an antiaircraft mount)

Panzer V "Panther." The Panzer V "Panther" was a heavy tank, crewed by four and specifically designed to counter the excellent Soviet T-34. Its armor plating was thick and heavy, but, most important of all, sloped, so that rounds fired against it tended to ricochet off.

Production began at the end of 1942, and Hitler planned to turn out 600 of these mammoth vehicles per month. But the sheer complexity of the Panther made this impossible. In a good month, 300 rolled off the lines, and by the end of the war some 4,800 had been produced. Worse, the tank was rushed into full production without adequate testing and trials. Mechanical failures were frequent and typically impossible to repair in the field. Once the problems had been addressed, the Panther emerged as the best German tank of the war, but its numbers were never sufficient to overcome the numerical advantages of Allied tank forces.

The Panther's baptism of fire came at the Battle of Kursk (July 1943) in the Soviet Union—the greatest tank battle in history. However, the Panther also served in Normandy after the Normandy landings (D-day) and on most of the other fronts.

General specifications included:

Weight: 100,310 pounds
Length: 29 feet 0.75 inch
Width: 11 feet 3 inches
Height: 10 feet 2 inches
Power plant: one Maybach 700-horsepower 12-cylinder diesel engine
Top speed: 29 miles per hour
Armament: one long-barreled 75-mm gun and two machine guns (one coaxially mounted and one in an antiaircraft mount)

Panzer VI "Tiger." The Panzer VI Tiger tank was even more formidable than the Panther. It carried a spectacular 88-mm gun, Germany's most powerful, which could be used both as a heavy antiaircraft gun and as an antitank weapon. Two prototypes were rushed to completion in time for Hitler's birthday in April 1942. Between 1942 and August 1944, 1,350 Tigers were produced before production was shifted to the even heavier and more powerful Tiger II tank, the so-called King Tiger.

In addition to the standard Tiger with its 88-mm gun, a few tanks—no more than 10 in all—were produced to launch heavy rockets. Some Tigers were modified as gunless command tanks, which also mounted a winch so that they could be used for tank tow and recovery. Unfortunately for the Germans, this function was often needed because the complex Tigers frequently broke down. The tank's suspension wheels system, beautifully

designed to carry the enormous weight of the vehicle, was complicated and, ultimately, delicate. Large stones and heavy mud fouled it, disabling the tank, especially in the Russian winter. Frozen and immobile, even a Tiger was vulnerable. Moreover, the Tiger was so large, complex, and expensive that relatively few could be produced—1,350 were built between August 1942 and August 1944—and while the Tiger outmatched any Allied opponent tank for tank, it was always vastly outnumbered. Finally, there was the issue of range. The Tiger was limited to 62 miles before it needed to refuel. This was a critical problem as German supply lines and fuel resources became increasingly strained.

Despite its serious drawbacks, the Tiger was a great, forward-looking design, which pointed the way to the tanks of the postwar era. It mounted a very potent gun matched to highly advanced optics. This gave the Tiger the ability to attack from long range, generally well out of the range of enemy tanks. And when it moved closer in, its heavy armor made it virtually impervious to the armor-piercing shells of the time.

General specifications of the Tiger included:

Weight: 121,250 pounds
Length: 27 feet
Width: 12 feet 3 inches
Height: 9 feet 3.25 inches
Power plant: one 700-horsepower Maybach 12-cylinder gasoline engine
Top speed: 24 miles per hour
Armament: one 88-mm gun and two machine guns (one coaxially mounted and one mounted above the front hull)

Panzer VI (Tiger II or King Tiger). As impressive as the Tiger was, a successor was on the drawing boards just as the Tiger went into production. The Panzer VI, called the Tiger II or King Tiger, would mount even more firepower and have more armor protection than the Tiger. Initially, designers thought of arming the King Tiger with a titanic 150-mm gun but settled instead on a long-barreled version of the 88-mm, which was more powerful than that used on the Tiger. Design work on the new tank was completed late in 1943, and production began that December. At first, King Tigers were produced alongside the Tigers, but from August 1944, the King Tigers took over all assembly lines. This meant that the number of new tanks reaching the front lines was drastically reduced, and, by the end of the war, only 485 King Tigers had been built. Hitler's obsession with "wonder weapons" had succeeded in motivating the design of extraordinary tanks, but at a cost in reduced production that severely crippled the German war effort.

The King Tiger saw action against the Soviets in May 1944 and in France in August 1944. Its extremely heavy armor afforded a high degree of protection, but even its 700-horsepower engine could not push it above 24 miles per hour. Allied tanks could outmaneuver it and, working in concert, mass firepower against it. Worse, introduced late in the war, when Germany was increasingly on the defensive and the Allies had seized air superiority and even air supremacy, the massive King Tiger was almost impossible to hide and was therefore exposed to bombing attacks. Finally, like its predecessor, the King Tiger suffered the weaknesses of over-engineered complexity. When it broke down or was damaged, it was usually impossible to repair in the field. Like the Tiger, too, it consumed huge quantities of increasingly scarce fuel and had an operating range of just 68 miles.

General specifications included:

Weight: 153,660 pounds
Length: 33 feet 8 inches
Width: 12 feet 3.5 inches
Height: 10 feet 1.5 inches
Power plant: one 700-horsepower Maybach 12-cylinder gasoline engine
Top speed: 24 miles per hour
Armament: one long-barrel, high-muzzle-velocity 88-mm gun and two machine guns (one coaxially mounted and one mounted above the front hull)

If the Germans produced the most advanced tanks of the war, they also devoted more attention than any other combatant nation to the design and production of tank destroyers. These were essen-

tially tanks that sacrificed varying degrees of armor protection and speed in order to carry heavy guns sufficiently powerful to penetrate the armor of enemy tanks.

Panzerjäger I. The first German tank destroyer was the Panzerjäger (Tank Hunter) I. Originally intended as a training vehicle, the Panzerjäger I began production in 1934. After the fall of Czechoslovakia, however, the Panzerjäger I was fitted with a Czech 4.7-cm antitank gun, along with a machine gun mounted in the same turret, and was pressed into service in 1940 as an antitank weapon.

General specifications of the Panzerjäger I included:

Weight: 13,288 pounds
Length: 13 feet 7 inches
Width: 6 feet 7.25 inches
Height: 6 feet 10.7 inches
Power plant: one 100-horsepower Maybach six-cylinder gasoline engine
Top speed: 24.8 miles per hour
Armament: one Czech 4.7-cm antitank gun and a machine gun

Marder II. Introduced next was the Marder II, which entered service in 1935 as a training vehicle. Like the Panzerjäger I, however, it was soon modified for the tank destroyer mission with the addition of a 7.5-mm Pak 40/2 antitank gun, the German army's standard antitank gun at the start of World War II. To accommodate the weight of the gun, the engine of the Marder had to be moved to the rear of the hull. The Marder II turret was fixed in the forward-firing position. The gun was aimed by steering and moving the tank. While the Marder II was far from being a flexible weapon, it proved durable and continued in production until 1944. It was one of the most widely used German self-propelled guns.

General specifications included:

Weight: 24,251 pounds
Length: 20 feet 10.4 inches
Width: 7 feet 5.8 inches
Height: 7 feet 2.6 inches
Power plant: one 140-horsepower Maybach HL 62 gasoline engine
Top speed: 24.8 miles per hour
Armament: one 7.5-mm Pak 40/2 antitank gun and one machine gun

Marder III. The Marder III, also called the Panzerjäger 38(t), was built on a Czech chassis intended for the Skoda TNHP-S tank and was produced in two variations, one that mounted a 7.62-cm Pak 36r gun and one that mounted the 7.5-cm Pak 40/3. The Marder III was fielded beginning in 1941 with the explicit purpose of countering the Soviet T-34, which overmatched the firepower of German tanks at the time.

General specifications of the Marder III included:

Weight: 24,251 pounds
Length: 15 feet 3.1 inches
Width: 7 feet 8.5 inches
Height: 8 feet 1.6 inches
Power plant: one 150-horsepower Praga AC gasoline engine
Top speed: 26 miles per hour
Armament: one 7.62-cm Pak 36r gun or one 7.5-cm Pak 40/3 gun; both variants mounted one machine gun

Hetzer. In March 1943, Germany's leading armor commander, Col. Gen. Heinz Guderian, called for a light tank destroyer to replace the Marder series, which was correctly considered a set of "interim solutions" for antitank warfare. In response, German designers developed the Hetzer, which was based on the Panzerkampfwagen 38(t) chassis. Designs were ready on December 17, 1943, and the first prototypes were produced in March 1944. The vehicle was manufactured by two Czech firms, BMM (Boehmish-Mährische Maschinenfabrik) and Skoda. Production started in April 1944, and by the end of the war in May 1945, 2,584 had been produced.

The Hetzer was characterized by an extremely low profile (6 feet 10.7 inches in height) and mounted a 75-mm Pak 39 L/48 antitank gun (or, in some versions, a 14-mm Flammenwerfer 41 flamethrower). Compact, economical to produce, and relatively easy to maintain in the field, the Hetzer was a highly effective tank destroyer.

General specifications included:

Weight: 31,967 pounds
Length: 20 feet 4.1 inches
Width: 8 feet 2.4 inches
Height: 6 feet 10.7 inches
Power plant: one 150-horsepower Praga AC/2800 gasoline engine
Top speed: 24.2 miles per hour
Armament: one 75-mm Pak 39 L/48 gun or one 14-mm Flammenwerfer 41 flamethrower; both versions also mounted one 7.92-mm machine gun

Jägdpanzer IV. Jägdpanzer IV was designed in early 1943 and prototyped in December of that year. It was designated Sturmgeschutz neuer Art mit 7.5cm PaK L/48 auf Fahrgestell PzKpfw IV (Sd.Kfz.162) and was also known as Jägdpanzer E 39, but was more commonly called Jägdpanzer IV. It incorporated the low silhouette that served the Hetzer so well, but was longer and heavier, capable of mounting the long-barrel version of the 7.5-cm Pak gun. Its armor was sloped to improve impact deflection. Like the Hetzer, the Jägdpanzer IV did not mount the gun in a turret, but on the front of the hull, so that directional aiming was accomplished mainly by steering the vehicle. Tank destroyer guns did not absolutely require the flexibility of a turret, because antitank tactics called for the vehicle to be hidden in ambush. Generally, the tank destroyer waited for its prey, then fired at will.

General specifications included:

Weight: 56,879 pounds
Length: 28 feet 1.8 inches
Width: 9 feet 7.4 inches
Height: 6 feet 5.2 inches
Power plant: one 265-horsepower Maybach HL 120 gasoline engine
Top speed: 22 miles per hour
Armament: one 7.5-cm PaK gun and one machine gun

Nashorn. The exigencies of combat on the Russian front moved German military planners to rush into production a number of improvised solutions to unanticipated problems. One of the most formidable and least anticipated of these problems was the Soviet T-34 tank. Powerful guns were required to destroy it, and it became necessary to find a rapid way to transport the formidable 88-mm PaK 43/1 L/71 gun. The new tank destroyer was called for in February 1942, and by November of that year, the vehicles began to arrive at the front. The design was originally called the Hornisse ("Hornet"), but on order of no less than Adolf Hitler, the name was changed to Nashorn—"Rhinoceros."

To conserve precious supplies of hardened armor plate, the hull of the vehicle was protected by unhardened plate. The Nashorn first served in quantity at the Battle of Kursk. It quickly proved its effectiveness when used as a standoff weapon—that is, out of the range of enemy guns. Close in, its high profile, necessary to accommodate the long 88-mm gun, made it vulnerable. As with the Hetzer and Jägdpanzer IV, the gun was mounted on the hull rather than in a turret.

General specifications included:

Weight: 54,000 pounds
Length: 27 feet 8.25 inches
Width: 9 feet 8 ⅛ inches
Height: 9 feet 7.75 inches
Power plant: one 265-horsepower Maybach HL 120 TRM1
Top speed: 25 miles per hour
Armament: one 88-mm Pak 43/1 L/71 gun and one 7.92-mm machine gun

Panzerjäger Tiger (P) "Elefant." The Panzerjäger Tiger (P) "Elefant" came into being in 1943 as an offshoot of the Tiger tank program. The Porsche firm competed with Henschel for the Tiger contract but lost the main contract to Henschel. By this time, Porsche had already built 90 chassis, which were converted into tank destroyers. Dubbed the "Elefant," this tank destroyer featured a unique power plant consisting of two gas generators that powered a pair of electric drive units. Thus, the engine may be described as gasoline-electric. The Elefants served on the Russian front, but, despite heavy armor and a very potent 8.8-cm

Stu.K. 43(L/71) or 43/2 gun, fared poorly because of a truly elephantine top speed of only 12.5 miles per hour and poor maneuverability.

General specifications included:

Weight: 143,300 pounds
Length: 26 feet 8 inches
Width: 11 feet 1 inch
Height: 9 feet 10 inches
Power plant: two Maybach HL 120 TRMs (combined horsepower, 590) driving two rear-mounted electric drive units
Top speed: 12.5 miles per hour
Armament: one 8.8-cm Stu.K. 43(L/71) or 43/2 gun

Jägdpanther. The Jägdpanther entered production in February 1944. In contrast to all the German tank destroyers that came before it, the Jägdpanther was purpose-built for its mission rather than converted from an existing tank chassis. The result was not only an excellent tank destroyer, but one that had few of the compromises characteristic of this vehicle type. Mounting a formidable 8.8-cm Pak 43 antitank gun, it was a great standoff weapon that could engage armored targets at long ranges from a static (ambush) position. But unlike the Jägdpanzer IV, it combined speed and heavy, sloping armor to allow it to work close in as well without rendering itself vulnerable. Fortunately for the Allies, only 382 of this most formidable weapon were produced before production facilities were captured in April 1945.

General specifications included:

Weight: 101,411 pounds
Length: 32 feet 5.8 inches
Width: 10 feet 8.7 inches
Height: 8 feet 10.9 inches
Power plant: one 700-horsepower Maybach HL230 gasoline engine
Top speed: 34.2 miles per hour
Armament: one 8.8-cm Pak 43/3 or 43/4(L/71) ball mounted in hull and one machine gun

Jägdtiger. The Jägdtiger was the tank destroyer version of the King Tiger tank. Instead of mounting its gun in a full-traverse turret, the massive 128-mm gun was ball mounted in a sloping superstructure rising from the hull. Crewed by six, the 167,551-pound vehicle was essentially a self-propelled gun, a piece of potent defensive artillery, intended to be moved where needed and then fired from a static position. Few were produced before the end of the war.

General specifications included:

Weight: 167,551 pounds
Length: 34 feet 11.4 inches
Width: 11 feet 10.7 inches
Height: 9 feet 8 inches
Power plant: one 700-horsepower Maybach HL230 gasoline engine
Top speed: 21.5 miles per hour
Armament: one 128-mm gun and one machine gun

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armor, Italian

Italy fielded a small number of tanks during World War II and struggled to adapt the best of them to the harsh desert environment of the North African Campaign.

Fiat L 6/40 light tank. The Fiat L 6/40 light tank was typically classified as a tankette and was based largely on a prewar British model, the Carden Lloyd Mark VI. Initially, the diminutive tank was armed with a 37-mm gun in a sponson and twin machine guns in a turret. Most examples that actually saw combat service, however, either had a tur-

ret-mounted 37-mm gun and a coaxial machine gun or a turret-mounted Breda Model 35 20-mm cannon with a coaxially mounted Breda Model 38 8-mm machine gun. The tank was used principally for reconnaissance missions and was typically attached to cavalry units. Only 283 were produced between 1941 and February 1943.

General specifications included:

Weight: 14,991 pounds
Length: 12 feet 5 inches
Width: 6 feet 4 inches
Height: 6 feet 8 inches
Power plant: one 70-horsepower SPA 18D four-cylinder gasoline engine
Top speed: 26 miles per hour
Armament (late models): one Breda Model 35 20-mm cannon and one coaxially mounted Breda Model 38 8-mm machine gun

Fiat M 11/39 and M 13/40. The Fiat M 11/39 was prototyped in 1937, but by the start of the war, its hull was redesigned, offering riveted construction and heavier armor and redesignated the M 13/40. The tank was typically fitted with a 47-mm sponson-mounted main gun and, in the turret, twin 8-mm machine guns. Although both versions of the tank were quickly outclassed in desert warfare by Allied tanks, the British eagerly grabbed up whatever abandoned M 11/39s and M 13/40s they could get into running conditions.

General specifications included:

Weight: 30,865 pounds
Length: 16 feet 2 inches
Width: 7 feet 3 inches
Height: 7 feet 10 inches
Power plant: one 125-horsepower SPA TM40 diesel engine
Top speed: 20 miles per hour
Armament: one sponson-mounted 47-mm main gun and twin turret-mounted 8-mm machine guns

Fiat M 15/42. The most advanced of Italy's tanks was the Fiat M 15/42 medium tank, which was a modification of the M 15/41 fitted with a diesel engine and high-efficiency air filters designed to cope with the desert sands that wreaked havoc on gasoline and diesel engines alike.

General specifications of the M 15/42 included:

Weight: 34,800 pounds
Length: 16 feet 7 inches
Width: 7 feet 4 inches
Height: 7 feet 11 inches
Power plant: one 192-horsepower SPA 15 TB M42 eight-cylinder diesel engine
Top speed: 25 miles per hour
Armament: one 47-mm turret-mounted main and two Modello 38 8-mm machine guns, one coaxially mounted and one mounted as an antiaircraft gun

Like its Axis partner Germany, Italy also fielded tank destroyers, tanklike vehicles that sacrificed thick armor, speed, and general flexibility to serve as mobile platforms for guns sufficiently large and powerful to deliver armor-piercing ordnance against enemy tanks. The two principal Italian tank destroyers were essentially self-propelled guns, designed to travel to a favorable firing position and engage the enemy from static ambush.

Semovente L.40 da 47/32. The Semovente L.40 da 47/32 was developed during the late 1930s and was little more than a track-mounted tank chassis bearing a 47-mm long-barrel antitank gun, built under license from the Austrian firm Böhler. The gun was mounted atop the vehicle superstructure, with little protection. About 280 of the tanks were produced by 1942, and they served effectively against relatively lightly armored British tanks in the North African desert.

General specifications included:

Weight: 14,330 pounds
Length: 13 feet 1.5 inches
Width: 6 feet 3.6 inches
Height: 5 feet 4.2 inches
Power plant: one 68-horsepower SPA 18D four-cylinder gasoline engine
Top speed: 26.3 miles per hour
Armament: one Böhler 47-mm antitank gun

Semovente M.41M da 90/53. The Semovente M.41M da 90/53 began production in 1941 and

was produced in small quantity before the Italian surrender. Like the smaller and lighter L.40 da 47/32, it was little more than a tank chassis on which an exposed gun was mounted—in this case a formidable 90-mm long-barrel piece. This gun was sufficiently impressive that the Germans took special care to keep as many as possible out of Allied hands as the Italians fell apart during the North African Campaign.

General specifications included:

Weight: 37,479 pounds
Length: 17 feet 0.9 inch
Width: 7 feet 2.6 inches
Height: 7 feet 0.6 inch
Power plant: one 145-horsepower SPA 15-TM-41 eight-cylinder gasoline engine
Top speed: 22 miles per hour
Armament: one 90-mm long-barrel antitank gun

Further reading: Crawford, Steve, and Chris Westhorp. *Tanks of World War II.* Osceola, Wis.: Motorbooks International, 2000; Jowett, Philip S., and Stephen Andrew. *The Italian Army, 1940–45: Africa 1940–43.* London: Osprey, 2001; Jowett, Philip S. *Italian Army in World War II: Europe 1940–43.* London: Osprey, 2000.

armor, Japanese

With the exception of the remarkable Soviet T-34, Allied tanks, on a vehicle for vehicle basis, were generally inferior to German tanks. In the Pacific theater, however, the Allies, particularly the Americans, had the advantage. The Japanese militarists had created a formidable force in the Imperial Army, but they had largely neglected armor. As a result, they fielded only two major types of tanks, both outclassed by the American Sherman. The lack of emphasis on the tank is understandable, since the Japanese correctly envisioned fighting on Pacific jungle islands, not the open spaces of the European battlegrounds. What tank designs the military did order were light to medium, capable of being readily sealifted and landed.

Type 95 light tank (Ha-Go). The Type 95 light tank, the Ha-Go, was developed in 1933 by Mitsubishi and was used throughout World War II. Light and durable, it could be readily landed during amphibious operations, and it performed well in the absence of roads and across marshy or monsoon-soaked ground. Its air-cooled, six-cylinder diesel performed well in Northern Manchuria as well as the Pacific jungles. Crewed by three or four, its small turret accommodated only a single man, so that, in addition to directing the driver, the commander had to load, aim, and fire the main 37-mm gun. Armor plating was very light, making the Type 95 extremely vulnerable to fire of all kinds. Although the Type 95 was a reasonable match for a U.S. M3 Stuart, it was readily outclassed by the Sherman.

General specifications included:

Weight: 7.4 tons
Length: 14 feet 4 inches
Width: 6 feet 9 inches
Height: 7 feet 2 inches
Power plant: one 120-horsepower Mitsubishi NVD 6120 six-cylinder diesel
Top speed: 25 miles per hour
Armament: two machine guns; one 37-mm main gun

Type 97 medium tank (Chi-Ha). The Type 97 medium tank, called the Chi-Ha, went into production in 1937, just in time for use in the Sino-Japanese War. Heavier than the Type 95, it was a medium tank of reasonably advanced design, but it was too heavy for the jungle terrain of the Pacific. It therefore did not enjoy great success in that principal theater of the Pacific war. Nevertheless, Mitsubishi produced about 3,000 of the vehicles mounting a 57-mm main gun as well as specialized versions used as tank recovery vehicles, flail mine clearers, bridge layers, and self-propelled gun mounts for antiaircraft guns. Very late in the war, the Imperial Navy even installed a 120-mm gun on some Type 97s.

General specifications of the Chi-Ha included:

Weight: 14.8 tons
Length: 18 feet 2 inches
Width: 7 feet 7 inches
Height: 7 feet 9 inches

Power plant: one 170-horsepower Mitsubishi 12-cylinder air-cooled diesel
Top speed: 25 miles per hour
Armament: one 57-mm Type 97 gun mounted in the turret; one 7.7-mm Type 97 machine gun mounted in the rear of the turret; one 7.7-mm Type 97 machine gun mounted in the hull

Further reading: Chamberlain, Peter. *Axis Combat Tanks.* New York: Arco, 1978; Crawford, Steve, and Chris Westhorp. *Tanks of World War II.* Osceola, Wis.: Motorbooks International, 2000; Jowett, Philip S. *Japanese Army 1931–45.* London: Osprey, 2002.

armor, Soviet

T-34. The single most important tank the Soviet Union produced during World War II was perhaps the greatest all-around tank of World War II. Indeed, a significant number of historians specializing in World War II weaponry believe that the T-34 was the greatest tank design *ever.* That it was essential to the Red Army victory is not a matter of opinion but a historical fact, and the T-34 achieved near-legendary status before the war was over.

While the formidable tanks the Germans introduced relatively late in the war were extraordinary engineering achievements, they failed to achieve what was accomplished with the T-34: balance among the competing priorities of armor protection, mobility, and firepower. Moreover, whereas the elaborately over-engineered German Panzers were almost impossible to maintain or repair in the field, the T-34 was not only reliable, but downright simple to maintain. And it was simple to maintain because it was, relatively speaking, simple to build. The super tanks of Germany were large, complex, and expensive—factors that sharply limited the quantities that could be produced. The straightforward T-34 was produced in a quantity of more than 35,000.

Like most Soviet weaponry, the T-34 was, in large measure, derivative of weapons systems developed in the West. Its design was based on the Christies "fast tank" developed by the British during the interwar period. But Soviet designers progressed far beyond the models they emulated, and the T-34 quickly evolved through a number of intermediate designs, prototypes, and limited-production examples. The hallmarks of the T-34 were its sturdy and flexible Christie-type suspension, its sloping hull and turret (which seemed to shed incoming rounds), and its fine 85-mm gun, which combined long barrel length with high muzzle velocity for accuracy and potency of fire. The Soviets mated the T-34 to a diesel engine both for durability and to reduce the risk of fire when hit. The diesel also endowed the T-34 with a longer operating range, which was essential on the vast battlefields of the eastern front.

The first T-34/76A was delivered to the Red Army in June 1940. Production was insufficient to allow fielding the new tank against the Germans during the opening phases of the INVASION OF THE SOVIET UNION. During 1941, about 2,800 of the tanks were turned out, but production soon accelerated. The tank itself could be built in just 40 hours. However, other component makers initially had difficulty keeping pace. Particularly critical was an early shortage of V-12 diesel engines and transmissions. But Soviet planners recognized the importance of the T-34 and rushed to build dedicated plants at Kharkov, Kirov, Stalingrad, Mariupol, Voroshilovgrad, Chita, Novo-Sibirsk, Chelyabinsk, Nizhni-Tagil, and, later, Gorki and Saratov. Once the T-34 made its debut in quantity in July 1941, the Germans were shocked. Accustomed to enjoying armored supremacy, the invaders now found that many of their tanks had become obsolete and certainly outgunned.

General specifications of the T-34 included:

Weight: 26 tons
Length: 19 feet 5.1 inches
Width: 9 feet 10 inches
Height: 8 feet
Power plant: one 500-horsepower V-2-34 V-12 diesel
Top speed: 34 miles per hour

Armament: one 85-mm main gun and two 7.62-mm machine guns, one coaxially mounted and one bow mounted

T-26. While the T-34 overshadowed the rest of Soviet armor, the Red Army fielded other important tanks. The T-26 light infantry tank was developed during the 1920s from the British Vickers light tank, and it went into production beginning in 1931. Over the next decade, the T-26 was built in many variations and in a quantity approaching 13,000 before production stopped in 1941 after the Germans had overrun the factories. Small, lightly armored, and undergunned, the T-26 was no match for the German tanks of the BLITZKRIEG, despite the valor of its crews.

General specifications included:

Weight: 17,600–20,900 pounds
Length (early models): 15 feet 2 inches
Width (early models): 11 feet 2.25 inches
Height (early models): 7 feet 11 inches
Power plant: one 91-horsepower GAZ T-26 eight-cylinder gasoline engine
Top speed: 17.4 miles per hour
Armament (typical): one 37-mm main gun and two 7.62-mm machine guns

T-28. The T-28 medium tank entered production in 1933 and emulated both German and British designs. The T-28 sported three turrets, a main turret mounting a short-barrel 3-inch main gun and two smaller turrets on either side, each mounting machine guns. All of this armament required a large, six-man, crew. The T-28 ended production early in the war, in 1941, because its very light armor made the tanks highly vulnerable. Moreover, their slab sides, as opposed to sloping sides, made them especially easy targets.

General specifications of the T-28 included:

Weight: 28 tons
Length: 24 feet 4.8 inches
Width: 9 feet 2.75 inches
Height: 9 feet 3 inches
Power plant: one 500-horsepower M-17V 12-cylinder gasoline engine
Top speed: 23 miles per hour
Armament (typical): one 3-inch short-barrel main gun and two 7.62-mm machine guns

BT-7. Design work on the BT (Bystrokhodniy Tank, "Fast Tank") series of tanks began in 1931, with the purchase from the United States of two Walter Christie tanks, which incorporated the Christie suspension system. By 1936, the BT-7 emerged and entered production. Thanks to its aircraft engine, the tank was fast at 53.4 miles per hour, but its speed was purchased at the expense of armor. Not only was its skin thin, the aircraft power plant had a fatal tendency to overheat. When the BT-7s faced German Panzers during summer 1941, they fared poorly, although this was by no means entirely a technological failing. At this point in the war, Soviet tank commanders had not mastered the art of effective deployment. Like the French, they tended to use tanks in piecemeal fashion, often firing from static positions. They had not yet developed formation tactics. About 2,000 BT-7s were built.

General specifications included:

Weight: 14 tons
Length: 18 feet 6.8 inches
Width: 7 feet 6 inches
Height: 7 feet 11.3 inches
Power plant: one 500-horsepower M-17T V-12 gasoline engine
Armament: one 45-mm M-1934 main gun and two 7.62-mm machine guns

T-35. Design work on what became the T-35 heavy tank began as early as 1930, and a prototype was produced in July 1932. It was an impressive monster, crewed by 11 and weighing in at 45 tons. Its main turret mounted a 76.2-mm gun, and it bristled with no fewer than four smaller turrets. Two, mounted right front and left rear, had 37-mm 1930 guns, and two, left front and right rear, had machine guns. Full-scale production commenced in 1935. The large crew complement necessitated the use of telephones for communication among crew members.

The T-35 first saw action during the war with FINLAND and also, during the German invasion of the Soviet Union, in and around Lvov and in

defense of Moscow. Despite its intimidating appearance, the T-35 was not heavily armored, and that, along with its meager top speed of 18.6 miles per hour, rendered it highly vulnerable. It was used mainly as a self-propelled gun, to be fired from static, well-prepared positions. No more than 61 were produced between 1933 and 1939.

General specifications included:

Weight: 45 tons
Length: 31 feet 10.7 inches
Width: 10 feet 6 inches
Height: 11 feet 3 inches
Power plant: one 500-horsepower 17 V-12 gasoline engine
Top speed: 18.6 miles per hour
Armament (typical): one 76.2-mm main gun, two 37-mm 1930 guns, and two machine guns

KV-1. Despite the disappointing performance of the T-35, the Soviets did not give up on heavy tanks. The KV-1 heavy tank was designed in 1938 and was originally intended to mount a 3-inch main gun, but ultimately was given a 4.2-inch weapon. Three and even four machine guns were also fitted into the design. A modification known as the KV-2 accepted a 5.98-inch howitzer, but this necessitated a very high turret, which offered to the enemy a most inviting target. Armor was thick and heavy.

The KV-1 was an improvement over the T-35, to be sure, but it was plagued by automotive problems, including faulty clutches and transmissions. Nevertheless, the tank served effectively against heavy German vehicles.

General specifications included:

Weight: 43 tons
Length: 21 feet 11 inches
Width: 10 feet 10.7 inches
Height: 8 feet 10.7 inches
Power plant: one 600-horsepower V-2K V-12 diesel
Top speed: 21.75 miles per hour
Armament (typical): one 4.2-inch main gun and three or four machine guns

IS-2 and IS-3 heavy tanks. Aware that neither the T-35 nor the KV-1 were wholly successful heavy tanks, Soviet planners commissioned the IS (for "Iosif Stalin") heavy tank, dubbed the "Tank of the Victory." Design work began late in 1942 and built on the experience of the KV-1. Engineers focused on achieving much better mechanical reliability and mounting more powerful weapons. The IS-2 was the first production model and mounted a long-barrel 122-mm gun. In 1944, the more heavily armored IS-3 was fielded. This tank also featured a semicircular aerodynamic cast turret and a sophisticated fire control system, which allowed the tank commander to traverse the turret so that he could direct the gun faster. The IS-2 and IS-3 were used in the closing months of the European war, then went on to become the primary Soviet heavy tanks of the immediate postwar years. They were in service until the late 1960s.

General specifications of the IS-2 included:

Weight: 46 tons
Length: 32 feet 5.8 inches
Width: 10 feet 1.6 inches
Height: 8 feet 11.5 inches
Power plant: one 520-horsepower V-2 IS 12-cylinder diesel
Top speed: 23 miles per hour
Armament: one 122-mm M1943 D-25T L/43 gun, one 12.7-mm M1938 gun, and one 7.62-mm machine gun

Further reading: Bean, Tim, and Will Fowler. *Russian Tanks of World War II: Stalin's Armored Might.* Osceola, Wis.: Motorbooks International, 2002; Zaloga, Steven, Jim Kinnear, and Peter Sarson. *KV-1 and 2: Heavy Tanks 1939–1945.* Mechanicsburg, Penn.: Stackpole, 1996; Zaloga, Steven J., and Peter Sarson. *T-34 Medium Tank 1941–45.* London: Osprey, 1994.

armor, U.S.

M4 Sherman. Thanks to such officers as George Smith Patton, Jr., who became the U.S. Army's premier tank officer and armor advocate in World War I, the United States came into World War II with a fairly well-developed doctrine for the use of

tanks. While it did not have the most advanced tank designs—and, indeed, retained the obsolescent M3 Stuart light tank long after it had been clearly outclassed—the nation had the industrial capacity to produce and field many thousands of the tanks it did have. The most famous American tank of the war, the M4 Sherman was produced in greater quantity than any other tank of any other nation. Like the Soviet T-34 (*see* Armor, Soviet), the Sherman, inferior to the best German tanks on a tank-for-tank basis, enjoyed three paramount combat qualities: it was highly mobile, highly reliable, and highly available.

Availability was, in fact, the decisive strength of the Sherman. Far simpler and therefore more reliable than German tanks, it was much more dependably available for service. Even more important were the numbers produced. A total of 49,324 Sherman tanks rolled out of 11 plants between 1942 and 1946. The vehicle was employed not only by the U.S. Army and Marine Corps but also by British, Canadian, and Free French forces, and it was used in North Africa, Sicily, Italy, and western Europe as well as the Pacific theater. Whereas the Germans produced some 1,835 Tiger and King Tiger tanks and 4,800 Panthers (most deployed against the Soviet T-34s on the eastern front), the Allies deployed more than 40,000 Shermans, which often were used in coordination with close air support targeting the German tanks. In general, thanks to the Sherman, the Allies enjoyed something approaching a 14 to 1 ratio against the Panthers and a staggering 50 to 1 ration against the most advanced Tigers and King Tigers.

Overwhelming superiority of numbers counterbalanced the one-on-one inferiority of the Sherman. In both armor and firepower, it was vastly outclassed by German tanks. Its 75-mm or 76-mm gun could not penetrate the front armor of the Tigers, even close in, while its thin armor rendered it vulnerable to the Tiger, even at considerable range. The Sherman's profile was also a weakness. Taller than the Tigers, it was difficult to conceal. The Sherman's gasoline-powered engine was another liability. Gasoline is far more explosively combustible than diesel fuel, and a direct hit on the Sherman would often send it up in a fireball. The five-man tank crews nicknamed it "the Ronson," after a popular cigarette lighter that advertised its "lights-up-first-time-every-time" reliability. Quickly, Allied tank crews learned to use their single great advantage: numbers. They attacked German tanks only when they outnumbered them, so that they could outmaneuver their target and hit it from the side or from behind, the only angles from which the Sherman had a chance against its superior foe.

Major General George S. Patton, Jr. during prewar Louisiana Maneuvers, 1941, with Colonel Harry A. Flint and Brigadier General Geoffrey Keyes *(Patton Museum of Cavalry and Armor, Fort Knox, Kentucky)*

Shermans came in many variants and were often adapted to specialized applications, but their general specifications included:

Weight: 32.284 tons
Length: 24 feet 8 inches
Width: 8 feet 9.5 inches
Height: 11 feet 2.875 inches
Power plant: 400-horsepower Continental R974 C4 nine-cylinder radial gasoline engine
Top speed: 29 miles per hour
Armament (typical): 75-mm gun M3 M34 in turret; .50-caliber M2HB machine gun, flexible in turret; .30-caliber M1919A4 machine gun in AA mount; .30-caliber M1919A4

machine gun coaxial to the main gun; .30-caliber M1919A4 machine gun in ball mount in right bow

M3A1 Stuart. At the start of the war, the army fielded the M3 light tank, known as the Stuart, which had evolved from designs developed in the 1920s and 1930s. Based on U.S. observations during the German Blitzkrieg, it was decided to add thicker armor to existing designs, which also necessitated revising suspension systems. The M3A1 therefore embodied responses to modern battlefield conditions, but it was essentially an already obsolescent tank. Nevertheless, it did not even begin full production until the United States entered the war at the end of 1941. Light, nimble, and reliable, the M3 Stuart was nevertheless thoroughly outgunned and outclassed by German adversaries. Its 37-mm main gun was of negligible combat value. The vehicle did prove far more useful in the Pacific, going against generally inferior Japanese light tanks.

General specifications of the M3 light tank included:

Weight: 12,927 tons
Length: 14 feet 10.75 inches
Width: 7 feet 4 inches
Height: 7 feet 6.5 inches
Power plant: one 250-horsepower Continental W-970-9A seven-cylinder radial gasoline engine
Top speed: 36 miles per hour
Armament: 37-mm main gun M5 M22 in turret, .30-caliber M1919A4 machine gun in AA mount, .30-caliber M1919A4 machine gun coaxial to main gun, .30-caliber M1919A4 machine gun in ball mount in right bow, and .30-caliber M1919A4 machine gun in each sponson

M24 Chaffee. Recognizing the inadequacy of the M3 Stuart and its 37-mm gun, the army developed the M24 Chaffee light tank, which was fielded late in 1943 but did not enter widespread service until late 1944. The tank mounted an impressive 75-mm gun and was highly mobile, with a top speed of 35 miles per hour.

General specifications included:

Weight: 18.37 tons
Length: 16 feet 4.5 inches
Width: 9 feet 8 inches
Height: 8 feet 1.5 inches
Power plant: two Cadillac Model 44T24 110-horsepower gasoline engines
Armament: one M6 75-mm main gun, one .30-caliber machine gun coaxial with main gun, one .30-caliber machine gun in bow, one .50-caliber machine gun in AA mount, and one M3 grenade launcher

M3 Grant. The immediate predecessor of the M4 Sherman medium tank was the M3 Grant medium tank. High in profile, the Grant was rushed into production and possessed neither stability nor speed (top speed was 26 miles per hour), but it did mount a powerful 75-mm main gun in addition to a 37-mm gun and three .30-caliber machine guns. Crews objected to its cramped quarters and stingy armor, and the tanks were rapidly withdrawn (except in the Pacific) as soon as the superior Shermans were ready to take their place.

General specifications included:

Weight: 27.24 tons
Length: 18 feet 6 inches
Width: 8 feet 11 inches
Height: 10 feet 3 inches
Power plant: one 340-horsepower Continental R-975-Ec2 radial gasoline engine
Top speed: 26 miles per hour

M26 Pershing. The United States fielded only a single heavy tank during World War II, the M26 Pershing, which did not enter service until 1945. Its 90-mm gun could meet the German Tiger and Panther on their own terms, and it featured heavy armor. While it was probably the best American tank used in the war, it was nevertheless underpowered, its 500-horsepower Ford engine inadequate to its heavily armored weight.

General specifications included:

Weight: 42 tons
Length: 20 feet 7 inches

Width: 8 feet 9.5 inches
Height: 11 feet 2.875 inches
Power plant: one 500-horsepower Ford GAF, V-8 gasoline engine
Top speed: 30 miles per hour
Armament: one 90-mm main gun, one .30-caliber machine gun coaxial with main gun, one .30-caliber machine gun mounted on the hull, and one 50-caliber machine gun in an AA mount

Like the Germans, the Americans fielded tank destroyers in addition to tanks. These were vehicles that sacrificed some maneuverability and armor in exchange for the ability to mount a heavy, usually long-barreled gun capable of a high degree of armor penetration at long range. Most tank destroyers also sacrificed speed, but the American vehicles were, in fact, very fast. They were generally employed as self-propelled guns, driven to an area affording concealment and fired in static ambush.

Gun Motor Carriage M10. The two most important American tank destroyers were the 3-inch Gun Motor Carriage M10 and the 3-inch Gun Motor Carriage M18. The M10 mounted the 76.2-mm M7 gun as well as a 12.7-mm Browning machine gun. The vehicle was built on an M4A2 tank chassis and had a thinly armored open-top turret. Its general specifications included:

Weight: 66,000 pounds
Length: 22 feet 5 inches
Width: 10 feet
Height: 8 feet 5 inches
Power plant: two 375-horsepower General Motors six-cylinder diesels
Top speed: 32 miles per hour
Armament: one 76.2-mm M7 main gun and one 12.7-mm Browning machine gun (mounted atop the open turret)

Gun Motor Carriage M18 Hellcat. Unlike the M10, which was designed atop the existing M4A2 chassis, the M18 was designed as a tank destroyer from the ground up, and it first saw service in 1943. Smaller and much lighter than the M10, the M18 Hellcat mounted the powerful 3-inch (76.2-mm gun) but achieved a top speed of 55 miles per hour, making it the fastest tracked vehicle of the entire war. The Hellcat proved the viability of the American tank destroyer concept and was used with great effect against Tigers and King Tigers.

General specifications included:

Weight: 37,557 pounds
Length: 21 feet 11 inches
Width: 9 feet 5 inches
Height: 8 feet 5.5 inches
Power plant: one 340-horsepower Continental R-975 C1 radial gasoline engine
Top speed: 55 miles per hour
Armament: one 76.2-mm M7 main gun and one 12.7-mm Browning machine gun (mounted atop the open turret)

Further reading: Baily, Charles M. *Faint Praise: American Tanks and Tank Destroyers During World War II.* North Haven, Conn.: Archon, 1983; Berndt, Thomas. *American Tanks of World War II.* Osceola, Wis.: Motorbooks International, 1994; Chamberlain, Peter. *British and American Tanks of World War II: The Complete Illustrated History of British, American and Commonwealth Tanks, Gun Motor Carriages and Special Purpose Vehicles, 1939–1945.* London: Arms & Armour, 1969; Forty, George. *United States Tanks of World War II in Action.* London: Blandford, 1986.

Arnim, Jürgen von (1889–1971) *German Panzer commander*

A career German military officer, Arnim, born into an old Prussian military family, fought in World War I and remained in the army during the interwar period, entering the armored branch during the 1930s and rising to command a panzer division by the start of Operation Barbarossa, the Nazi invasion of the Soviet Union, which was launched on June 22, 1941.

Arnim continued his rise, taking command of a panzer corps on the eastern front before being reassigned as commander in chief of the newly created Fifth Panzer Army in Tunis, North Africa, in November 1942. Arnim missed an opportunity

Jürgen von Arnim *(National Archives and Records Administration)*

to capitalize on Erwin Rommel's success against U.S. forces at the Battle of Kasserine Pass during February 14–22, 1943, when he failed to support Rommel's offensive. He did launch an independent attack to the north of Rommel during February 26–28, but it came to little. Nevertheless, when Rommel, stricken with nasal diphtheria, was sent back to Germany to recuperate on March 6, Arnim assumed command of the Panzerarmee Afrika. It was he who directed the defense of Tunisia. Although he succeeded in keeping his forces intact following defeat at the Battle of Mareth during March 20–26, he lost contact with his supply lines, which were continually under Allied attack. Tunisia was overrun, and Arnim was captured on May 12. He spent the rest of the war as a prisoner, first in Britain and then in the United States. He lived as a private citizen for many years after the war.

Further reading: Atkinson, Rick. *An Army at Dawn: The War in North Africa 1942–1943.* New York: Henry Holt, 2003; Mellenthin, Vaughn. *Panzer Battles.* New York: Ballantine, 1976; Stolfi, R. H. S. *German Panzers on the Offensive: Russian Front and North Africa 1941–1942.* Atglen, Pa.: Schiffer, 2003.

Arnold, Henry Harley ("Hap") (1886–1950) *commanding general of U.S. Army Air Forces*

Born in the Philadelphia suburb of Gladwyne, Pennsylvania, Henry "Hap" Arnold attended West Point and graduated in 1907 with a commission as second lieutenant in the infantry. He served in the Philippines during 1907–09, but soon became passionately interested in flying. Obtaining a transfer to the aeronautical section of the Signal Corps in April 1911, he received his flight instruction that June from none other than the Wright brothers, who were under U.S. Army contract.

Arnold proved to be a born aviator and in October 1912 won the Mackay Trophy for successfully completing the first reconnaissance flight in a heavier-than-air craft. Arnold hoped that this success would help to motivate U.S. Army interest in military aviation, but the tradition-bound army brass was unmoved, and Arnold was sent back to the infantry in April 1913. Three years later, he returned to the air service, where, promoted to captain in May 1916, he supervised the army's aviation training schools as the United States entered World War I in 1917. He supervised air training throughout America's involvement in the war, from May 1917 through 1919.

The postwar U.S. military was subject to massive demobilization and drastic reductions in funding. Nevertheless, Arnold continued to work toward developing the Army Air Corps. He was sent to the army's Command and General Staff School, from which he graduated in 1929 with the rank of lieutenant colonel and in 1931 was given command of the 1st Bomb Wing and the 1st Pursuit Wing at March Field, California. During July and August 1934, he led a flight of ten B-10 bombers on a round trip from Washington, D.C., to Fairbanks,

Alaska, winning a second Mackay Trophy for his demonstration of the endurance of the modern bomber.

Promoted to brigadier general, Arnold took command of 1st Wing, GHQ Air Force in February 1935 and was named assistant chief of staff of the Air Corps in December of that year. With the death of General Oscar Westover in September 1938, Arnold was promoted to the temporary rank of major general and named chief of staff of the Air Corps. He used his new authority to initiate programs to improve the combat readiness of the Air Corps, but he was severely hampered by a shortage of funds and a lingering reluctance on the part of military planners to develop a fully effective air arm. Nevertheless, his advocacy of air power did not go unrecognized. He was named acting deputy chief of staff of the army for air matters in October 1940 and chief of the Army Air Corps after it had been renamed the U.S. Army Air Forces in June 1941. Following this new appointment came a promotion to temporary lieutenant general, which was conferred shortly after the bombing of Pearl Harbor and America's entry into World War II.

Henry Harley "Hap" Arnold *(United States Air Force History Center)*

In March 1942, Arnold was named commanding general of Army Air Forces and the following year was promoted to the temporary rank of general. Arnold now served on the U.S. Joint Chiefs of Staff, which put him in a key position for the shaping of Allied strategy in the European as well as Pacific theaters. Arnold not only advocated and supervised the strategic bombing of Germany, he created the Twentieth Air Force in April 1944 to carry out the strategic bombing of Japan. Significantly, this unit reported directly to his command as a representative of the Joint Chiefs. This was a bold and savvy step toward the eventual (postwar) creation of a United States Air Force independent of the U.S. Army.

In December 1944, with generals Dwight D. Eisenhower, Douglas MacArthur, and George Catlett Marshall, Arnold was elevated to the rank of general of the army—five-star general. He continued to command the Army Air Forces through the end of the war, retiring in March 1946. On September 18, 1947, thanks in large part to the foundation he had laid, the Army Air Forces became an independent service, and in May 1949, in recognition of the role he played as father of the U.S. Air Force, Arnold, although retired, was named first general of the air force. He died the following year on his ranch in Sonoma, California.

Further reading: Coffey, Thomas M. *Hap: The Story of the U.S. Air Force and the Man Who Built It, General Henry H. "Hap" Arnold.* New York: Penguin, 1982; Daso, Dik Alan. *Hap Arnold and the Evolution of American Airpower.* Washington, D.C.: Smithsonian, 2001.

artillery, British

Artillery in World War II consisted mainly of seven major categories: self-propelled guns, heavy artil-

lery, field artillery, heavy antiaircraft guns, light antiaircraft guns, rockets, and antitank guns.

SELF-PROPELLED GUNS

With their emphasis on mobile warfare (*see, for example,* BLITZKRIEG), the Germans put more reliance on self-propelled guns than did any other combatant, including the British, who still relied mainly on traditional towed artillery.

The Bishop. In essence, self-propelled guns were major artillery pieces mounted on tank chassis. The only major British self-propelled guns were the Bishop and the Sexton. Both were soon replaced by the U.S. M7, called the Priest. The Bishop was rushed into production during the early stages of the NORTH AFRICAN CAMPAIGN, after the German Afrika Korps employed self-propelled guns against the British there. The Bishop was a poorly thought out conversion of the Valentine infantry tank chassis, which was modified to accept a 25-pound (87.6-mm) field gun. The army ordered 100 of the Bishops, which were sent to the Middle East as they were ready. About 80 were delivered to the Eighth British Army in July 1942.

From the beginning, there were problems. Because the gun was mounted in a large fixed superstructure, which limited traverse as well as elevation, range was severely limited and could only be maximized to its full 6,400 yards by driving the Bishop onto a dirt ramp prepared by the crew. Cramped quarters within the superstructure limited ammunition storage, necessitating a towed trailer to carry sufficient ammo. Indeed, crew accommodations were so cramped that one crew member had to perch outside on the engine cover during transit. Crews were happy to see the Bishop replaced early in the invasion of Italy, and the vehicle was used thereafter for training purposes only.

General specifications included:

Weight: 17,440 pounds
Length: 18 feet 6 inches
Width: 9 feet 1 inch
Height: 10 feet
Power plant: one 131-horsepower AEC six-cylinder diesel
Top speed: 15 miles per hour
Armament: one 25-pounder howitzer and one .303-caliber Bren machine gun

The Sexton. The unloved Bishop was replaced beginning in 1943 with the Sexton, which was similar to the U.S. M7 Priest. The Sextons were made in Canada by Montreal Locomotive, and production spanned 1943 to 1945. Roomier than the Bishop, the Sexton was also much more durable. The riveted construction of the Bishop was replaced by a welded superstructure at first, and later models had a cast nose.

The general specifications of the Sexton included:

Weight: 57,000 pounds
Length: 20 feet 1 inch
Width: 8 feet 11 inches
Height: 8 feet 1 inch
Power plant: one Wright Continental R-975-C11 radial air-cooled gasoline engine
Top speed: 25 miles per hour
Armament: one 25-pounder main gun and two .303-caliber Bren machine guns

HEAVY ARTILLERY

The single greatest feature of combat that distinguished World War II from World War I was mobility. On the western front, World War I had been a nightmare of static trench warfare. In contrast, World War II began with Blitzkrieg, the very essence of mobile warfare, and culminated both in Europe and the Pacific with an Allied counteroffensive conducted, for the most part, at top speed. It is little wonder, then, that the tank achieved preeminence in the ground war. However, heavy artillery was still a very important weapon. Heavy artillery was still essential to supporting infantry and even armor operations. Moreover, despite the war's mobility, there were still plenty of well-fortified strong points that would yield to nothing less than bombardment by heavy guns.

Marks IV Howitzer. The most important British heavy artillery pieces were its 7.2-inch howitzers, designated Marks I through V and Mark VI. Marks I

through V were stop-gap weapons, converted from World War I–vintage artillery. Between the wars, the British had neglected artillery development, and when they discovered, at the outbreak of World War II, that their inventory of 8-inch howitzers provided insufficient range for the modern battlefield, they rushed into production a series of conversions, relining the 8-inch bores to 7.2 inches for an increase in muzzle velocity and range. The different Mark designations depended on the varying specifications of the barrel that was converted. Mark VI was the only new design, which featured a longer 7.2-inch barrel that boosted range and accuracy even further. By the end of 1944, the Mark VI guns had replaced virtually all the earlier conversions.

General specifications of the Mark VI howitzer included:

Caliber: 7.2 inches
Length: 20 feet 8 inches (versus 14 feet 3 inches for Marks I–V)
Weight: 29,120 pounds
Elevation: -2° to +65°
Traverse: 60°
Maximum range: 19,667 yards (versus 16,900 yards for Marks I–V)
Shell weight: 202 pounds

FIELD ARTILLERY

Ordnance, Q.F., 25-pdr., Mark 2. More readily transportable than heavy artillery, field artillery provided fire support for the infantry and other service arms. Whereas World War I relied mostly on heavy artillery, the demand for greater mobility in World War II made field artillery a well-established arm in the armies of all combatants. The British fielded one notable towed 25-pounder, designated Ordnance, Q.F., 25-pdr. The Mark 2 version of this weapon was considered a great field piece, its carriage was virtually indestructible, and the range of the gun itself was a substantial 13,400 yards.

General specifications included:

Caliber: 87.6 mm
Length: 94.5 inches
Weight: 3,968 pounds
Elevation: -5° to +40°
Traverse: 8° on carriage
Range: 13,400 yards
Shell weight: 25 pounds

HEAVY ANTIAIRCRAFT GUNS

Aircraft played an extensive role in World War II and were deployed against major targets, including cities. To defend important military installations, war plants, and cities, the combatant nations used heavy antiaircraft guns, which were capable of reaching the high altitudes of modern bombers. The British, whose cities were the targets of intensive German bombing campaigns, deployed three major types of heavy antiaircraft guns.

Ordnance, QF, 3-inch gun. The Ordnance, QF, 3-inch gun was a World War I design that had been upgraded early in World War II. It was manufactured in at least eight variants. The gun could be mounted in a static emplacement or on a four-wheel platform for limited towing. Like all antiaircraft guns, the 3-inch model was rigged with a system of pulleys that facilitated rapid aiming and target leading.

General specifications of the gun included:

Caliber: 3 inches
Weight: 17,584 pounds
Length of barrel: 11 feet 7.8 inches
Elevation: +90°
Traverse: 360°
Ceiling: 23,500 feet
Shell weight: 16 pounds

Ordnance, QF, 3.7-inch gun. The Ordnance, QF, 3.7-inch antiaircraft gun was developed after World War I as British military planners recognized the implications of more powerful and heavier bomber aircraft. At first, British gun crews continued to prefer the lighter 3-inch gun because it was "handier," more rapidly maneuverable, and far more easily emplaced. Eventually, however, the virtues of this more powerful weapon made themselves felt, and it became a mainstay of British antiaircraft defense.

General specifications included:

Caliber: 3.7 inches
Weight: 20,541 pounds

Length of barrel: 15 feet 5 inches
Elevation: +80°
Traverse: 360°
Ceiling: 32,000 feet
Shell weight: 28.56 pounds

Ordnance, QF, 4.5-inch gun. The largest British antiaircraft gun of World War II was the Ordnance, QF, 4.5-inch gun, which was adapted from a post–World War I naval gun intended for use on ships. For antiaircraft use, the gun was made transportable on a specially designed four-wheel carriage, but its great weight (37,128 pounds) always made it difficult to move. Originally, the gun was intended to defend dockyards and other shore-based naval facilities exclusively, but as early as 1941, it was deployed elsewhere as well.

General specifications included:

Caliber: 4.45 inches
Weight: 37,128 pounds
Length of barrel: 16 feet 8.25 inches
Elevation: +80°
Traverse: 360°
Ceiling: 42,600 feet
Shell weight: 54.43 pounds

LIGHT ANTIAIRCRAFT GUNS

Heavy antiaircraft (AA) guns were intended for use against strategic aircraft, principally the medium and heavy bombers that raided cities and other major installations. World War II also saw the widespread use of tactical aircraft for close air support. These medium and light bombers, dive bombers, and fighters, as well as specially designed attack aircraft, targeted troops, buildings, tanks, and other vehicles. Defending against them required light, highly mobile, and readily maneuverable antiaircraft guns capable of rapid fire. Since tactical aircraft attacked at much lower altitudes than strategic bombers, the guns' maximum ceiling was of less importance than it was with the heavy AA artillery.

The British fielded one important light AA piece, the Polsten. It was a simplified version of the Oerlikon gun reengineered by Polish designers but produced exclusively in the United Kingdom by the Sten Company ("Pol" Poland, and "sten" Sten). Light enough to be manhandled into position, readily transportable, and capable of being produced in vast numbers, the Polsten was used very effectively throughout the entire war.

General specifications included:

Caliber: 20 mm
Length of barrel: 85.75 inches
Weight: 121 pounds
Elevation: +85°
Traverse: 360°
Ceiling: 6,630 feet
Projectile weight: .2625 pound

ROCKETS

The rockets deployed in the field were not the complex technological marvels represented by the German V-1 BUZZ BOMB and V-2 ROCKET, but were revivals of a very ancient weapon of war. In and of themselves, field rockets or war rockets were inaccurate and mostly incapable of delivering the high-explosive punch of heavy artillery shells. However, mated to advanced launchers, rockets could be fired in great numbers and at terrifying speeds. This made up for their inherent inaccuracy and limited destructive power.

2-inch rocket. The British 2-inch rocket was developed in the 1930s as an antiaircraft weapon. The weapon was to be launched from the ground or from ships at low-flying incoming aircraft. As it rose, propelled by solventless cordite fuel, the rocket deployed a long trail of wire, which was designed to foul the propellers of enemy aircraft and bring them down. Not surprisingly, the system never worked, and the rockets were instead loaded with a small amount of high explosive and used as artillery.

3-inch rocket. Another rocket, this one of 3-inch diameter, was also developed during the 1930s as an alternative to the antiaircraft gun. The virtue of these inexpensive projectiles was that they could be launched in massive salvoes from a "Rocket Projector," 36 per salvo. While the 3-inch rocket was, in fact, rarely actually used against aircraft, it did prove to be a highly effective ground-attack weapon, especially against tanks. The 3-inch rocket

weighed 54 pounds and traveled at 1,500 feet per second over 4,070 yards.

LILO. The LILO was a rocket system specially developed late in the war for use against the kind of fortified Japanese bunkers found on Pacific islands and on the Southeast Asian mainland. Such bunkers generally required bombardment by heavy artillery, but often they were located in places that were inaccessible to such artillery. The LILO was a single-fire rocket launcher designed to fire a rocket with a powerful 60-pound warhead at short range and directly against a bunker or other fortified target. The warhead was packed with high explosive, intended to penetrate concrete, earth, logs, or whatever other materials had been used to build the bunker. The typical Japanese bunker consisted of about 10 feet of earth plus logs. LILO rockets made short work of these.

The LILO launcher was a simple tube fitted with an electric triggering device. At short range, aiming was an easy matter, and the weapon was fitted with nothing more elaborate than an open sight. It was aimed by adjusting the height of its back legs. The system was transportable by two men, one to carry the launcher, the other to carry the rocket.

The Land Mattress was Britain's only purpose-designed ground-to-ground multiple-launch rocket weapon; the others had evolved from antiaircraft designs or were simply antiaircraft rocket systems used against ground targets. The Land Mattress launcher had 12, 16, 30, or 32 barrels from which 69.7-inch rockets, each carrying a 7-pound high-explosive warhead, could be launched in salvoes. Maximum range was 7,900 yards. Each salvo concentrated about 50 percent of its fire in an area about 240 yards square. The weapon could be reloaded very quickly, so that a battery of Land Mattress launchers could lay down a devastating blanket of fire.

ANTITANK GUNS

Unlike the Germans and the Americans, the British did not field tank destroyers against enemy armor, but instead relied on towed antitank artillery: 2-, 6-, and 17-pounder guns.

Ordnance, QF, 2-pounder. The Ordnance, QF, 2-pounder was developed during the mid-1930s and was by no means a bad weapon. However, it was an almost instantly obsolete weapon. Small, light, and compact, the gun lacked the armor penetration and range to be truly effective against modern tanks, especially German ones. Most of the British army's inventory of 2-pounders was abandoned on the beaches during the DUNKIRK EVACUATION in 1940.

General specifications included:

Caliber: 40 mm
Length: 6 feet 9.9 inches
Weight: 1,848 pounds
Traverse: 360°
Elevation: -13° to +15°
Range: 600 yards
Armor Penetration: 2.08 inches at 500 yards

Ordnance, QF, 6-pounder. The Ordnance, QF, 6-pounder went into development in 1938 but did not go into production until 1940–41, reaching some units in the field at the end of 1941. The 6-pounder proved highly effective until the introduction of the massive German Tiger tanks, whose heavy, sloping armor shed the 6-pound projectiles like water.

General specifications of the gun included:

Caliber: 57 mm
Length: 6 feet 8.95 inches
Weight: 2,471 pounds
Traverse: 90°
Elevation: -5° to +15°
Armor penetration: 2.7 inches at 1,000 yards

Ordinance, QF, 17-pounder. By 1941, it had become apparent to British planners that the enemy would field increasingly heavily armored tanks. Therefore, a new, heavier antitank gun was authorized. The Ordinance, QF, 17-pounder arrived in North Africa late in 1942 and, through the following months and years of the war, became a common presence on the battlefield. By the last year of the war, it was the British army's standard antitank gun. It was one of the most powerful antitank weapons of the war, and it sometimes served double duty as an all-around field gun.

General specifications included:

Caliber: 3 inches
Length: 14 feet 6.96 inches
Weight: 6,444 pounds
Traverse: 60°
Elevation: -6° to +16.5°
Armor penetration: 5.12 inches at 1,000 yards

Further reading: Dobinson, Colin. *AA Command: Britain's Anti-Aircraft Defences of World War II.* London: Methuen, 2002; Falvey, Denis. *A Well-Known Excellence: British Artillery and an Artilleryman in World War Two.* London and New York: Brassey's, 2002; Henry, Chris. *British Anti-tank Artillery, 1939–1945.* London: Osprey, 2004; Hogg, Ian V. *British and American Artillery of World War II.* London: Greenhill, 2002.

artillery, French

Artillery in World War II consisted mainly of seven major categories: self-propelled guns, heavy artillery, field artillery, heavy antiaircraft guns, light antiaircraft guns, rockets, and antitank guns. The French, however, fielded no self-propelled guns, heavy artillery, or rockets, but they did have some fine examples of the other categories.

FIELD ARTILLERY

Canon de 75 mle 1897 (French 75). The "French 75" was first fielded in 1897 and was officially designated the Canon de 75 mle 1897. The pride of the French military, it was often credited (by the French) for the final victory in World War I. Certainly, it was the first of the modern generation of artillery pieces. Two features distinguished it from previous guns. Its recoil mechanism was so efficient that it minimized the necessity to "re-lay" (adjust the aim) of the gun after firing. Its unique breech made loading and reloading much faster and more efficient. Together, these features greatly increased rate of fire.

There is no doubt that the French 75 was a remarkable weapon, but by the outbreak of World War II in 1939, the 1897 design was well past its prime and was far outranged by other guns. Nevertheless, the French used about 4,500 of the guns in their front lines, and many other nations came into the war with the weapon as well.

General specifications included:

Caliber: 75 mm
Length: 107.08 inches
Weight: 4,343 pounds
Elevation: -11° to +18°
Traverse: 6°
Range: 12,140 yards
Shell weight: 13.66 pounds

Canon de 105 mle 1913 Schneider (L13S). Somewhat newer than the French 75 was the Canon de 105 mle 1913 Schneider, first fielded in 1913. A French weapon based on a Russian design, the Schneider was also known as the L13S and proved itself admirably in World War I. Sturdy, handsome, and efficient, Schneiders were exported to many countries before World War II, and the Germans thought enough of them to make use of captured weapons throughout the war.

General specifications of the gun included:

Caliber: 105 mm
Length: 117.6 inches
Weight: 5,070 pounds
Elevation: 0° to +37°
Traverse: 6°
Range: 13,130 yards
Shell weight: 34.7 pounds

Canon de 105 court mle 1934 S and 1935 B. During the interwar period, even the French, like Britain reluctant to rearm or modernize its army, recognized that their vintage inventory of artillery was obsolescent. The Canon de 105 court mle 1934 S and 1935 B went into production in the mid 1930s. It was the 1935 model that was chosen for mass production, and it was an advanced design for the time. Its short barrel increased muzzle velocity and facilitated both transportation and laying, and its innovative carriage, which featured a split rail, maximized gun crew protection. Unfortunately, the gun was manufactured at a slow rate, and only 232 were in service during the Battle of France. The Germans prized the examples they managed to capture.

General specifications included:

Caliber: 105 mm
Length: 69.3 inches
Weight: 3,587 pounds
Elevation: -6° to +50°
Traverse: 58°
Range: 11,270 yards
Shell weight: 34.62 pounds

HEAVY ANTIAIRCRAFT GUNS

During World War I, the French army responded to the need for antiaircraft defense not by developing new artillery, but by adapting the existing French 75 to the antiaircraft role. Versions of the modified gun were produced on the eve of the war in 1913 and during the war in 1915 and 1917. The major modifications were to the mount, which allowed for a 70° elevation and a 360° traverse, and to the fire controls, which, in the 1917 model, were moved to the carriage for greater convenience and efficiency. These three models, though antiquated by the outbreak of World War II, were all used during the war.

Canon de 75 mm contre aeronefs mle 17/34. A new modification of the 75, Canon de 75 mm contre aeronefs mle 17/34, was introduced in 1934 and featured a redesigned barrel, which improved performance by providing reduced time of flight of shells and increasing ceiling. At about this time, other versions, 1932, 1933, and 1936, were also produced, but all were based on the old French 75. Even with modifications, French heavy antiaircraft artillery was obsolete at the time of the the Battle of France.

General specifications for the 1932 model included:

Caliber: 75 mm
Length: 13 feet 3.5 inches
Weight: 8,377 pounds
Elevation: +70°
Traverse: 360°
Ceiling: 26,245 feet
Shell weight: 14.2 pounds

LIGHT ANTIAIRCRAFT GUNS

Two light, rapid-fire guns were in the French arsenal for defense against tactical air attack. In contrast to heavy antiaircraft guns, which were intended to defend cities and major installations from medium and heavy bomber attack—strategic bombing—the light guns were intended for use against smaller tactical aircraft, including light bombers, fighters, and ground attack aircraft. They were used to cover troops in the field.

25-mm Hotchkiss. The 25-mm Hotchkiss was introduced in 1932 on the initiative of the Hotchkiss armaments firm rather than at the request of the French army. The experience of World War I had persuaded the always backward-looking French military planners that modified French 75s were sufficient for heavy antiaircraft defense and that the 12.7-mm heavy machine gun was adequate for light antiaircraft defense. Hotchkiss company designers disagreed and offered the 1932 design on spec, as it were. Initially, the gun was rejected, only to be revived after French observers during the Spanish civil war saw a manifest need for a heavier light antiaircraft weapon. The Hotchkiss guns were accordingly ordered, with two models, a 1938 and 1939, being produced.

General specifications of the 1938 model included:

Caliber: 25 mm
Length: 59 inches
Weight: 1,874 pounds
Elevation: +80°
Traverse: 360°
Ceiling: 9,843 feet
Projectile weight: 0.64 pounds

37-mm Schneider. Like the Hotchkiss 25 mm, the 37-mm Schneider was initially rejected by the French army, which thought that the French 75 and the 12.7-mm machine gun were adequate for antiaircraft defense. Schneider continued to develop the gun in any case, and, as with the Hotchkiss, observation during the Spanish Civil War vividly demonstrated the need for tactical antiaircraft defense intermediate between a mere machine gun and heavy artillery. Unfortunately, very few of the guns had been produced by the time the Germans invaded, and the Schneider played a very small role in the war.

General specifications included:

Caliber: 37 mm
Length: unknown
Weight: 2,954 pounds
Elevation: +80°
Traverse: 360°
Ceiling: 9,843 feet
Projectile weight: 1.21 pounds

ANTITANK GUNS

Canon de 46 antichar mle 1937 and Canon de 47 antichar mle 1937. France produced two antitank guns, the Canon de 46 antichar mle 1937 and the Canon de 47 antichar mle 1937. Rushed through design and production based on French intelligence concerning the gauge of emerging German armor plate, the Canon de 46 was, perhaps surprisingly, an excellent weapon. It went into production in 1938 and was improved in the 47 version. After the fall of France, the Germans eagerly acquired the weapons and used them extensively.

General specifications included:

Caliber: 47 mm
Length: 8 feet 2 inches
Weight: 2,315 pounds
Elevation: -13° to +16.5°
Traverse: 68°
Range: 7,110 yards
Armor penetration: 3.15 inches at 220 yards
Projectile weight: 3.8 pounds

Further reading: Chant, Chris. *Artillery of World War II.* Osceola, Wis.: Motorbooks International, 2001; Jackson, Julian. *The Fall of France: The Nazi Invasion of 1940.* Oxford and New York: Oxford University Press, 2003; Sumner, Ian. *The French Army 1939–45: The Army of 1939–40 and Vichy France.* London: Osprey, 1998.

artillery, German

Artillery in World War II consisted mainly of seven major categories: self-propelled guns, heavy artillery, field artillery, heavy antiaircraft guns, light antiaircraft guns, rockets, and antitank guns.

SELF-PROPELLED GUNS

With their emphasis on mobile warfare (*see, for example,* BLITZKRIEG), the Germans put more reliance on self-propelled guns than did any other combatant. It is not surprising, then, that the German arsenal included a wide variety of self-propelled guns, which were essentially powerful artillery pieces mounted on a tank or a tanklike chassis, complete with treads.

sIG 33 auf Geschützwagen. Among the first of the German self-propelled guns was the sIG 33 auf Geschützwagen, which was converted from a light tank. The superstructure and hull of the tank were removed, and a 15-cm sIG 33 infantry howitzer was mounted on the chassis. The crew was shielded by the three-sided housing from which the gun projected, but the housing was open at the rear and on top. The gun did not traverse, but was directed by steering the tank chassis. Whereas tanks are designed to fire on the fly, self-propelled guns are fired from a static position. The gun is moved into position, stopped, then fired. Some 370 of this modification were produced during the war, from 1940 and the BATTLE OF FRANCE all the way through 1944.

General specifications included:

Weight: 25,353 pounds
Length: 15 feet 10.4 inches
Width: 7 feet 0.6 inches
Height: 7 feet 10.5 inches
Power plant: one 150-horsepower Praga six-cylinder gasoline engine
Top speed: 21.75 miles per hour
Armament: one 15-cm howitzer

Wespe (Wasp). At about the same time that the sIG 33 was developed, the Wespe (Wasp) was fashioned out of the outclassed PzKpfw II light tank. A 105-mm howitzer was mounted atop a tanklike hull on the light tank chassis. An open-top armor shield was supplied for the crew of five, and the vehicles saw extensive service on the eastern front. The weapon was highly favored for infantry support.

General specifications included:

Weight: 24,251 pounds
Length: 15 feet 9.4 inches

Width: 7 feet 5.75 inches
Height: 7 feet 6.6 inches
Power plant: one 140-horsepower Maybach six-cylinder gasoline engine
Top speed: 24.85 miles per hour
Armament: one 105-mm howitzer and one 7.92-mm MG34 machine gun

Hummel (Bumble Bee). The Hummel ("Bumble Bee"), officially designated Geschützwagen III/IV, was introduced in 1941 and combined components from two tank chassis, the Panzer III and Panzer IV, to create a platform for the long-barrel 5.9-inch howitzer. This was a formidable piece made more effective by the addition of mobility. It was used on all fronts, and it remained in production until the end of the war, some 666 rolling off assembly lines. The five-man crew was afforded an ample open-top armored shield, and the tank chassis and power plant provided sufficient motive force for the gun to keep pace even with a panzer unit.

General specifications included:

Weight: 52,911 pounds
Length: 23 feet 6.3 inches
Width: 9 feet 5 inches
Height: 9 feet 2.6 inches
Power plant: one 265-horsepower Maybach V-12 gasoline engine
Top speed: 26.1 miles per hour
Armament: one 5.9-inch howitzer and one 7.92-mm machine gun

Waffentrager. A radical new approach to the self-propelled gun was the Waffentrager, literally "Weapons Carrier," which was introduced in 1942. This vehicle carried a howitzer mounted in a turret. However, instead of being fired from the vehicle, the turret and gun were lowered into place on the ground, emplaced, and fired from there as the Waffentrager left, presumably to pick up another turret-and-gun assembly. It is not entirely clear why this vehicle and system were produced, since German war-fighting doctrine continued to stress mobility. However, while only eight weapons carriers were built, they were, in fact, used in combat.

General specifications for the Waffentrager included:

Weight: 37,479 pounds
Length: 19 feet 4.3 inches
Width: 9 feet 5 inches
Height: 7 feet 4.6 inches
Power plant: one 188-horsepower Maybach gasoline engine
Top speed: 28 miles per hour
Armament: one 10.5-cm howitzer

Karl series. Another unique self-propelled gun was the so-called Karl series. This vehicle mounted a monstrous 60-cm or 54-cm Karl siege howitzer, a mortarlike weapon intended for use against concrete fortifications and bunkers. The howitzers had been built in the late 1930s specifically to use against France's vaunted Maginot Line but were instead used against Sevastopol defenses in Russia and against Warsaw in 1944. The projectiles the weapon fired were designed with delayed detonation, so that they would penetrate their target *before* exploding. The projectiles could penetrate between 8.2 and 11.5 feet of concrete at a range of between 5,000 and nearly 7,000 yards.

These massive guns were transported over long distances by rail, mounted between special railroad carriages, and for shorter distances they were transferred to purpose-built tracked carriages. The speed of the carriages is not recorded but was doubtless very slow.

General specifications of this weapon system included:

Weight: 273,373 pounds
Length (overall): 36 feet 7 inches
Power plant: one 1,200-horsepower 12-cylinder Maybach gasoline engine
Armament: one 54- or 60-cm Karl howitzer

Brummbär (Grizzly Bear). The Brummbär ("Grizzly Bear") was first fielded in 1943 as a self-propelled heavy assault howitzer to provide close infantry support. These vehicles advanced with the first waves of an infantry unit to provide devastating fire against enemy strong points, bunkers, and the like. They were highly effective in this role but,

thinly armored, were quite vulnerable to antitank guns and tank destroyer fire.

General specifications included:

Weight: 62,170 pounds
Length: 19 feet 5.5 inches
Width: 9 feet 5.4 inches
Height: 8 feet 3.2 inches
Power plant: one 265-horsepower Maybach V-12 gasoline engine
Top speed: 24.85 miles per hour
Armament: one 5.9-inch howitzer and one or two 7.92-mm machine guns

Sturmtiger. The Sturmtiger was a self-propelled gun specifically intended for the kind of urban warfare the Germans encountered in the Battle of Stalingrad. Impatient with deadly house-to-house fighting, the Germans developed the Sturmtiger to simply blow away the houses—and anything else that got in the way. On a Tiger tank chassis and hull, the turret was replaced by a boxy superstructure through which a short, extremely wide–bore barrel penetrated. This was not a gun, but a rocket launcher (Raketenwerfer 61) modified to fire a rocket-propelled naval-style depth charge weighing 761 pounds, almost all of the weight representing the high-explosive charge. The rocket launcher could lob the depth charge 6,180 yards, and its detonation would certainly destroy anything it hit.

The Sturmtiger required a seven-man crew, with four dedicated to serving the launcher. Loading was assisted by an integrated crane mounted behind the superstructure. Only 10 Sturmtigers were actually produced, beginning in August 1944. They were never deployed effectively, however, and were either destroyed or captured, much to the fascination of Allied soldiers.

General specifications included:

Weight: 143,000 pounds
Length: 20 feet 7.25 inches
Width: 11 feet 8.6 inches
Height: 9 feet 4.2 inches
Power plant: one 650-horsepower Maybach V-12 gasoline engine
Top speed: 24.86 miles per hour
Armament: one 38-cm rocket projector and one 7.92-mm machine gun

Sturmgeschütz III. The Sturmgeschütz III was an armored mobile gun designed to follow infantry assaults to provide fire support and the kind of concentrated firepower required to neutralize strongpoints and destroy bunkers and other fortifications. The vehicle was developed before the outbreak of the war and was produced throughout the conflict in fairly large numbers. In addition to its application as a close infantry support weapon, it was also used as a tank destroyer.

General specifications of the vehicle included:

Weight: 52,690 pounds
Length: 22 feet 2.5 inches
Width: 9 feet 8 inches
Height: 7 feet 1 inch
Power plant: one 265-horsepower Maybach V-12 gasoline engine
Top speed: 24.85 miles per hour
Armament: one 75-mm gun and two 7.92-mm machine guns

HEAVY ARTILLERY

15-cm schwere Feldhabitze 18. Within Germany were two of the world's greatest manufacturers of heavy artillery, Krupp and Rheinmetall. The Nazi regime, tooling up for war as soon as it came to power in 1933, entered into a close working relationship with these firms, which eagerly furnished designs for the most advanced new guns. The two firms were avid competitors, but, in a kind of symbolic gesture, German military planners ordered in 1933 what would be the standard heavy field artillery piece, the 15-cm schwere Feldhabitze 18, from *both* companies. Rheinmetall furnished the gun, while Krupp supplied the carriage. This versatile gun would later be installed on a self-propelled carriage to become the Hummel ("Bumble Bee"), and it would also be used in fixed fortifications, most notably along the Atlantic Wall coastal defenses. The gun was used on every front throughout the entire war.

General specifications included:

Caliber: 149 mm
Length: 14 feet 6.8 inches

Weight: 13,898 pounds
Elevation: -3° to +45°
Traverse: 60°
Range: 14,570 yards
Shell weight: 95.9 pounds

15-cm Kanone 18. The new regime also ordered from Rheinmetall a new gun for divisional level artillery batteries, the 15-cm Kanone 18. It was a most impressive looking weapon, which could lob a 94.8-pound shell 26,800 yards. However, its barrel was so long that transportation over any distance required removing the barrel and placing it on its own carriage. This greatly compromised mobility, which was a prime requisite of Blitzkrieg doctrine. Another drawback was the gun's relatively slow two-round-per-minute rate of fire. These problems led to the discontinuation of production long before the war ended.

General specifications included:

Caliber: 149.1 mm
Length: 26 feet 10.8 inches
Weight: 41,226 pounds
Elevation: -2° to +43°
Traverse: 360° on platform or 11° on carriage
Range: 26,800 yards
Shell weight: 94.8 pounds

15-cm Kanone 39. Another marginally successful gun was the 15-cm Kanone 39, manufactured by Krupp. Performance was very good. The gun threw a 94.8 pound shell 27,010 yards, but, because the piece originally had been designed and built for Turkey, its ammunition was nonstandard in the German army. Large stockpiles of the Turkish-specification ammo existed at the beginning of the war, so these as well as about 40 of the guns were commandeered as heavy field pieces.

As with the Kanone 18, transportation was a weakness. Barrel, carriage, and a turntable had to be broken down and moved as three separate units. Fortunately, in the field, the turntable was not usually used, but this still meant that the gun had to be transported in two pieces. Well before the end of the war, the Kanone 39 was withdrawn from the field and installed in the Atlantic Wall defenses.

General specifications included:

Caliber: 149.1 mm
Length: 27 feet 0.8 inch
Weight: 40,305 pounds
Elevation: -4° to +45°
Traverse (turntable): 360°
Traverse (carriage): 60°
Range: 27,010 yards
Shell weight: 94.8 pounds

17-cm Kanone 18 and 21-cm Mörser 18. Krupp's 17-cm Kanone 18 and 21-cm Mörser 18 were among the very best heavy artillery pieces of World War II. The Kanone was a long-range artillery piece, whereas the Mörser ("mortar") was a shorter-range howitzer. Both featured the same carriage, which incorporated a brilliant double recoil design that minimized the need for re-laying the gun. This not only improved accuracy of fire but significantly increased the rate of fire. Moreover, although both versions of the gun were heavy, the design of the carriage facilitated rapid transport. An integral platform allowed for 360° traverse, which could be managed by a single gunner.

General specifications of the Kanone included:

Caliber: 172.5 mm
Length: 27 feet 11.8 inches
Weight: 51,533 pounds
Elevation: 0° to 50°
Traverse (platform): 360°
Traverse (carriage): 16°
Range: 32,370 yards
Shell weight: 149.9 pounds

General specifications of the Mörser included:

Caliber: 210.9 mm
Length: 21 feet 4.3 inches
Weight: 50,045 pounds
Elevation: 0° to 50°
Traverse (platform): 360°
Traverse (carriage): 16°
Range: 18,270 yards
Shell weight: 266.8 pounds

24-cm Kanone 3. Counterbattery fire is artillery fire directed against enemy artillery positions and

emplacements. By definition, effective counterbattery fire must be long range—beyond the range, certainly, of the enemy battery that is being targeted. In 1935, the Rheinmetall firm began design work on such a long-range gun, the prototype of which was produced in 1938. The 24-cm Kanone 3 was a massive weapon with a double-recoil carriage (to minimize re-laying) mounting a 42-foot-long piece. Even with its well-designed carriage, the gun had to be broken down into six loads for transportation, and while it achieved long range (more than 41,000 yards), it was not produced in large numbers. Between eight and 10 were fielded.

General specifications included:

Caliber: 238 mm
Length: 42 feet 11.9 inches
Weight: 186,590 pounds
Elevation: -1° to +56°
Traverse (turntable): 360°
Traverse (carriage): 6°
Range: 41,010 yards
Shell weight: 335.78 pounds

35.5-cm Haubitze M.1. In 1935, German military planners commissioned from Rheinmetall a full-scale siege gun, the 35.5-cm Haubitze M.1. This massive gun had to be transported in six loads, plus one more transport to carry the gantry needed for the final assembly. The 35.5-caliber weapon fired a high-explosive projectile weighing 1,267 pounds or an anticoncrete projectile weighing 2,041 pounds. Range, however, was limited, at 22,800 yards, as was muzzle velocity, at 1,870 feet per second. Rate of fire was a leisurely one round per minute. Few of these giants were produced, and they were used exclusively on the eastern front.

General specifications included:

Caliber: 356.6 mm
Length: 33 feet 8.1 inches
Weight: 272,271 pounds
Elevation: +45° to +75°
Traverse (platform): 360°
Traverse (carriage): 6°
Range: 22,800 yards
Shell weight: 1,267.6 pounds (high-explosive round) or 2,041 pounds (anticoncrete round)

FIELD ARTILLERY

In contrast to heavy artillery, which has limited mobility or may, in fact, be fixed in place within permanent fortifications, field artillery is highly transportable. It is intended to support both infantry and armor operations. As such, the equipment must be light enough to advance with the troops and their machines.

10.5-cm leFH 18. If there was a standard German field artillery weapon, it was the family of 10.5-cm howitzers, which dated from World War I, though the weapon was updated just before and during World War II. By the mid-1930s, the standard model was the 10.5-cm leFH 18. The adjective that best describes the character of this weapon is *solid.* Conservative and conventional, it was overengineered in the typical German fashion so that it was virtually indestructible. The price of this durability was weight, an especially critical price for an army that, on the one hand, stressed mobility and, on the other, still depended heavily on horses to pull towed field artillery. Despite this drawback, the leFH 18 served throughout the war.

General specifications included:

Caliber: 105 mm
Length: 130.23 inches
Weight: 4,310 pounds
Elevation: -5° to 42°
Traverse: 60°
Range: 13,478 yards
Shell weight: 32.65 pounds

7.5-cm Feldkanone 16 nA. After World War I, the Treaty of Versailles severely limited the arms that Germany might retain. Among these was a stockpile of outmoded 7.7-cm field guns, which the interwar German army decided to modernize by rebarrelling for 7.5-cm shells. This modification increased muzzle velocity and range, bringing them up to modern standards. The 7.5-cm Feldkanone 16 nA was used early in World War II but was later relegated mostly to training, as newer, more powerful 105-mm weapons became available.

General specifications included:

Caliber: 75 mm
Length: 106.3 inches
Weight: 5,324 pounds
Elevation: -9° to +44°
Traverse: 4°
Range: 14,080 yards
Shell weight: 12.85 pounds

105-cm Kanone 18 and 18/40. During the 1920s, in covert contravention of the terms of the Treaty of Versailles, German military planners put out a call for a new long-range field artillery piece. The result, the 105-cm Kanone 18 and 18/40, married a Rheinmetall barrel to a Krupp carriage. The guns proved awkward and heavy in the field, so they were transferred early in the war to coastal defense duty.

General specifications included:

Caliber: 105 mm
Length: 214.96 inches
Weight: 14,187 pounds
Elevation: 0° to 48°
Traverse: 64°
Range: 20,860 yards
Shell weight: 33.38 pounds

HEAVY ANTIAIRCRAFT GUNS

World War II saw the development of two broad classes of antiaircraft artillery. Light antiaircraft guns were used in the field to defend troops, vehicles, and small installations against attack by tactical bombers and other ground-attack aircraft. Heavy antiaircraft guns targeted strategic bombers and protected cities, factories, and other major installations.

8.8-cm Flak (FliegerAbewehrKanone) 41 (the 88). The most famous German heavy antiaircraft gun was the 88, the 8.8 cm Flak (FliegerAbewehr-Kanone) 41. The modern 88 was designed in 1939 to 1941 to replace previous antiaircraft guns of this caliber. Built by Rheinmetall, the Flak 41 was initially plagued by mechanical problems, but once these were solved, it was a formidable weapon, capable of firing 25 flak rounds per minute to a ceiling of 48,230 feet. This made the gun useful against strategic as well as tactical attackers. Moreover, the weapon was flexible enough to double in an antitank role, if need be.

General specifications included:

Caliber: 88 mm
Weight: 27,780 pounds
Length: 21 feet 5.8 inches
Elevation: -3° to +90°
Traverse: 360°
Ceiling: 48,230 feet
Shell weight: 20.7 pounds (high explosive)

10.5-cm Flak 38 and Flak 39. While the Germans were justifiably proud of the 88 family of guns, they recognized long before the war began that defense against modern bombers required even heavier, more powerful weapons. In 1935, the 10.5-cm Flak 38 and Flak 39 were introduced. These guns had an all-electric control system and a powered loading system, which made them highly efficient. They were originally intended as field weapons, but their size prompted the Luftwaffe, which had charge of the Reich's antiaircraft defense, to appropriate them. Some were put in permanent emplacements, while others were mounted on railway carriages. The gun never achieved the renown of the 88, however, in part because it was far less numerous and in part because it did not perform as well as hoped, though it was a very good antiaircraft weapon.

General specifications included:

Caliber: 105 mm
Weight: 32,187 pounds
Length: 21 feet 9.7 inches
Elevation: -3° to +85°
Ceiling: 41,995 feet
Shell weight: 33.3 pounds

12.8-cm Flak 40. In 1940, design work was advanced on an even heavier antiaircraft gun, the 12.8-cm Flak 40. Originally intended as a mobile piece suspended between two four-wheel towed carriages, the gun was too big and too heavy to make long-distance transportation practical, and it was reserved for fixed installations to defend population centers. In some places, special flak towers were built for emplacement. These provided the best sighting

for the guns, giving them the greatest range of traverse. Some guns were mounted on special railway carriages to provide a degree of mobility.

General specifications included:

Caliber: 128 mm
Weight: 59,524 pounds
Length: 25 feet 8.5 inches
Elevation: -3° to +87°
Traverse: 360°
Ceiling: 48,555 feet
Shell weight: 57.3 pounds

LIGHT ANTIAIRCRAFT ARTILLERY

2-cm Flak 30. The Germans developed a wide variety of guns to provide defense against tactical air attack. The first of these weapons was developed in 1935 by Rheinmetall. The 2-cm Flak 30 was the very first flak weapon, firing a high-explosive shell designed to burst in the air, sending thousands of deadly shrapnel fragments, which readily penetrated fuselages and control surfaces, damaging aircraft mechanically and also injuring or killing air crews. Early version of the weapon incorporated a complex sighting system, which, however, was eventually dropped as gunners realized that the rate of fire while tracking targets was far more important than one-on-one accuracy. The flak shell, after all, was not expected actually to hit its target, but would damage it or bring it down by exploding near it.

General specifications of the Flak 30 included:

Caliber: 20 mm
Length of piece: 90.6 inches
Weight: 992 pounds
Elevation: -12° to +90°
Traverse: 360°
Ceiling: 7,218 feet
Rate of fire: 280 rounds per minute
Projectile weight: 0.262 pound

2-cm Flak 38. At 280 rounds per minute, the Flak 30 was sluggish against fast-moving fighters and dive bombers. Recognizing a need to increase rate of fire, the Muser Company designed the 2-cm Flak 38. This weapon achieved a rate of fire of 420 to 480 rounds per minute. The projectiles were relatively small, however, and German planners recognized that to inflict real damage on enemy attackers required even higher rates of fire. In 1940, therefore, they modified the carriage of the Flak 38 to accommodate four barrels, each firing at once, for a rate of fire of 1,800 rounds per minute. This proved to be a highly effective weapon.

General specifications for the Flak 38 included:

Caliber: 20 mm
Length: 88.7 inches
Weight: 926 pounds
Elevation: -20° to +90°
Traverse: 360°
Ceiling: 7,218 feet
Rate of fire: 420–480 rounds per minute
Projectile weight: 0.262 pound

3.7-cm Flak 36 and Flak 37. A series of 3.7-cm flak guns was developed in the 1930s and steadily improved, especially with regard to the sighting mechanism, which incorporated a sophisticated predictor to aid target leading. All skilled gunners understood that it was important to lead rather than track or follow a target; the trick was in judging just how far to lead it. Mechanical predictor units helped to simplify this job and guide the rate of target leading. Flak 36 and Flak 37 proved highly capable weapons, with 4,211 in service with the Luftwaffe by August 1944. The Wehrmacht and the navy also used a version of the gun.

General specifications included:

Caliber: 37 mm
Length: 142.75 inches
Weight: 3,417 pounds
Elevation: -8° to +85°
Traverse: 360°
Ceiling: 15,748 feet
Rate of fire: 160 rounds per minute
Projectile weight: 1.41 pounds

3.7-cm Flak 43 and Flakzwilling 43. The next advance in the 3.7-cm flak weapons was the Flak 43 and the Flakzwilling 43. The Flak 43 was designed in 1942 but was not fielded until 1944. Its major advantage over previous 3.7-cm models was in rate

of fire, which rose to 250 rounds per minute. Even at this rate, however, as Allied aircraft became faster and faster, it was difficult to score sufficient hits to bring an airplane down. The Flakzwilling added a second barrel to multiply the rate of fire, and it was this version that proved most popular with infantry gun crews. But by this time, the war was clearly being lost, and production of both versions of the new gun waned. Only 280 double-barreled Flakzwilling weapons saw service.

General specifications included:

Caliber: 37 mm
Length: 130 inches
Weight: 3,069 pounds
Elevation: -7.5° to +90°
Traverse: 360°
Ceiling: 15,748 feet
Rate of fire (Flak 43): 250 rounds per minute
Projectile weight: 1.41 pounds

5-cm Flak 41. The 5-cm Flak 41 was introduced in 1941 in an effort to address a gap in antiaircraft defenses between about 5,000 feet and 10,000 feet. Light antiaircraft guns were most effective below 5,000 feet, whereas heavy antiaircraft artillery were effective only above 10,000 feet. German military planners called for an intermediate-range weapon to fill the gap. The gun that resulted, however, not only failed to fill the gap but was generally ineffective at any altitude and severely limited above 10,000 feet. Underpowered, it produced a bright muzzle flash, which was visible even in bright daylight. This, of course, served to give away the position of the guns, rendering entire batteries vulnerable to counterattack. In the end, only about 60 of these weapons were produced.

Their general specifications included:

Caliber: 50 mm
Length: 184.5 inches
Weight: 6,834 pounds
Elevation: -10° to +90°
Traverse: 360°
Ceiling: 10,007 feet
Rate of fire: 180 rounds per minute
Weight of projectile: 4.85 pounds

ROCKETS

The Germans were infamous for developing two major strategic rocket systems, the V-1 BUZZ BOMB and the V-2 ROCKET, but they were also active in the development of tactical rockets. While far less accurate than traditional artillery, field rockets, or war rockets, as they are sometimes called, could be fired from multiple launchers at rapid rates, making up in quantity of fire what they lacked in precision of fire.

15-cm Wurfgranate 41. The 15-cm Wurfgranate 41 rockets came with two charges, either high explosive or smoke. They could be launched from the self-propelled Panzerwerfer 42, a half-track vehicle. Mobility was important in a rocket launcher, since the flash of multiple rocket firings quickly gave away the launcher's position, and shoot-and-run tactics could be essential to survival.

General specifications for the 15-cm Wurfgranate 41 Spreng (high explosive) included:

Length: 38.55 inches
Diameter: 6.22 inches
Weight: 70 pounds
Range: 7,715 yards

General specifications for the 15-cm Wurfgranate 41 w Kh Nevbel (smoke) included:

Length: 40.16 inches
Diameter: 6.22 inches
Weight: 79 pounds
Range: 7,500 yards

21-cm Wurfgranate 42. Pleased with the performance of the 15-cm rockets, German designers tried something larger, the 21-cm Wurfgranate 42. This rocket proved highly successful and could be launched from small, multitube towed launchers or from the Panzerwerfer 42 (modified to accept the larger-diameter rockets). American military planners carefully studied—and copied—captured units.

General specifications of the Wurfgranate 42 rocket included:

Length: 49.21 mm
Diameter: 8.27 inches

Weight: 241.5 pounds
Range: 8,585 yards

28-cm and 32-cm Wurfkörper. While the 15-cm and 21-cm Wurfgranate rockets were the most successful of Germany's tactical rocket weapons, the earlier and larger 28-cm and 32-cm Wurfkörper, though short in range, were also widely employed. Depending on the version used, these rockets deployed high-explosive warheads, incendiary warheads, or smoke effects. They could be launched from a variety of launchers, but most frequently used was the SdKfz 252, also known as a "Foot Stuka" or "Howling Cow." A low-profile half-track, the "Cow" was fitted with crude launchers affixed to its sides. The rockets could be launched individually or simultaneously.

General specifications of the 28-cm Wurfkörper Spreng (high-explosive) rocket included:

Length: 46.85 inches
Diameter: 11 inches
Weight: 181 pounds
Range: 2,337 yards

In 1942, a new, larger version of the Wurfkörper was introduced. At 32 cm in diameter, the new Wurfkörper had a longer range, created a more powerful explosion, and, thanks to an advanced propellent, generated less smoke and flash than previous rockets. This made it harder for an enemy to determine the location of the launcher.

The general specifications of the rocket included:

Length: 48.44 inches
Diameter: 11.8 inches
Weight: 277 pounds
Range: 4,975 yards

ANTITANK GUNS

Although the Germans deployed a number of tank destroyers, they also fielded four major types of towed antitank artillery.

Pak guns. Known as Pak guns—for *Panzerabwehrkanone*—there were three major caliber types: the 3.7-cm, the 5-cm, and the 7.5-cm. The 3.7-cm was designed early in the interwar period, and production commenced in 1928. A modern design, the gun was nevertheless fitted to a carriage intended to be pulled by horses. First used during the Spanish civil war, the small gun proved highly effective against lightly armored vehicles. During the INVASION OF POLAND, it also served adequately. However, in the BATTLE OF FRANCE, against more heavily armored tanks, the velocity of the small shells proved inadequate. Nevertheless, the gun, which was even adapted for parachute deployment, served throughout the war.

General specifications included:

Caliber: 37 mm
Length: 5 feet 5.5 inches
Weight: 970 pounds
Traverse: 59°
Elevation: -8° to +25°
Range: 7,655 yards
Armor penetration: 1.48 inches at 400 yards
Weight of projectile: 0.78 pound

During 1939–40, the 5-cm Pak began production, in time for the INVASION OF THE SOVIET UNION, where it was the only German antitank gun effective against the mighty Soviet T-34 tank. Very widley used, the 5-cm Pak may be considered the German army's standard antitank gun.

Its general specifications included:

Caliber: 50 mm
Length: 10 feet, 5.5 inches
Weight: 2,341 pounds
Traverse: 65°
Elevation: -8° to +27°
Range: 2,900 yards
Armor penetration: 3.98 inches at 820 yards
Projectile weight: 4 pounds (high-explosive round)

Prior to the invasion of the Soviet Union, intelligence reached German war planners that the newest Soviet tanks were heavily armored. Fearing that the 5-cm Pak would be inadequate against Soviet armor, a 7.5-cm Pak was fielded in 1940. The new weapon rapidly became a favorite among antittank crews, and it was also sufficiently versatile to be used as an all-round field artillery piece.

General specifications included:

Caliber: 75 mm
Length: 12 feet 1.7 inches
Weight: 3,307 pounds
Traverse: 46°
Elevation: -5° to +22°
Range: 8,400 yards
Armor penetration: 3.86 inches at 2,190 yards
Projectile weight: 12.65 (high-explosive round)

Taper-bore guns. The Germans experimented with taper-bore antitank guns, which employed something called the Gerlich principle to produce high muzzle velocities capable of increased range and armor penetration. The Gerlich principle used shells with a soft flange at their base. These were fired through a bore that tapered from the bottom to the top, the flange folding as the shell moved through to the tapered end of the bore. This had the effect of creating a seal that prevented the explosive gases produced within the gun from escaping. Therefore, the shell was propelled by gas at much higher pressure, producing greater force and speed. It was a sound principle, but it required extremely precise manufacturing techniques and raw materials that were in increasingly short supply in Germany. The special shell had a tungsten core, and tungsten supplies were very scarce. While these guns were promising, Germany was never able to put them into significant mass production. Their potential can be gauged from the armor penetration figure for a 7.5-cm taper-bore gun: 6.73 inches of armor at 500 yards.

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artillery, Italian

Artillery in World War II consisted mainly of seven major categories: self-propelled guns, heavy artillery, field artillery, heavy antiaircraft guns, light antiaircraft guns, rockets, and antitank guns. The Italian army did not use rockets or dedicated antitank guns.

SELF-PROPELLED GUNS

Semovente da 149/40. The Italian army fielded several self-propelled guns, including some mounting 75-mm and 105-mm weapons. These were direct-fire guns, that is, artillery intended to be used at fairly close range against clearly visible targets. The Italian army also called for self-propelled heavy artillery, or indirect-fire weapons, which were intended to be fired at long-range targets, but the Italian arms industry was not equipped to develop a fully adequate weapon. What emerged was a kind of interim solution, the Semovente da 149/40, which featured a 149-mm long-barrel gun mounted on a modified Carro Armato M 15/42 tank chassis. The long gun was fitted to the chassis and was completely unprotected. The gun crew worked out in the open. Even given the range of the weapon, 25,919 yards, this degree of exposure was dangerous and limited the utility of the Semovente. Indeed, this consideration, stresses on the Italian economy, and, ultimately, the separate peace Italy concluded with the Allies prevented the gun from going into production beyond the prototype.

General specifications included:

Weight: 52,911 pounds
Length: 21 feet 7.8 inches
Width: 9 feet 10 inches
Height: 6 feet 6.7 inches
Power plant: one 250-horsepower SPA gasoline engine
Armament: one 149-mm long-barrel gun

HEAVY ARTILLERY

The military ambitions of Italy's premier Benito Mussolini drove a resolution to modernize Italy's arsenal of heavy artillery. The nation had invested extensively in such weapons during

World War I, but Mussolini and other Italian military planners recognized during the 1930s that these weapons were obsolescent at best and obsolete at worst.

Obice da 210/22 modello 35. The most important new heavy gun ordered was the Obice da 210/22 modello 35, a massive 210-mm howitzer, which was a masterpiece of artillery design. The gun was mounted on a modern split-trail carriage that featured two road wheels on each side. These were raised when the gun was in firing position, and the weight of the gun was taken by a firing platform beneath the main axle. Nominally, the gun could traverse 75°, but if placed so that the stakes that secured the split trail were raised, a 360° traverse was possible. The recoil mechanism was highly sophisticated, making for great accuracy and rapidity of fire. All that was wrong with this fine weapon was its relative complexity, which taxed the Italian arms industry beyond its capacity to keep pace with demand. The weapon was never deployed in sufficient numbers to make much impact, and when Italy bowed out of the Axis alliance in 1943, most of the existing modello 35s were sent with Hungarian units to the eastern front. Those that remained in Italy were eagerly seized by the Germans, who had great respect for the weapon.

General specifications included:

Caliber: 210 mm
Length: 16 feet 4.85 inches
Weight: 52,977 pounds
Elevation: 0° to +70°
Traverse: 75° nominal, 360° possible
Range: 16,850 yards
Shell weight: 222.7 pounds or 293.2 pounds

FIELD ARTILLERY

75-mm field guns. The Italian army employed a number of 75-mm field guns, none of which was very modern and one of which, the Cannone da 75/27 modello 06, was introduced in 1906. Despite its age, it was used throughout the Italian engagement in the war. Only slightly newer was another pre–World War I field piece, the Cannone da 75/27 modello 11, which was an improvement over the 06 in that its unconventional horizontal recoil mechanism performed quite well and minimized the need for re-laying after sustained firing. Despite their age, both guns were used extensively, particularly in the North African Campaign, where the Germans even employed them. Perhaps surprisingly, these field guns were also adapted for use from fixed fortifications and were, therefore, among the most versatile artillery pieces of the war.

General specifications for the modello 06 included:

Caliber: 75 mm
Length: 88.6 inches
Weight: 2,381 pounds
Elevation: -10° to +16°
Traverse: 7°
Range: 11,200 yards
Shell weight: 14 pounds

General specifications for the modello 11 included:

Caliber: 75 mm
Length: 83.93 inches
Weight: 4,190 pounds
Elevation: -15° to +65°
Traverse: 52°
Range: 11,200 yards
Shell weight: 14 pounds

Obice da 75/18 modello 35. In the 1930s, two more 75-mm field guns were introduced into the Italian army. The Obice da 75/18 modello 35 was designed specifically as mountain artillery. It was compact and could be broken down into eight separate components to facilitate transportation over difficult terrain. Elegantly designed, this small gun was highly effective for its specialized purpose. As with almost all Italian weapons, however, despite the thoughtful design, the nation's manufacturing capacity was simply insufficient to keep pace with need. This shortage was exacerbated on the eve of World War II when Mussolini, desperate for foreign currency, authorized the sale of many of these guns to the armies of other nations.

General specifications included:

Caliber: 75 mm
Length: 61.3 inches
Weight: 4,080 pounds
Elevation: -10° to +45°
Traverse: 50°
Range: 10,460 yards
Shell weight: 14.1 pounds

Cannone da 75/32 modello 37. The most modern of Italy's field guns was the Cannone da 75/32 modello 37. A long-barreled weapon, the gun had an impressive range of nearly 14,000 yards. It was designed to be pulled by motorized traction rather than horses, and its well-made split trail allowed for a 50° traverse. The weapon packed sufficient punch to be used effectively in an antitank role. As usual, the only problem was rate of production, which was never sufficient.

General specifications included:

Caliber: 75 mm
Length: 101.3 inches
Weight: 2,756 pounds
Elevation: -10° to +45°
Traverse: 50°
Range: 13,675 yards
Shell weight: 13.9 pounds

HEAVY ANTIAIRCRAFT GUNS

Antiaircraft guns (AA) were of two types. Light AA artillery was used against low-flying ground-attack aircraft and defended troops, vehicles, and structures. Heavy AA artillery was effective against high-altitude strategic bombers that attacked cities and other major facilities.

Cannone da 75/46 C.A. modello 34. Italy deployed two important heavy antiaircraft guns. The Cannonone da 75/46 C.A. modello 34 was a conventional 75-mm weapon mounted on a simple platform and fitted with crude but adequate fire control equipment. It could be transported easily but had a limited ceiling for the heavy AA application. As usual, the biggest drawback was the limited capacity of the Italian arms industry, which could not keep pace with orders for the gun.

General specifications included:

Caliber: 75 mm
Weight: 9,711 pounds
Length: 11 feet 3.8 inches
Elevation: +90°
Traverse: 360°
Ceiling: 27,230 feet
Shell weight: 14.33 pounds

Cannone da 90/53. Significantly heavier was the Cannone da 90/53, which could be fired from a fixed emplacement or from the platform of a heavy truck. The gun could fire a 22.77-pound shell to a ceiling of nearly 40,000 feet and was sufficiently versatile to be pressed into a heavy artillery role, if need be.

General specifications included:

Caliber: 90 mm
Weight: 19,371 pounds
Length: 15 feet 6.5 inches
Elevation: +85°
Traverse: 360°
Ceiling: 39,370 feet
Shell weight: 22.77 pounds

LIGHT ANTIAIRCRAFT GUNS

Italian forces employed a moderately heavy antiaircraft gun in the Cannone da 75/46 C.A. modello 34 and a heavy gun in the Cannone da 90/53, but they developed no truly intermediate weapon. Their two most important light antiaircraft guns were very light, both firing 20-mm projectiles.

Scotti. The Scotti was a 1930s design that fired a 0.276-pound projectile to a ceiling of only 7,005 feet, but it had the advantage of mobility and was reasonably effective against low-flying attack aircraft.

Its general specifications included:

Caliber: 20 mm
Length: 60.6 inches
Weight: 502 pounds
Elevation: -10° to +85°
Traverse: 360°
Ceiling: 7,005 feet
Rate of fire: 250 rounds per minute
Projectile weight: 0.276 pound

Breda. The Scotti was the standard light artillery piece of the Italian army, which also employed the 20-mm Breda, a 1934–35 design that traded a bit of the Scotti's rapid rate of fire for a 1,000-foot increase in ceiling. The Breda also had a much more sophisticated mount, which significantly improved accuracy. Indeed, the gun was held in sufficient esteem to be reserved mainly for defense of the Italian mainland.

General specifications included:

Caliber: 20 mm
Length: 51.2 inches
Weight: 678 pounds
Elevation: -10° to +80°
Traverse: 360°
Ceiling: 8,202 feet
Rate of fire: 200 to 220 rounds per minute
Projectile weight: 0.298 pounds

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artillery, Japanese

Artillery in World War II consisted mainly of seven major categories: self-propelled guns, heavy artillery, field artillery, heavy antiaircraft guns, light antiaircraft guns, rockets, and antitank guns. Japan developed no heavy artillery of note.

SELF-PROPELLED GUNS

As they lagged behind the other major combatants in the development of armor (*see* ARMOR, JAPANESE), so Japan was slow to field self-propelled guns.

Type 4 HO-RO. The most important self-propelled gun Japan produced was the Type 4 HO-RO, a self-propelled short-range 150-mm howitzer. This was mounted on the chassis of a Type 97 medium tank in place of the tank's turret. The crew was afforded scant protection by the open-top housing and the very thin armor around three sides of the gun's breech. Outmoded riveted construction (modern tanks and self-propelled guns used welded construction) also compromised the gun's survivability. Finally, Japanese industry simply was not tooled up to produce the Type 4 in quantity, and these guns were deployed piecemeal for infantry support only.

General specifications included:

Weight: about 30,000 pounds
Length: 18 feet 2 inches
Width: 7 feet 6 inches
Height: 5 feet 1 inch
Power plant: one 170-horsepower V-12 diesel
Top speed: 23.6 miles per hour
Armament: one 150-mm howitzer

FIELD ARTILLERY

75-mm Field Gun Type 38. The only notable field artillery the Japanese army used was the 75-mm Field Gun Type 38, a weapon of venerable design, dating back to a German Krupp 1905 prototype but upgraded in various ways, including by the adoption of a box trail (in place of the pole trail of the Krupp design), which increased elevation. The gun's barrel was balanced on its carriage more effectively, and the recoil mechanism was upgraded and improved. Nevertheless, the gun was at best obsolescent and was never even modified for vehicle traction. Through 1945, it was pulled by horses or mules. That an army as advanced as Japan's was saddled with so archaic a piece of field artillery is both remarkable and puzzling.

General specifications included:

Caliber: 75 mm
Length: 90 inches
Weight: 4,211 pounds
Elevation: -8° to +43°
Traverse: 7°
Range: 13,080 yards
Shell weight: 13.3 pounds

HEAVY ANTIAIRCRAFT GUN

In contrast to light antiaircraft guns, which are used in the field against ground attack by such tactical

aircraft as fighters, attack planes, and light bombers, heavy antiaircraft guns target strategic bombers and protect civilian areas or large military facilities.

Type 88 75-mm antiaircraft gun. The principal Japanese heavy antiaircraft weapon was the Type 88 75-mm antiaircraft gun, which was introduced as early as 1928. At the time of its introduction, it represented the state of the art in heavy antiaircraft defense. By World War II, however, while it remained a good weapon, it was inadequate to defend against high-altitude B-17s and even less adequate against B-29s. It lacked sufficient ceiling to defend against planes of these types.

General specifications included:

Caliber: 75 mm
Weight: 6,056 pounds
Length: 10 feet 10.5 inches
Elevation: +85°
Traverse: 360°
Ceiling: 23,785 feet
Shell weight: 14.5 pounds

LIGHT ANTIAIRCRAFT GUN

As the Japanese army never developed a fully effective heavy antiaircraft gun, it failed also to field a fully effective gun for light, tactical antiaircraft defense.

Type 98 20-mm machine cannon. The Type 98 20-mm machine cannon was capable of firing a 0.3-pound projectile to a ceiling of nearly 12,000 feet, but its magazine held only 20 rounds, and the rate of fire was a mere 120 rounds per minute, about half the rate of most other light antiaircraft weapons. Although quite modern—it was introduced in 1938—the design of the gun was a compromise, since the weapon was intended to be used both for an antiaircraft application and as an antitank gun. Nevertheless, if a gunner could get on target, the Type 98 hit hard and was capable of inflicting serious damage.

General specifications included:

Caliber: 20 mm
Length: 57.5 inches
Weight: 593 pounds
Elevation: -10° to +85°
Traverse: 360°
Ceiling: 11,975 feet
Rate of fire: 120 rounds per minute
Projectile weight: 0.3 pound

ROCKETS

20-cm rockets. The Japanese made extensive use of artillery rockets, the most important of which were two 20-cm rockets, one developed by the army and the other by the navy. The army rocket was launched from a dedicated tube launcher (the Type 4), whereas the navy rocket was launched from a crude wooden trough.

The general specifications of the army rocket included:

Length: 38.75 inches
Diameter: 7.95 inches
Weight: 44.95 pounds
Velocity and range: Unknown

The general specifications for the navy rocket included:

Length: 41 inches
Diameter: 8.2 inches
Weight: 198.5 pounds
Velocity and range: Velocity unknown; range 1,970 yards

ANTITANK GUN

47-mm Type 1. Lagging in the development of armor weapons, the Japanese also fielded but a single significant dedicated antitank gun, the 47-mm Type 1. This weapon was introduced in 1941 to replace a grossly inadequate 37-mm weapon, which had been introduced in 1934. The larger gun had a rapid 15-round-per-minute rate of fire and could pierce two inches of armor at 1,000 yards. This made it effective against light Allied armor but not the heavier tank armor. Worse, the gun was deployed in very limited numbers.

General specifications included:

Caliber: 47 mm
Length: 8 feet 3.5 inches
Weight: 1,660 pounds
Traverse: 60°
Elevation: -11° to +19°

Projectile weight: 3.37 pounds
Armor penetration: 2 inches at 1,000 yards

Further reading: Daugherty, Leo J., III. *Fighting Techniques of a Japanese Infantryman: 1941–1945: Training, Techniques, and Weapons.* Osceola, Wis.: Motorbooks International, 2002; Jowett, Philip S. *Japanese Army 1931–45.* London: Osprey, 2002; Rottman, Gordon, and Ian Palmer. *Japanese Pacific Island Defenses 1941–45.* London: Osprey, 2003.

artillery, Soviet

Artillery in World War II consisted mainly of seven major categories: self-propelled guns, heavy artillery, field artillery, heavy antiaircraft (AA) guns, light antiaircraft guns, rockets, and antitank guns. The Red Army deployed no dedicated light antiaircraft guns but used its 85-mm weapons as well as heavy machine guns.

SELF-PROPELLED GUNS

During the opening weeks of the INVASION OF THE SOVIET UNION, the Germans destroyed or captured huge quantities of Soviet equipment. Seeking to make up their losses, the Soviets took a hard look at their arsenal and chose only the most effective weapons to produce anew on a mass scale.

SU-76. The ZIS-3 3-inch gun had proven itself a fine piece of field artillery and a very good antitank gun. It was now pressed into another role, as the armament of a new self-propelled gun, the SU-76. The ZIS-3 was mounted atop a hastily converted T-70 light tank chassis and body. The new vehicle rolled off assembly lines beginning late in 1942 and was deployed with the Red Army during 1943. By the time it reached the field in quantity, German armor plating had become heavier, and the ZIS-3 was no longer very effective as a tank killer. Soviet troops grew to dislike the weapon, at least until its application was changed from the antitank role to close infantry support.

General specifications included:

Weight: 23,810 pounds
Length: 16 feet
Width: 8 feet 11.5 inches
Height: 7 feet 1.4 inches
Power plant: two 70-horsepower GAZ six-cylinder gasoline engines
Top speed: 28 miles per hour
Armament: one 3-inch gun and one 7.62-mm machine gun

ISU-122 and ISU-152. The Red Army also fielded two heavy self-propelled guns, the ISU-122 and the ISU-152. The first was a conversion from a KV-2 heavy tank chassis. Protruding from the armored box mounted atop the tank's deck was a 122-mm howitzer and, atop the box, a 12.7-mm antiaircraft machine gun. The later ISU-152 was virtually identical, except that it mounted the 6-inch M 1937 howitzer.

General specifications for the ISU-122 included:

Weight: 102,361 pounds
Length: 32 feet 1.8 inches
Width: 11 feet 8.2 inches
Height: 8 feet 3.2 inches
Power plant: one 520-horsepower V-12 diesel
Top speed: 23 miles per hour
Armament: one 122-mm howitzer and one 12.7-mm machine gun in AA mount

HEAVY ARTILLERY

Red Army heavy artillery consisted mainly of 152-mm and 203-mm weapons, none of which were innovative, but all of which were serviceable, simple, and capable of being produced in quantity.

Model 1937 152-mm gun. The Model 1937 was typical of the Soviet 152-mm (6-inch) guns and had the following general specifications:

Caliber: 152.4 mm (6 inches)
Length: 16 feet 1.9 inches
Weight: 17,483 pounds
Elevation: -2° to +65°
Traverse: 58°
Range: 18,880 yards
Shell weight: 95.9 pounds

Model 1943 152-mm howitzer. In addition to 152-mm guns, the Soviets produced a series of

152-mm howitzers, which was considerably lighter, though they still had the range of a heavy artillery weapon. These howitzers, simple, sturdy, powerful, and produced in great quantity, were among the most effective artillery weapons of World War II.

General specifications of the Model 1943 included:

Caliber: 152.5 mm (6 inches)
Length: 13 feet 9.6 inches
Weight: 8,025 pounds
Elevation: -3° to 63.5°
Traverse: 35°
Range: 13,560 yards
Shell weight: 112.6 pounds

Model 1931 203-mm howitzer (B-4). The heaviest Soviet howitzer was the 203-mm Model 1931, also called the B-4. A very heavy gun at almost 40,000 pounds, the Model 1931 had a carriage that used tracks rather than wheels, which enabled it to be pulled across snow, soft ground, marsh, and other poor terrain. However, for transportation over long distances, the heavy weapon had to be broken down into as many as six loads.

The Model 1931 was a notable indirect fire weapon, capable of lobbing a 220-pound shell some 11 miles. Its great drawback, apart from its cumbersome weight, was its slow rate of fire: about one round every four minutes. This made barrage work impractical, but the gun was still highly useful for fire against strongpoints and well-prepared fortifications.

General specifications included:

Caliber: 203 mm (8 inches)
Length: 16 feet 8.3 inches
Weight: 39,022 pounds
Elevation: 0° to +60°
Traverse: 8°
Range: 19,712 yards
Shell weight: 220.46 pounds

FIELD ARTILLERY

Model 00/02 and 02/30 series. The major Soviet field artillery pieces were of 3-inch (76.2 mm) caliber and included the venerable Model 00/02 and 02/30 series, the first of which, produced in 1900 and 1902, dated from the czarist era and was used in both world wars. Many of the 00/02 series guns were modernized in 1930 (as the 02/30 series) with the addition of upgraded ammunition, propellants, and, in many cases, new barrels. This modernized weapon became the standard Red Army field piece of the interwar period.

Its general specifications included:

Caliber: 3 inches
Length: 90 inches
Weight: 2,910 pounds
Elevation: -5° to +37°
Traverse: 2.66°
Range: 13,565 yards
Shell weight: 14.11 pounds

Field Gun Model 1936 (76-36). Even before the outbreak of war, Red Army planners recognized that their field artillery was obsolescent, even obsolete, and in 1936 produced the Field Gun Model 1936, familiarly known as the 76-36. This was a strikingly modern design for its time, with a long, slender barrel that increased both muzzle velocity and range over the earlier model. Its new split-trail carriage provided an impressively wide angle of traverse, which made this gun far handier than the 00/02 and 02/30 models. The new gun also accepted antitank rounds and so had the capability of being used in the antiarmor role.

Its general specifications included:

Caliber: 3 inches
Length: 153.3 inches
Weight: 5,292 pounds
Elevation: -5° to +75°
Traverse: 60°
Range: 15,145 yards
Shell weight: 14.1 pounds

Field Gun Model 1942 (76-42 or Zis-3). While the Model 1936 was a fine gun, many examples of it had been lost to the Germans in the initial phases of the invasion of the Soviet Union. As a consequence, the urgent necessity of new production provided an opportunity to design new weapons.

Among the most impressive and important was the Field Gun Model 1942, also called the 76-42 or Zis-3. This gun holds the distinction of having been produced in greater quantity than any other gun in World War II, a number far into the thousands. The gun was extremely versatile, serving in the traditional infantry support role and also as an antitank weapon. Mounted on a suitable vehicle, it became a self-propelled gun. Soviet designers emphasized simplicity, which saved weight and made the gun easy to handle.

The gun's general specifications included:

Caliber: 3 inches
Length: 127.8 inches
Weight: 2,470 pounds
Elevation: -5° to +37°
Traverse: 54°
Range: 14,450 yards
Shell weight: 13.7 pounds

HEAVY ANTIAIRCRAFT GUNS

During the 1930s, the Red Army followed the lead of the forces of other nations in recognizing the need for a new class of heavy antiaircraft weapons, capable of defending against strategic bombers, which threatened cities and other large installations. The Soviets produced a series of 85-mm guns, culminating, on the eve of war, in the Model 1939 and continuing through the war itself.

Model 1939 antiaircraft gun. The 1939 model was an excellent weapon, with superb range and even very good mobility on its wheeled platform. The Red Army deployed this gun widely, and it served the strategic AA function as well as much of the tactical function usually reserved for light AA guns.

General specifications included:

Caliber: 85 mm
Weight: 9,303 pounds
Length: 15 feet 4.76 inches
Elevation: -3° to 82°
Traverse: 360°
Ceiling: 34,450 feet
Shell weight: 20.29 pounds

ROCKETS

The Red Army made extensive use of rockets, which they correctly saw as highly effective against personnel deployed across the kinds of vast battlefields that typically characterized the war on the eastern front.

M8 82-mm rocket. During the years between World War I and World War II, Soviet scientists devoted a great deal of work to developing effective propellants and produced, during the late 1930s, the M8 82-mm rocket, which could be launched from specially modified light tanks (such as the T-70) and was typically fitted with a high-fragmentation warhead that made these weapons especially devastating against massed troops. The M8 was so effective, in fact, that the Germans copied it.

Adapted from an original air-to-ground rocket, the M8 had the following general specifications:

Length: 26 inches
Diameter: 3.23 inches
Weight: 17.6 pounds
Range: 6,450 yards

M13 132-mm Katyusha. While the M8 was the first of the famous Soviet rockets of World War II, the most extensively used was the larger, 132-mm M13, which was called the Katyusha. The distinctive moan these missiles made in flight became so familiar to German troops that they dubbed the Katyusha "Stalin's organ." Whereas the M8s were generally launched from modified light tanks, the M13s were launched from simple rails mounted on heavy trucks. This made it possible to deploy them in massive numbers, which was the only effective way to use such an inaccurate weapon.

General specifications included:

Length: 55.9 inches
Diameter: 5.2 inches
Weight: 93.7 pounds
Range: 9,295 yards

M30 and M31 300-mm rockets. Experience with the M8 and M13 had persuaded the Soviets that the rocket was a devastatingly effective weapon,

and Red Army planners reasoned that if 82-mm and 132-mm rockets were good, 300-mm rockets would be even better. By the end of 1942, the M30 and M31 300-mm rockets were in the field. They were launched from simple rail launchers mounted on trucks, and they carried high-explosive warheads. The improvement the M31 represented over the M30 was in the engine, which provided greater range (just how much greater is not known, because the range specifications for both weapons are unavailable).

General specifications for the M31 rocket included:

Length: 69.3 inches
Diameter: 11.8 inches
Weight: 201.7 pounds
Range: unknown, but initial velocity was 836 feet per second

ANTITANK GUNS

Armor played a huge, even decisive, role in the war on the eastern front, and antitank weapons were a high priority for the Red Army. The Soviets produced a series of 45-mm antitank guns and a more powerful series of 76.2-mm weapons.

45-mm antitank guns. The first 45-mm guns were produced in the 1930s, and they served in the Russo-Finnish War to good effect, but during the German invasion of the Soviet Union, it quickly became apparent that the 45-mm guns were of little use against the most modern German tanks, which were equipped with very heavy, sloping armor. In 1942, a redesigned 45-mm gun appeared, which had a much longer barrel than the weapons of the 1930s and which outperformed the earlier guns against armor, though it still left much to be desired.

General specifications of the Model 1942 gun included:

Caliber: 45 mm
Length: 9 feet 8.8 inches
Weight: 1,257 pounds
Traverse: 60°
Elevation: -8° to +25°
Projectile weight: 3.151 pounds
Armor penetration: 3.74 inches at 330 yards

M1942 76.2-mm antitank gun. Also produced during the 1930s was a series of 76.2-mm guns, which were followed by the M1942, introduced in 1942. This later model was one of the great artillery pieces of the war and could be used against tanks as well as other targets. Produced in massive numbers, it was deployed in massive numbers, so that Soviet gunners typically trained a great deal of fire on a single, concentrated target. The effect was devastating.

General specifications of the M1942 included:

Caliber: 76.2 mm
Length: 13 feet 8.5 inches
Weight: 3,770 pounds
Traverse: 60°
Elevation: -6° to +25°
Projectile weight: 16.79 pounds
Range: 14,586 yards
Armor penetration: 3.86 inches at 545 yards

Further reading: Bellamy, Chris. *Red God of War: Soviet Artillery and Rocket Forces.* New York and London: Brassey's, 1986; Foedrowitz, Michael, and David Johnston. *Soviet Field Artillery in World War II Including Use by the German Wehrmacht.* Atglen, Pa.: Schiffer, 2000; Markov, David R. *Soviet/Russian Armor and Artillery Design Practices: 1945 to Present.* Darlington, Md.: Darlington Productions, 1999; Zaloga, Steven J. *Red Army of the Great Patriotic War 1941–5.* London: Osprey, 1989.

artillery, U.S.

Artillery in World War II consisted mainly of seven major categories: self-propelled guns, heavy artillery, field artillery, heavy antiaircraft guns (AA), light antiaircraft guns, rockets, and antitank guns.

SELF-PROPELLED GUNS

The United States developed one important self-propelled gun on the eve of World War II and another during the conflict itself.

M7 Priest. The M7, nicknamed "The Priest" by British soldiers, who thought the housing for the antiaircraft machine gun mount looked like a pulpit, was produced just before American entry into World War II. Many examples were shipped directly from

the assembly line to Great Britain as part of the Lend-Lease Act and so found their way into the war even before the United States entered the conflict.

During the interwar period, the venerable 105-mm howitzer had been mounted on half-track vehicles with some success. Designers reasoned that an even more effective platform would be an M3 tank chassis, and the gun was mounted on the front of the vehicle in a large, open armored superstructure. For antiaircraft defense, a 12.7-mm machine gun was mounted in a "pulpit," which provided a degree of protection to the gunner. The M7 served as a self-propelled gun through 1944, at which time many were converted into armored personnel carriers and were nicknamed "Kangaroos."

General specifications for the M7 Priest included:

Weight: 50,634 pounds
Length: 19 feet 9 inches
Width: 9 feet 6.25 inches
Height: 8 feet 4 inches
Power plant: one 375-horsepower Continental nine-cylinder radial gasoline engine
Top speed: 26 miles per hour
Armament: one 105-mm howitzer and one 12.7-mm machine gun in an antiaircraft mount

Carriage, Motor, 155-mm Gun, M40. During the war, the United States fielded a 155-mm self-propelled gun mounted on an M3 tank chassis called the M12 but soon began design work on another 155-mm gun, the long-barreled "Long Tom," which was mounted on an extensively modified M4A3 tank chassis and called the Carriage, Motor, 155-mm Gun, M40. It was not introduced in quantity until late in the war, during January 1945, but proved so effective that production continued after the war, and the M40 was used extensively in the Korean conflict during the 1950s. Although its World War II career was brief, it was among the very best self-propelled guns of the era.

General specifications included:

Weight: 82,000 pounds
Length: 29 feet 8 inches
Width: 10 feet 4 inches
Height: 9 feet 4 inches
Power plant: one 395-horsepower Continental nine-cylinder radial gasoline engine
Top speed: 24 miles per hour
Armament: one 155-mm gun

HEAVY ARTILLERY

M1 8-inch howitzer. The M1 8-inch howitzer was developed from World War I–era British and French guns of this caliber and was finally standardized in 1940, the year before the Untied States entered World War II. It was among the most efficient and powerful weapons of its kind and proved so durable that the U.S. Army still uses it. A superb carriage and recoil mechanism helped to make this a very accurate weapon.

Its general specifications included:

Caliber: 8 inches
Length: 17 feet 5.59 inches
Weight: 32,000 pounds
Elevation: -2° to +65°
Traverse: 60°
Range: 18,150 yards
Shell weight: 200 pounds

155-mm Gun M1. The 155-mm Gun M1 was designed during the late 1930s, using as its basis a World War I French design. The split-trail carriage was efficient and modern, as was the recoil mechanism, which made for a very stable platform. The gun was a very good all-round performer with excellent range for indirect fire.

Its general specifications included:

Caliber: 155 mm
Length: 24 feet 2 inches
Weight: 30,600 pounds
Elevation: -2° to +65°
Traverse: 60°
Range: 25,395 yards
Shell weight: 92.6 pounds

240-mm Howitzer M1. Shortly after World War I, American military planners recommended designing a large-caliber heavy howitzer, but the project languished during the interwar years until the deteriorating situation in Europe motivated completion

of the work. The result was the 240-mm Howitzer M1, a massive weapon capable of lobbing a 360-pound shell 25,255 yards. The gun was transported on a six-wheeled carriage, with the barrel towed on a semi-trailer. Set-up of the 30-ton weapon was no easy task, and the gun had to be erected over a pit to take up the massive recoil. However, once set up, this monster was highly effective.

Its general specifications included:

Caliber: 240 mm
Length: 27 feet 7 inches
Weight: 64,525 pounds
Elevation: +15° to +65°
Traverse: 45°
Range: 25,255 yards
Shell weight: 360 pounds

Little David. Among the most notable pieces of heavy artillery in World War II was Little David, which, at 36 inches, was the largest-caliber weapon used in the war. It started out not as a gun, but as Bomb Testing Device T1, a ground-based launcher intended to test aircraft bombs. It occurred to someone that a testing device designed to lob heavy aerial bombs could easily be used as a super large–caliber howitzer. Indeed, Little David was more in the nature of a muzzle-loading mortar.

The plan, in early 1944, was to prepare Little David for use in what seemed the inevitable invasion of Japan. The weapon was to be directed against the heaviest of Japanese fortifications. The use of atomic weapons against Japan made the invasion unnecessary, and Little David was never used in combat.

General specifications of this oddity included:

Caliber: 36 inches
Length: 28 feet
Weight: 182,560 pounds
Elevation: +45° to +65°
Traverse: 26°
Range: 9,500 yards
Shell weight: 3,700 pounds

FIELD ARTILLERY

105-mm Howitzer M2A1. The United States fought World War I with many borrowed weapons, including in the areas of armor and artillery, and the army emerged from the war determined to begin designing its own standard artillery. In the isolationist interwar period, however, these plans languished until the late 1930s, when the deteriorating situation in Europe finally prompted action. One of the results was the long-delayed emergence of the 105-mm Howitzer M2A1 and its carriage, designated M2A2. This weapon began production in 1939, became one of the great field pieces of World War II, and, in fact, has never been rendered obsolete.

The design of this howitzer is simple and sturdy, easy to produce in massive quantity (which it was) and easy to maintain in the field. Handy and durable, it was used in every U.S. theater of the war. There was nothing innovative or remarkable about the weapon, but it was thoroughly reliable and accurate.

General specifications included:

Caliber: 105 mm
Length: 101.35 inches
Weight: 4,260 pounds
Elevation: -6° to +65°
Traverse: 46°
Range: 12,500 yards
Shell weight: 33 pounds

HEAVY ANTIAIRCRAFT GUNS

3-inch Antiaircraft Gun M3. During the 1920s, the United States took what it believed would be a shortcut in developing heavy antiaircraft artillery by turning to existing equipment, namely the 3-inch coastal defense artillery that had long been in service. These were adapted to new mounts, one for static AA defense and the other a mobile platform. As it turned out, however, many more modifications were required than had been anticipated, including new rifling and an entirely redesigned breech mechanism. Instead of a shortcut, the new work consumed a great deal of time, especially in developing the machine tools necessary to work the guns to the exceedingly close tolerances required for the AA application. By the time the 3-inch Antiaircraft Gun M3 was fully ready in the mid 1930s, it had become apparent to designers that it was at best obsolescent. While the gun was

used during the war, it was gradually withdrawn and replaced by the 90-mm Gun M1. The earlier weapon was relegated mainly to training use.

General specifications of the M3 included:

Caliber: 3 inches
Weight: 16,800 pounds
Length: 12 feet 6 inches
Elevation: +80°
Traverse: 360°
Ceiling: 31,200 feet
Shell weight: 12.8 pounds

90-mm Gun M1. The 90-mm Gun M1 was an all-new design that outperformed the 3-inch gun it replaced and that fired a much heavier shell to a much higher ceiling: 23.4 pounds to 39,500 feet versus 12.8 pounds to 31,200 feet. The new weapon also incorporated a wholly redesigned carriage, with a turntable, and included a power rammer and fuse setter, which greatly increased rate of fire. While the gun was widely admired, its high technology had the drawback of complexity, which slowed production and made maintenance more difficult. Nevertheless, by August 1945, 7,831 had been produced, most of these deployed for coastal AA defense.

General specifications included:

Caliber: 90 mm
Weight: 32,300 pounds
Length: 14 feet 9.2 inches
Elevation: +80°
Traverse: 360°
Ceiling: 39,500 feet
Shell weight: 23.4 pounds

LIGHT ANTIAIRCRAFT GUNS

Maxson Mount. The Maxson Mount was a unique American answer to the need for tactical AA defense. It was a carriage that combined four Browning M2 heavy machine guns of 12.7-mm caliber on a single mount, so that together a spectacular 2,300 round-per-minute rate of fire could be achieved. The rounds contained no explosive charge, and the Maxson Mount was aimed with a simple naval sight, but the rate of fire was nevertheless devastating against low-flying aircraft. The flexible Maxson Mount could be towed into position, or it could be installed on half-tracks or other vehicles, and the use of tracer rounds greatly facilitated target leading.

General specifications included:

Caliber: 12.7 mm
Length: 65.1 inches
Weight: 2,396 pounds
Elevation: -5° to +85°
Traverse: 360°
Ceiling: 3,280 feet
Rate of fire: 2,300 rounds per minute (all four guns firing)

37-mm Antiaircraft Gun M1. Unlike some combatants, the United States fielded not only heavy AA artillery and light AA artillery, but also what might be classified as intermediate AA artillery. The 37-mm Antiaircraft Gun M1 fired heavier projectiles than a machine gun and had a much higher ceiling. It was effective against attack aircraft that flew well below strategic bomber altitudes but that remained above 5,000 feet. Many of these weapons were used by the United States, and even more were delivered to the Soviet Union under the provisions of Lend-Lease.

General specifications included:

Caliber: 37 mm
Length: 78.2 inches
Elevation: -5° to +90°
Traverse: 360°
Ceiling: 18,600 feet
Rate of fire: 120 rounds per minute
Projectile weight: 1.34 pounds

ROCKETS

The U.S. Army entered World War II without any field rocket weapons at all, but, observing the effectiveness of Soviet rockets, ordnance planners quickly developed several U.S. rockets, along with simple launchers.

M8 4.5-inch rocket. The most important American rocket was the M8, a 4.5-inch rocket with a high-explosive warhead. A total of 2.5 million of these fin-stabilized projectiles were produced during the war, and they were typically fired from multiple launchers, some mounting as many as 60

tubes. As with other rockets of the war, the M8 was quite inaccurate, but by massing fire, the effect could be devastating, especially at close range.

General specifications included:

Length: 33 inches
Diameter: 4.5 inches
Weight: 38.5 pounds
Range: 4,600 yards

ANTITANK GUNS

M3 37-mm towed gun. In addition to making very effective use of tank destroyers (*see* ARMOR, U.S.), the American army fielded two major antitank guns. The first, initially deployed in 1939, was the M3, a 37-mm towed gun that was obsolete upon its very introduction. Capable of penetrating no more than 2 inches of armor at 500 yards, it was thoroughly inadequate against modern German plate. Although it was deployed in the NORTH AFRICAN CAMPAIGN, it did not last long in Europe.

General specifications included:

Caliber: 37 mm
Length: 6 feet 10.5 inches
Weight: 912 pounds
Traverse: 60°
Elevation: -10° to +15°
Range: 500 yards
Armor penetration: 2 inches at 500 yards

3-inch M5 antitank gun. In late 1941, the army rushed into production a replacement for the woefully inadequate 37-mm M3 antitank gun. The 3-inch M5 was heavy and somewhat awkward, but it packed the kind of punch necessary to kill heavily armored German tanks. At 2,000 yards, its fire could pierce through 3.31 inches of armor plate. Popular with gun crews, the weapon was heavy and required the services of a 6 x 6 truck for towing. The gun was also adapted to a Sherman tank chassis as a self-propelled tank destroyer.

General specifications included:

Caliber: 3 inches
Length: 13 feet 2.4 inches
Weight: 5,850 pounds
Elevation: -5.5° to +30°
Traverse: 46°
Range: 2,000 yards
Armor penetration: 3.31 inches at 2,000 yards

Further reading: Crawford, Steve. *Artillery of World War II.* Osceola, Wis.: Motorbooks International, 2001; Gander, Terry. *Heavy Artillery of World War II.* Marlborough, U.K.: Crowood Publishing, 2001; Hogg, Ian V. *British and American Artillery of World War II.* London: Greenhill, 2002; Scheier, Konrad. *Standard Guide to U. S. World War II Tanks and Artillery.* Iola, Wis.: Krause, 1994.

ASDIC.

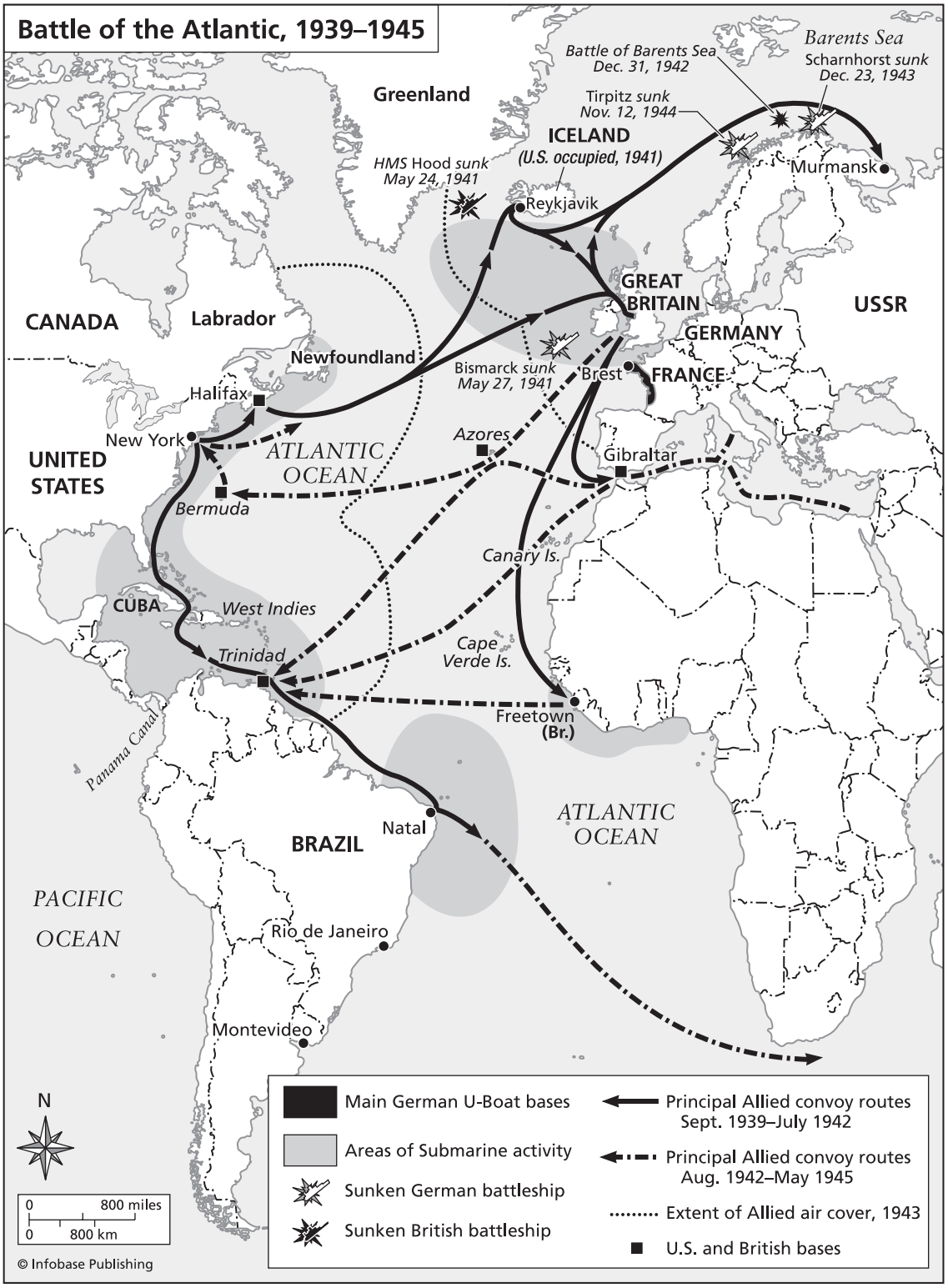
See SONAR.

Atlantic, Battle of the

The *Battle of the Atlantic* is a popular historical name (Britain's Prime Minister WINSTON CHURCHILL first began using the phrase in August 1940) for the long struggle—spanning the entire six years of World War II, from 1939 to 1945—to secure the Atlantic convoy routes, which were the lifeline for the European Allies. It was by no means a battle in the traditional military sense but, rather, a long series of numerous encounters, engagements, attacks, and campaigns. For the Allies, the overall objectives of the struggle were straightforward: blockade Axis Europe; secure sea movements, especially of vital convoys; and attain and maintain the ability to project military force overseas.

The first objective was achieved with relative ease, since the Allied navies far outnumbered German and Italian naval forces. Although Germany enjoyed very limited success with blockade-running operations, generally the Allied naval blockade was quite effective. It is also true, however, that the European Axis did not have to rely on the Atlantic for most of its supplies, since, through much of the war, Germany controlled many European overland routes and had conquered numerous manufacturing and agricultural centers.

The third objective depended largely on the development of AMPHIBIOUS WARFARE doctrine, techniques, and tactics, which had not fully matured until OPERATION OVERLORD and the NORMANDY



LANDINGS (D-DAY) of June 1944. By that time, the second objective, securing Allied sea movements, had been largely achieved, which also enabled achievement of the amphibious warfare objective.

That second objective, securing Allied sea movements, was, however, extremely difficult to attain. While the surface fleet of the Kriegsmarine, the NAVY OF GERMANY, was not large, its submarine (or U-boat) fleet was substantial, modern, and growing. It was the German U-boat that was the most destructive weapon in the Battle of the Atlantic, and the menace posed by submarine warfare largely dictated Allied operations in the battle.

Yet the U-boat did not immediately come to the fore in the Battle of the Atlantic. During the opening months of the war, after the INVASION OF POLAND in September 1939 and before the fall of France in June 1940, the Kriegsmarine operated against Allied shipping mainly using surface ships, including so-called pocket battleships (smaller than conventional battleships, but typically with even greater firepower) and cruisers, collectively called surface raiders. These vessels were augmented by smaller cruisers called auxiliary cruisers. This early phase of the Battle of the Atlantic largely consisted of German surface raiders harassing Allied shipping.

After the fall of France, Germany acquired French and Norwegian bases from which submarines could operate with little interference by the hitherto quite effective British naval blockade. Moreover, the German objective in the Battle of the Atlantic was no longer the catch-as-catch-can destruction of cargo and transport shipping or even battling the Royal Navy. With Great Britain cut off from the European continent, the objective was now to strangle and starve the nation by cutting off all Atlantic communication and supply routes. It quickly became apparent that submarines were the most effective weapon for this destruction, and the Battle of the Atlantic evolved into perhaps the most serious threat Germany posed. (Another important German vessel deployed in the Battle of the Atlantic was the merchant raider, better known as the Q-SHIP. Heavily armed warships disguised as civilian freighters, the Q-ships would sneak up on Allied merchant vessels and open fire.)

STATISTICAL COURSE OF THE BATTLE OF THE ATLANTIC

The overall course of the Battle of the Atlantic can be charted year by year by looking at tonnage lost:

Year	Allied Losses (Tons)	German U-Boat Losses (Tons)	German Surface Ship Losses (Tons)
1939	755,392	421,156	61,337
1940	7,805,360	3,801,095	277,028
1941	4,921,792	3,111,051	205,966
1942	7,790,697	6,546,271	325,086
1943	3,220,137	1,189,833	7,040
1944	1,045,629	N/A	N/A
1945	438,821	N/A	N/A

In terms of actual numbers of ships lost, the battle looked like this:

Year	Allied Losses to U-boats	U-boats Sunk
1939	50	9
1940	225	24
1941	288	35
1942	452	87
1943	203	237
1944	67	242
1945	30	151
Total	1,315	785

What accounts for the general direction of these statistics? German U-boats were plentiful and, early in the war, developed WOLFPACK U-BOAT TACTICS, by which several boats coordinated a single attack for greatly enhanced effectiveness. Moreover, by December 1941, when the United States entered the war, U-boats were already capable of operating as far as the Caribbean and the Gulf of Mexico and could attack shipping even off the East Coast of the United States. The effectiveness of the

U-boat increased alarmingly through 1942. However, by early 1943, several Allied technological and tactical advances began sharply to turn the tide against the U-boats, transforming the hunters into the hunted. SONAR technology (by which surface ships could detect U-boats underwater) was developed from earlier ASDIC technologies. Long-range bombers became available, thereby extending the range of antisubmarine patrol. Developments in RADAR technology greatly increased the effectiveness of these patrols. Tactically, the Allies perfected both the CONVOY SYSTEM and more effective means of escorting the convoys.

CHRONOLOGICAL COURSE OF THE BATTLE OF THE ATLANTIC

On the very first day of the war, September 1, 1939, German U-boats sank a British passenger liner, the *Athena,* and, two weeks later, a warship, HMS *Courageous.* On September 14, the British sank their first U-boat. During this first month, Germany also deployed two great surface raiders, *Admiral Graf Spee* and *Deutschland. Gneisenau* and *Scharnhorst* would follow in November. In the meantime, the British carrier *Royal Oak* was sunk on October 12 in its Scapa Flow anchorage, the principal home base of the Royal Navy.

On December 13, 1939, off the coast of Uruguay in the South Atlantic, the British cruisers *Ajax, Exeter,* and *Achilles* trapped the *Admiral Graf Spee* in the Battle of the River Plate. As a result of the engagement, the commander of the *Graf Spee* scuttled his ship rather than let it fall into British hands.

March 1940 saw the maiden voyage of the German surface raider *Atlantis,* which would sink 145,697 tons of Allied shipping—the most of any surface raider—before it was sunk in November 1941 by HMS *Devonshire.* During April 9–13, off Narvik, Norway (*see* NARVIK, BATTLES OF), the British battleship *Warspite,* in concert with the destroyers *Hardy, Hotspur, Havock, Hunter,* and *Hostile,* engaged a 10-ship German destroyer flotilla, sinking or forcing the scuttling of all the German combatants. In May, the Royal Navy managed one of the great rescues of the war, evacuating trapped British forces from Dunkirk (*see* DUNKIRK EVACUATION), but on June 8, the Royal Navy suffered a sharp blow when the carrier HMS *Glorious* and two escort vessels were lost in action to *Scharnhorst* and *Gneisenau.*

Elsewhere, in July 1940, British ships fired on the French fleet at Oran, North Africa, after it refused to surrender. At about this time in the Mediterranean, British warships sank the *Giulio Cesare,* pride of the Italian fleet.

On September 2, 1940, U.S. president FRANKLIN D. ROOSEVELT issued an executive order transferring 50 obsolescent U.S. Navy destroyers to the Royal Navy in exchange for leases on various British bases. These ships would perform valuable convoy escort duty. However, on September 21, 11 British merchant ships were lost when German U-boats put into practice wolfpack tactics and attacked Convoy HX 72. Even worse came the next month, during the so-called Night of the Long Knives, October 17–18, when a wolfpack attacked Convoy SC 7, sinking 20 of 34 ships.

The first two months of 1941 brought more terrible destruction against Allied shipping. In January, *Scharnhorst* and *Gneisenau* renewed their attacks, and in February, the Germans staged the first coordinated assault on a convoy (HG 53), using aircraft, surface ships, and U-boats to sink 9 of 16 ships. In a single day, February 22, *Scharnhorst* and *Gneisenau* sank five British vessels.

March 9 saw the loss of five more British ships, and on March 15, German surface raiders and U-boats worked in concert to sink 13 ships and capture three tankers. However, at the Battle of Cape Matapan, March 27–28, 1941, British warships struck a devastating blow against the Italian fleet, sinking the cruisers *Pola, Fiume,* and *Zara* as well as two destroyers—without the loss of a single British vessel or sailor. More than 2,400 Italian sailors were drowned. Yet, during March 27–28, U-boats sank another 43 British ships. The ratification of the LEND-LEASE ACT by the United States Congress during this month promised to make up at least some of the British losses, but the record for April, 45 ships sunk, was grim, and the U.S. Navy, transferring ships from the Pacific to the Atlantic Fleet,

began its UNDECLARED NAVAL WAR WITH GERMANY.

In May, while hunting the formidable German pocket battleship *BISMARCK* and its companion, the cruiser *Prinz Eugen,* HMS *Hood* was sunk with the loss of all hands. Efforts to sink the *Bismarck* were redoubled after this catastrophe, and *Bismarck* was indeed sunk—a grave loss to the German surface fleet and a terrible blow to German morale. Despite this triumph, U-boats sank 58 ships this month. Nevertheless, during the summer, the effectiveness of U-boat attacks dipped as the Allies improved convoy tactics. It was the first glimmer of hope in the long struggle.

Although the United States would not enter World War II until December, increasing numbers of U.S. Navy destroyers began escorting convoys through waters adjacent to the North American continent. Germany's admiral KARL DÖNITZ ordered his U-boats to avoid attacking American vessels—he had no desire to provoke the United States into joining the war—but on September 4, 1941, U-652 fired on the destroyer USS *Greer.* This prompted President Roosevelt to authorize outright defense of convoys and brought the United States significantly closer to joining the battle. On October 16, the U.S. destroyer *Reuben James* was sunk with the loss of 115. In November, the British lost the carrier *Ark Royal* to a U-boat attack.

On December 11, just three days after the United States declared war on Japan following the attack on PEARL HARBOR, Germany declared war on the United States and immediately dispatched U-boats to prowl the waters of the American East Coast. This rapidly evolved into Operation Drumbeat, a concerted campaign against Allied shipping in American waters, inaugurated on January 13, 1942. Tankers were deemed first-priority targets, and 35 ships were sunk near the United States coast before the month ended. U.S. Navy air patrols began hunting for submarines, scoring their first kill off the East Coast on March 1. Nevertheless, Germany was committed to expanding operations in American waters and developed large submarines dubbed "milk cows," which performed underway replenishment of fuel and provisions for the attack U-boats, thereby greatly extending patrol range and endurance. In May alone, U-boats sank 45 ships in the Gulf of Mexico.

Success in American waters notwithstanding, Admiral Dönitz decided in July to reconcentrate his U-boat fleet in the North Atlantic. Despite the deadly effectiveness of the U-boat campaign, Allied ships successfully landed U.S. and British troops in Northwest Africa, and the Allies also reinstated convoys to the Soviet Union. Determined to make up for losses and to ensure an uninterrupted flow of supplies and materiel, the United States inaugurated a crash program of ship building, launching LIBERTY SHIPS, specially designed to be built rapidly. Not only were the ships launched at an amazing rate, the pace of recruitment of sailors for the UNITED STATES MERCHANT MARINE was dazzling. The Allies also became increasingly aggressive in beating off attacks against convoys, as the Battle of Barents Sea on December 31, 1942, demonstrated. The Royal Navy cruisers *Jamaica* and *Sheffield* and the destroyers *Obdurate, Onslow,* and *Achates* engaged the German pocket battleship *Lutzow,* the cruiser *Hipper,* and seven destroyers, sinking one German destroyer for the loss of the *Achates,* but successfully driving off the attack on a convoy.

Disappointed in the performance of his surface fleet, ADOLF HITLER began 1943 by ordering the effective liquidation of his surface navy and greatly increased production of U-boats. Allied losses continued to mount, but, by April, it was becoming clear that these losses were beginning to level off even as U-boat losses increased. This was thanks mainly to new and improved escort tactics. Indeed, in May, Admiral Dönitz generally halted attacks on North Atlantic convoys because U-boat losses had reached unacceptable levels. Some historians believe that the Battle of the Atlantic essentially ended with this withdrawal, an assessment that sailors of the Allied merchant marine and German U-boat crews would certainly have disputed.

In September 1943, Royal Navy commandos were sent to sink the battleship *Tirpitz* using limpet mines. Although *Tirpitz* was damaged in this attack, it did not sink and would survive until November

1944, when Royal Air Force bombers finally destroyed it. On December 26, 1943, *Scharnhorst* was engaged by the Royal Navy's battleship *Duke of York* and the cruisers *Belfast, Norfolk, Sheffield,* and *Jamaica. Scharnhorst* was sunk with the loss of 1,927 sailors; the 36 crew members who were rescued became prisoners of war. In view of Hitler's abandonment of the surface navy, the loss of the *Scharnhorst* was the final blow for the German surface fleet.

During 1944 and through the opening months of 1945, the Battle of the Atlantic continued with far less intensity. One significant episode occurred on June 4, 1944, off the North African coast, when a U.S. Navy "hunter-killer group," consisting of the escort carrier *Guadalcanal* and five destroyers, attacked U-505, forcing it to surface. The German commander ordered his men to abandon ship and to scuttle the boat, but U.S. sailors boarded the vessel, disarmed its self-destruction device, and saved the U-505 from sinking. The first enemy prize taken by the U.S. Navy since the War of 1812, the U-505 was salvaged and eventually donated to the Museum of Science and Industry in Chicago. A more important prize than the submarine, however, were the code books recovered from it, which allowed American cryptanalysts to break the special code used to position U- boats. This intelligence allowed hunter-killer groups to home in on these locations and also to vector Allied convoy commanders away from them.

Although the Battle of the Atlantic did not fully end until Germany surrendered in May 1945, the role of the Atlantic fleets of the U.S. Navy and Royal Navy turned for a time almost exclusively to supporting Operation Overlord, the D-day invasion, in June 1944. Following this, most Allied Atlantic naval assets were deployed for ongoing convoy escort duty.

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Atlantic Charter

The United States was still officially neutral during August 9–12, 1941, when President Franklin D. Roosevelt and British prime minister Winston Churchill met aboard the cruiser USS *Augusta* in Placentia Bay, Newfoundland, and concluded an Anglo-American statement of common principles that became known as the Atlantic Charter. The two leaders signed the charter on August 14, 1941.

The Atlantic Charter enumerated eight principles of American and British aims in war as well as peace:

> The President of the United States of America and the Prime Minister, Mr. Churchill, representing His Majesty's Government in the United Kingdom, being met together, deem it right to make known certain common principles in the national policies of their respective countries on which they base their hopes for a better future for the world.
>
> First, their countries seek no aggrandizement, territorial or other;
>
> Second, they desire to see no territorial changes that do not accord with the freely expressed wishes of the peoples concerned;
>
> Third, they respect the right of all peoples to choose the form of government under which they will live; and they wish to see sovereign rights and self government restored to those who have been forcibly deprived of them;
>
> Fourth, they will endeavor, with due respect for their existing obligations, to further the enjoyment by all States, great or small, victor or vanquished, of access, on equal terms, to the trade and to the raw materials of the world which are needed for their economic prosperity;
>
> Fifth, they desire to bring about the fullest collaboration between all nations in the eco-

nomic field with the object of securing, for all, improved labor standards, economic advancement and social security;

Sixth, after the final destruction of the Nazi tyranny, they hope to see established a peace which will afford to all nations the means of dwelling in safety within their own boundaries, and which will afford assurance that all the men in all lands may live out their lives in freedom from fear and want;

Seventh, such a peace should enable all men to traverse the high seas and oceans without hindrance;

Eighth, they believe that all of the nations of the world, for realistic as well as spiritual reasons must come to the abandonment of the use of force. Since no future peace can be maintained if land, sea or air armaments continue to be employed by nations which threaten, or may threaten, aggression outside of their frontiers, they believe, pending the establishment of a wider and permanent system of general security, that the disarmament of such nations is essential. They will likewise aid and encourage all other practicable measures which will lighten for peace-loving peoples the crushing burden of armaments.

Franklin D. Roosevelt
Winston S. Churchill

The charter's principles were given broader scope when they were endorsed by 26 Allied nations in the United Nations Declaration of January 1, 1942.

See also Lend-lease Act and Neutrality Acts, U.S.

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atrocities, German

Germany and Japan were by no means the only combatant nations that perpetrated atrocities during World War II. Viewed from the perspective of traditionally acceptable rules of warfare as well as from international law and formal convention, the British and Americans were guilty of massive atrocities when their massive bombing raids targeted civilians, and the Soviets operated concentration camps, called gulags, long before the regime of Adolf Hitler built Germany's concentration and extermination camps. Nevertheless, throughout World War II, atrocities on an epic and horrific scale were matters of policy and routine for the forces of both Germany and Japan.

The most egregious of Nazi atrocities was, of course, the perpetration of the Holocaust, the systematic murder of some 6 million Jews within the Reich and nations occupied by the Reich. Although Jews were the single greatest target of Nazi genocide, other groups were also singled out for deportation to concentration camps or execution. These included Slavs, certain categories of prisoners of war, Gypsies, political dissidents and "undesirables," homosexuals, and, in some cases, those judged physically or mentally subnormal. Although Hitler was careful to avoid issuing any written orders directing mass murder and other persecution of civilian populations, the historical evidence that these crimes were committed at his behest is overwhelming.

In addition to the systematic and outright persecution and genocide of civilian populations, German combat practices often involved atrocities. The bombing of Warsaw during the 1939 invasion of Poland and the 1940 Rotterdam air raid were deliberate military attacks on civilians intended to terrorize and thereby break the will of the nations to resist conquest. In fact, these tactics, terrible though they were, proved ineffective. Often, instead of crushing resistance, they tended to intensify it. The German Coventry air raid (which, like Allied strategic bombing raids, targeted an industrial war production center and was not simply intended to induce terror) triggered vehement Allied reprisals against German civilian targets. No

less a figure than the chief of the Luftwaffe, Hermann Göring, coined a new German verb to apply to the subsequent Allied air raids against German cities: *coventrieren.* It did not simply mean "to bomb" a target but literally meant "to Coventry" it.

On the ground, German troops and officers were greatly feared for their brutality, which was often as gratuitous as it was vicious and prodigal. This was especially the case on the eastern front, although not confined to it. Perhaps the most infamous instance of officially sanctioned atrocity was Hitler's so-called Commissar Order of 1941, which authorized the immediate execution of all Soviet political officers taken as prisoners of war. Another form of German atrocity was the practice of disproportionate reprisal. When partisan or other resistance was encountered in occupied areas—acts of sabotage, sniper activity, the assassination of German soldiers or officials—the German occupiers routinely responded by seizing and summarily executing large groups of individuals. If partisans killed one German officer, 10, 20, perhaps 100 individuals from the city or village in which the incident occurred would be rounded up and shot, typically in the presence of family members. Among the most notorious incidents of reprisal took place in the little Czech village of Lidice. After Czech partisans assassinated Reinhard Heydrich, the Nazi overlord of Czechoslovakia, the Schutzstaffel (SS) arrested thousands, killing more than 2,000 Czechs and descending upon Lidice—population about 450—which they totally destroyed. All men were executed, the women were deported to Ravensbrück concentration camp, and the children (81 of them) were gassed in a death camp.

Generally speaking, Soviet prisoners of war (POW) held by the Germans were treated inhumanely, with abuse ranging from neglect and starvation to deliberate torture and murder. Nazi racial philosophy held that Slavs were subhuman and deserved no better treatment. Of the 5.7 million Soviet troops captured by the Germans during the war, as many as 3.3 million may have died in captivity. In contrast, western Allied prisoners were not customarily treated with gratuitous cruelty, although POW camp conditions were often grossly inadequate, with food and medical attention in critically short supply. The Luftwaffe, which had custody of captured Allied airmen, typically treated POWs more humanely than did camps operated by the Wehrmacht. Nevertheless, the Germans perpetrated a number of notorious battlefield atrocities, including the following.

At Leparadis, France, in May 1940, British troops of the Royal Norfolk Regiment, pinned down and out of ammunition, surrendered to troops of the SS Totenkopf ("Death's Head") Division. On orders from their commander, Fritz Knoechlein, the SS men lined up 99 of the POWs and trained a machine gun on them. All but two died. After the war, Knoechlein was tried for this atrocity and hanged in January 1949.

Also in May 1940, at Wormhoudt, France, members of SS regiment Leibstandarte Adolf Hitler led 80 British POWs into a barn, then threw hand grenades in among them. As soldiers ran out of the barn, they were cut down by automatic weapons fire. Nevertheless, 15 survived to bear witness to the crime, although no one was ever tried for it.

In Kos, Greece, during October 1943, after capturing this Aegean island, German troops responded to an order from Hitler to summarily execute 102 Italian officers who had been fighting on the Allied side.

At Sagan, Silesia, Germany, in March 1944, 79 Royal Air Force (RAF) officers escaped from a Luftwaffe POW camp. Of this number, only three escaped to Britain; the rest were recaptured. Adolf Hitler personally ordered the execution of 50 of these men. After the war, 38 Germans were found guilty of this atrocity; 21 were hanged, and 17 sentenced to prison terms.

During the Normandy invasion (D-day), members of the 12th SS Panzer Division (Hitler Jugend, "Hitler Youth") shot more than 130 of the Canadian troops they took prisoner. Some were executed individually, others cut down in groups.

The most notorious German battlefield atrocity occurred at Malmédy, Belgium, in December 1944 during the Battle of the Ardennes (Battle of the Bulge). Troops of the 1st Panzer Division murdered 83 U.S. POWs.

As mentioned, in addition to battlefield atrocities, German military units frequently retaliated against civilian populations. In addition to the Lidice event, some of the most infamous of these atrocities include:

At Kortelisy in Ukraine, during September 1942, SS members responded to partisan activity by enlisting the aid of Ukrainian police to kill every man, woman, and child in the village, about 2,900 persons.

In Kalavryta, Greece, during December 1943, German troops rounded up all 696 men of the village and shot them to death, along with about 600 men from neighboring villages.

After a partisan bomb killed some 90 SS police in Rome during March 1944, Adolf Hitler personally ordered reprisals in which more than 300 Romans were transported by truck to the Ardeantine Caves, where they were killed.

In Ascq, France, during April 1944, the SS retaliated after saboteurs blew up railroad tracks on which troops of the 12th SS Panzer Division ("Hitler Jugend") were traveling. The Germans shot nearly 100 men from families whose houses were located near the sabotaged track.

Troops of the 2nd SS Division ("Das Reich") descended on the village of Oradour-sur-Glane, France, in reprisal for partisan attacks. After assembling the villagers, the troops separated the men from the women and children, then shot the men as their families looked on. After this, the troops herded the women and children into a local church, locked the doors, and set the structure ablaze with hand grenades. A total of 642 died, two-thirds of them women and children.

In the Saulx Valley, France, during August 1944, partisans, led by members of the British Special Air Service (SAS), ambushed a German staff car. In response, SS men arrested people from several of the valley's villages, killed 36 men, and set fire to all the buildings in the villages.

In Putten, Holland, during September 1944, Dutch resistance operatives abducted a German lieutenant and held him hostage. Ultimately, the partisans released the officer, but the Germans nevertheless retaliated by arresting 589 men, and deporting them to Germany as slave laborers. Only 49 survived the war.

At Bande, Belgium, during December 1944, German Security Service agents murdered 34 men in reprisal for the killing of three German soldiers.

At De Woeste Hoeve, Holland, Dutch underground operatives attacked and severely wounded a German general during March 1945. The SS rounded up 116 villagers and shot them all. They then turned to prisoners they had already been holding. Total murders numbered 263. After the war, the British captured and tried Dr. Eberhardt Schongarth, the SS officer who had ordered the killings, and hanged him in 1946.

See also Atrocities, Japanese; Nuremberg War Crimes Tribunal; Strategic Bombing of Germany; Strategic Bombing of Japan; Tokyo War Crimes Trials.

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atrocities, Japanese

As observed in the discussion of German atrocities, Germany and Japan were certainly not the only combatant nations who perpetrated atrocities during World War II. The record of the Soviet Union

is poor and often horrifying. The STRATEGIC BOMBING OF GERMANY by the United States and Great Britain and the STRATEGIC BOMBING OF JAPAN by the United States might well be defined as atrocities under international law and convention, because these programs deliberately targeted civilian populations. However, no combatant more routinely perpetrated battlefield atrocities—abuses committed against enemy soldiers—than the Japanese. And while no atrocity of World War II was of greater enormity than the Nazi HOLOCAUST, the Japanese also perpetrated war crimes against civilian populations in occupied countries. Collectively, these may have killed even more people than the atrocities committed by the forces of Hitler's Germany.

Whereas German war crimes and persecutions may be attributed in some part to Nazi racial mythology, which classified Jews, Slavs, Gypsies, and other groups as racially inferior and even subhuman, Japanese abuses may in significant part be ascribed to Bushido, the traditional warrior code of the Samurai, which defined surrender, not death, in battle as the greatest of disgraces. Bushido gave victors absolute power over those captured or conquered, who, having suffered the ultimate disgrace in surrendering rather than fighting to the death, were legitimately liable to whatever mistreatment the victor chose to mete out.

Although both the German and the Japanese officers and troops accused of war crimes were tried by Allied tribunals after the war, the Japanese atrocities are not nearly as well documented as those perpetrated by the Germans, and the numbers involved are widely disputed, some authorities claiming that Chinese civilian casualties during 1937–45 (and including those incurred during the SINO-JAPANESE WAR) numbered some 30 million killed. Many civilians died of neglect, starvation, and disease; many, however, were murdered outright or subjected to rape, torture, medical experimentation, and experimentation related to biological warfare. While German atrocities were committed against civilians on a genocidal scale comparable to that of the Japanese atrocities, German military commanders typically attempted to treat military prisoners of war (POW) with a degree of honor, except in the case of Soviet POWs. In contrast, Japanese commanders, observing Bushido, deliberately abused, neglected, enslaved, and tortured prisoners of war, for example, the BATAAN DEATH MARCH. Less well known than the infamous Japanese POW camps were the prison ships on which the Japanese transported thousands of Allied prisoners. Conditions onboard were appalling, as prisoners were crammed into the cargo holds of decrepit and marginally seaworthy freighters and supplied with little food and water and no sanitary facilities. Many died of this treatment alone. As usual, guards were, in the main, sadistic and abusive. Because the prison ships were unmarked and appeared to Allied submarines and other warships and aircraft as nothing more or less than enemy freighters, they were frequently attacked and sunk, with the loss of most or all aboard.

The most infamous instances of Japanese atrocities include:

- The RAPE OF NANKING, in which 250,000 to 300,000 Chinese civilians were killed, began in December 1937. Modes of murder included torture, immolation, burial alive, and beheading in addition to simple shooting. Among those killed in actual combat during the Japanese invasion of northern China, some were victims of BIOLOGICAL WARFARE agents.
- At Tol Plantation, in Rabaul (on New Britain in the Solomon Islands chain), Japanese troops shot or bayoneted more than 100 Australian troops during February 1942 after they surrendered.
- On Ballalae Island in the Solomons, between 1942 and the end of the war, 516 British POWs perished under forced labor. They had been transported from the FALL OF SINGAPORE to Ballalae to build an airstrip. This figure represents a 100 percent casualty rate.
- In China's Kinso and Chekiang Provinces, Japanese troops exacted terrible reprisals against Chinese civilians after the capture (and summary execution) of three U.S. airmen who had crash landed after the successful

Doolittle Tokyo Raid. During their hunt for other Doolittle raiders, Japanese troops killed thousands of Chinese and razed entire villages.

On Ambon Island in the Dutch East Indies, Japanese troops beheaded more than 200 Australian and Dutch POWs during February 1943.

In January 1943, following the valiant defense of Wake Island by U.S. Marines and civilian contractors, the finally victorious Japanese machine gunned 98 of the American contractors, who had been building the island's military facilities.

During June 1945, at Kalagon, Burma (modern Myanmar), Japanese troops on the hunt for British-led Burmese guerrillas surrounded the village and bayoneted or shot to death more than 600 villagers.

At Sandakan, North Borneo, during this same month, some 2,000 British and Australian POWs died. Most had been starved or marched to death, others succumbed to disease, and many were simply murdered. Here also, some 4,000 Javanese civilians died under Japanese enslavement as laborers.

In July, at Loa Kulu, Borneo, Japanese soldiers murdered 140 men, then seized their wives and children, many of whom were thrown to their deaths down a deep mine shaft.

In this same month, at Cheribon, Java, Japanese naval personnel herded 90 civilian prisoners onto the deck of a submarine, sailed, then submerged, leaving the men, women, and children to drown or to be attacked by sharks. A single badly injured survivor of a shark attack lived just long enough to report what had happened.

Yet another war crime was the rape of thousands of so-called comfort women, women forced into sexual slavery to serve the sexual needs of Japanese troops at designated military "comfort stations." Most of these women were Korean, but they were transported to outposts on many fronts. Japanese warrior tradition held that sex before battle had talismanic or magical properties that could protect against injury or death.

See also Nuremberg War Crimes Tribunal; Tokyo War Crimes Trials.

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attack aircraft

While the air arms of the major powers concentrated on developing bomber aircraft and fighter aircraft, another important but less well developed category were attack aircraft, warplanes designed to support ground forces with what was variously called close air support, close ground support, or ground attack. The close air support concept was developed in the infancy of military aviation, during World War I, when aircraft were often used as "trench fighters," with the ability to break through the ground defenses that had transformed the western front into a bloody stalemate. However, the aircraft of World War I could not carry sufficient weapons to inflict decisive damage. Moreover, they were highly vulnerable to ground fire. During the interwar years, the Luftwaffe developed effective close air support tactics, which were honed and demonstrated during the Spanish Civil War (1934–36). The Junkers Ju-87 "Stuka" dive bomber became the ground attack aircraft par excellence of the Blitzkrieg that opened World War II, and other nations either adapted current fighter designs and light bomber designs to the ground attack role or designed aircraft specifically for ground attack.

Ground attack consists of tactical bombing and strafing. Tactical bombing deploys relatively small bombs, often fragmentation weapons designed to broadcast shrapnel to kill or wound large numbers of personnel, in contrast to strategic bombing, which uses masses of large bombs, generally against major structures and population centers. Strafing is the use of extended machine gun or cannon bursts against ground targets, including personnel, vehicles, and even some structures. Ground attack generally requires highly skilled pilots capable of executing steep dives and low, slow attacks. The tactics expose aircraft to ground fire and also to counterattack by enemy fighter aircraft. Because of the nature of the ground attack mission, which requires aircraft capable of low, slow flight, opposing fighters generally have a performance advantage. Moreover, ground attack pilots, intent on their forward-looking mission below, are especially vulnerable to fighter attack from behind and above. This vulnerability was addressed in some ground attack aircraft by the inclusion of a rear-facing defensive machine gun manned by a gunner, who sat with his back to the pilot in a tandem cockpit.

For specific examples of attack aircraft, see Aircraft, British; Aircraft, French; Aircraft, German; Aircraft, Italian; Aircraft, Japanese; Aircraft, Polish; Aircraft, Soviet; and Aircraft, U.S.

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Attlee, Clement (1883–1967) *British prime minister at the end of World War II*

Clement Attlee replaced Winston Churchill as prime minister of the United Kingdom in July 1945, after leading his Labour Party out of the coalition with the Conservatives and achieving a large parliamentary majority. He served as prime minister until October 1951. Thus, Attlee was at the helm of British government as the war in the Pacific came to an end and during the immediate postwar years.

Born in London to a well-to-do solicitor, Attlee received an education that culminated in a law degree from Oxford. He began practicing in 1905 but left the law in 1909. Beginning in 1905, Attlee became involved in volunteer work in the slums of London, an experience that profoundly liberalized his social and political outlook. His new-found socialist leanings prompted him to join the Fabian Society in 1907 and the Independent Labour Party in 1908. Except for service in World War I, he lived and worked in the London's slums for the next 15 years, becoming mayor of the Cockney borough of Stepney in 1919 and gaining election to Parliament as the member from Limehouse in 1922. He was named undersecretary of state for war in the first Labour government in 1924 and in 1927 was appointed to the Indian Statutory Commission. Attlee broke with the administration of Ramsay MacDonald after MacDonald brought the Labour Party into coalition with the Conservative Party and the Liberal Party in 1931. Attlee succeeded George Lansbury as leader of the Labour Party in 1935 and aligned the party in opposition to fascism, but was reluctant to embrace rearmament. Nevertheless, Attlee fully supported the British declaration of war against Germany in 1939.

By refusing to join a coalition government under Conservative prime minister Neville Chamberlain, Attlee effectively forced Chamberlain's replacement by Winston Churchill, who appointed Attlee to his war cabinet as lord privy seal. In 1942, he was named deputy prime minister and secretary of state for Dominion affairs and in 1943 added lord president of the council to his duties. Attlee faithfully supported Churchill throughout the war, but, after victory over Germany, he led his party out of the coalition, presided over a major parliamentary sweep, and replaced Churchill as prime minister in July.

Attaining the prime minister's post at the end of the war, Attlee had virtually no influence over

the course of combat. However, he was a primary architect of postwar Britain and oversaw the nationalization of the coal, railways, gas, and electricity industries as well as the creation of the National Health Service, among other social reforms. Despite his leftward leanings, Attlee was a strong proponent of defense and an opponent of Soviet expansion. Accordingly, he was a prime mover behind the creation of the North Atlantic Treaty Organization (NATO) in 1949 and readily committed British troops to the Korean War in 1950. While he oversaw the beginning of the end of the British Empire, including the creation of an independent India in 1947, Attlee also presided over a substantial rearmament program. After the Labour Party's defeat in 1955, Attlee resigned as party leader, was created an earl, and elevated to the House of Lords, in which he served until his death in 1967.

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Auchinleck, Claude John Ayre (1884–1981) *British commander in North Africa and the Middle East*

Auchinleck was the son of an army officer, and, destined from childhood for a military career, he was educated at Wellington and Sandhurst. On graduation, he was assigned as an officer in the Indian Army and saw service during World War I against Turkish forces in the Middle East. During the Great War, he rose rapidly through the ranks, becoming a lieutenant colonel by 1917. After the armistice, he was appointed to a teaching position at the Staff College, then returned to lead troops in India. He attended the Imperial Defence College in 1927 and was assigned to command the 1st Battalion, First Punjab Regiment, which he did during 1929–30. From 1930 to 1933, he taught at the Quetta Staff College, then, appointed to command the Peshawar Brigade, he returned to India's Northwest Frontier during 1933–36 for combat against rebellious tribesmen.

In 1936, Auchinleck became deputy chief of the general staff at Indian Army headquarters in Simla, taking command of the Meerut District two years later. Promoted to major general in January 1940, he returned to England as commander of the ill-fated Anglo-French expeditionary force at Narvik, Norway. Auchinleck supervised the successful evacuation of the force in June and was returned to India to command all British forces there. He was then named commander in chief of British forces in the Middle East in June 1941, but his failure to take the offensive soon lost him the confidence of Prime Minister Winston Churchill. Having learned from Narvik the folly of operating precipitously with unprepared forces, Auchinleck repeatedly protested that he needed more time to forge an effective army. This argument was deeply undercut by the fall of Tobruk in January 1942. Although Auchinleck was able to halt Erwin Rommel's advance toward the Nile at the Battles of El Alamein in June 1942, he was replaced in July by General Harold Alexander and returned to India as commander in chief of operations there. As if to repudiate any aspersions cast on Auchinleck's prowess in high command, he was recognized in 1946 by a promotion to field marshal.

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Aung San (1914 or 1916–1947) *Burmese collaborator with the Japanese*

Aung San was the leader of the Dobama Asi-ayone ("We Burmans") Society, popularly known as the Thakin Society, a pre–World War II Burmese nationalist group made up of communist-leaning students mostly from Rangoon University. *Thakin* is the Burmese word for "master," commonly used

by colonial Burmans in addressing Europeans; applying it to a nationalist society was a proclamation of the members' equality with the European "masters." As leader of the Thakin Society, Aung Sang was anti-British, focused exclusively on securing Burmese independence from Great Britain. He saw collaboration with the Japanese in World War II as a means of breaking free from colonial domination. However, late in the war, Aung San broke with the Japanese and aligned himself and his followers with the Allies.

Aung San was born into a family that had long been involved in the Burmese resistance against British rule. At Rangoon University, Aung San was secretary of the students' union and, with U Nu, led a mass students' strike in February 1936. Following Burma's separation from India in 1937 and his own graduation in 1938, Aung San joined the Thakin Society, becoming its secretary general—leader—in 1939. The following year, having temporarily fled Burma, he was in China, seeking international support for the independence movement. There he was approached by Japanese agents, through whom he concluded an alliance whereby the Japanese government assisted him in forming a Burmese military force, dubbed the Burma Independence Army, which fought alongside the Japanese in their 1942 invasion of Burma.

From August 1942 to August 1943, Aung San led the Burma Independence Army with the rank of Japanese major general. Under him, the force steadily expanded and assumed administration of each occupied area. In 1943, the Japanese set up a puppet government under Ba Maw, in which Aung San was appointed minister of defense. However, Aung San became increasingly wary of the Japanese and began to doubt their promises of ultimate Burmese independence. More urgently, it became apparent to Aung San that the Japanese were destined to lose the war, and he saw that as they became increasingly desperate, Japanese officers treated Burmese forces with harsh contempt. In August 1944, therefore, he secretly formed the Anti-Fascist Organization (which later became the Anti-Fascist People's Freedom League), an organizing base for guerilla resistance against the Japanese occupiers. In March 1945, Aung San made the break with Japan open by renaming his military forces the Burma National Army and formally declaring for the Allied cause.

Following the surrender of Japan in August 1945, British administrators sought to co-opt the Burma National Army by absorbing it into the regular army, but Aung San, a canny political leader, held back the most important leaders of the force and, with them, created the People's Volunteer Organization. To all appearances a veterans' association committed to social service, this group was actually a closely held political army, which was intended to displace the Burma National Army and to lead a renewed struggle for independence. In the meantime, Aung San became deputy chairman of Burma's Executive Council in 1946, effectively the Burmese prime minister, although still subject to the veto of a British governor. But this was the era of Clement Attlee and the Labour Party, not Winston Churchill and the Conservative-dominated coalition. Negotiations with Attlee produced an agreement on January 27, 1947, granting Burma independence within a year.

Aung San's party swept the elections for a constitutional assembly in April 1947, but the hardline Burmese communists had denounced him as a dupe and tool of British imperialism. Nevertheless, he assumed the office of prime minister, only to be assassinated in the Executive Council chamber by agents of his political rival, U Saw, on July 19, 1947. Six colleagues, including his brother, were also killed. U Saw was subsequently tried and executed.

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Auschwitz extermination camp

Oswiecim was one of many towns in southern Poland annexed to the German Reich after the fall

of Poland in 1939. Germans called it Auschwitz, and it was here, outside the town proper, that a complex of three particularly infamous Nazi extermination camps were built during 1940–42.

Auschwitz I, built in June 1940, was intended to hold Polish political prisoners. Auschwitz II, also known as Birkenau, was much larger and could accommodate more than 100,000 inmates; it opened in October 1941. Auschwitz III developed from a camp at Monowitz, a facility that supplied slave labor for a nearby I. G. Farben synthetic rubber and oil works. At Birkenau, gas chambers and crematoria were installed, primarily to murder and incinerate Jews as part of Adolf Hitler's Final Solution. It is reported that by 1944, more than 6,000 inmates were murdered each day. About a quarter million Hungarian Jews were killed here during a single six-week period. Birkenau was also the site of grotesque and sadistic medical "experiments" performed by Dr. Josef Mengele, known as the "Angel of Death."

A resistance movement developed within Auschwitz, though very few inmates managed to escape. Two who did in 1942 first carried to the world reports of the genocide. Three more escapees in 1944 carried even more horrific reports. A major revolt took place in October 1944, when slave laborers at a nearby armaments plant managed to convey explosives to some inmates. These were used to blow up a gas chamber, and in the resulting chaos 250 inmates escaped, only to be shot down. An additional 200 inmates, accused of complicity in the uprising, were also executed.

All three camps were liberated by advancing soldiers of the Red Army in January 1945. However, before their arrival, the Waffen SS began the demolition of the camp and "evacuated" all ambulatory inmates to Germany. They left behind the sick and dying—as well as mountains of corpses awaiting cremation. The Soviets hurriedly announced that Auschwitz had been the place of death for some 4 million. This was a gross exaggeration, but the reality was horrific enough: 1.2 million to 1.5 million killed, of whom at least 800,000 were Jews.

See also Holocaust.

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The sign over the entrance to Auschwitz proclaims: *WORK MAKES YOU FREE. (National Holocaust Museum)*

Australia

Constituting the world's smallest continent, Australia is a vast country that lies between the Pacific and Indian Oceans in the Southern Hemisphere. During World War II, its location was of supreme strategic importance, with the Netherlands East Indies and New Guinea directly to the north, and the Coral Sea Islands to the northeast. The Japanese eyed Australia as the greatest of Asian-Pacific prizes and believed that its conquest would certainly force the British and Americans into negotiating a favorable peace. Australia was a member of the British Commonwealth and was vigorous not only in its own defense, but in that of the entire Commonwealth. Royal Australian Air Force pilots flew in the

Battle of Britain, and the Royal Australian Navy contributed ships and personnel to the Mediterranean campaign during 1940–41, where they were instrumental in the victory at the Battle of Cape Matapan in March 1941. Australian troops were sent into the North African Campaign and fought in Greece and Crete.

At its peak, Australia mobilized 680,000 troops, and its modest industrial infrastructure geared up to produce both aircraft and munitions. However, once the Pacific war began with the attack on the United States at the Battle of Pearl Harbor on December 7, 1941, the thrust of Australian strategy immediately shifted to defense of the suddenly imperiled homeland. Not only did 15,000 Australians instantly become prisoners of war (POWs) in the Fall of Singapore on February 15, 1942, but the city of Darwin, Australia, was bombed on February 19, and the Japanese, rolling up conquest after conquest, bore down on Port Moresby, New Guinea, stepping stone to a full-scale invasion of Australia. At this point, the principal Allied force in the Pacific, the United States, became Australia's major ally. Indeed, wartime alignment with America signaled a growing independence from Great Britain, and when Australian troops were recalled from the Middle East, Australian prime minister John Curtin defied British prime minister Winston Churchill by committing the troops to the defense of Australia rather than dispatching them to Burma. On the U.S. side, it was to Australia that General Douglas MacArthur traveled after his evacuation from the Philippines, and he established his first headquarters as supreme allied commander in Melbourne and then in Brisbane.

MacArthur was only the highest ranking of the many U.S. service personnel who poured into Australia. So many came that the Australian government created a Civil Construction Corps (CCC) as part of an Allied Works Council. Staffed by 53,500 men by 1943, the CCC built facilities for the American troops. Those too old to serve in the Australian armed forces, men aged 45 to 60, were liable to conscription into the CCC (some 16,000 CCC members were conscripts). The government also set up a Department of War Organization of Industry to regulate industrial production and assure that war materiel was always given top priority. Various civilian goods were subject to strict rationing, including tea, sugar, alcoholic beverages, tires, and gasoline. Strong legislation was enacted to combat incipient black marketeering. As U.S. forces continued to build up in Australia, the government was compelled to take the extraordinary step of releasing some 30,000 men from the army and 15,000 from the air force to serve as laborers to assist the CCC in necessary construction, including extensive building of port facilities. Even this drastic step left a shortage of laborers, and more than 10,000 Italian prisoners of war (POWs) were put to work on Australian farms and elsewhere. In 1942, the Australian Women's Land Army was created, which sent some 2,000 women into the agricultural workforce.

Another important home front institution were civil defense and other ad hoc defense forces. The Volunteer Defence Corps (VDC) was initially composed of World War I veterans but soon took anyone who wished to serve as airfield defenders and coast watchers. The VDC guarded key homeland facilities, provided some counterespionage intelligence, and, after training, manned antiaircraft defenses. By 1944, the VDC consisted of about 100,000, and the duties they performed freed up thousands of military personnel for frontline service.

Civil defense included an extensive blackout policy, which was enforced by Air Raid Precaution (ARP) wardens. In the days when invasion loomed, much discussion was devoted to plans for evacuation from the cities. However, it was ultimately decided that people occupying and (as best they could) defending their own homes provided the most effective protection. A program of air raid shelter construction was instituted in major population centers.

The Australian armed forces are treated in detail in Australia, Air Force of; Australia, Army of; and Australia, Navy of. In general, these services fought alongside the Americans. The Royal Australian Navy participated in the important Battle of the Coral Sea in May 1942. General Douglas

MacArthur prevailed upon Australian high command to abandon the idea of girding for a defensive war on the Australian homeland and instead take the offensive by fighting the Japanese in New Guinea. Thus, the Australian army was largely responsible for the Allied victory at Milne Bay, New Guinea, during August and September 1942, which marked the first step in the Allied seizure of the initiative on land against the hitherto triumphant Japanese. Australian troops were also instrumental in the long drive against the Japanese in southern New Guinea, forcing them back over the Kokoda Trail, a jungle track across the formidable Owen Stanley Mountains. While Australian troops engaged in a war of attrition against the Japanese throughout New Guinea, they played a decidedly subordinate role to American forces elsewhere.

Of the 680,000 men who served in the armed forces of Australia during World War II, 37,467 died (this included 23,365 battle deaths), and 39,803 were wounded. It was a heavy toll, but MacArthur's policy of offense, his insistence that the Australians bring the war to the Japanese in New Guinea rather than wait for an invasion of Australia, surely saved the Australian nation untold suffering. Apart from the loss of military personnel, Australia emerged from the war largely unscathed and, indeed, with a renewed nationalism, sense of achievement, and enhanced sense of independence from Britain.

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Australia, air force of

At the start of World War II, the Royal Australian Air Force (RAAF) consisted of just 164 aircraft, most of them obsolescent or downright obsolete. Early in the war, the British spurned an Australian offer of an expeditionary force of four bomber squadrons and two fighter squadrons and instead accepted Australian personnel into the British Empire Air Training Scheme, wherein experienced Australian military pilots helped train British and Commonwealth fliers. Also, Britain's Royal Air Force (RAF) accepted Australian aircrews for service, some in designated all-Australian units, but most dispersed throughout regular units of the RAF. RAAF personnel and units fought in Europe as well as the Middle East and Burma.

In the Far East, four RAAF squadrons served during the Malayan campaign. Two RAAF squadrons served in the Dutch East Indies. All these units flew either Hudson bombers or grossly inadequate Brewster Buffalo fighters. In the southwest Pacific, RAAF units were under the overall command of U.S. general Douglas MacArthur. The RAAF had its first real success supporting the Battle of the Bismarck Sea in March 1943 and continued to participate throughout the war. A total of 189,700 men and 27,200 women served in the RAAF during World War II.

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Australia, army of

When World War II began in Europe in September 1939, the Australian Army consisted of 82,800 soldiers, of whom the overwhelming majority—80,000—were minimally trained militiamen. The 2,800 regulars included officers and noncommissioned officers as well as some coastal artillery

personnel. Australia immediately contributed a division to the war in Europe, and it instituted simultaneously a program of voluntary enlistment for service overseas and a program of conscription for service in defense of the homeland (including Papua and New Guinea). Before the war with Japan, part of a division fought in Europe. After the fall of France, it became the nucleus of the 9th Division, which, with the 6th and 7th Divisions, became the 1st Australian Corps under Lt. Gen. Thomas Blamey, and fought in Egypt. Elements of the corps also fought in the Balkans, on Crete, and in Syria, as well as in the North African Campaign.

By August 1941, in anticipation of a Japanese threat, two 8th Division brigades were deployed to Malaya, and other 8th Division units were variously deployed in New Guinea and associated islands. The 7th Division had troops in Java, Ambon, New Britain, New Ireland, and the Solomon Islands. An independent company of Australian special forces troops was stationed on Timor. All of these units were overwhelmed by superior Japanese numbers early in the war.

In April 1942, Blamey hastened to reorganize the Australian Army for the defense of the Australian homeland, and by the middle of the year only an Australian Independent Company and militia units of the New Guinea Volunteer Rifles were actually fighting the Japanese in New Guinea. By November, these units were joined by the 6th and 7th Divisions and two additional militia brigades, all engaged in the New Guinea Campaign. It was not until February 1943 that Australian lawmakers legalized the use of conscripts in a defined area outside Australian territory. But Australian troops saw relatively little action until October 1944, when they followed behind American forces to conduct mop-up operations in Bougainville, New Britain, and New Guinea. Australian Army troops of the 7th and 9th Divisions did participate in the Borneo Campaign, specifically in assaults on Balikpapan, Tarakan, and Brunei. By the end of the war against Japan, 691,400 Australian men and 35,800 women had served in the army.

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Australia, navy of

At the time of the outbreak of World War II in Europe, September 1939, the Royal Australian Navy consisted of two heavy cruisers and four light cruisers, five obsolete destroyers, and two vessels classified as sloops (smaller than destroyers). Two liners were converted as armed merchantmen for the Royal Australian Navy, and another three were converted for the British Royal Navy, but manned by Australians. Additionally, a number of civilian coastal vessels were hastily converted into minesweepers.

The destroyers were dispatched to the Mediterranean to serve with the Royal Navy fleet there. The light cruiser *Perth* joined British ships in the East Indies, and the heavy cruisers *Australia* and *Canberra* escorted Australian troop convoys. *Sydney,* a light cruiser, later fought in the Mediterranean, as did *Perth.* Other ships took part in action on Crete and the Battle of Cape Matapan. During 1940 and 1941, Australian vessels fought in Middle Eastern waters.

By the close of 1941, with the beginning of the war against Japan, the Australian ships were withdrawn to Australian or Singapore stations. Soon, they were effectively under the overall command of U.S. admiral Chester William Nimitz and Gen. Douglas MacArthur. Australian ships participated in the Battle of the Coral Sea in May 1942 and in the Battle of Savo Island during the Guadalcanal Campaign. Australian ships also supported other phases of the American assault on Guadalcanal. During the campaign to retake the

Philippines, the heavy cruiser *Australia* had the dubious distinction of being hit in the first Japanese kamikaze attack. During the closing months of the war in the Pacific, most of the Australian fleet was used to support the Borneo Campaign and action in Burma. Three Australian destroyers served with the British Pacific Fleet in action against the Japanese home islands. The Royal Australian Navy consisted of 45,800 men and 3,100 women during World War II.

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Austria

Having entered World War I as the Habsburg Imperial and Royal Monarchy—the Austro-Hungarian Empire—the nation emerged from defeat in that conflict as a much diminished and dismembered Republic of Austria, 32,400 square miles in extent, with a population of 6.7 million. The Treaty of Versailles expressly barred Austria from union with Germany. However, by virtue of the *Anschluss* of March 1938, the nation was incorporated into Adolf Hitler's Third Reich. When it happened, many Austrians warmly greeted *Anschluss.* In the course of World War II, however, as Germany and the rest of the Axis suffered increasing reverses, most Austrians began to feel that they were unwilling participants in a hopeless struggle.

Austria's federal chancellor, Kurt von Schuschnigg, was, at Hitler's behest, dismissed shortly after the *Anschluss* and replaced by a Nazi, Arthur Seyss-Inquart, a puppet of the Third Reich. Austria was occupied by some 100,000 German troops, the Schutzstaffel (SS) acted brutally to suppress all protest and opposition, and the Reich took steps to ensure that the region's rich natural resources, including iron ore, magnesite, and wood, would be wholly available to serve its needs. Also now available to the Reich was the Austrian military. On the eve of *Anschluss,* mobilization and conscription doubled that force from 60,000 to 120,000. The army included a motorized division, which had nothing but obsolete tanks. The Austrian air force had 90 obsolescent aircraft. Immediately after the *Anschluss,* the armed forces were required to take the same oath of personal loyalty to Hitler required of German military personnel. All but 125 men did so. The Federal Army of Austria was then wholly integrated into the Wehrmacht—with the proviso that in no unit were Austrian troops to make up more than 25 percent of the force. Wartime conscription throughout Austria would greatly increase the number of Austrian men who served in the Wehrmacht and Waffen-SS. Austrian officers were given ample opportunity to rise within the German military, some 220 individuals attaining general officer rank before the end of the war.

Despite the apparently overwhelming scope and thoroughness of *Anschluss,* resistance groups formed throughout Austria from March 1938. The Austrian resistance maintained close links with the resistance within Germany itself. The resistance movement also established contacts with the Allies, and resistance members carried out acts of espionage and sabotage. It was the resistance that smoothed the way for the relatively easy separation from Germany and reestablishment of sovereignty that occurred after the German surrender.

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Axis (Tripartite) Pact

Concluded on September 27, 1940, at Berlin among Germany, Italy, and Japan, the Axis, or Tripartite, Pact was the primary treaty creating the alliance of the three major Axis powers in World War II. The pact was concluded early in the war and at a time of high triumph for Germany, which had already

invaded and conquered Poland, occupied France and created the puppet Vichy government in the unoccupied portion of the country, and appeared in position to defeat Great Britain as well. Adolf Hitler, however, preferred to coerce the British to come to terms with his regime as he secretly prepared to violate the German-Soviet Non-Aggression Pact with an invasion of the Soviet Union. Hitler did not want to fight a two-front war, and his foreign minister, Joachim von Ribbentrop, suggested to Hitler that a three-power agreement with Italy and Japan might just provide the leverage needed to move the stubborn Brits. Such a pact, Ribbentrop reasoned, would dissuade the ostensibly neutral, but by now clearly pro-British, United States from intervening in Europe and prompt it instead to turn its attention to the Pacific, where Japanese aggression presented a more immediate threat to its security. By formally bringing Japan into the Berlin-Rome Axis, the pact would threaten the Soviet Union with a two-front war, once Germany had invaded that country. Finally, with the United States and the Soviet Union distracted or threatened on other fronts, Great Britain would see itself as truly standing alone, and this would bring the British, at last, to the bargaining table.

As it turned out, the Axis Pact achieved none of these outcomes. Not only did it tend to reinforce and intensify pro-British U.S. policy, it failed to bring Japan into a war against the Soviet Union. It did, however, sharply define the adversaries in World War II. Article 2 clearly gave Japan license to expand into and dominate East Asia, and deftly, Article 4, while making reference to Germany's nonaggression pact with the USSR and thereby recognizing Russia as an ally, made it clear that the Soviets had no part in the Axis.

The substantive portions of the text of the pact follow:

> The governments of Germany, Italy and Japan, considering it as a condition precedent of any lasting peace that all nations of the world be given each its own proper place, have decided to stand by and co-operate with one another in regard to their efforts in greater East Asia and regions of Europe respectively wherein it is their prime purpose to establish and maintain a new order of things calculated to promote the mutual prosperity and welfare of the peoples concerned.
>
> Furthermore, it is the desire of the three governments to extend co-operation to such nations in other spheres of the world as may be inclined to put forth endeavours along lines similar to their own, in order that their ultimate aspirations for world peace may thus be realized.
>
> Accordingly, the governments of Germany, Italy and Japan have agreed as follows:
>
> ARTICLE 1
> Japan recognizes and respects the leadership of Germany and Italy in establishment of a new order in Europe.
>
> ARTICLE 2
> Germany and Italy recognize and respect the leadership of Japan in the establishment of a new order in greater East Asia.
>
> ARTICLE 3
> Germany, Italy and Japan agree to co-operate in their efforts on aforesaid lines. They further undertake to assist one another with all political, economic and military means when one of the three contracting powers is attacked by a power at present not involved in the European war or in the Chinese-Japanese conflict.
>
> ARTICLE 4
> With the view to implementing the present pact, joint technical commissions, members which are to be appointed by the respective governments of Germany, Italy and Japan will meet without delay.
>
> ARTICLE 5
> Germany, Italy and Japan affirm that the aforesaid terms do not in any way affect the political status which exists at present as between each of the three contracting powers and Soviet Russia.
>
> ARTICLE 6
> The present pact shall come into effect immediately upon signature and shall remain in force 10 years from the date of its coming into force. At the proper time before expiration of said term, the high contracting parties shall at the request of any of them enter into negotiations for its renewal.

> In faith whereof, the undersigned duly authorized by their respective governments have signed this pact and have affixed hereto their signatures.

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Axmann, Artur (1913–1996) *founder of the Hitler Youth movement*

Born on February 18, 1913, in Hagen, Germany, Axmann studied law, became an early member of the Nazi Party (NSDAP), and, in 1928, established the first Hitler Youth group, in Westphalia. In 1932, the party summoned him to reorganize all Nazi youth cells throughout the country. The following year he was named chief of the Social Office of the Reich Youth leadership. From this post, Axmann put the Hitler Youth in the forefront of determining the nature and direction of state vocational training, and he put Hitler Youth groups to work on farms.

Axmann became an officer in the Waffen SS and fought on the western front until May 1940. In August, he succeeded Baldur von Schirach in the post of Reich youth leader of the Nazi Party. Returning to combat, he was gravely wounded on the eastern front in 1941, suffering the loss of an arm. Axmann returned to Germany and resumed personal leadership of the Reich Youth.

A thoroughly committed Nazi, Axmann was a member of Adolf Hitler's inner circle and was with Hitler in the infamous *Fuhrerbunker,* the shelter deep beneath the streets of Berlin from which the dictator directed the war in its final desperate days. Axmann escaped capture by the Red Army in April but was arrested in December 1945 by the Western Allies, after he was discovered organizing a Nazi underground movement. He was held until 1949, when he was tried by a Nuremberg de-Nazification tribunal, which sentenced him in May 1949 to a three-year three-month prison term. After serving his sentence, Axmann found employment as a salesman in Gelsenkirchen and Berlin. However, on August 19, 1958, a West Berlin de-Nazification court levied a heavy fine against Axmann of 35,000 marks (about $15,000), which represented some 50 percent of the value of property he owned in Berlin. Although it was the judgment of the court that he was guilty of indoctrinating German youth with National Socialism until the very end of the Third Reich, he was acquitted of actual war crimes.

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B

Bader, Douglas (1910–1982) *British aviator hero*

For Britons, standing alone against Germany during after the Battle of France and during the Battle of Britain, Douglas Bader was one of the great heroic figures of the war and the embodiment of resistance against all odds. Born in London, the son of a soldier killed in World War I, Bader studied at Oxford and at the Royal Air Force (RAF) College in Cranwell. Commissioned an officer in the Royal Air Force in 1930, he was severely injured in a crash in 1931 and lost both his legs. Discharged from the RAF, he made a career with the Asiatic Petroleum Company. However, at the outbreak of World War II, he appealed for readmission to the RAF and, despite his double amputation, flew and fought as a pilot in the 222 Squadron, taking part in operations at Dunkirk and scoring two kills there, shooting down a Messerschmitt Bf109 and a Heinkel He111. After this action, Bader was given command of 242 Squadron, a unit that had just suffered catastrophic 50 percent casualties. In an effort to rebuild morale, Bader radically reorganized the squadron, thereby incurring the wrath of higher command. His leadership was vindicated, however, when, in its first sortie during the Battle of Britain, on August 30, 1940, the 242 Squadron shot down a dozen German aircraft over the English Channel in the space of an hour, Bader personally downing a pair of Messerschmitt 110s.

Despite the results he achieved, Bader was repeatedly rebuffed by higher command over tactical issues, particularly his outspoken belief that RAF fighters should sortie out to intercept German planes before they reached Britain. This tactic was rejected on the grounds that it would take too long to organize properly. Others pointed out that Bader's overly aggressive tactics left RAF air bases exposed and vulnerable to Luftwaffe attack. Eventually, however, a version of Bader's tactics was adopted in the so-called Big Wing strategy, whereby large RAF fighter formations were deployed against German aircraft over the English Channel and even over northern Europe. This resulted in many kills, but did leave some prime homeland targets vulnerable. Nevertheless, Bader embraced the Big Wing and, during the summer of 1941, downed 12 German aircraft, for a total of 23—making him the fifth-highest-ranking ace in the RAF.

Bader's luck ran out on August 9, 1941, when he collided in midair with another aircraft over Le Touquet, France. He was able to parachute out of his plane, but his landing broke both of his prosthetic legs. Taken to a hospital, he enlisted the aid of a French nurse to escape but was caught, arrested, and sent to a prisoner of war camp. After several additional escape attempts, he was sent to a camp in Germany itself. There he spent the rest of the war.

Liberated after the German surrender, Bader was promoted to group captain but left the RAF in

1946 for a career as managing director of Shell Aircraft. In 1969, he become a member of the Civil Aviation Authority Board, published a memoir of the Battle of Britain in 1973, and was knighted in 1976.

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Badoglio, Pietro (1871–1956) *Italy's head of state after the removal of Mussolini*

After the downfall of Benito Mussolini as dictator of fascist Italy in 1943, the government devolved upon Marshal Pietro Badoglio, who concluded an armistice with the Allies in September 1943, even as his country continued to be occupied by the Germans, Italy's erstwhile ally. Badoglio was commissioned an artillery officer in the Italian Army in 1890 and saw action in the ill-fated Ethiopian campaign of 1896 and the Italo-Turkish War. He performed heroically in World War I, leading the capture of Monte Sabotino on August 6, 1916. Badoglio's command was defeated in the generally disastrous Battle of Caporetto on October 24, 1917, but his reputation survived intact, and, as a general, it was he who conducted the armistice talks on behalf of Italy.

After World War I, Badoglio was elevated to chief of the general staff, serving in this capacity from 1919 to 1921. Badoglio was generally oblivious to the rise of Mussolini and remained unmoved by Il Duce's epoch-making march on Rome in 1922. However, the following year, he embraced the Mussolini government and was appointed ambassador to Brazil, serving until Mussolini recalled him to Italy in May 1925 to serve once again as chief of staff. On May 26, 1926, he was promoted to field marshal. Badoglio was dispatched to Italian Libya as its governor from 1928 to 1934 and was

Marshal Pietro Badoglio *(Author's collection)*

created marquis of Sabotino. In 1935, he was assigned to command Italian forces in Ethiopia, led the capture of the Ethiopian capital, Addis Ababa, and served briefly there in 1936 as Italy's viceroy. This earned him the title of duke of Addis Ababa.

Badoglio differed sharply with Mussolini over Italy's preparations for entry into World War II during 1940. Disgusted by the defeat of the Italian Army in Greece, a disaster he laid at the feet of Mussolini, Badoglio resigned as chief of staff on December 4, 1940. To this day, it remains unclear whether Badoglio's objections were chiefly military or moral. Whatever the case, Badoglio began working covertly to bring about the ouster of Mussolini, which was accomplished on July 25, 1943.

With Il Duce's removal, Badoglio was appointed prime minister, and although he assured Italy's ally Germany that his nation would continue to prosecute the war, he made secret overtures to the Allies, ultimately negotiating an armistice on September 3. Just five days later, Italy's unconditional surrender to the Allies was announced, whereupon Badoglio officially dissolved the Fascist Party. On

October 13, Badoglio's Italy declared war on Germany. From this point until the end of the war, the Allied campaign against German-occupied Italy was arduous, bloody, and heartbreaking.

Badoglio resigned as prime minister in June 1944 in order to permit the formation of a new cabinet in liberated Rome. He retired to his estate in Grazzano Badoglio and lived out the remainder of his life as a private citizen.

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Balbo, Italo (1896–1940) *Italian Fascist and air marshal*

Balbo, one of the pioneers of Italian aviation, became a leading Fascist early in the movement, and went on to become Benito Mussolini's air marshal, the architect of the Italian air force. Born near Ferrara, he was educated at the University of Florence and at the Institute of Social Science, Rome. During World War I, Balbo was commissioned as an officer in the Alpine Corps and after the war became a very early follower of Mussolini. It was he who led the blackshirts in the October 1922 March on Rome, which catapulted Mussolini to power. Regarding Balbo both as a dashing and charismatic exponent of fascism and as a potential rival to himself, Mussolini was careful to define his role strictly in military terms, elevating him to general of militia in 1923 and then to undersecretary of state for air (1926), air minister (1929), and, finally, air marshal (1933).

Balbo was a champion of Italy's military air power as well as its commercial air prowess. He personally led a round-the-world flight, landing in various major cities, where he was generally greeted as a dashing hero of the skies. He proved to be not only a great promoter of Italian prestige as an air power, but a kind of ambassador of fascism. Mussolini may have become wary of Balbo's growing pro-British sympathies or of his growing appeal generally; in any case, Balbo was summarily removed from the limelight by his appointment as governor of Libya. Serving there very early in World War II, he was shot down while flying over Tobruk, the victim of friendly fire. It is believed that he failed to render the correct recognition signals and that Italian gun crews assumed his was an enemy aircraft.

Although Balbo vigorously promoted Italian aviation, the nation's air arm never developed aircraft or tactics on a par with Germany, Britain, and the United States. In the end, Balbo was more public relations than substance, and the Italian air arm never became a significant force in World War II.

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Balck, Hermann (1893–1982) *prominent German field commander*

According to some of his contemporaries, Hermann Balck was the most skilled, even the greatest, of Germany's field commanders in World War II. He was born in Danzig-Langfuhr, Germany, the son of a general, and entered Hanover Military College in February 1914. During World War I, he served with the 10th (Hanoverian) Jäger Regiment on the western front and remained in the army during the interwar period, becoming an enthusiastic advocate of motorized warfare, the tactics and technology that would enable the Blitzkrieg program that was so devastatingly effective early in the war.

At the beginning of World War II, Balck commanded the 1st Security Regiment (Schutzanregiment) in the 1st Panzer Division, then became commanding officer of the 3rd Panzer Regiment, serving under Heinz Guderian in the invasion of France. On May 13, 1940, boldly exploiting a heavy air attack on Sedan, he raced his men across the Meuse River in storm boats, seized enough ground for a bridgehead, and set the divisional bridging train to work deploying pontoons for the waiting tanks. Decorated with the Knight's Cross for this action, he was promoted to colonel and sent to Greece on March 5, 1942, took Salonika on April 9,

and was given command of the 11th Panzer Division. He then fought in the Soviet campaign, receiving Oak Leaves for his Knight's Cross on December 20, 1942, for action in the Caucasus. In November 1943, he was promoted to acting general in command of the 48th (Grossdeutschland) Panzer Corps.

In 1944, Balck was transferred to the western front as commanding general of Army Group G. After he failed to prevent the overwhelming advance of George Smith Patton's Third Army into Lorraine, Adolf Hitler expressed his displeasure by relegating Balck to command of a subarmy, Armeegruppe Balck, against the Russians in Hungary in December 1944.

Failing to recapture Budapest from the Red Army, Balck was forced to retreat into Austria, where he surrendered on the day of Germany's formal capitulation, May 8, 1945. Held prisoner until 1947, he retired to Stuttgart.

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Baldwin, Stanley (1867–1947) *prime minister who presided over British disarmament between the wars*

A Conservative, Baldwin served three terms as prime minister between 1923 and 1937 and was important in the years preceding World War II as a leading opponent of Winston Churchill (at the time, a member of Parliament) on the subject of British rearmament and war preparation. The son of industrialist and railway baron Alfred Baldwin, Stanley Baldwin was educated at Harrow and Cambridge. After graduation, he became an executive in some of his father's industrial enterprises and was elected to the House of Commons in 1908, beginning a long political career that ended in 1937.

During World War I, Baldwin was parliamentary private secretary to Chancellor of the Exchequer Andrew Bonar Law in the cabinet of David Lloyd George, then served as financial secretary of the treasury from 1917 to 1921, when he became president of the Board of Trade. In October 1922, Baldwin became chancellor of the Exchequer in the Conservative government of Bonar Law. In this capacity, he negotiated the British World War I debt to the United States, reaching a settlement in 1923 that many Britons viewed unfavorably. Despite this controversy, King George V asked Baldwin on May 22, 1923, to form a government when Bonar Law fell ill. This first ministry ended on January 22, 1924, but, later that year, on November 4, Baldwin was returned to office after the downfall of the first Labour prime minister, Ramsay MacDonald. Baldwin resigned as prime minister following a Conservative electoral defeat on June 4, 1929. He returned to the government in 1931 as lord president of the council in the national coalition government of Ramsay MacDonald. It was during this period, in 1933, in response to the elevation of Adolf Hitler as chancellor of Germany, that many in Britain first saw Nazism as an international threat. Resisting calls from some quarters for a program of British rearmament, Baldwin refused to take any position with regard to the situation in Germany. If anything, this complacency pleased most of the British public, beleaguered by the worldwide economic depression and wary of somehow instigating another war. Therefore, from June 7, 1935, to May 28, 1937, Baldwin once again served as prime minister.

The mounting evidence of fascist and Nazi aggression, including the Italian conquest of Ethiopia, the German reoccupation of the Rhineland in violation of the Treaty of Versailles, and German-Italian intervention in the Spanish Civil War, finally moved Baldwin to direct some efforts to strengthening the British military establishment. Yet, in contrast to Churchill, who repeatedly and eloquently sounded warning of the gathering storm, Baldwin deliberately demonstrated outward unconcern.

Despite Baldwin's attempts to maintain the status quo, the British public rose in outrage over the December 1935 agreement between British foreign

secretary Sir Samuel Hoare and French premier Pierre Laval to refrain from interfering in Italy's brutal conquest of Ethiopia. Yet even this crisis failed to move the mass of British public opinion in favor of war preparedness, and, indeed, the public's attention was soon far more absorbed in the romance between the new king, Edward VIII, and the American divorcée, Wallis Simpson. The prospect of marriage threatened the monarchy and prompted Baldwin to engineer Edward's abdication on December 10, 1936, a domestic diplomatic triumph that distracted the public from a failure to address the worsening international situation. On May 28, 1937, Baldwin, in poor health, resigned the ministry in favor of Neville Chamberlain, was created earl, and spent the rest of his life in retirement.

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balloon bombs

Balloon bombs were something of a curiosity in World War II. As early as 1939, the British attempted to float balloons equipped with incendiary bombs over the German Black Forest. The idea was to start massive forest fires, which would deplete Germany's precious supply of timber. The balloons, however, did not even leave English air space, and when the wind suddenly changed direction, one of the balloons set fire to a farm in East Anglia.

It was the Japanese who made the most extensive use of balloon bombs. Helium-filled and fashioned out of bonded mulberry paper, they were approximately 91 feet in diameter, and they were released by the thousands during November 1944 and March 1945. Japanese climatologists predicted that prevailing winds would carry significant numbers of them over the western United States. They were maintained at the optimum drifting altitude by an ingenious mechanism, which would release some of the balloon's helium if it floated too high and that would jettison a ballast sandbag if it went too low. Of the thousands deployed, some 200 landed in the American West and Alaska, as well as in Canada and as far south as Mexico. Explosives were suspended beneath each balloon, and detonations resulted in a total of seven deaths, including one woman in Helena, Montana, and six other people in Oregon. Small forest fires were also started but quickly extinguished. American civil defense authorities did not greatly fear the explosive devices, which were small and limited in the damage they could cause, but they were concerned that the Japanese would use the balloons to disseminate deadly bacteria in a desperate campaign of biological warfare. Initially, some officials suspected that the balloons that actually had landed carried biological weapons.

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Baltic Sea, action on the

The Baltic Sea is an arm of the North Atlantic, which reaches from the latitude of southern Denmark nearly to the Arctic Circle and separates the Scandinavian Peninsula from the rest of continental Europe. Historically—as it was during World War II—the Baltic has been a strategic waterway, interconnecting many northern European nations. On September 1, 1939, during the invasion of Poland, the Baltic became one of the war's very first battlegrounds, as German ships "visiting" the Baltic port of Gdansk (Danzig) opened fire on the Polish garrisons of the city. The German fleet made quick work of Poland's Baltic Navy, which consisted of only 15 warships, a few nevertheless managing to escape to Great Britain to fight throughout the war at the direction of the London-based Polish government-in-exile.

With the commencement of the Russo-Finnish War in November 1939, the Baltic Red Banner

Fleet of the Soviet navy blockaded Finland's sea communications with Sweden and periodically bombarded the Finnish coast. After this, however, the Baltic fell silent until the German navy moved in during June 1941 to prepare for the INVASION OF THE SOVIET UNION. Some 48 minor German surface ships were transferred to the Baltic at this time, reinforcing the small German flotilla already there. Germany also built a naval base at Helsinki, from which it would direct naval action against the Soviets once the invasion began. Another key phase of German preparations was the extensive mining of strategic areas. These minefields caused serious Soviet losses.

After war broke out between Germany and the Soviet Union, the Baltic at first became the scene of numerous surface skirmishes and minor amphibious operations that took islands in the Gulf of Finland and the Gulf of Riga. Soviet forces staged a few amphibious raids on the Finnish mainland, behind German lines, but they were to little avail. In September 1941, Germany sent the great battleship *Tirpitz* at the head of a small Baltic fleet with the intention of blocking Soviet ships from escaping to Sweden after the anticipated fall of LENINGRAD. But because the city withstood the long siege against it, the *Tirpitz* and the rest of the fleet were withdrawn to duty elsewhere.

As for the Soviet Baltic fleet, it was substantial and far superior in numbers to anything the Germans ever dispatched to the area. The Soviet fleet included two obsolescent battleships, two cruisers, 19 destroyers, and 65 submarines in addition to various smaller vessels. Moreover, the Soviet navy operating in the Baltic controlled 656 combat aircraft. Poor command and organization combined with losses to German mines—five destroyers, three submarines, 10 smaller craft, and 42 merchant ships—seemed to paralyze the Soviet Baltic fleet during 1941, so that the force was little used. During 1942, however, the fleet's submarines sank 23 German and Finnish ships for the loss of 10 submarines. Five Swedish ships were also sunk. The Germans soon responded with antisubmarine nets laid across the Gulf of Finland, which excluded Soviet submarines from the area until September 1944.

At the start of 1944, during January, the Soviet Baltic fleet did achieve a significant tactical and logistical triumph in sealifting and landing, by night, 44,000 Red Army troops from Leningrad to Oranienbaum. Thanks to this operation, Red Army forces were perfectly positioned to aid in lifting the German siege of Leningrad.

In March 1944, the Soviet Baltic fleet commenced minesweeping operations. Vessels came under heavy Luftwaffe attack, but by this point in the war, it was the Soviets, not the Germans, who enjoyed air superiority. Not only were the minefields cleared, but the Luftwaffe suffered heavy losses.

In September 1944, Finland changed allegiance from Germany to the Soviet Union. The Germans responded by attacking Suursaan, a Finnish island in the Gulf of Finland. Acting in concert now, the Soviets and Finns repulsed the attack. Shortly after this, the Soviet Baltic Red Banner Fleet carried out amphibious operations against the German-held islands in the Gulf of Riga.

The NORMANDY LANDINGS (D-DAY) prompted renewed German efforts in the Baltic. All available surface ships and a handful of submarines were dispatched to the Baltic in an effort to impede the advance of the Red Army. The Royal Air Force responded by dropping mines in the western Baltic, but the pocket battleships *Lützow* and *Admiral Scheer,* together with the heavy cruiser *Prinz Eugen,* got through to cover the retreat of German ground forces from the Baltic ports, which were now under siege by Soviet forces. It was a spectacular evacuation, which dwarfed the better-known DUNKIRK EVACUATION. By the end of the war in Europe in May 1945, a million German troops had been rescued, along with 1.5 million civilian refugees. Some 15,000 individuals were lost in the process, most of them victims of Soviet submarine attacks on the rescue ships. Amazingly, despite the many Soviet naval assets in the area, German ships continued to supply the many troops bottled up on the Courtland Peninsula. They did not surrender until the war was over.

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banzai charge

Banzai is a Japanese word derived from the traditional battle cry of the Japanese warrior, "*Tenno heika banzai,*" "Long Live the Emperor!" In World War II, *banzai* or a *banzai charge* was the term applied to an all-out infantry attack Japanese soldiers employed, en masse, against opponents, regardless of disparity in numbers. Typically, the banzai charge did not come at the beginning of an attack but was the last-ditch, even suicidal, response to imminent defeat. In many Pacific battles, and most notably at SAIPAN, banzai charges were as terrifying and costly as they were, in any tactical sense, futile. It was clear that the purpose of the banzai charge was to salvage military honor, in fulfilment of the Bushido, or ancient warrior code, rather than to achieve a tangible military advantage. For the traditional Japanese warrior—and, apparently, the majority of World War II Japanese soldiers—death in combat was infinitely preferable to surrender as a prisoner of war. The single-word exclamation *Banzai!* was also used as a victory cheer, *after* an objective had been achieved or a battle won.

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Barbie, Klaus (1913–1991) *Gestapo chief in Lyon, France*

Dubbed the "Butcher of Lyon" because of his role in the deportation and execution of French Jews, resistance partisans, and others while he was chief of the Gestapo in Lyon from 1942 to 1944, Barbie proved highly adept at escaping postwar prosecution for his crimes and, with such figures as ADOLF EICHMANN, became a symbol for the pursuit of justice for, and remembrance of, the horrors of the HOLOCAUST. It is believed that Barbie was directly responsible for the deaths of approximately 4,000 and the deportation of an additional 7,500 persons.

Born in Bad Godesberg, Germany, Barbie became, like many German boys, a member of the HITLER YOUTH. Proving especially enthusiastic, he joined in 1935 the Sicherheitsdienst—the SD, or Security Service—of the SCHUTZSTAFFEL (SS). The SD was closely related to the GESTAPO, the Nazi secret police, and Barbie was seconded, or transferred, from the SD to the Gestapo while serving in the conquered Netherlands during the early phases of Germany's western European campaign. In 1942, he was promoted to chief of Gestapo Department IV in Lyon, France.

As Gestapo chief, Barbie was responsible for suppressing the work of the French Resistance and for carrying out the deportation (for transportation to CONCENTRATION AND EXTERMINATION CAMPS) of Jews and other "undesirables." Barbie was especially zealous and not only authorized the extensive use of torture of prisoners, but, during interrogations, typically administered the torture personally. He also ordered the execution of thousands accused of resistance activity or of supporting such activity. Among his victims were many women and children. Most infamously, Barbie was accused, after the war, of having personally ordered the deportation of 44 Jewish children, ages three to 13, together with their five teachers, to AUSCHWITZ, where they were all subsequently murdered. Barbie also arrested the French Resistance leader Jean Moulin, whom he and his men tortured with the utmost barbarity, forcing red-hot needles under his fingernails and breaking his knuckles by putting his fingers through the hinged side of a door and repeatedly slamming it shut. His wrists were broken with screw-levered handcuffs, and he was whipped and beaten. He refused to betray any of

his resistance associates and finally slipped into a coma. In this state, Barbie exhibited him to other resistance leaders who were under interrogation at Gestapo headquarters. Indeed, Barbie kept Moulin on display in an office adjacent to his, his comatose body laid out on a chaise lounge. He soon died from his injuries. For his "work" with Moulin, Barbie was awarded—in person, by ADOLF HITLER—the Iron Cross, First Class, with Swords.

After the war, Klaus Barbie was arrested. Despite the western Allies' official policy of "denazification," Barbie was seen as a valuable intelligence asset and worked for the British in counterintelligence until 1947, when he was recruited by American counterintelligence agents to penetrate communist cells in the German Communist Party. American officials quietly shielded Barbie from prosecution for war crimes, and, with American aid, he avoided arrest in France in 1950 and was resettled in Bolivia with his wife and children. From 1951, he lived as a businessman in the South American country under the name Klaus Altmann. The "Nazi hunters" Beate and Serge Klarsfeld identified him in Bolivia about 1971, and a movement was begun to bring about his extradition to France. Extradition negotiations with the Bolivian government dragged on before he was finally extradited in February 1983. In August of that year, the United States made a formal apology to France for having aided in Barbie's escape.

Although postwar French military tribunals had twice sentenced Barbie to death, he was not brought to trial again until July 3, 1987. During this proceeding, Barbie expressed no remorse. Convicted of crimes against humanity, he was sentenced to life imprisonment and died on September 25, 1991, in prison of cancer.

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barrage balloon

Barrage balloons were unmanned, tethered, blimplike, lighter-than-air craft employed as a defense against low-flying enemy aircraft. Their tethers were made of stout wire cable, which presented a significant hazard to airplanes flying low for strafing or dive bombing attacks. Both the Allies and the Axis used them, generally deploying them above vulnerable or valuable targets, including buildings and ships. They were especially widely deployed throughout Great Britain, including during the BATTLE OF BRITAIN, where they proved quite effective. During February–March 1941, barrage balloons were responsible for the loss of seven German aircraft. With the introduction of the unmanned V-1 buzz bomb, barrage balloons were even more effective, accounting for the loss of 231 of the missiles before the end of the war.

U.S. forces experimented with deploying barrage balloons in the Pacific at BOUGAINVILLE in November 1943, when they were flown above LANDING CRAFT. However, rather than protecting the landing craft, the balloons tended to betray the position of the vessels to Japanese reconnaissance flights, and their use was immediately discontinued.

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Bataan, Death March

After the FALL OF BATAAN during the Japanese conquest of the PHILIPPINES, approximately 2,000 defenders of Bataan managed to withdraw to CORREGIDOR; the rest, about 78,000 U.S. Army and Filipino troops, were left behind and became prisoners of the Japanese. The Japanese code of military con-

duct, founded on ancient warrior (Bushido) traditions, regarded surrender as dishonorable and therefore sanctioned, even encouraged, the abuse of prisoners in flagrant and unapologetic violation of the Geneva Conventions. The treatment of the Bataan prisoners was an especially horrific demonstration of this warrior code.

Japanese lieutenant general Homma Masaharu decided to transport the Bataan prisoners to a captured American camp, Camp O'Donnell, which became a Japanese prisoner of war camp. Accordingly, on April 9, 1942, the prisoners, who were in a state of semistarvation, having endured a long siege on half rations, were started out from Mariveles, on the southern end of the Bataan Peninsula, and were marched 55 miles to San Fernando, where they were put on trains to Capas, then marched an additional 8 miles to Camp O'Donnell.

The jungle climate was extremely hot and humid and the terrain difficult. Prisoners who faltered, collapsed, or otherwise fell behind were executed, typically by bayonet. Prisoners were frequently beaten, apparently at random. They were often denied food and water for days. During "rest periods," prisoners were typically forced to sit in the full sun without helmets or water. Sleep periods were a few hours long, the prisoners jammed into enclosures that allowed virtually no movement. Those who survived to reach the railhead at Capas were loaded into stifling boxcars.

American prisoners on the Bataan Death March *(Library of Congress)*

The entire progress to Camp O'Donnell took more than a week to complete. Some 54,000 men reached the camp, 7,000 to 10,000 having died on the way, the rest having escaped into the jungle. Some of these men survived to fight alongside Filipino guerrillas.

Homma, overall commander of Japanese invasion forces in the Philippines, formally surrendered himself to U.S. forces in Tokyo on September 14, 1945, and was tried in December for war crimes. Subsequently remanded to the authority of a U.S. military commission in Manila, Philippines, he was tried there during January–February 1946 and convicted of having authorized the Bataan Death March and its attendant atrocities. He was executed on April 3, 1946.

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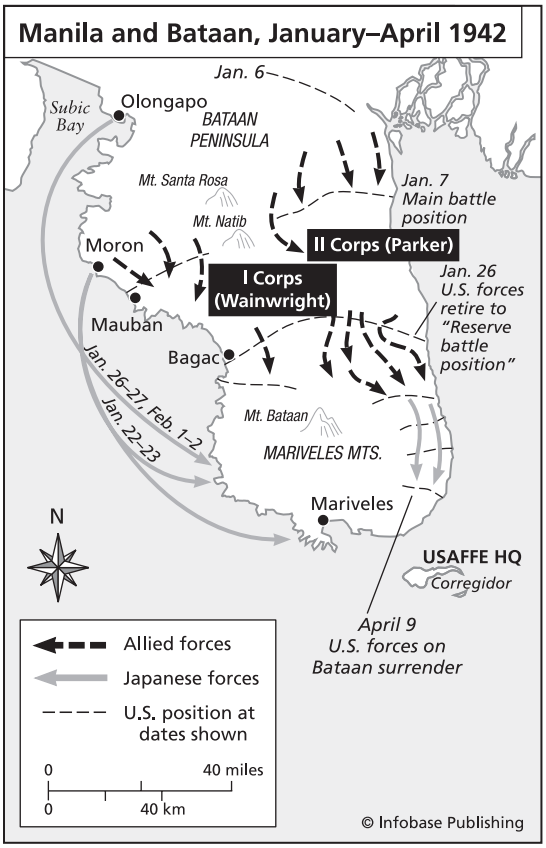
Bataan, fall of

During the battle for the Philippines at the beginning of the war in the Pacific, Lt. Gen. Douglas MacArthur led his forces in an organized retreat to the Bataan Peninsula on the island of Luzon. Here, 67,500 Filipino troops (under MacArthur's command), together with 12,500 U.S. personnel and 26,000 civilians, made their last defensive stand against the Japanese onslaught in the hope and expectation of the imminent arrival of a U.S. relief force, which, in fact, never came.



After declaring the Philippine capital, Manila, an open city, MacArthur began the withdrawal to Bataan on December 24, 1941, and set up his headquarters at Corregidor, on the tip of the peninsula. On the face of it, at least as the Japanese saw it, the withdrawal to a narrow peninsula—25 miles long and 20 miles wide at its widest—was not only futile but a tactical error. The American and Filipino forces, after all, had entered a cul de sac, and the Japanese anticipated a quick and easy victory. What the Japanese commanders had not reckoned on was the rugged countryside, which made Bataan ideal defensive ground, and the fact that MacArthur had prepared for a siege by stockpiling ammunition, medical supplies, and provisions, though the latter were inadequate, and from the beginning the defenders were forced to subsist on meager half-rations.

The overall commander of the Japanese forces in the Philippines was Gen. Homma Masaharu. As he was about to launch his offensive against Bataan, he was compelled to withdraw his most experienced division for the invasion of the Dutch East Indies. This bothered Homma little, however, since he believed taking Bataan would require little effort. He assigned his Kimura Detachment and a raw unit, the 65th Brigade, to the task. They attacked on January 9, 1942, breaking through MacArthur's first line of defenders but becoming bogged down in the secondary line, to which two defending corps withdrew. Homma attempted a landing behind the American lines but was repulsed at heavy cost. After a month of fighting, on February 8, Homma aborted the offensive. He had lost 2,700 men killed and more than 4,000 wounded. The miserable jungle conditions had made another 13,000 too sick to fight. In effect, his entire attacking force had been neutralized.

On March 11, President Franklin D. Roosevelt ordered MacArthur to evacuate the Philippines with his family. With great reluctance, MacArthur left for Australia, and it fell to his second in command, Maj. Gen. Jonathan Wainwright, to resume the Bataan defense. Unless a relief force arrived, Wainwright knew his position was hopeless. Critically short on rations, his troops were near starvation. As the realization set in that no relief was to be sent, the morale of the debilitated defenders collapsed, and when Homma, reinforced, attacked again on April 3, 1942, the issue was a foregone conclusion. Ordered by MacArthur not to surrender, Wainwright mounted a counterattack, which, predictably, failed. Wainwright's front-line commander, Maj. Gen. Edward King, took it upon himself to order the surrender of his command rather than witness their fruitless slaughter. He capitulated to Homma on April 9. The fall of Bataan was complete—except for the infamous coda known as the Bataan Death March, the inhuman trek across 65 jungle miles from Mariveles to a prisoner of war camp at San Fernando.

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battleships

As in World War I, the World War II battleship was a colossal, heavily armored, long-range, reasonably fast platform for massed naval artillery fire. In World War I, the battleship was without question the capital ship of the world's great navies, as it had been from about the mid-1860s. The battleship entered World War II enjoying that status, but, in the course of the war, it yielded in importance to AIRCRAFT CARRIERS, whose planes could project firepower more deeply, flexibly, and effectively than the artillery fire of the battleship. Indeed, aircraft and SUBMARINES rendered battleships increasingly vulnerable, so that they were sometimes combat liabilities, requiring extensive escort protection, rather than assets. By the end of World War II, the battleship was entering obsolescence. This fact aside, battleships remained impressive and formidable presences throughout the war, combining size, mighty guns, and heavy armor. The World War II battleship could hit targets more than 20 miles away, which made them valuable not only against other ships but especially in providing prelanding and preinvasion bombardment in amphibious operations.

The World War II battleship traces its lineage directly to the British HMS *Dreadnought* of 1906. This quantum leap forward in battleship design introduced steam-turbine propulsion and an artillery complement that did away with medium guns altogether and mounted only 10 to 12-inch guns. Although big and heavy, the *Dreadnought* was immensely seaworthy, capable of making better than 20 knots. As the era of World War II approached, the *Dreadnought*-class battleship evolved into the even more formidable "superdreadnought," which mounted guns of 16-inch and even 18-inch caliber. A superdreadnought might displace as much as 40,000 tons, but the Washington Naval Treaty of 1922, an international attempt at arms limitation, limited new battleships to 35,000 tons. Designers made the best of this limitation by focusing their efforts on attaining speed without sacrificing the dreadnought-style heavy guns and heavy armor. The posttreaty generation of battleships was capable of making better than 30 knots, easily matching the speed of modern CRUISERS.

On the eve of World War II, the great powers abrogated the Washington Naval Treaty, and began building ever larger ships. Germany built two *Bismarck*-class vessels, each displacing 52,600 tons, while the Japanese built the world's largest battleships, the 72,000-ton *Yamoto* class. The new U.S. battleships, of the *Iowa* class, displaced 45,000 tons. While the big-gun policy still dominated battleship design, these weapons were liberally supplemented with antiaircraft defense in the form of rapid-fire 5-inch guns and myriad automatic guns in the 20-mm to 40-mm category mounted strategically throughout the ship.

During World War II, the British Royal Navy fleet included 20 battleships (including two smaller battleships, often called battle cruisers). France entered the war with two battleships. Germany had two very large battleships, the *Bismarck* and the *Tirpitz,* and five smaller battleships, known as pocket battleships. Italy entered the war with six battleships. Japan had a dozen battleships, of which 10 were operational during the war, including the *Yamato* and *Musashi,* by far the largest battleships ever built. The United States entered the war with 15 pre-1921 battleships and two built in the 1930s. The BATTLE OF PEARL HARBOR resulted in sinking or severely damaging eight of these vessels. During the war, between 1942 and 1944, five ships of the *Iowa* class were added to the American battleship fleet. The Soviet Union had no battleships.

Although battleship design varied, the USS *Iowa* may be taken as an example of the state of the art during World War II. During the war years, its general specifications included:

Displacement, light: 45,231 tons
Displacement, full: 57,271 tons

Dead weight: 12,040 tons
Length, overall: 888 feet
Length, waterline: 860 feet
Beam, extreme: 109 feet
Beam, waterline: 108 feet
Maximum navigational draft: 38 feet
Draft limit: 37 feet
Maximum speed: 35 knots
Power plant: Eight boilers, four geared turbines, four shafts, 212,000 shaft horsepower
Armament: nine 16-inch guns, 20 6-inch guns, 60 40-mm antiaircraft mounts, and 60 20-mm antiaircraft mounts
Aircraft: The ships could launch and recover three Vought Kingfisher floatplanes
Crew: 1,921 officers and sailors

Each major combatant's battleships are discussed further in France, Navy of; Germany, Navy of; Great Britain, Navy of; Italy, Navy of; and Japan, Navy of.

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bazooka

During the early 1930s, the U.S. Army began experimenting with a variety of close-range antitank weapons for use by the infantry. Initially, the hope was to develop an antitank rifle, but when these efforts proved unsatisfactory, weapons specialists at the Aberdeen (Maryland) Proving Grounds began working with shaped-charge warheads. This ammunition was developed and stockpiled on the eve of American entry into World War II, but what was still lacking was the actual weapon to fire these rounds. Early in 1942, conventional mortar tubes were modified to fire the shaped-charge projectile. The result was codified in the Rocket Launcher M1, which went into production later in the year. It was almost immediately christened the bazooka, because it resembled a folk musical instrument, a kind of primitive trombone, that had been popularized by 1930s radio comedian Bob Burns.

The bazooka is a very simple weapon that can be fired by a single soldier, although it is preferable to serve the weapon with two: a gunner (who aims and fires) and a loader (who prepares and loads the ammunition). The weapon is nothing more than a steel tube, 60 mm in diameter and open at both ends. The ammunition is a small, fin-stabilized, rocket-propelled grenade, which the loader inserts into the rear of the tube while the gunner rests the weapon on his shoulder. The trigger is an electric switch that closes a circuit, passing an electric current that ignites the ammunition's rocket stage.

The original M1 bazooka consisted of a one-piece tube and a trigger mechanism powered by two batteries located inside the wooden shoulder rest. A small lamp on the left side of the shoulder rest indicated the on-off status of the weapon. The weapon was fitted with a two-piece iron sight and fired a projectile 55 cm in length, capable of penetrating more than 100 mm of armor. In addition to the standard armor-piercing rounds, smoke and incendiary warheads were also available. Beginning in 1943, Bazooka M1A1 replaced the M1 model. Key improvements included a more accurate sight and a distinctive funnel-shaped muzzle, which protected the gunner from the backblast of the exiting projectile. The next year, Bazooka M9 replaced M1A1. The new weapon consisted of a two-piece tube manufactured out of light metal. Because it could be broken into its two constituent pieces, it was more conveniently portable. The batteries, which had proven to be somewhat unreliable, were replaced by a small generator, and the gunsight was greatly improved. The wooden shoulder stock was replaced by a metal one. The Germans captured a bazooka during the Tunisia Campaign in 1943 and used it as the basis for the design of their own infantry antitank weapon, the *Raketenpanzerbüchse.*

Specifications for the M1A1 included:

Caliber: 60 mm
Length: 4 feet 6.5 inches
Weight: launcher, 13.25 pounds; ammunition, 3.4 pounds
Range: 650 yards
Muzzle velocity: 270 feet per second
Armor penetration: 119.4 mm

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Belgium

At the time of World War II, Belgium was a constitutional monarchy with 8.2 million people. It had been devastated in World War I, despite its declared neutrality and, at the outbreak of World War II, again proclaimed itself a neutral. However, the Belgian government also declared its resolute intention to defend itself against attack and invasion from whatever quarter. Initially, to assert both its neutrality and sovereignty, Belgian Army troops were deployed along the French as well as German frontiers. However, during November 1939 and January 1940, invasion alerts made it clear that France presented no threat, and all troops were transferred to the German border. British-supplied intelligence put the Belgian forces on heightened alert, and the invasion, code named by the Germans Fall Gelb, was not a surprise when it came on May 10, 1940. The Belgians even entertained a reasonable hope of repelling the invaders. Their most formidable fortress, Eban Emael, which guarded the Albert Canal, was considered a great bulwark against invasion and was judged to be almost certainly impregnable. What the Belgians had not considered, however, was an AIRBORNE ASSAULT, which was made on May 10 and which reached the fort from above, where it was, in fact, quite vulnerable. The fall of the fort allowed the main body of German invaders to cross into Belgian territory, and the nation's armed forces, some 600,000 men, were rapidly overwhelmed.

King Leopold and his principal ministers met to discuss the situation. The ministers advised the king to flee to France and to continue the struggle in exile. Leopold, however, resolved to remain in Belgium and share the fate of his troops. He negotiated a surrender on May 28, then withdrew to his palace in a self-imposed internal exile. Breaking with their king, the principal ministers traveled to France and there proclaimed Leopold unable to reign because he was a prisoner. A parliament in exile was held at Limoges on May 31, and the rift between king and government deepened. When the BATTLE OF FRANCE ended in the fall of France, the ministers returned to Belgium in the hope of patching up relations with the king. Leopold refused to see them, and asserted that the war between Germany and Belgium had come to an end. Leopold's aim was to negotiate with the occupiers, avoid further bloodshed, and salvage in the process some degree of independence.

On November 19, 1940, Leopold met with ADOLF HITLER at BERCHTESGADEN and sought guarantees of independence. Hitler refused any definitive answer, and Leopold returned to Belgium, refusing to recognize or communicate with the leaders of the Belgian government-in-exile now located in London. In the meantime, popular support for the king declined, and, in June 1944, German authorities deported him to the Reich.

In the absence of any real government, the German occupiers then annexed to the Reich the frontier cantons of Eupen, Malmédy, and St. Vith. Prior to World War I, these had been part of Germany and had been ceded to Belgium by the terms of the TREATY OF VERSAILLES. As for the rest of Belgium, it was grouped together with the French departments of Nord and Pas-de-Calais under a WEHRMACHT military government called the *Militärverwaltung* under the administrative direction of Eggert Reeder. In July 1944, this military administration was replaced by a German-run civil administration, the *Zilverwaltung.*

Under Reeder, the occupation was typically brutal. Suppression of the underground (*see* RESISTANCE MOVEMENTS) was vigorous, and, in general, a policy of reprisals for partisan attacks was insti-

tuted, with 100 civilian hostages to be executed for every German soldier or official killed by partisans. Hitler, in July 1940, ordered Reeder to make some accommodations to garner the support of the Germanic Flemish population but to treat the French-speaking Walloons more harshly. However, Reeder had to work with a minimum of manpower, and he also had to take steps to secure from all Belgians a level of industrial productivity to aid the German war effort. These requirements led to a number of accommodations. Nevertheless, friction and conflict frequently developed between Belgian civil servants, who had assumed much authority in the absence of a government, and military administrators.

Among Belgium's economic elite, including its bankers and industrialists, the drive to cooperate with the occupiers was strong. There was profit to be made from feeding the German war machine. Nevertheless, these elite groups also sought to maintain a degree of economic independence from Germany.

Finally, in addition to civil servants and economic elites, another group was a powerful force in occupied Belgium: the Catholic Church. The military occupiers adopted a mostly hands-off policy where the clergy was concerned and also relegated the conduct of the educational system to the church.

The Belgian underground was a strong presence in the country. In the beginning, organized resistance grew from a core of those who had masterminded anti-German activities during World War I. As the possibility of ultimate German defeat became increasingly real, the Belgian resistance movement grew rapidly, some, though not all of it, organized by the Belgian Communist Party. Belgian resistance was not organized solely to sabotage German war efforts. A great deal of the underground was dedicated to developing and maintaining intelligence networks to supply the Allies with information and also with developing networks, lines, and safe houses to aid in the escape of downed Allied airmen.

Somewhat less significant were the Belgian armed forces in exile. They were very small in number, amounting only to about 3,000 men, of whom only some 1,600 had arms and equipment. A Belgian battalion was organized at Tenby, Wales, and participated in Allied efforts to liberate Belgium. Some 300 Belgians also served in small commando units and in units of the Special Air Service (SAS). In terms of numbers, about 40,000 colonial troops in the Belgian Congo remained under Allied control throughout the war and served in Africa. After the liberation of Belgium, they constituted more than half the 75,000-man new Belgian army that was quickly formed to fight in the closing months of the war.

In addition to resistance groups in Belgium, there were pro-German collaborationist factions, the most important of which were Flemish nationalists, who secured government positions under the Nazis. Even among the Walloons, a group known as the Légion Wallonie, though French speaking, enthusiastically espoused Nazi ideology and served not only in collaboration with the Schutzstaffel (SS) within Belgium but also against the Soviets on the eastern front.

In general, even Belgians who neither resisted nor collaborated with the German occupiers suffered the same privations the populations of other occupied countries endured, including severe shortages of food, fuel, and clothing. The process of liberation caused many civilian casualties and much damage, as Allied bombers attacked railway junctions, bridges, factories, and other facilities essential to the German war effort. Some 70,000 Walloons were held as prisoners of war throughout the conflict, and Belgium's Jewish population did not escape the horrors of the Holocaust. Immediately after the occupation, German authorities instituted anti-Jewish laws and ordinances, which restricted civil rights, confiscated property and businesses, and banned Jews from most professions. Beginning in 1942, all Jews were required to wear a yellow Star of David. Many Belgian Jews were arrested and consigned to forced labor, mostly in the construction of military fortifications in northern France, but also in clothing and armaments factories and Belgian stone quarries. Between 65,000 and 70,000 Jews lived in Belgium, mostly in

the major cities of Antwerp and Brussels. Most of these Jews were from Poland and had found refuge in Belgium after World War I. Because many Belgians aided Jews and resisted attempts to arrest them, and because Belgian civil servants generally refused to cooperate with deportation orders, more than 25,000 Jews managed to avoid deportation. Nevertheless, between 1942 and 1944, German military police deported almost 25,000 Jews from Belgium via intermediate camps at Breendonk and Mechelen to AUSCHWITZ, where most were killed. Fewer than 2,000 of those deported survived the Holocaust.

As mentioned, popular support for King Leopold waned early in the war and, concomitantly, support for the government in exile grew. By 1941, most Belgians recognized the exiled ministers as the legitimate Belgian government.

The liberation of Belgium began late in summer 1944, and most of the country had been liberated by early September of that year. Because King Leopold had been deported by the Germans in June 1944, his brother, Prince Charles, was quickly installed as regent. Hubert Pierlot, prime minister before the war and head of the government in exile, returned to Belgium once again as its prime minister until he resigned in February 1945 and was replaced by Achille van Acker, a socialist. Leading problems for the new government, aside from feeding and caring for the population, were how to deal with collaborators and what to do with the king. The first problem was never resolved to everyone's satisfaction, and, as for the king, no agreement was reached between him and van Acker concerning his return to the throne. He spent the rest of his life in Swiss exile, failing in the 1950s in a bid to regain power.

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Belorussia

Before it became the independent nation of Belarus in 1991, Belorussia—White Russia—was the smallest of the three Slavic republics of the Soviet Union, covering an area of 80,153 square miles. Belorussia was bordered on the northwest by LATVIA and LITHUANIA and by Russia on the northeast and the east. Its southern border was Ukraine. Before the GERMAN-SOVIET NON-AGGRESSION PACT was concluded, Belorussia had been divided between Poland and the Soviet Union, of which it was the Belorussian Soviet Socialist Republic (SSR). Pursuant to the pact and after the German INVASION OF POLAND, the western region was annexed to the Soviet Union. The capital city, Minsk, was in the Belorussian SSR. The total population of Belorussia was 8 million as the war commenced, consisting of a White Ruthenian (or Belorussian) majority and three principal minorities: Poles, Jews, and Russians. In addition to Minsk, Grodno, Bialystok, and Pinsk were the major cities. Sophisticated industrial and commercial centers, they were culturally and economically influenced by the Jewish minority. Beyond the cities was a swampy and thickly forested hinterland populated by the Belorussian agricultural peasantry.

Because of its location on the Soviet Union's western border, Belorussia suffered the first terrible impact of the German BLITZKRIEG, and the region was occupied by German forces for three full years. The conquerors incorporated Belorussia into what they called Reich Commissariat Ostland and immediately set about establishing ghettos into which Belorussian Jews were herded and held until they could be sent to CONCENTRATION AND EXTERMINATION CAMPS. The RESISTANCE MOVEMENT was extensive in Belorussia, with partisans highly active. Their objective was not only to make life difficult for the invaders of Belorussia, but, because the region was the principal communication and supply conduit between Germany and the interior of the Soviet Union, the partisans also

focused on disrupting the entire ongoing invasion operation. For their part, the Germans fully recognized the stakes Belorussia represented. They responded fiercely and brutally to partisan attacks, exacting disproportionate reprisals against the civilian population for every attack. Many Belorussians were killed or deported to the Reich to work as slave labor in German war production factories.

As if conditions were not bad enough in Belorussia, the eastern portion of the republic entered World War II having already suffered a decade of ravage by the Soviets, who waged an undeclared but massively brutal war against Belorussian nationalists and who violently enforced the collectivization of farms. This history worked against Belorussia when it was reoccupied by the Red Army during January–July 1944. As the Nazi oppressors were pushed out, the Soviet "liberators" resumed the program of forced Sovietization and purges that had been interrupted by the outbreak of war. The Belorussian SSR was one of the Soviet republics for which Joseph Stalin managed to secure separate United Nations membership following World War II. This, however, was of no benefit to Belorussia itself, which had, in fact, no real independence, nor did the central Soviet government acknowledge Belorussia's war losses. Most likely to conceal the terrible toll taken by the agents of Sovietization, the government never officially calculated Belorussian casualties. Most historians believe civilian deaths were approximately 2 million, that is, a staggering 25 percent of the Belorussian population.

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Belzec extermination camp

Belzec began as a labor camp in April 1940, on the Lublin-Lvov railway line, about 100 miles southeast of Warsaw. In November 1941, construction was started to convert Belzec to a death camp. As built, the camp's extermination section consisted of a wooden building housing three gas chambers for administering lethal doses of carbon monoxide. Later, this building was replaced by a brick-and-concrete structure housing six gas chambers. Belzec began full-scale operations on March 17, 1942.

The camp was small, only about 1,220 yards in circumference, and this space was divided into two sections, each surrounded by a barbed wire fence. One section was divided into a small area containing the administration buildings and a barracks for Ukrainian guards. The larger section included a railway siding, where the incoming "deportees" were separated by sex and age, and the barracks, where they were stripped and robbed of their personal property. This section also contained huts for Jewish workers employed by the Schutzstaffel (SS) to assist in the process of mass extermination. The second section of the camp contained the gas chambers and the mass burial pits. The extermination area was hidden from the view of the rest of the camp by leafy branches intertwined in the barbed wire fencing.

At the height of operations, the camp's six gas chambers killed 1,200 persons at a time. Before the camp ended operations and was razed in December 1942, it is estimated that some 600,000 Jews and at least 12,000 Gypsies were murdered here.

See also concentration and extermination camps; Final Solution; and Holocaust, The.

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Beneš, Edvard (1884–1948) *Czech president forced to cede the Sudetenland to Germany*

One of the founders of modern Czechoslovakia after World War I, Beneš capitulated to Adolf

Hitler's demands during the 1938 Sudetenland crisis and the larger Czech crisis that followed. Beneš was educated in Prague as well as in Paris and Dijon, an experience that nurtured in him a strong identification with western Europe. He was a professor at the Prague Commercial Academy and the Czech University of Prague in the years before World War I. During this period, Beneš became an admirer and adherent of the Czech nationalist Tomáš Masaryk, who sought to liberate both the Czechs and Slovaks from the Austro-Hungarian Empire. During World War I, Beneš followed Masaryk to Switzerland, then moved to Paris, where, with Masaryk and the Slovak nationalist Milan Štefánik, he created a propaganda organization that evolved into the Czechoslovak provisional government on October 14, 1918, the eve of collapse of the Austro-Hungarian Empire. With the armistice in November 1918, Beneš and the others were fully prepared to install the government of a new Czechoslovak state.

In the new government, the urbane Beneš became foreign minister, a post he held until 1935 and in which he served as head of the Czech delegation to the Paris Peace Conference in 1919, which drafted the Treaty of Versailles and founded the League of Nations. Beneš was an enthusiastic champion of the doomed league, serving as its council chairman for six terms. He was fearful that a union between Austria and Germany, in the offing from the end of World War I, would ultimately swallow up Czechoslovakia, and he worked toward establishing a favorable balance of power in eastern Europe. In 1921, Beneš negotiated treaties with Romania and Yugoslavia, forming with them the so-called Little Entente. The original purpose of the alliance was to keep Hungary in check, but when France joined in 1924, it became an alliance against Germany and, to some degree, against the Soviet Union as well. As the German threat loomed larger and larger under the Nazi regime, Beneš in 1935 signed a mutual assistance pact between Czechoslovakia and the Soviet Union.

Masaryk resigned as Czechoslovakia's president in 1935, and Beneš was elected to replace him. He entered office at a time of worsening relations with Poland and Germany. When Hitler demanded the autonomy of the largely German-speaking Czech Sudetenland region, Beneš agreed, in the hope that doing so would appease Hitler (*see* appeasement policy). Of course, it did not, and Germany was, with the acquiescence of Britain and France (the latter in direct contravention of the Little Entente alliance), entirely relinquished the Sudentenland in September 1938. Almost immediately following this, Poland occupied the disputed Teschen area, and Germany soon swallowed up the rest of Czechoslovakia whole.

Beneš resigned as president on October 5, 1938, and went into exile. With the outbreak of war, he created in France a Czechoslovak national committee, the seed of a government in exile, which he was compelled to move to London in 1940 as France fell. Shortly before V-E day, on April 3, 1945, Beneš returned the exiled government to Czech soil, then personally entered Prague on May 16 as head of the only eastern European government allowed to return from exile after the war. Any sense of triumph Beneš may have felt, however, was tempered by his awareness of the necessity of compromising with the Soviet Union. Beneš was in poor condition to negotiate. Fatigued from the stresses of the war and his exile, his health deteriorated and, in 1947, he suffered two strokes. On February 25, 1948, the Soviets acted through Beneš's own Communist prime minister, Klement Gottwald, who compelled Beneš to accept a Communist-dominated cabinet. Nevertheless, he refused to sign a new Communist constitution and instead resigned on June 7, 1948. He died in September, shortly after the suicide of Jan Masaryk, his lifelong friend and the son of his political idol and mentor, Tomáš Masaryk.

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Berchtesgaden

Berchtesgaden is a town in southern Bavaria on the border with Austria. Although Berchtesgaden itself is nestled in a deep valley, it lent its name to Adolf Hitler's retreat, officially known as the Berghof, on the Obersalzberg, 1,640 feet above the town. Also perched on the Obersalzberg were chalets occupied by Hermann Göring and Martin Bormann, among other top-ranking Nazis. To all appearances a large holiday retreat, the Berghof was often used by Hitler for important conferences, including that with Austrian chancellor Kurt von Schuschnigg in February 1938, compelling him to accept *Anschluss,* and the meeting with Britain's prime minister Neville Chamberlain in September 1938, in which Hitler presented his demands with regard to Czechoslovakia. A network of bunkers and air raid shelters existed under the Berghof, and a private elevator, its shaft cut through solid rock, connected it with Hitler's sanctum sanctorum, "Eagle's Nest," at the very top of the mountain. The Berghof proper was destroyed in an Allied air raid in April 1945, and the building's ruins were razed in 1952. A stand of trees was planted on the site. Eagle's Nest survived the bombing and is now a teahouse, which may be visited by tourists.

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Bergen-Belsen concentration camp

Officially, the Germans listed this facility, near Hanover, as a *Krankenlager,* a sick camp or medical camp. It was, in fact, created as an internment camp in April 1943, but by July was a fully developed concentration camp. It differed from other such camps, however, in that it was divided into two sections. One was used for the incarceration of political prisoners and Jews of foreign nationality, who were being held, in effect, as hostages. The other section was a conventionally horrific concentration camp.

By early 1945, Bergen-Belsen became a holding facility for many thousands of prisoners who had become too sick or weak for forced labor but who were, for various reasons, not "selected" for extermination. Soon, the camp was disastrously overcrowded by some 60,000 inmates. This condition gave rise to a typhoid epidemic, in which approximately 18,000 prisoners died in March 1945 alone. SS-Hauptsturmführer Josef Kramer, Bergen-Belsen's third commandant, was also its most infamous. He became known as the Beast of Belsen. His answer to the typhoid epidemic was simply to starve the prisoners. He reasoned that typhoid was spread by feces and that if prisoners did not eat, they would not defecate. The most famous victim of typhoid in Bergen-Belsen was Anne Frank, the young author of a diary that would gain her worldwide posthumous fame after her father published it in 1947.

The camp was liberated by the British in April 1945. They found 38,500 living inmates (of whom about 28,000 subsequently died), mass graves holding some 40,000 bodies, and mountains of an estimated 10,000 unburied dead.

See also concentration and extermination camps; Final Solution; and Holocaust, the.

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Beria, Lavrenty (1899–1953) *chief of the NKVD, the Soviet secret police*

As chief of the People's Commissariat of Internal Affairs (NKVD), the Soviet secret police, Beria was a trusted deputy of Joseph Stalin both before and during World War II. Ruthless and treacherous, he was, aside from Stalin himself, also the most powerful and feared individual in the wartime Soviet Union.

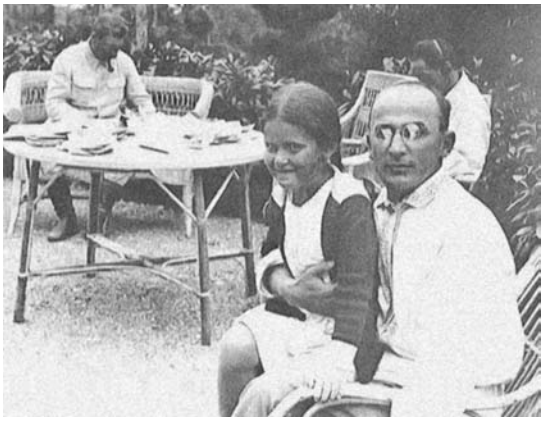
Like Stalin, Beria was a native of Georgia. He joined the Communist Party in 1917, participating in the revolutionary movement in Azerbaijan and Georgia, then becoming a member of the secret police (Cheka) in 1921. He rose rapidly through

the ranks of the Cheka, becoming its chief for Georgia and, simultaneously, attaining very high Communist Party rank. In 1931, he became party boss of Georgia and, the following year, of all the Transcaucasian republics. During Stalin's Great Purge of 1936–38, Beria executed the dictator's orders and generally oversaw arrests, interrogations, and other aspects of purge operations. Having earned Stalin's trust and admiration, he was brought to Moscow in 1938 as deputy to Nikolay Yezhov, chief of the NKVD. In fact, Stalin had brought in Beria to replace Yezhov, who was arrested and executed shortly after Beria's arrival. Beria assumed his new office and served as NKVD head until his own death by execution in December 1953.

During the immediate prewar years, Beria personally instigated and led a purge of the police bureaucracy and established a network of labor camps—gulags—throughout the Soviet Union. Untold legions of Soviet citizens were consigned to these, often on the slightest suspicion. During the opening months of the war, in 1939–40, when the Soviet Union was effectively allied with Germany, Beria introduced security troops into territories incorporated into the Soviet Union, including eastern Poland, Lithuania, Latvia, Estonia, Bessarabia, and southern Finland. On Beria's orders, hundreds of thousands were arrested in these regions, including Polish army officers, who were executed en masse in the Katyn Forest.

Beria quickly earned a reputation not simply as a ruthless leader of the secret police, but as a sadist, who personally beat and tortured prisoners during interrogations and who ordered the abduction of young women for his sexual gratification. It is believed that his own wife had consented to marry him only after being forcibly abducted.

Beria was named a deputy prime minister of the Soviet Union in February 1941 and, during World War II, was appointed to a high position within the State Defense Committee, with responsibility for the Soviet Union's internal security (counterespionage and political control and enforcement) as well as the management of slave labor for certain aspects of war production. Beria



Soviet KGB chief Lavrenty Beria with Joseph Stalin's daughter, Svetlana. Stalin is seen in the background. *(Library of Congress)*

ordered and carried out the deportation of nationalities Stalin considered suspect, including Chechens. Kalmucks. Crimean Tatars, and Volga Germans. Throughout the war, he policed and intimidated the high command of the Soviet army to ensure these officers' absolute loyalty to Stalin. Early in the war, in July 1941, Stalin even delegated Beria to approach Adolf Hitler's Bulgarian envoy with a proposal for a separate peace. This overture proved abortive.

As the war progressed and the Red Army turned the tide toward victory during 1943–44, Beria used purges and other terror tactics to consolidate control over conquered territories. He recruited, indoctrinated, and trained Communist cells within territory seized from the Germans and used these as the core of the Communist regimes that would be established in these areas immediately after the war. Establishing the local apparatus of secret police units was always a high priority, as was ensuring that these units answered directly to Moscow.

Beria was made a marshal of the Soviet Union in 1945 and, after the war, in 1946, was elevated to the highest executive policy-making committee, the Politburo. After the Politburo became the Presidium in 1952, Beria retained his position on it. The death of Stalin in March 1953 made Beria one of four deputy prime ministers and the head of the

Ministry of Internal Affairs, which encompassed both the secret police and the regular police. Soon after the dictator's death, however, Beria tried to use his position as the head of the secret police to elevate himself to sole dictator of the nation. He soon was confronted by a powerful and committed anti-Beria bloc, consisting of Georgy M. Malenkov, Vyacheslav M. Molotov, and Nikita S. Khrushchev at the uppermost level. Suddenly, the Soviet power structure turned against Beria, who was arrested, summarily stripped of his government and party posts, and, in a show trial, found guilty of being an "imperialist agent" and of conducting "criminal antiparty and antistate activities." He was executed on December 23, 1953, in Moscow.

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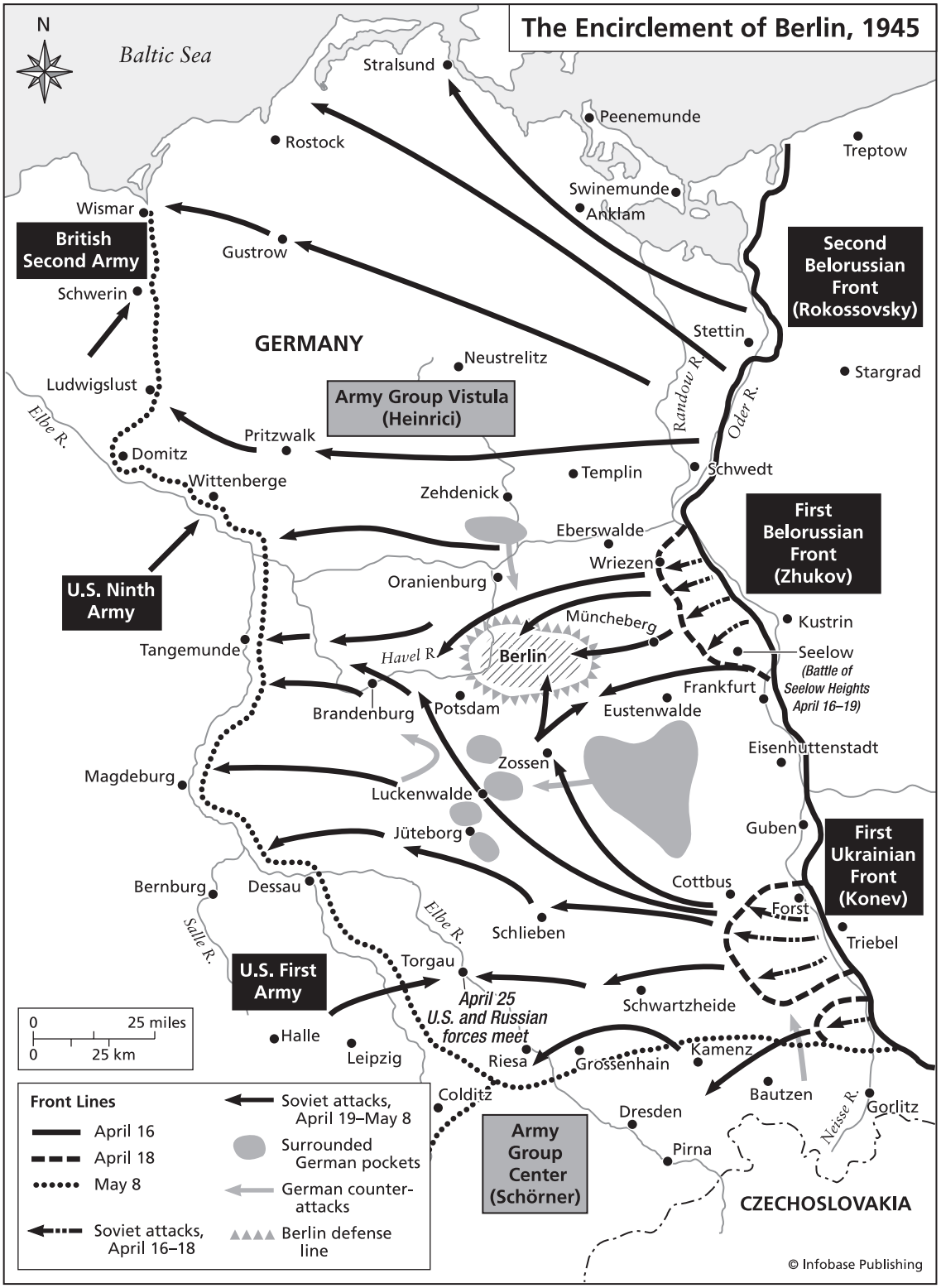
Berlin, Battle of

The capital of Germany, Berlin had a powerful political appeal as a target and objective in the final phases of the war in Europe. While it was certainly a major Germany city, it was in many ways throughout the war no longer the functioning capital, since Adolf Hitler spent most of his time at Berchtesgaden and at various field headquarters. The Supreme Allied Commander, Dwight D. Eisenhower, did not consider Berlin a key military objective and made the decision to allow the city to fall to the Soviet Red Army while the forces of the western Allies turned south into Bavaria. (Eisenhower's decision was also motivated by his understanding of the diplomatic situation; at the Yalta Conference, Winston Churchill and Franklin Roosevelt had promised Joseph Stalin that, all other things being equal, Berlin would be a Red Army objective.) Yet it is undeniably true that Berlin was a moral and symbolic prize of enormous importance, both to the Nazi regime and the victorious Allies. It is also true that Hitler had returned to Berlin from his western front headquarters on January 15, 1945, only to find himself held hostage by relentless bombing raids, which drove him into his massively fortified bunker beneath the Reich chancellery building. Thus, an advance on Berlin was an advance directly against Adolf Hitler.

The First Belorussian Front ("front" was the Soviet equivalent of an Allied "army group"), under Marshal Georgi Konstantinovich Zhukov, and the First Ukrainian Front, under Marshal Ivan Konev, advanced on the Oder River, about 35 miles east of Berlin early in February 1945. Zhukov reached Küstrin, on the Oder, first, and he favored an immediate advance against Berlin. Stalin ordered a delay, however, preferring to attack with overwhelming numbers. This was a mistake, because at the time, the forces defending this approach to Berlin were badly depleted, nothing more than the remnants of the Third Panzer Army and the Ninth Army now cobbled together in Army Group Vistula. The delay, however, was hardly fatal to the Soviet offensive since Germany could no longer muster a sufficient force to exploit it. Moreover, Konev began an advance across the Oder to the Neisse River, targeting the Fourth Panzer Army

Red Army soldiers raise the Hammer and Sickle over Berlin. *(National Archives and Records Administration)*


The Encirclement of Berlin, 1945
N
Baltic Sea
Stralsund
Peenemunde
Rostock
Treptow
Swinemunde
Anklam
Wismar
British Second Army
Gustrow
Second Belorussian Front (Rokossovsky)
Schwerin
GERMANY
Stettin
Neustrelitz
Stargrad
Ludwigslust
Army Group Vistula (Heinrici)
Randow R.
Oder R.
Elbe R.
Pritzwalk
Domitz
Templin
Schwedt
Wittenberge
Zehdenick
First Belorussian Front (Zhukov)
Eberswalde
Wriezen
U.S. Ninth Army
Oranienburg
Kustrin
Müncheberg
Tangemunde
Havel R.
Berlin
Seelow
(Battle of Seelow Heights April 16–19)
Frankfurt
Brandenburg
Potsdam
Eustenwalde
Eisenhüttenstadt
Zossen
Magdeburg
Luckenwalde
Guben
First Ukrainian Front (Konev)
Jüteborg
Cottbus
Bernburg
Dessau
Forst
Elbe R.
Schlieben
Triebel
Saale R.
Torgau
U.S. First Army
April 25
U.S. and Russian forces meet
Schwartzheide
Halle
Leipzig
Riesa
Grossenhain
Kamenz
Bautzen
Colditz
Dresden
Neisse R.
Gorlitz
Army Group Center (Schörner)
Pirna
CZECHOSLOVAKIA
0 25 miles
0 25 km
Front Lines
April 16
April 18
May 8
Soviet attacks, April 16–18
Soviet attacks, April 19–May 8
Surrounded German pockets
German counter-attacks
Berlin defense line
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positions there and creating a new threat to Berlin, this one from the south. That the German situation was indeed hopeless did not, however, deter Hitler from ordering that Berlin would be defended "to the last man and the last shot." He deployed troops, including at this point overaged men and underaged boys, in four concentric rings around the city. The first was about 20 miles from central Berlin; the second some 10 miles from the center; the third positioned along the S-Bahn, the city's suburban rail system; and the fourth, called the Z-ring (Z for *Zitadelle,* Citadel), within the center of the city itself, surrounding the government buildings and the *Führerbunker* beneath the chancellery.

What finally moved Stalin to order the Zhukov-Konev advance renewed was not the German situation, but the speed with which the Americans and British were advancing from the west. On March 31, Stalin informed Zhukov that he would have the honor of taking Berlin, and he accordingly ordered him to regroup and immediately resume his advance. His advance would be in concert with Konev, who would protect and support Zhukov's left flank as well as advance against Dresden. A third Red Army group, the Second Belorussian Front, under Marshal Konstantin Rokossovsky, was sent to the lower Oder River, where it would support Zhukov's right flank. Taken together, these three army groups mustered 2.5 million men, 6,250 tanks and other armored vehicles, and 7,500 aircraft, most of them attack planes well suited for close air support.

Depleted and exhausted as the German army was, it resisted the attack on Berlin with great determination. Zhukov began his assault at dawn on April 16, concentrating his attack at Seelow Heights, west of the Oder. In an effort to confuse and blind the defenders, Zhukov massed concentrations of antiaircraft searchlights, directing these into the German positions. The effect, however, was also to reduce visibility for the Russians. Chaos ensued among the attackers, and the assault proved abortive. Zhukov regrouped and launched a new assault with six armies (including two armies consisting solely of armor) on April 17. These troops also were forced to withdraw. The next day brought a new assault, which pushed the German lines back but created no breakthrough, whereupon Stalin personally intervened with an order to break off the attack from the east and wheel around to the north, resuming the assault from there. Simultaneously, Konev, having crossed the River Neisse on April 16, was ordered to advance his two tank armies against Berlin from the south. Rokossovsky, already positioned to the northeast with his Second Belorussian Front, was assigned to assist Zhukov in his southbound attack. The German capital lay now within the jaws of a great pincer.

As for Hitler, he was within the grasp of a desperate delusion. Ordering the Ninth German Army to stand fast on the Oder in the belief that he might somehow win this battle and counterattack, he took the pressure off Konev and effectively invited the marshal into the capital. On April 20, Adolf Hitler's birthday, Konev's armor reached Jüterbog, the German army's major ammunition depot. After taking this objective, Konev advanced to the communications center at Zossen. In the meantime, in the *Führerbunker,* Hitler gave to all those of the Nazi inner circle permission to leave Berlin as best they could before the last roads were closed. He told them that he would remain in the city to the end.

On April 21, Zhukov reached the outermost defensive ring. By April 25, Zhukov had linked up with Konev, and the Red Army now completely encircled the German capital. Hitler scrambled to organize a relief force, but the Ninth German Army, itself separately encircled, was in the last extremity, and the Twelfth German Army, approaching Berlin from the west, was a shell of its former self, far too depleted to make any difference in the battle. The troops that now manned the city's inner defensive rings were a mixture of veterans who had fallen back from the attack on the outermost ring and a collection of Hitler Youth and old men, some not even armed. Nevertheless, fighting progressed from street to street. On April 29, Lt. Gen. Karl Weidling, commandant of the capital's defenses, reported that all ammunition would be exhausted by the next day. With no relief

from the outside possible, the city fell. On April 30, Red Army troops stormed the Reichstag, seat of German government. Unknown to them, inside the *Füherbunker,* Adolf Hitler and his new bride, Eva Braun, took their own lives.

Still, the street fighting continued. On May 1, Lt. Gen. Hans Krebs, chief of the German general staff, fruitlessly—and foolishly—bargained for surrender terms. The Soviets would accept nothing less than unconditional surrender. Lt. Gen. Weidling gave them precisely that on May 2.

No accurate casualty figures exist for the Battle of Berlin. Estimates vary widely. Red Army losses are put at anywhere from some 78,000 killed in action to 305,000 killed. Most authorities believe German losses were approximately 325,000 killed, including soldiers and civilians. There are no estimates of wounded.

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Bevin, Ernest (1881–1951) *British minister of labor during World War II*

During World War II, this British union leader and statesman served as minister of labour and national service in the cabinet of Winston Churchill and as foreign secretary under Clement Attlee. He was born into relative poverty and had no formal education after age 11, when he helped to support his family and himself with a series of menial jobs, culminating in a position as a delivery man for a mineral water company in Bristol. During this period, he became involved in the labor movement and in 1905 was appointed secretary of the Bristol Right to Work Committee. Five years later, he organized a carters' branch of the Dockers' Union in Bristol, and by 1919 he was that union's assistant general secretary. In 1921, Bevin engineered the amalgamation of a number of unions into the Transport and General Workers' Union, of which he served as general secretary until 1940, by which time it had become the largest trade union in the world. Beginning in 1925, Bevin served as a member of the general council of the Trades Union Congress (TUC), achieving election as TUC chairman in 1937. Bevin entered the national spotlight in 1926 as the prime organizer of the British general strike of May 3–12. He was also a key figure in resolving and settling the strike.

With the onset of the Great Depression at the end of 1929, Bevin was a strong voice of criticism directed against the Labour Party government (1929–31) of Prime Minister Ramsay MacDonald, who consistently failed to introduce emergency measures to relieve unemployment. When MacDonald assembled a coalition ministry in 1931, Bevin refused to support it. In contrast to MacDonald and Stanley Baldwin after him, Bevin was an outspoken advocate of British rearmament to back a firm stand against the gathering and growing threat of Nazi Germany and fascist Italy. This record led Churchill to appoint Bevin, who was not a member of Parliament at the time, minister of labour and national service in May 1940. Most significantly, Bevin was included in the War Cabinet as of September 1940.

Bevin proved to be one of Churchill's most effective cabinet appointments. The working man and woman responded to him enthusiastically, and he proved to be a skilled leader, whose authority, under the Emergency Powers Act of 1940, was unprecedented in extent. Bevin had total control over the country's labor force, of which some 7 million had been marshaled for war industries by 1943.

After Attlee replaced Churchill as prime minister and formed a Labour Party government on July 26, 1945, Bevin became foreign secretary. In this post, he advocated a strong stance against Soviet expansion, arguing against British recognition of new Soviet puppet governments in the Balkans. His advocacy of the Brussels Treaty alliance of the United Kingdom, France, Belgium, the Netherlands, and Luxembourg and of the Organization for European Economic Cooperation, both in 1948,

provided a strong platform for his support of the North Atlantic Treaty in 1949, creating NATO. Illness forced Bevin to resign from the cabinet on March 9, 1951, but shortly before his death, he was named lord privy seal.

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Biak Island, Battle of

During the New Guinea Campaign, elements of the 41st U.S. Division under Maj. Gen. Horace Fuller landed on Biak (an island off the northern coast of Dutch New Guinea) on May 27, 1944. Their objective was to take this important Japanese air base and seize it for basing U.S. aircraft to support the campaign to retake the Philippines. The Japanese garrison of 11,400 made a typically tenacious stand and, despite a U.S. naval cordon around the island, managed to land 1,200 reinforcements. The rugged terrain of the island favored the defenders.

Anticipating little resistance on Biak, the often impetuous Gen. Douglas MacArthur had prematurely announced victory on the island when he learned that Biak had yet to be taken. Embarrassed and also deeply dissatisfied with the slow progress of the American advance on Biak, MacArthur relieved Fuller and replaced him with Lt. Gen. Robert Lawrence Eichelberger on June 14. Under new leadership, the 41st Division began quickly rolling up the defenders, except for holdouts at Ibdi (the so-called Ibdi Pocket), who held off the attackers until July 28. Although victory was now announced again, mop-up operations continued on Biak until August 17.

American forces lost 400 killed and 2,000 wounded, with another 7,000 disabled by endemic tropical diseases, including typhus and a fever of mysterious origin that was never identified. Japanese losses exceeded 5,000 killed. Some 800 were taken prisoner. Others slipped off into the dense jungle, and a very few holdouts continued to resist as late as January 1945.

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Bidault, Georges (1899–1983) *French resistance leader*

With Jean Moulin, Georges Bidault was the central leader of the French resistance and underground movements following the fall of France. In postwar France, he served two terms as prime minister and three as minister of foreign affairs.

Born in Moulins, Bidault received his early formal education at an Italian Jesuit school. He served in the French Army just after World War I and participated in the occupation of the Ruhr in 1919. After military service, he attended the Sorbonne, from which he received degrees in history and geography in 1925. A Roman Catholic activist, he founded in 1932 *L'Aube (Dawn),* a Catholic leftist daily, and wrote the paper's foreign affairs column until the outbreak of war in 1939. As a high-profile leftist, Bidault was a target for German authorities immediately after the fall of France. He was arrested in 1940 and imprisoned in Germany. Released and returned to France in 1941, Bidault became active in the resistance movement and was a charter member of the National Council of Resistance when it was formed by Jean Moulin in May 1943. With the death of Moulin the following month, Bidault became head of the council. By 1944, the Gestapo discovered Bidault's involvement in the council, but he managed to stay one jump ahead of his pursuers and even found opportunity to create the Mouvement Républicain Populaire, a Christian-Democratic Party.

Bidault was an ardent supporter of the wartime Free French government-in-exile of Charles de Gaulle and was appointed foreign minister in the provisional government in 1944. In this capacity, he signed the Franco-Soviet alliance of December and

voiced his support of the YALTA AGREEMENT in 1945. In the immediate postwar years, Bidault concluded key economic agreements with Belgium, the Netherlands, and Luxembourg and, on behalf of France, signed the Charter of the United Nations.

In 1946, Bidault was head of the provisional government, then once again served as foreign minister during 1947–48. Although his leftist sympathies at first favored wide latitude toward the Soviet bloc, the 1948 Communist takeover in Czechoslovakia persuaded him of the need for both western European economic union and a defense alliance. He thus became a proponent of the North Atlantic Treaty Organization (NATO).

Bidault served a second term as prime minister in 1949–50 and was minister of defense in 1951–52 and foreign minister in 1953–54. Bidault steadily drifted to the right, breaking with de Gaulle over the issue of Algerian independence (de Gaulle moved toward it, Bidault opposed), and founded in 1958 a new, *right*-wing Christian-Democratic Party. Bidault, now a member of the National Assembly, became increasingly militant on the subject of Algerian independence and, in 1961, founded a national council of resistance, which advocated terrorism in France as well as Algeria to halt the movement toward independence. Reverting to his wartime ways, Bidault went underground and labeled the de Gaulle government illegitimate and illegal. For his incitement to terrorism, Bidault was charged in absentia with conspiracy and formally stripped of parliamentary immunity from arrest. A fugitive now, he fled France in 1962, settling in Brazil from 1963 to 1967, but returning to France in 1968 after the suspension of his arrest warrant. In that most turbulent political year, he founded a new right-wing organization, the Mouvement pour le justice et la liberté, but found that he had become a largely marginalized figure, although his Christian-Democratic Party made him its honorary president in 1977.

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biological warfare

Biological warfare (BW) did not figure among the horrors of World War II on any large scale. Only two combatant nations are known to have used it, Poland and Japan. In 1943, the Polish Home Army, a resistance organization, disseminated typhoid (by means of infected lice) and managed to kill several hundred German troops and agents of the GESTAPO. Far more extensive were Japanese BW efforts. During the interwar period, in the 1930s, the Japanese Imperial Army created two units devoted to BW. The mission of Unit 100 was to create and deploy biological agents for small-scale sabotage purposes, while the mission of the far more notorious Unit 731, known as the Ishii Detachment after its commander, Lt. Col. Ishii Shiro, was to develop BW on a large scale. Unit 731 was created in Manchukuo, Japanese-occupied Manchuria, in 1936 and operated under the cover designation Kwantung Army Epidemic Prevention and Water Supply Unit. The unit's location gave it an available pool of Chinese victims on which to test various BW weapons. These included a porcelain bomb designed to deliver plague-infected fleas, live and unharmed, against chosen targets. The unit's Ha bomb was designed to disseminate anthrax or tetanus among soldiers on the battlefield. Essentially modified antipersonnel ordnance, the bomb exploded, broadcasting infected shrapnel over a wide area. Injuries created by the shrapnel would cause infection. Another version of the device, known as the Uji bomb, was designed for use against civilians as well as food animals. Some hundreds or perhaps thousands of Chinese prisoners were used as guinea pigs to test these weapons and biological agents.

Although the Japanese worked intensively on BW, they used it only very tentatively. Unconfirmed reports suggest that a suicide unit contaminated the Khalka River with typhus, paratyphus, and cholera during combat against Soviet troops in August 1939. In October 1940, the Japanese disseminated cholera, typhus, and plague at the Chinese port of Ningpo. Aircraft dropped plague-infested fleas and grain on the city of Changteh in 1941, which triggered a number of epidemics. Worse was the so-called

China Incident, in which Japanese forces used the bacteria causing anthrax, dysentery, cholera, typhoid, plague, and paratyphoid against the forces of Chiang Kai-shek in Chekiang and Kiangsi Provinces in 1942. The numbers of Chinese deaths are unknown but apparently were very large. However, some 10,000 Japanese soldiers were also infected. During this same period and also in action against Chiang Kai-shek, 3,000 Chinese prisoners of war may have been given food laced with typhoid and paratyphoid bacteria and were then returned to their units. It is not known whether these individuals became sick or whether they infected others.

The Western Allies continually feared that the Japanese would use BW against them. Indeed, there was a plan to use plague-infected fleas against U.S. forces that had captured Saipan, but the transport carrying the BW team and their biological agents was sunk before it reached the island. On the continental United States, there were fears that Japanese balloon bombs would detonate over the country, broadcasting various BW agents to infect the civilian population. Thousands of balloon bombs were indeed launched, and some 200 reached North America; none carried BW agents.

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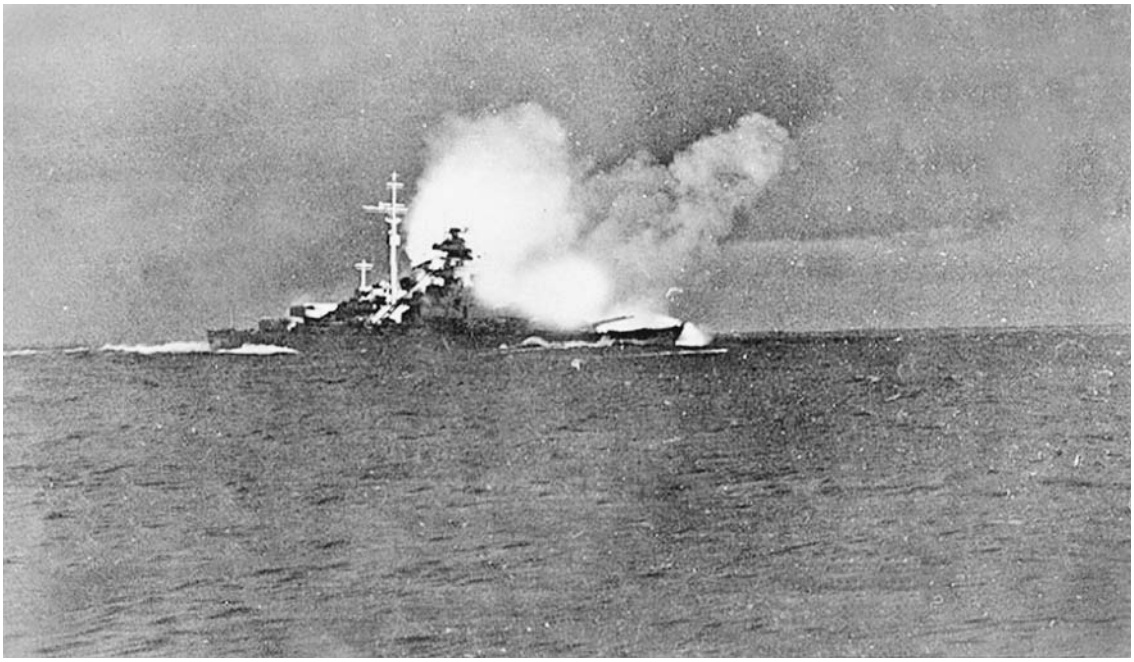
Bismarck, sinking of the

The *Bismarck,* at 42,000 tons, was the fastest, newest, most powerful battleship in the Navy of Germany and the pride of the German fleet. As with the rest of the German surface fleet early in the war, the role of the *Bismarck* was seen mainly as that of a commerce raider, its mission to attack British convoys. No less a figure than Winston Churchill put the highest priority on the sinking of the *Bismarck,* not just to protect the vital convoys, but to destroy a mighty symbol of the Nazi war-making machine.

On May 20, 1941, an intelligence officer in ostensibly neutral Sweden informed the Stockholm-based British naval attaché of a conversation he had had at a cocktail party with a Norwegian official. He had learned that two very large German warships had been sighted steaming toward the Denmark Strait. Royal Navy command immediately assumed these were the *Bismarck* and the heavy cruiser *Prinz Eugen.* Acting on the tip, HMS *Norfolk,* a cruiser on patrol in the Denmark Strait, sighted the ships on May 24. They were immediately engaged by the Polish destroyer *Piorun.* The light battleship (or battle cruiser) HMS *Hood* and the battleship HMS *Prince of Wales* soon joined the battle. Tactically, the British vessels were at a disadvantage, because the angle at which they had intercepted the German vessels prevented them from bringing all guns to bear. Worse, the *Hood* and *Prince of Wales* divided their fire between the *Bismarck* and *Prinz Eugen. The Bismarck,* under the highly skilled command of Admiral Günther Lütjens (1889–1941) and Captain Ernst Lindemann (1894–1941), directed all of its fire against the *Hood.* A 42,000-ton battleship laid down during World War I and completed in 1920, the *Hood* was a fleet flagship. Less than 10 minutes after the battle had begun, her inadequate armor having been penetrated by a shell that detonated an ammunition magazine, the *Hood* exploded and, within two minutes, sank. All but three of its crew of more than 1,400 men, including Group Commander Admiral Lancelot Holland (1887–1941), died. The *Prince of Wales,* which had sailed before final fitting had been completed (there were civilian contractors on board), was not fully operational and was now also damaged. Its captain broke off the engagement, and, fortunately for his ship, the *Bismarck* had also been damaged, a torpedo hit from an airplane launched from the aircraft carrier *Victorious* having opened up a fuel leak. The *Bismarck,* therefore, did not give chase to the *Prince*



The *Bismarck* under final attack *(National Archives and Records Administration)*

of Wales, but headed for repair facilities at Brest. The *Prinz Eugen* sailed to the west.

Shocked and enraged by the loss of HMS *Hood,* the British admiralty, again at the personal urging of Churchill, deployed all available forces to the area in search of the *Bismarck.* Fortunately for the hunters, the *Bismarck* briefly broke radio silence, which allowed the British ships to get a fix on it. In a spectacular blunder, however, the pursuers misplotted the *Bismarck*'s bearings and sent the British Home Fleet, under the command of Admiral Lord John Cronyn Tovey (1885–1971), in exactly the opposite direction from the *Bismarck*'s flight. Nevertheless, at 10:30 on the morning of May 26, a Catalina flying boat of the Coastal Command sighted the ship. The carrier HMS *Ark Royal* launched torpedo bombers, which made an attack that disabled the *Bismarck*'s steering gear. This rendered it a sitting duck when the next morning, May 27, the battleships HMS *Rodney* and *King George V* opened up on it. It was the cruiser *Dorchester* that finished off the *Bismarck* with a torpedo attack, though some of the 115 men who survived (out of a crew of 2,222) claimed that Captain Lindemann (who, with Lutjens, perished in the attack) ordered the ship scuttled. Evidence recovered in a 1989 salvage dive suggests this was indeed the case. The German surface navy never recovered from the loss of the *Bismarck,* and it prompted Adolf Hitler personally to direct that capital surface ships be confined to home waters to avoid another loss of such demoralizing magnitude.

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Bismarck Sea, Battle of the

Thanks to U.S. Navy ULTRA decrypts, Allied forces learned well in advance of the movement on February 28, 1943, of 7,000 Japanese reinforcements to Lae and Salmaua on New Guinea's northeastern coast. Fully alerted, the Americans moved large numbers of aircraft into forward positions, and, on March 2, fighters and bombers of the Fifth U.S. Air Force attacked the Japanese troop convoy. One Japanese transport was sunk, and two more were severely damaged. At dawn on March 3, Australian aircraft and more U.S. bombers attacked again. Some of the planes had been equipped for skip bombing, a special antiship technique by which bombs, dropped at low altitude over the water, skip over the surface, making contact with the target vessel below the waterline. Other of the attacking aircraft concentrated on strafing. The skip bombing proved devastatingly effective. Of 37 500-pound bombs dropped in the first wave of the March 3 attack, 28 hit their targets. The disabled ships were then vulnerable to successive waves of attack from the air throughout the day. With nightfall, U.S. PT boats were deployed, so that by daybreak on March 4, only six destroyers had escaped destruction. U.S. bombers sank two of these. Of the 7,000 troops in the convoy, only 950 reached Lae. Many others were fished out of the water by the surviving destroyers. Total Japanese fatalities numbered 3,660.

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blackout

To a degree unprecedented in history, combat in World War II was directed against civilian populations, and this was especially the case with air raids, such as the BLITZ. Advances in avionics (aircraft instrumentation), RADAR, and radio-guided direction finding made nighttime air raids not only feasible but common. Brightly lit cities made excellent targets. Even in rural areas, lights were readily spotted from the air. To reduce vulnerability, cities in the war zones instituted strict blackout policies, which restricted or eliminated the use of street lighting and required citizens to provide opaque blackout curtains and shades for all their windows. Automobile headlamps were fitted with slitted covers to reduce light emission to an absolute minimum. Even in the United States, which had escaped air raids, blackout curtains and shades were installed in public buildings. In some locations—for example, New York's famed Grand Central Station—windows were permanently blacked out with paint. Periodically, throughout American cities, air raid drills were conducted, largely to familiarize Americans with rapid blackout procedures.

Blackout policies were introduced not only to help defend against nighttime air raids, but, in coastal locations, to combat the menace of attack from the sea. German SUBMARINES lying off the East Coast of the United States often targeted merchant ships that were silhouetted against the bright lights of coastal cities.

In the United States as well as in the cities of Europe and Asia, blackout regulations were enforced by air raid wardens and other officials. Sanctions for violations of blackout policies, orders, and ordinances ranged from a stern lecture to fines to incarceration.

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Blackshirts

In Italy, *Blackshirts,* or *Camicie Nere,* was a catch-all term for any of the numerous armed squads loyal

to Benito Mussolini's fascists (*see* fascism). All wore black shirts as part of their uniforms.

Blackshirts entered on the scene early, when so-called Action Squads were organized beginning in March 1919 to intimidate, attack, and destroy the leftist organizations rising in Italy after World War I, including those of the socialists (the most numerous) as well as communists and even the more centrist republicans. Against their political rivals, the Blackshirt squads used tactics that ran the gamut from intimidation and bullying humiliation to outright violence, ranging from beatings to murders. On October 24, 1922, Mussolini presided over a large fascist convention in Naples, which amounted to the mustering of what had become a paramilitary organization. Mussolini rallied the Blackshirts in the infamous March on Rome, which catapulted Mussolini to power. Once he had assumed dictatorial authority, Mussolini transformed the Blackshirts on February 1, 1923, from a collection of private squads to a national militia, the Voluntary Fascist Militia for National Security. The uniform of this body was, of course, the black shirt, but it was also worn by other, nonmilitary members of the fascist party (especially on official or celebratory occasions) and even by supporters of fascism who were not themselves party members, as well as by private individuals who wished to exhibit their patriotism. The Blackshirts rapidly dissolved after the fall of Mussolini in 1943.

In Britain, Sir Oswald Mosely founded the British Union of Fascists in 1932. His intention to emulate Mussolini was shown in the uniforms he and his followers adopted, black shirts, and the British fascists were typically referred to as Blackshirts. At their height in 1934, the British Blackshirts numbered about 34,000. The party was forcibly disbanded at the outbreak of the war, and Mosely and others were arrested and interned in May 1940.

Finally, in Germany, members of the Schutzstaffel (SS), the Nazi elite, were often informally called Blackshirts, again because of their uniforms. Members of the Sturmabteilung (SA), or Storm Troopers, were often called Brownshirts after *their* uniforms.

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Blamey, Thomas (1884–1951) *commander of ANZAC*

Blamey was the often contentious and controversial commander of the Australian Corps, or ANZAC. A staff officer during World War I, Blamey saw no combat, resigned his commission after the armistice, and served as chief of police of the Australian state of Victoria, a service for which he was knighted in 1935. With the outbreak of World War II, Blamey was named commander in chief of Australian ground forces in 1939, an appointment that ignited widespread controversy and protest because he had been exclusively a staff officer (and not a combat leader) in the last war and had been in retirement for virtually all the interwar period. The high emotions were not the product of jealousy, but rather reflected a feeling among the Australian officer corps that Blamey's appointment reflected poorly on them, as if the government had no confidence in the ability of the currently serving command. Assuming his office under a cloud, therefore, Blamey responded defensively, jealously guarding his authority, refusing to delegate tasks that should have been delegated, and, in consequence, greatly diluting his effectiveness.

Appointed commander of the Australian Corps (later ANZAC) in February 1940, Blamey directed the early battles in Libya and Egypt with considerable success (*see* North African Campaign). He was also in command of early action in Greece during April–May 1941, and directed the evacuation of Allied forces from Crete. After serving briefly as deputy commander in chief of Middle East forces under Claude John Ayre Auchinleck, he returned to Australia, where he was appointed commander in chief of Australian Military Forces

and Allied land commander in the South-West Pacific Area (SWPA) in March 1942. This put him under SWPA supreme commander Douglas MacArthur.

Service with MacArthur was not a happy experience for Blamey. During the struggle for New Guinea, MacArthur ordered Blamey to take personal command of Allied land forces in New Guinea. MacArthur's objective in this was to ensure that the Japanese advance to Port Moresby via the Kokoda Trail was blocked. However, when the campaign for Buna nearly ended in disaster at the end of 1942, MacArthur judged that Blamey had moved too slowly to be effective in personal command. Accordingly, he ordered him back to his headquarters in Australia at the beginning of 1943. MacArthur then assumed direct command of the U.S. component of the SWPA.

After what amounted to dismissal by MacArthur, Blamey was an Allied commander almost in name only. Worse, beginning in October 1944, Blamey was generally and severely criticized for action against Japanese troops who had already been cut off by MacArthur. These battles, fought exclusively by the Australians under his command, were called unnecessary, and it was true that Blamey acted with neither government approval nor the backing of MacArthur. A cry among public and politicians was raised calling for Blamey's resignation. He weathered the criticism and even secured from the Australian government a retroactive approval of his highly questionable late campaigns. Indeed, after the war, in 1950, he received promotion to field marshal (the only Australian to achieve this rank). Nevertheless, Blamey was among the least capable of the major Allied commanders, and his leadership of Australian ground forces significantly diminished the effectiveness of the Australian component in the South Pacific, especially toward the end of the war.

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Blitz, the

Shortened by the British from the German *Blitzkrieg,* "lightning war," the Blitz was the name Britons applied to Germany's nighttime air raids against London and other English cities during August 1940 to May 1941. Intended to demoralize the British population and undermine the nation's will to continue to make war, the Blitz killed about 43,000 civilians and injured some 139,000. Infrastructure damage was severe, and many houses and apartment buildings were destroyed. Moreover, defending against the air raids and coping with their results monopolized a great deal of manpower and other resources. The German Luftwaffe lost about 600 bombers during the Blitz, which represented only some 1.5 percent of the sorties flown. While this loss ratio was low, it did not purchase the hoped-for result. By targeting cities, the Luftwaffe missed its opportunity to destroy Royal Air Force (RAF) bases and destroy British aircraft on the ground. Nor did the terror campaign succeed in undermining British morale.

The term *Blitz* is also often applied to the 1944 raids against London and other cities (including some in Belgium and the Netherlands), using the Nazis' so-called vengeance weapons, the V-1 buzz bomb and V-2 rocket. Some 10,000 V-1s were launched against Britain, 7,488 of which crossed the English Channel, of which 3,957 were shot down before reaching their targets. Of the 3,531 that made it through, 2,419 hit London; a few hit Southampton and Portsmouth, and one hit Manchester. The V-1s claimed the lives of 6,184 Britons and injured 17,981. Between September 8, 1944, and March 27, 1945, 1,054 V-2 rockets hit England, of which 517 fell on London, killing some 2,700.

The Blitz began just as the Battle of Britain was turning against the Germans. Originally, the raids had been conceived as preparation for an invasion of Britain (Operation Sealion), but the Luftwaffe failed to achieve air supremacy. The original objective of the air raids, which had been to destroy infrastructure and to destroy the RAF, changed by October 1940 to terror against civilians. While the raids took a terrible toll, they ensured that the RAF would be preserved to continue to fight—a strategic error that ultimately doomed the Luftwaffe. Furthermore, the terror tactics were interpreted by such neutral nations as the United States as examples of atrocity and served to increase American sympathy for the British cause.

Early in the Blitz, British ground-based antiaircraft defenses were largely ineffective. Although radar had been developed and was in use, systems to link antiaircraft artillery with radar (ground-controlled interception radar) were still under development. Few of the RAF's night fighter aircraft were equipped with radar at this time. Ground-based searchlights were in ample supply, but the chances of catching a German bomber in a beam and shooting it down were slim, especially when bombers flew at altitudes above 12,000 feet. Early advances in electronic warfare did allow British technicians to jam some of the radio beams the bombers used to find their targets, and this jamming technology improved rapidly.

During the early phase of the Blitz, which lasted through mid-November, an average of 200 planes, including some Italian aircraft, bombed London nightly. Fighter-bombers raided by day. In addition to London, Coventry, Southampton, Birmingham, Liverpool, Bristol, and Plymouth were heavily attacked. Beginning on February 19, 1941, and extending through May 12, 46 air raids were concentrated on port cities in a renewed effort to disrupt British shipping. During this period, Plymouth, Portsmouth, Bristol, Avonmouth, Swansea, Merseyside, Belfast, Clydeside, Hull, Sunderland, and Newcastle were targeted.

Although the British people bravely withstood the onslaught, defenses continued to prove heartbreakingly inadequate, and relief did not come until May 1941, when the Luftwaffe, stretched thin by the demands of the invasion of the Soviet Union, had to withdraw many of its resources from Britain. By this time, too, night defenses had been greatly improved, as had radar technology. The Blitz simply petered out.

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Blitzkrieg

Blitzkrieg, a German word meaning "lightning war," is an attack doctrine, tactic, and strategy intended to overawe defenders with rapid, violent, and, above all, highly mobile action coordinated among armor, mechanized infantry, massed firepower, and air power, with special forces units acting to disrupt the defenders' communication and supply, thereby increasing confusion during the onslaught. While always advancing, the simultaneous object of Blitzkrieg is to disable and paralyze the enemy's capacity to coordinate defenses effectively. If defenses are *disabled,* the attacker need not be delayed by a costly campaign aimed at *destroying* defenses, and thus the attack may be accelerated with maximum penetration.

Although the term *Blitzkrieg* is still used to describe any exceptionally vigorous mobile assault, its application in World War II is chiefly to Germany's opening campaigns of the war, against Poland, France, Belgium, the Netherlands, and then the Soviet Union. Some historians have also applied the term to the rapid and devastating advance of the Third U.S. Army under George Smith Patton, Jr., following the Normandy landings (D-day) and Operation Cobra.

As executed by German forces early in the war, Blitzkrieg was aimed at thrusting through a relatively narrow front using armor, motorized artillery,

and aircraft, especially the Stuka dive bomber. This created a point of attack, or *Schwerpunkt* ("strong point"), a gap in which defenders were fatally weakened. Before this gap could be repaired, wide, rapid sweeps by massed tanks followed, along with mechanized infantry (mainly specially trained so-called shock troops). This further disrupted the enemy's line of defense, creating areas in which defenders were trapped, immobilized, and cut off from one another. Their only option at this point was surrender. Although Blitzkrieg depended on extreme violence, its speed, which neutralized rather than destroyed a defender, actually spared casualties on both sides. The tactic was seen as an alternative to the far more destructive war of stalemate that had developed along the western front in World War I.

The doctrine of blitzkrieg may be traced to two pre–World War II German commanders. In World War I, General Oskar von Hutier (1857–1934) executed the newly formulated German infiltration tactics, based largely on British and French tactics, in the capture of Riga on September 3, 1917. Violent, highly coordinated, and swift, the attack on Riga demoralized and overwhelmed the defenders, and this approach to combat was dubbed "Hutier tactics." During the interwar period, Hans von Seeckt, head of the Reichswehr (the German army as it was reformed and much reduced by the Treaty of Versailles), used the precedent of Hutier tactics to formulate the foundation of Blitzkrieg doctrine. During World War II itself, the chief architect and greatest exponent of blitzkrieg was General Heinz Guderian. The actual term *Blitzkrieg* was not invented by the German military, but was probably the coinage of a journalist and was as widespread outside Germany as within it. The term was truncated as the Blitz to describe the German terror bombing of London and other British targets early in the war. This campaign, however, was strictly an air war and bore no tactical resemblance to Blitzkrieg.

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Bofors gun

The Bofors gun was a generic name for any 75-mm lightweight, highly transportable howitzer that resembled the Bofors 75-mm Model 1934 weapon manufactured by AB Bofors, a Swedish arms maker. Indeed, many nations purchased the original Bofors weapon prior to and during World War II. (Sweden, a neutral in the war, was free to deal with all belligerents.) The original Bofors was a beautifully crafted, very sturdy artillery weapon mounted on wheels and designed to be pulled by a vehicle, horse, or the troops themselves. It was designed expressly as a "mountain gun," readily transported across difficult terrain, but it was used elsewhere as well. As a howitzer, it could be made to fire for range with a relatively flat trajectory, or it could be adjusted for a steeper, mortar-like trajectory.

The specifications for the Model 1934 include:

Caliber: 75 mm
Length: overall, 1.8 meters (70.87 inches); barrel only, 1.583 meters (62.32 inches)
Weight: 2,046 pounds
Elevation: -10° to +50°
Traverse: 8°
Muzzle velocity: 1,493 feet per second
Maximum range: 10,171 yards
Projectile weight: 14.53 pounds

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bomber aircraft

This article discusses the development and employment of bomber aircraft during World War II. *For discussion of specific aircraft, see* aircraft, British; aircraft, French; aircraft, German; aircraft,

ITALIAN; AIRCRAFT, JAPANESE; AIRCRAFT, POLISH; AIRCRAFT, SOVIET; and AIRCRAFT, U.S.

By the outbreak of World War II in September 1939, the typical bomber would be classified as a medium bomber, with two engines, monoplane design, and all-metal construction (save for control surfaces, which were often fabric covered). Most of these aircraft carried a bomb load of 1,000 to 4,500 pounds, and the best medium bombers had a range of about 2,500 miles. In contrast to the other combatants, the United States and Great Britain developed heavy bombers, with four engines, in addition to the medium bombers. These were capable of reaching higher altitudes, carrying heavier bomb loads, and attaining greater range.

Germany entered the war with twin-engine bombers such as the Heinkel He111 and the Dornier Do17 and with the single-engine dive bomber the Junkers Ju87, popularly called the Stuka. Within a short time after the start of the war, the Ju88, a twin-engine medium bomber, would become available and would serve throughout the war as Germany's most versatile bomber.

Germany's ally, Italy, flew the three-engine Savoia-Marchetti SM79 as its main bomber at the beginning of the war. In contrast to the German machines, the SM79 was mostly built of wood. It was soon replaced by the Cant Z1007, another trimotor aircraft, which proved successful as a torpedo bomber.

The bombers of Germany's early opponents, Poland and France, were wholly outclassed by the German planes. Although Poland's P.Z.L. P37 Los was technologically comparable to the German planes, it was never mass produced, and only 36 of the aircraft were in service at the time of the INVASION OF POLAND. The French air arm was equipped with obsolete, slow bombers, and although the new Lioré et Olivier LeO451 was rushed into production in 1939 and was, in fact, the fastest bomber of its time, France fell before many had been produced.

Great Britain entered the war with a mixture of obsolescent twin-engine medium bombers (such as the Bristol Blenheim) and the downright obsolete single-engine Fairey Battle. However, the Germans had nothing to compare with the British heavy bombers, including the Armstrong Whitworth Whitley, the Handley Page Hampden, and the Vickers-Armstrong Wellington. The latter would become one the Royal Air Force's most important strategic bombers.

The U.S. B-17 was the most celebrated bomber of World War II. *(National Archives and Records Administration)*

The Soviet Union, at the beginning of the war, flew few bombers except for ground attack and ground support.

The United States, which trailed other nations in many areas of military aviation at the beginning of World War II, was the first to fly an all-metal, truly modern heavy bomber, the B-17 Flying Fortress, which, after passing through several iterations, emerged as a tremendously durable, survivable aircraft capable of carrying a heavy bomb load, of absorbing a great deal of damage, and of defending itself with an array of guns. Following the B-17, which was introduced in 1935, was the B-24 Liberator in 1939, another large, four-engine heavy bomber. America also produced fine medium bombers, including the Douglas DB7, the B25 Mitchell, the B26 Martin Marauder, and the Douglas A26 Invader.

Great Britain, in 1941, introduced two new four-engine heavy bombers, the Short Stirling and the Handley Page Halifax, which were followed early the next year by the Avro Lancaster, the most

advanced and, ultimately, most successful night heavy bomber of World War II. Although Anglo-American air doctrine strongly advocated strategic bombing (*see* Strategic Bombing of Germany *and* Strategic Bombing of Japan), which called for four-engine heavy bombers, Great Britain also introduced in 1943 the remarkable de Haviland Mosquito. Made largely of wood to save weight, this beautiful aircraft had no defensive armament and relied wholly on its 400-mile-per-hour speed and high degree of maneuverability to evade harm. In fact, the nimble Mosquito had the lowest casualty record of any bomber in the war.

Whereas Germany had entered the war with some of the most advanced aircraft designs, and while German designers continued to produce outstanding fighter aircraft, including jet aircraft, they lagged behind Britain and the United States in bomber design during the course of the war. As for heavy bombers, with a few relatively insignificant exceptions and experiments, Germany failed to enter this arena effectively. German designers started a number of innovative and highly advanced projects, including the Heinkel He177, which employed a very complex and mechanically unreliable system of pairs of coupled engines, and the Arado AR234, which not only carried a 3,308-pound bomb load, but was the world's first jet-propelled bomber. These, however, barely progressed beyond the prototype stage and certainly never entered the war in any militarily significant way.

In the Pacific theater, the Japanese, like the Germans, concentrated development on medium bombers and close-air support bombers. Because so much of the Pacific war was naval, the Japanese also devoted a good deal of attention to torpedo bombers. Japanese designers also recognized that the key to the success of land-based bombers was range, and early on, they produced the Mitsubishi G4M (Allied codename Betty), which traded armor for weight in order to achieve a range of 3,765 miles.

American designers also produced a bomber specifically designed for the Pacific war, the spectacular B-29 Superfortress, which dwarfed all other four-engine aircraft of the time and had a 3,250-mile range, even with a 5,000-pound bomb load. Operating at high altitude, it featured a pressurized cabin for enhanced crew comfort and efficiency, and it was the only Allied aircraft capable of carrying the atomic bomb. Discounting the Germans' stab at a jet bomber, the B-29 was by far the most advanced bomber aircraft of the war.

If World War II spurred the technological development of bombers, it also necessitated the development of bombing doctrine and tactics. Germany honed its doctrine and tactics in the Spanish civil war of the mid-1930s, concentrating on the tactical use of bombers, targeting troops as well as civilians and providing close-air support for ground attack. The Blitzkrieg employed these bomber tactics, especially dive bombing techniques, by which specially designed aircraft (most notably the Stuka) would deploy bombs at low altitude while recovering from a very steep dive in order to achieve levels of accuracy impossible with conventional horizontal bombing.

The British entered the war without a bombing doctrine and with precious few tactics. During the disastrous Battle of France, British airmen learned the consequences of having developed no effective close-air support tactics, and they quickly improvised a repertoire of these when it came to the North African Campaign. In addition to individual close-air support bombing tactics, Britain's air chief marshal Arthur Tedder developed a unique use of massed bomber formations for close-air support known as Tedder's Carpet. This required bombers to lay down a carpet of napalm and high-explosive ordnance ahead of attacking troops. While this was a great advantage to the advancing attackers, it required flawless timing and precision to avoid potentially catastrophic friendly fire incidents.

In contrast to the Germans and Japanese, who concentrated on developing and refining the techniques of tactical bombing, the British and Americans developed the doctrine of strategic bombing and the techniques to execute it. Advanced bombsight equipment, especially the top-secret American-invented Norden bombsight, greatly aided the offensive component of strategic bombing.

What had to be developed were effective defensive techniques, for the big bombers were highly vulnerable to fighter attack and to attack by heavy antiaircraft guns. The Anglo-American airmen practiced close formation flying to better leverage the firepower of the defensive guns carried by the heavy bombers, and they worked closely with fighter escorts. The British added the defensive element of darkness, flying virtually all their missions at night. This provided a significant degree of protection, of course, but also limited the effectiveness of bombing. American bombers flew virtually all their missions during the day, so they could employ precision bombing techniques. While these were more effective at hitting selected targets (war materiel production facilities, for example), flying in the daylight over the enemy's homeland exposed the bombers to extremely high risk.

In the Pacific, new and very daring strategic bombing techniques were developed, especially by Maj. Gen. Curtis LeMay. One of the great advantages of the B-29 (which was used exclusively in the Pacific theater) was its high service ceiling. However, the results of high-altitude bombing were consistently disappointing over the Japanese homeland. Beginning in January 1945, therefore, LeMay ordered his B-29s stripped of all defensive armament except for the tail gun. This allowed the plane to achieve better-than-maximum speed and to accept better-than-maximum bomb load. He further ordered bomb loads to be mostly incendiary, on the assumption that Japanese cities were built principally of wood and paper. Finally, he ordered night attacks from very low altitudes: about 6,000 feet. Although the absence of defensive armament rendered the planes vulnerable to fighter attack, and the low altitude made them vulnerable to all manner of antiaircraft ground fire, the night provided some cover, and the enhanced speed provided some safety. Certainly, the low-altitude deployment of incendiaries proved devastatingly effective, inflicting far more damage than the atomic bombs that would be dropped on Hiroshima and Nagasaki. Moreover, the "Fire Raids" caused so much devastation so quickly, and the stripped-down B-29s moved so fast, that the attackers' survivability was actually enhanced. Counterintuitive as LeMay's tactics were, they actually saved the lives of Allied airmen while rendering their work more effective.

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Bonhoeffer, Dietrich (1906–1945) *German theologian and opponent of Hitler*

Bonhoeffer was a prominent German theologian and opponent of Adolf Hitler whose activities in connection with a plot to overthrow Hitler resulted in his execution. While imprisoned by the Nazis, he wrote *Letters and Papers from Prison,* which were published posthumously in 1951 and are regarded as one of the great professions of moral conviction of modern times.

Bonhoeffer was the son of a prominent professor of psychiatry and neurology, in later life an opponent of the Nazi's infamous T4 (euthanasia) program. Instead of becoming a scientist, like his father, Dietrich Bonhoeffer studied theology at the Universities of Tübingen and Berlin and became greatly interested in combining sociology with theology in understanding the evolution of religion. Ordained, Bonhoeffer served as assistant pastor of a German-speaking congregation in Barcelona, Spain, during 1928–29, then studied for a time in New York, returning to Germany in 1931 as a lecturer at the University of Berlin. After Hitler was named chancellor in 1933, Bonhoeffer became a

vocal opponent of Nazism and Nazi-led anti-Semitism. He left Germany during 1933–35 to serve as pastor of two German-speaking congregations in London but returned to Germany as a leading activist for the Confessing Church, a focus of anti-Nazi protest. He took a pragmatic approach to fighting the Nazi doctrine of identifying Jews racially, holding that Jews who converted to Christianity were indeed Christian. Although Bonhoeffer opposed anti-Semitism, he was not an unambiguous advocate of the toleration of practicing Jews.

After the Confessing Church was proscribed by the government of the Third Reich in 1937, Bonhoeffer continued to teach its precepts covertly and wrote important works of theology. He also developed an essentially pacifist philosophy.

About 1938, Bonhoeffer's brother-in-law Hans von Dohnanyi, a prominent jurist, introduced him to a group seeking to overthrow Hitler. Soon, Bonhoeffer was clearly targeted by the government as a subversive. When the American theologian Reinhold Niebuhr arranged sanctuary for Bonhoeffer in the United States, Bonhoeffer came to New York and stayed for a mere two weeks before returning to Germany, explaining to Niebuhr that he would have no right to participate in the reconstruction of Christian life in Germany after the war if he refused to share "the trials of this time with my people." In 1940, publicly charging the Christian church with silent acquiescence in Nazi persecutions, Bonhoeffer and von Dohnanyi began helping Jews emigrate to Switzerland. Remarkably, Bonhoeffer found cover for his resistance work by taking a job with the Military Intelligence Department. During the war, in May 1942 in the guise of performing official government work, Bonhoeffer flew to neutral Sweden to communicate to the British government a secret proposal for a negotiated peace. The Allies, however, were willing to accept nothing less than unconditional surrender, and, his subversion. discovered, Bonhoeffer was arrested by the Gestapo on April 5, 1943.

Imprisoned, Bonhoeffer was caught in the dragnet that was cast after the failure of the attempt by a cabal of Wehrmacht officers to assassinate Hitler on July 20, 1944. During the investigations that followed the attempt, documents implicating Bonhoeffer in the conspiracy led to his execution. While incarcerated, Bonhoeffer wrote *Letters and Papers from Prison,* a remarkable meditation on modern spirituality, morality, and the role of an activist church. His life, death, and writings have stood as a challenge to all those who profess religious faith, especially in a time of government-decreed immorality and injustice.

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Bormann, Martin (1900–1945?) *Hitler's private secretary*

Adolf Hitler's private secretary, Martin Bormann was one of the most powerful men in the Nazi Party (NSDAP) and the Nazi regime. Crude and uneducated (he was a school dropout), Bormann typified Nazi leadership at its most brutal.

Bormann was born in Halberstadt and, after serving briefly in World War I, trained as an estate manager in Mecklenburg, then managed a farm. He was a vociferous advocate of the union of all German-speaking people and joined the extremist right-wing Freikorps. In 1924, he was convicted as an accomplice to a political murder but was released in 1925 after serving a year. After his release, he joined the NSDAP and quickly rose to prominence, becoming the director of the Nazi press in Thuringia in 1926, then (from 1928) an officer in the Sturmabteilung (SA), or Storm Troopers. In 1933, he was appointed chief of staff to the deputy führer, Rudolf W. Hess and in November of that year, was elected as a Nazi delegate to the Reichstag.

After the war began, on May 12, 1941, Hitler personally appointed Bormann to succeed Hess as chief of the party chancellery, effectively head of the administrative bureaucracy of the Nazi Party. Bormann proved himself a master of intrigue, who deftly exploited conflicts within the Nazi Party as

well as the many weaknesses of Hitler's personality to insinuate himself into the very highest levels of German government. As some saw it, Bormann became effectively a kind of shadow Führer. Certainly, he exercised a high degree of control over national legislation as well as appointments and promotions within the party. Most important of all, Bormann had absolute control over who gained access to Hitler. He was the keeper of the dictator's schedule and appointments calendar, and by manipulating these, he shaped Hitler's picture of reality, effectively insulating him from dissident counsel and, increasingly, from bad news concerning the course of the war.

Bormann was more than a bureaucratic climber. He was an ardent Nazi who enthusiastically promoted Nazi concepts of racial superiority and the necessity of persecuting and exterminating Jews, Slavs, and others deemed undesirable. He was also one of the prime architects of the exploitation of these "undesirables" as slave labor and presided over the vast expansion of slave labor programs during the war.

In September 1944, Hitler appointed Bormann to head the Volkssturm, the citizen militia desperately recruited during the closing months of the war to defend—to the death—the homeland. As the Soviet Red Army was completing the invasion of Berlin (*see* Berlin, Battle of), Hitler appointed Bormann party minister and accorded him the personal "honor" of witnessing his last testament as well as his marriage to Eva Braun. Hitler committed suicide in his Berlin bunker on April 30, 1945. During the night of May 1–2, Bormann apparently left the bunker in an effort to escape to the new German government convening at Flensburg. He never arrived, and it is now believed that he was either killed or committed suicide in or near Berlin. However, in the absence of conclusive evidence of his death, Allied authorities indicted Bormann in absentia on charges of war crimes on August 29, 1945. Subsequently tried in absentia by the Nuremberg War Crimes Tribunal (along with other Nazi leaders), he was convicted and sentenced to death on October 1, 1946.

As was the case with Hitler and some other Nazi leaders, rumors persisted after the war that Bormann had succeeded in escaping Berlin and was living in hiding. During the 1960s, it was widely believed that he made his home in Paraguay. These rumors were largely put to rest in 1973 when a German forensic anthropologist, after examining a pair of skeletons unearthed during construction excavation in West Berlin, concluded that one was definitely that of Martin Bormann. On April 11, 1973, the West German government officially declared Bormann dead.

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Bose, Subbas Chandra (1897–ca. 1945)

Indian collaborator with Japan

Also known by the Hindi byname Netaji ("Respected Leader"), Subbas Chandra Bose was an advocate of Indian liberation from British rule who sided with Japan during World War II in the belief that defeating the Western powers would promote the cause of independence. Born in Cuttack, Orissa, India, Bose was a child of privilege, his father a prominent attorney. He enrolled at Presidency College in Calcutta, only to be expelled in 1916 for his highly vocal advocacy of independence. He then enrolled at the Scottish Churches College, from which he graduated in 1919. Upon graduation, Bose went to England, where he studied at Cambridge in preparation for a career in the Indian civil service. After passing the necessary examinations in 1920, Bose applied for candidacy in the civil service, but, as the nationalist cause heated up, he withdrew his candidacy in April 1921 and returned to India. He sought the counsel of nationalist leader Mohandas K. Gandhi, who advised him to apprentice himself to the Bengali nationalist Chitta Ranjan Das. Under Ranjan Das's

tutelage, Bose became a teacher and journalist as well as the commandant of the Bengal Congress volunteers. This led to his imprisonment in December 1921. Subsequently, in 1924, Bose was named chief executive officer of the corporation of Calcutta, under Das, who served as mayor. Bose's increasingly high profile resulted in his deportation to Burma (Myanmar). He was allowed to return to India in 1927, only to discover that the Bengal Congress and its nationalist activities had largely disintegrated after the death of Das. However, when Gandhi stepped in to fill the void, Bose became president of the revived Bengal Congress and was again twice arrested and imprisoned. Released in 1934, he was forced into European exile, during which he published *The Indian Struggle, 1920–1934,* a plea to the leaders of Europe on behalf of Indian nationalism.

Bose returned to India in 1936 and was immediately imprisoned for a year. Elected president of the Indian National Congress in 1938, he broke with Gandhi over industrialization (which the agrarian Gandhi opposed) and, in 1939, defeated Gandhi's handpicked candidate for reelection to the presidency of the congress. Yet without Gandhi's support, Bose found he had little power, and he soon resigned from the Indian National Congress to found the radical Forward Bloc. Imprisoned yet again in July 1940, he went on a hunger strike, vowing to starve himself to death. Fearful of creating a martyr, British authorities released Bose, who, on January 26, 1941, evaded police and slipped out of India to make his way, by April, to Germany. There he became associated with a newly formed Special Bureau for India, and, beginning in January 1942 with other Indian expatriates, he made proindependence, anti-British broadcasts over German-sponsored Azad Hind Radio, which were beamed throughout India.

In spring 1943, after the Japanese had invaded and occupied much of Southeast Asia and were menacing British India, Bose was transported by German and Japanese submarines and by Japanese aircraft to Tokyo. On July 4, he announced himself leader of the Indian Independence Movement in East Asia and, with the aid and cooperation of the Japanese military, formed and trained an army of 40,000 Indian men and women recruited from throughout Japanese-occupied Southeast Asia. On October 21, 1943, Bose proclaimed a provisional independent Indian government, and he accompanied what he called his Indian National Army (Azad Hind Fauj), attached to Japanese forces, in an advance on Rangoon. With Japanese forces, his Indian National Army then invaded India on March 18, 1944, but, defeated in battle, was forced to retreat. Despite this, Bose maintained the Indian National Army as an army of liberation in exile, based in Burma and subsequently Indochina. The surrender of Japan, however, brought about the immediate collapse of his army, and in August 1945, after Japan accepted unconditional surrender, Bose fled from Southeast Asia. It is believed—but has never been confirmed—that Bose died in a Japanese hospital at Taipei, Taiwan, from injuries sustained in an airplane crash.

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Bougainville Campaign

Bougainville is the largest of the Solomon Islands and is located near the northern end of the Solomons chain in the southwestern Pacific. With the island of Buka and the Kilinailau, Tauu, Nukumanu, Nuguria, and Nissan Island groups, Bougainville is now a province of Papua New Guinea. The island is 75 miles long and varies in width from 40 to 60 miles. Its topography is ruggedly volcanic, the Emperor Range reaching 9,000 feet at the northern end of the island. Another, lower range, the Crown Prince Range, occupies the southern half of the island. Bougainville is surrounded by coral reefs.

From November 1943 to August 1945, Bougainville was the target of a U.S. campaign to eject the Japanese garrison stationed there. Having achieved success in the New Guinea Campaign

and the New Georgia Campaign, American forces closed in on the major Japanese base at Rabaul. Bougainville was the final Japanese line of defense protecting Rabaul from U.S. forces progressing up the Solomon chain. Recognizing Bougainville's critical importance, the Japanese rushed to reinforce it by sending in 37,500 men of the Seventeenth Japanese Army commanded by Lt. Gen. Hyakutake Haruyoshi. However, most of these men were deployed to the southern end of Buin and to offshore islands. This left Empress Augusta Bay vulnerable to a landing by U.S. Marines on November 1, 1943, after the 3rd New Zealand Division had taken the Treasury Islands nearby. The marines set up a perimeter and immediately began construction of airstrips. In the meantime, at sea, the Battle of Empress Augusta Bay commenced on November 2. U.S. naval forces sank a Japanese cruiser and a destroyer. Simultaneously, the Fifth U.S. Army Air Force bombed Japanese airstrips and provided close air support for the marines.

Despite these initial successes, American forces were menaced by the powerful naval force of V. Adm. Kurita Takeo based at Rabaul. U.S. Adm. William A. "Bull" Halsey seized the offensive and attacked Kurita's fleet before it had gotten under way from Rabaul. It was a bold gamble, since it put Halsey's two-carrier task force squarely within range of the formidable air arm at Rabaul. Indeed, Halsey expected that the carriers might be sunk, but land-based aircraft defended them so vigorously that they escaped unscathed, even as their aircraft battered Kurita's fleet, forcing its withdrawal to Truk.

By the time the sea battle was in its final stages, the marines on Bougainville had completed sufficient airstrips to launch intensive air raids against Rabaul, forcing the Japanese to withdraw from this key base. The defeat of Rabaul allowed a rapid build-up of American forces on Bougainville. Japanese counterattacks were readily repulsed. Under Maj. Gen Oscar Griswold, U.S. ground forces, now numbering 62,000 men, repulsed one final Japanese counteroffensive by March 27, 1944. Bougainville largely fell silent, and Griswold enlarged his perimeter before withdrawing after his force was relieved by Australian II Corps. This relief was completed by December 1944. However, the Allies had at this time grossly underestimated remaining Japanese strength on Bougainville. They believed only 12,000 to 25,000 troops were present, whereas, in fact, some 40,000 remained. These troops offered renewed fierce resistance to the Australians before they were defeated.

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Boyington, Gregory "Pappy" (1912–1988)

most celebrated aviator in the U.S. Marine Corps

Boyington commanded USMC Squadron 214, consisting mostly of novice pilots shunned by the veterans and therefore known as the "Black Sheep" squadron. At age 31, Boyington stood out among these youngsters as an "old man" and was therefore dubbed "Pappy."

Boyington was a dynamic commander, and he was an even more accomplished combat pilot. He flew his land-based F4U Corsair to victories against 14 Japanese aircraft in the mere 32 days of his squadron's first combat tour. Boyington led the Black Sheep Squadron in combat during the Battle of Guadalcanal, Battle of New Georgia, Battle of New Britain, and Battle of Rabaul before he was shot down and made a prisoner of war on January 3, 1944. Liberated by the Allies on August 29, 1945, Boyington received the Medal of Honor and retired from the Marine Corps with the rank of colonel in 1947.

In 1958, Boyington published a memoir, *Baa Baa Black Sheep,* which helped ensure his fame. In 1976, NBC television premiered *Baa Baa Black Sheep,* loosely based on the memoir. Dropped at the end of 1977, the show was briefly revived during 1977–78 as *Black Sheep Squadron.*

"Pappy" Boyington, USMC air ace *(United States Marine Corps History Center)*

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Bradley, Omar Nelson (1893–1981)

American commander of the Twelfth Army Group in Europe

Bradley played a key role in the Allied reconquest of Europe as commander of the Twelfth Army Group following the Normandy landings (D-day). The front-line war correspondent Ernie Pyle called the homely Bradley, whose unadorned field uniform was in drab contrast to the beribboned spit-and-polish of George Smith Patton, Jr., the "GI general," a label that stuck and that made Bradley one of the most recognizable and popular Allied figures of the war.

Bradley was born in Clark, Missouri, grew up in nearby Moberly, and graduated from the U.S. Military Academy at West Point in 1915 with a commission as second lieutenant in the infantry. From 1915 to 1918, he served on posts in the American West and was promoted to major in 1918 but did not serve overseas during World War I. After that war, in 1919, Bradley was appointed military instructor at South Dakota State College, then served as an instructor at West Point from 1920 to 1924. He attended Infantry School at Fort Benning, Georgia, in 1925, and was subsequently posted to Hawaii from 1925 to 1928. Earmarked for higher command, Bradley graduated from the Command and General Staff School at Fort Leavenworth in 1929 and was assigned as an instructor at the Infantry School during 1929–33. After attending and graduating from the prestigious U.S. Army War College in 1934, Bradley was assigned to West Point as tactical officer, serving in that post from 1934 to 1938; he was promoted to lieutenant colonel in 1936.

In 1938, Bradley received an appointment to the Army General Staff and was promoted to brigadier general in February 1941. For the next year, he served as commandant of the Infantry School before being assigned, beginning in February 1942, to command the 82nd Division and then the 28th Division. Bradley served briefly as deputy to top U.S. European theater commander Dwight D. Eisenhower from January to March 1943, until Eisenhower assigned him to replace Patton as commander of II Corps. Patton had replaced the incompetent Lloyd R. Fredendall and transformed II Corps, which had suffered a humiliating defeat at the Battle of Kasserine Pass, into a first-rate unit. Bradley went on to lead II Corps through the final stages of the Tunisia Campaign and into the Sicily Campaign. In August 1943, he was transferred to England to work with Eisenhower and others in planning the invasion of France.

At the start of 1944, Bradley was named commander of First Army and assigned the right-wing position in the D-day landing. In July after the initial assault, Bradley planned and led the Saint-Lô

breakout at Normandy, and in August he was assigned to lead Twelfth Army Group, consisting of the First Army (under COURTNEY HODGES) and the Third Army (Patton). This was the greatest field command ever given to any U.S. general. Bradley was responsible for the entire southern wing of the mammoth Allied advance across France, and his forces amounted to 1.3 million men.

Bradley endured—and, indeed, contributed to—considerable friction with the notoriously difficult British commander BERNARD LAW MONTGOMERY, and he was also severely criticized for his nearly catastrophic delay in appreciating the magnitude of the German ARDENNES offensive. Nevertheless, in March 1945, Bradley was promoted to general and continued to command Twelfth Army Group through final operations in Germany.

Bradley's reputation as the "GI general" contributed to his postwar appointment by President HARRY S. TRUMAN as head of Veterans Administration. In February 1948, he succeeded Eisenhower as army chief of staff and, the following year, was named the first chairman of the new Joint Chiefs of Staff. In 1950, in recognition of his service and role in the war, he was promoted to general of the army, the rank held by DOUGLAS MACARTHUR and by Eisenhower. Bradley retired from the army in 1953, having published his enormously popular World War II memoir, *A Soldier's Story,* in 1951. His full autobiography, *A General's Life,* appeared posthumously in 1983.

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Brauchitsch, Walther von (1881–1948)
commander in chief of the Wehrmacht early in World War II

Brauchitsch was commander in chief of the WEHRMACHT from February 1938 to December 1941. He had rendered distinguished service during World War I as a member of the general staff, and when the TREATY OF VERSAILLES mandated the abolishment of the general staff, Brauchitsch continued to serve on the *Truppenamt,* the clandestine proxy for the outlawed body. Trained as an artillerist, Brauchitsch was instrumental in the development of the 88-mm gun, the celebrated German 88, considered by many to be the most important artillery weapon of the war. By 1936, Brauchitsch had been promoted to the well-deserved rank of lieutenant general, and he was a natural candidate to replace Werner Freiherr von Frtisch (1880–1939), who had been removed as commander in chief in 1938 on a fabricated charge of homosexuality. Field Marshal WILHELM KEITEL, head of the German Armed Forces High Command, personally chose Brauchitsch not only because of his demonstrated competence but because he was politically naive, just the type of malleable figure ADOLF HITLER wanted as commander in chief. In fact, Brauchitsch personally regarded the NAZI PARTY (NASDAP) as repugnant, but Hitler soon found a means of manipulating Brauchitsch and, through him, subordinating the Wehrmacht to his political will. Brauchitsch wanted a divorce in order to remarry, but he was unable to meet his current wife's demands for a financial settlement. From Hitler, he borrowed the necessary 80,000 marks and was thereafter personally bound to the dictator.

Brauchitsch voiced objections to Hitler's plans for the invasion of Austria (*ANSCHLUSS*) and CZECHOSLOVAKIA, but declined to resist these war plans in any affirmative, active way. When General Ludwig Beck (1880–1944) asked him to persuade the entire general staff to resign if Hitler persisted in pressing his designs on Czechoslovakia, Brauchitsch replied that he would let events take their course. Similarly, Brauchitsch was well aware of a conspiracy among a number of officers to overthrow Hitler and the Nazi regime. When in September 1938, they attempted to persuade him, as commander in chief, to take charge of a coup, he replied that he himself would do nothing, but that he would not stop anyone else from acting. When the coup died aborning, Brauchitsch turned a deaf ear to all further appeals from Beck and others to

use the army to overthrow Hitler before the dictator plunged the nation into war.

Brauchitsch said nothing when Hitler invaded Poland (*see* POLAND, INVASION OF), but in November 1939, he did attempt to persuade Hitler that Germany could not win a protracted European war. Hitler vented his full wrath on Brauchitsch, who emerged thoroughly cowed from his meeting with Hitler. Despite his own misgivings, however, Brauchitsch managed the logistics of the western BLITZKRIEG offensive brilliantly. Although Hitler rewarded him with a marshal's baton, signifying promotion to the rank of field marshal, he repeatedly ignored his military advice, including a plea to reverse the order that halted the German advance short of DUNKIRK and thereby allowed the trapped British Expeditionary Force (BEF) to be evacuated. Despite this disappointment, Brauchitsch was elated by the speedy victory over France, and he allowed himself to believe that victory over Russia would be similarly quick.

Although he found it distasteful, Brauchitsch obeyed Hitler's directive that he sign and implement the "Commissar Order" and the "Order for Guerrilla Warfare," documents that effectively authorized the mass liquidation of Soviet prisoners of war and civilians. What he found far harder to accept was Hitler's subsequent decision to divert panzer divisions of Army Group Center north to Leningrad and south to the Caucasus instead of concentrating on the objective of capturing Moscow. Spreading the invasion forces so thinly, Brauchitsch understood, would doom the Moscow operation. As usual, however, Brauchitsch proved himself incapable of making vigorous protest, although he noted his objections in tepid memos to Hitler.

Brauchitsch soon reaped the consequences of his habitual fence-sitting. When, inevitably, the invaders failed to take Moscow, Hitler laid the entire blame on Brauchitsch, who promptly suffered a heart attack. This gave Hitler ample excuse to relieve the field marshal as commander in chief on December 19, 1941, and the ailing Brauchitsch retired. Hitler now seized direct, personal control of the Wehrmacht.

In retirement, Brauchitsch continued to act without spine. When the July 20, 1944, attempt to assassinate Hitler failed, Brauchitsch rushed into print with an article condemning the plot and lauding the politically motivated appointment of HEINRICH HIMMLER as commander in chief of the Home Army. Beyond this, Brauchitsch denounced a number of fellow officers. His pronouncements ensured that he would be charged as a war criminal by the NUREMBERG WAR CRIMES TRIBUNAL after the war. His behavior during his arraignment was yet another demonstration of a deficiency of character. He simply perjured himself, claiming that he never received money from Hitler to remarry and that he had no foreknowledge of Hitler's war aims during 1938–41. He also testified that he had been ignorant of atrocities committed in Poland and that he had no inkling that the Commissar Order had resulted in genocide. After his arraignment, Brauchitsch was sent to a prisoner of war camp in New South Wales, then was returned to Germany in 1948 for trial. He succumbed to a fatal heart attack before the proceedings began.

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Braun, Wernher von (1912–1977) *creator of Germany's rocket weapons*

As the father of Germany's V-2 ROCKET—with the V-1 BUZZ BOMB one of the two "vengeance weapons" ADOLF HITLER deployed against civilian populations in England, the Netherlands, and Belgium—Wernher von Braun was also the father of modern rocket science. After surrendering to the Americans in the closing days of the war, Braun went on to direct the major phase of the U.S.' development of

rockets and missiles as weapons and for the purposes of space exploration.

Born of an aristocratic family in Wirsitz, Germany, Braun early on showed a great interest in science, particularly astronomy, which his parents encouraged. Nevertheless, Braun proved to be an indifferent student and was deficient in particular in physics and mathematics, the core subjects of rocketry. In 1925, however, the young man experienced an epiphany when he read Hermann Oberth's (1894–1989) *Die Rakete zu den Planetenräumen* (*The Rocket into Interplanetary Space*), a visionary book many consider to be the foundation of all modern rocket science. Unable to decipher Oberth's mathematics, Braun threw himself into the subject and soon leaped to the head of his class in mathematics as well as physics. On graduation, he was accepted for enrollment at the prestigious Berlin Institute of Technology and, while a student there, he joined the German Society for Space Travel in 1930. He became a protégé and friend of Oberth, whom he assisted in early experiments with liquid-fuel rocket motors.

After graduating from the institute in 1932, he enrolled in Berlin University and continued his work with the German Society for Space Travel. Up to this time, Braun had not envisaged rockets being used as weapons. However, with the society acutely short of funding, he accepted a research grant from the ordnance department of the Reichswehr (the 100,000-man German army allowed under terms of the Treaty of Versailles). Under the sponsorship of Capt. Walter R. Dornberger, the ordnance department officer in charge of solid-fuel rocket research, Braun began liquid-fuel rocket research at the Kummersdorf Army Proving Grounds outside of Berlin. He integrated this work—on 300- and 660-pound-thrust rocket engines—into his doctoral thesis and in 1934 received a Ph.D. in physics from the University of Berlin.

Braun was never content with theory and, early on, put his calculations to practical tests. By December 1934, he had gathered a small and brilliant working group around him and was launching rockets to altitudes greater than 1.5 miles. The military, keenly aware of the potential value of Braun's work, saw to it that civilian research was prohibited. The space travel society was banned, and Braun became a military scientist. He was moved to a new, much larger testing and development facility at Peenemünde, a town on the Baltic Sea, and while Dornberger (now a colonel) was named military commander of the facility, Braun became its technical director. In rapid succession, he gave practical demonstrations of liquid-fuel rocket-propelled aircraft as well as engines for the jet-assisted takeoff of conventional aircraft. With the advent of war, Braun and his colleagues turned their attention to the development of a long-range ballistic missile and a supersonic antiaircraft missile. Work on the latter, called the Wasserfall, was largely suspended so that A-4 development could be accelerated. Renamed the V-2—Vengeance Weapon 2—by Joseph Goebbels's Ministry of Propaganda, the missile, which first flew in October 1942, was put into full production beginning in May 1944.

Wernher von Braun *(NASA Photo)*

The V-2 caused significant destruction, especially during the Blitz in London, but was deployed too late in the war to be decisive. Braun, a member of the Nazi Party (NSDAP) and without question "guilty" of having developed a terror weapon intended for use against noncombatant civilians, could have been tried as a war criminal by the Nuremberg War Crimes Tribunal after the Allied victory. Instead, he and the entire Peenemünde-based rocket development team surrendered to U.S. troops and offered their service to the United States. A few months after their surrender, Braun and some 100 other scientists and technicians were installed at the U.S. Army Ordnance Corps test site at White Sands, New Mexico. Any question of war crimes or Nazi affiliation took a backseat to the conditions of the developing cold war, and American officials believed it crucially important to keep German rocket technology out of Soviet hands.

Braun and his team continued to test and work on captured V-2s at White Sands. In 1952, Braun was appointed technical director and, subsequently, chief of the army's ballistic weapons program, headquartered at the Redstone Arsenal in Huntsville, Alabama. Here Braun directed development of the first generation of U.S. ballistic missile weapons, the Redstone, Jupiter-C, Juno, and Pershing missiles. Naturalized a U.S. citizen in 1955, Braun directed the team that successfully launched *Explorer I,* the first U.S. Earth-orbiting satellite on January 31, 1958. After the creation of the National Aeronautics and Space Administration (NASA), Braun was made director of NASA's George C. Marshall Space Flight Center in Huntsville. Here he led the development of the Saturn space launch vehicles, the most powerful and advanced rocket boosters ever built. He left the Marshall center in March 1970 to become NASA's deputy associate administrator for planning in Washington, D.C., resigning two years later to enter the private sector as vice president of the Fairchild aerospace company. Braun founded the National Space Institute in 1975, with the object of generating public support for space research.

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Brereton, Lewis (1890–1967) *U.S. commander of the Middle East Air Forces (Ninth Air Force)*

Brereton commanded the Middle East Air Forces, which later became the Ninth U.S. Air Force. He authorized the controversial strategic raids on the oilfields of Ploesti, Romania (*see* Ploesti raid), then in August 1944, assumed command of the First Allied Airborne Army.

Born in Pittsburgh, Pennsylvania, Lewis Hyde Brereton graduated from St. John's College, Annapolis, Maryland, and entered the U.S. Naval Academy in 1907. He graduated from Annapolis in June 1911 but resigned his commission as an ensign to become a second lieutenant in the Coast Artillery Corps of the U.S. Army on August 17, 1911. After serving for a year with the Coast Artillery, he transferred in September 1912 to the Aviation Section, Signal Corps, and received flight instruction at the Signal Corps Aviation School, San Diego, California, earning his wings on March 27, 1913. Three years later, in July 1916, he transferred to the 2nd Field Artillery in the Philippines but was reassigned in January 1917 to the 2nd Aero Squadron in the Philippine Islands in January 1917. Just two months later, he was assigned as chief signal officer in the Office of the Aviation Section, Washington, D.C. After the United States' entry into World War I, he was sent overseas in October 1917 and, in March 1918, was assigned to command the 12th Aero Squadron. Brereton led missions in the Toul and Luneville sectors and participated in the attack at Vaux in July 1918. On the fifth of that month, he was appointed chief of aviation, I Army Corps, and commanded the Corps Observation Wing during the St. Mihiel offensive. In October 1918, Brereton was named operations officer on the staff of the chief of air service of the American Expeditionary

Forces, serving in this post through the armistice, when he was appointed chief of staff, Headquarters Air Service of the Third Army.

Brereton returned to the United States in February 1919 as chief of the Operations Division, Training and Operations Group, in Washington, D.C. In December 1919, he returned to France as air attaché at the U.S. embassy in Paris. Three years later, in August 1922, he was assigned to Kelly Field, Texas, first as commanding officer of the 10th School Group, then as assistant commandant of the Advanced Flying School, and, finally, as director of attack training and president of the board on attack aviation.

In September 1924, Brereton was assigned as an instructor at the Air Corps Tactical School, Langley Field, Virginia, then in June 1925 became commanding officer of the 2nd Bombardment Group at Langley. Two years later, in August 1927, he enrolled in the Command and General Staff School at Fort Leavenworth, Kansas, graduating the following June. After this, he received an appointment as commanding officer of the 88th Observation Squadron at Post Field, Fort Sill, Oklahoma, and also served as air service instructor at the Field Artillery School.

Brereton was sent to Panama in August 1931, where he was commanding officer of France Field and the 6th Composite Group, then commanding officer of the Panama Air Depot and air officer of the Panama Canal Department. In July 1935, he became an instructor at the Command and General Staff School, Fort Leavenworth, Kansas, serving here until June 1939, when he was transferred to Barksdale Field, Louisiana, as base commander. He was subsequently assigned to command the 17th Bombardment Wing, General Headquarters Air Force, stationed at Savannah, Georgia. From here, he was transferred in July 1941 to command the Third Air Force at Tampa, Florida.

At the outbreak of World War II, Brereton was assigned command of the Far East Air Force (FEAF) in the Philippine Islands. A complete breakdown in communications with the headquarters of Douglas MacArthur prevented Brereton from receiving orders when the Japanese began invading the Philippines in December 1941. As a result, most of Brereton's B-17s, based on Luzon, were destroyed on the ground along with most of the rest of FEAF forces there. Brereton did what he could to lead the desperate defense of the Philippines but soon evacuated. In January 1942, he was named air commander in chief of the Allied Air Forces on the staff of British general Sir Archibald Wavell, stationed in Java, in addition to his new duties as commander of the Fifth Air Force. In March 1942, he was tasked with organizing and commanding the new Tenth Air Force in India, then was designated commander of the Middle East Air Force, which later became the Ninth Air Force. In August 1944, Brereton was assigned command of the First Allied Airborne Army and served in this capacity in the European theater until the German surrender in May 1945.

After the war ended in Europe, Brereton returned to the United States, where he was assigned to USAAF headquarters at Washington. In July 1945, he was transferred to command of the Third Air Force at Tampa, Florida, and in January of the next year, he took command of the First Air Force, based at Mitchell Field, New York. The very next month, however, Brereton was assigned to the office of the secretary of war, Washington, D.C. Serving in this high post until July 1947, Brereton was assigned to the Military Liaison Committee of the Atomic Energy Commission, also based in Washington. Brereton returned to air force headquarters in June 1948 as secretary general of the Air Board, then retired from the now-independent U. S. Air Force on September 1, 1948, with the rank of lieutenant general.

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Britain, Battle of

Following the fall of France in the Battle of France, Adolf Hitler contemplated launching Operation Sealion, the cross-channel invasion of

Britain's Hawker Hurricane was more numerous in the Battle of Britain than the more famous Supermarine Spitfire. *(Author's collection)*

England. Encouraged by the claims of Luftwaffe chief Hermann Göring, Hitler believed that bombing raids on principal English cities and industries would, at the very least, prepare the way for the invasion and, even more important, might well render the invasion unnecessary by bringing Britain to its knees.

At Hitler's disposal were the forces of the Luftwaffe now based on French and Belgian airfields. The available forces amounted to approximately 2,679 aircraft, including 1,015 medium bombers, 350 Stuka dive bombers, 930 fighters, and 375 heavy fighters. These included some of the most advanced aircraft of the war at this time. To oppose these forces, the British Royal Air Force (RAF) could muster no more than about 600 Hurricane and Spitfire fighters. Outnumbered as they were, these were excellent planes, and they were manned by superbly trained, highly skilled, and extraordinarily motivated pilots under the command of the venerable air chief marshall Hugh Dowding.

The battle, the first in history fought entirely in the air, unfolded in three successive, albeit overlapping, phases, beginning on July 10, 1940, with a heavy German air raid. This signaled the start of the battle's first phase, which was directed at destroying the southern ports from Dover west to Plymouth. This area was the most likely site for invasion landings, and Hitler sought to neutralize its defenses. Almost every day, German medium bombers, escorted by fighters, crossed the English Channel and bombed ships as well as port installations. On August 15, the first phase of the battle reached its point of greatest intensity when approximately 940 German aircraft attacked in the south as well as in the north. The RAF managed to shoot down 76 of the German planes, losing 34 fighters in the exchange. The Germans also destroyed 21 British bombers on the ground.

Overlapping the first offensive phase was the second, which targeted airfields, aircraft factories, and radar installations. The objective was to achieve air supremacy by attacking Britain's airfields (and the aircraft there) and aircraft production as well as its highly advanced radar capability. In the space of two weeks, from August 24 to September 6, the Luftwaffe destroyed or severely damaged 466 Hurricane and Spitfire aircraft; 103 British pilots were killed and 128 wounded, representing a quarter of the RAF's entire fighter pilot strength. Yet the cost to the attackers was so heavy as to be a pyrrhic victory. The Germans lost more than twice the number of planes the British lost and more than twice the number of pilots. Worse, Hitler directed his bombers to cease their attacks on RAF facilities and aircraft factories and, beginning on September 7, to bomb civilian targets. The first objective was the air defenses of London, which was raided by some 300 German airplanes in a daylight mission. On September 15, more than 400 bombers attacked the British capital in what would be the largest daylight raid on London, with 56 of the bombers downed by RAF fighters or ground-based antiaircraft fire.

Göring was badly shaken by his losses on September 15 and concluded that daylight raids were too costly. This led to the opening of the third and final phase of the Battle of Britain, the exclusive concentration on night bombing. Historians generally identify September 7 as the beginning of the Blitz. For its first week, the Blitz included daylight and nighttime raids, but from September 16 on, only night raids were carried out. The Blitz portion of the Battle of Britain proceeded continuously, without intermission, for 57 nights. On average each night, 200 bombers dropped both incendiary

and high-explosive ordnance on London. The worst night was that of October 15, when 480 bombers dropped 386 tons of high explosive and 70,000 incendiary bombs on the city. They were met by six squadrons of British night fighters and the massed fire of some 2,000 antiaircraft guns.

There is no question that the 57-night Blitz was devastating. More than 43,000 British civilians were killed, and some 200,000 were wounded. Property damage was staggering; ultimately, about 20 percent of London was destroyed. Food production was diminished, but no major food crisis was created. Nevertheless, the Blitz was futile. Hitler had made a disastrous and unrecoverable mistake in diverting the raids from the RAF facilities and factories, which turned out Spitfires and Hurricanes at an incredible rate. When Göring was forced to abandon daylight raids, he effectively conceded victory to the RAF. Although the Battle of Britain would not end until November 3, the Germans had lost it back in September.

Between July and November, the RAF lost 915 fighters, 481 pilots killed, missing, or taken prisoner, and 422 pilots wounded. The RAF claimed 2,698 kills against the Germans, but documented German aircraft losses amounted to 1,733—still a crippling number.

After the November 3 raid on London, the Battle of Britain proper ended, but the Blitz continued as the Luftwaffe turned to raids on industrial centers, especially the Coventry air raid (500 bombers dropped 600 tons of ordnance on the night of November 14) and Birmingham (hit mercilessly from November 19 to November 22). London was struck again on December 29, mainly in a massive incendiary attack that triggered more than 1,500 uncontrollable blazes. All through the winter of 1940–41, raids hit port cities, and on May 10, 1941, London was hit by an incendiary attack that was the worst and last of the Blitz. In the more than 2,000 fires started, some 3,000 were killed or injured. Defenders shot down 16 German bombers, the most shot down during any nighttime raid.

Rather than see his air force destroyed, Hitler broke off the Blitz after the May 10 raid and redirected the bulk of the Luftwaffe to the eastern front war against the Soviet Union. Operation Sealion, the invasion of Britain, would never be carried out.

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British Borneo, action in

Located southeast of the Malay Peninsula in the Greater Sunda group of the Malay Archipelago, Borneo is the world's third-largest island. It is encircled by the South China Sea, the Sulu Sea, the Celebes Sea, the Makassar Strait, and the Java Sea. During World War II, Borneo was part of the British and Dutch Empires. The largest part of the island, today known as Kalimantan, was Dutch, and combat there is discussed in Action in Netherlands East Indies. British colonies on Borneo included North Borneo (as well as Labuan Island), Brunei, and Sarawak. Borneo presents a challenging tropical climate and a formidable terrain consisting largely of mountains lushly covered in rain forest.

The island's situation, at the intersection of so many major seas and sea routes, made it strategically critical. Moreover, the Japanese saw Borneo as a staging area and stepping stone to an invasion of Australia. Although the British, as well as their Dutch allies, fully recognized the importance of Borneo, neither possessed the resources to defend it adequately at the outbreak of the war in the Pacific. For the Japanese, Borneo was such a key objective that they launched an assault against it in the very first month of the war, December 1941. Realizing the futility of attempting to defend all of British Borneo, the relatively few Anglo-Indian troops stationed there concentrated exclusively on the defense of Kuching airfield in Sarawak. However, they also took the important step of destroying the oilfields at Sarawak and in Seria, Brunei,

with the purpose of depriving the Japanese attackers of this extraordinarily valuable resource.

The Japanese landings on Borneo took place on December 16. A single Indian battalion made a stand but was soon forced to withdraw into the Dutch portion of Borneo. There the battalion continued to fight as long as it could hold out but eventually surrendered.

While British Borneo was quickly taken by the Japanese, the Chinese population (some 50,000) leagued with the native Dyaks in an uprising against the occupiers in October 1943. The rebels actually succeeded in capturing the important port town of Jesselton before they were overwhelmed by a Japanese counterattack. The Japanese treated the rebels as insurgents, and those not killed in battle were, for the most part, executed.

Also in October 1943, Australian special forces troops (Commandos belonging to Special Operations Australia [SOA]) landed on the coast of British Borneo to gather intelligence and to organize, arm, and train the local population. In March and April 1945, more SOA operatives were parachuted into the interior of Sarawak, where they continued to organize, arm, and train the locals so they could conduct actions preparatory to major landings by the 9th Australian Division. These landings took place in June and targeted Labuan and Brunei Bay. Resisting their attack were elements of the substantial 31,000-man Japanese garrison deployed throughout British Borneo. The landing forces never progressed far inland. However, the SOA troops and the native guerrillas they trained continued to press the fight against the Japanese stationed in the interior.

British Borneo was so isolated from the action in the rest of the Pacific theater that the guerillas continued to fight the Japanese for at least two months after Japan had surrendered in August 1945. The last Japanese soldiers to surrender did not do so until October 1945.

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Brooke, Alan, first viscount Alanbrooke (1883–1963) *Chief of the British Imperial Staff*

Born at Bagnères-de-Bigorre, France, Brooke was educated in French schools and then at the Royal Military Academy in Woolwich. He was an officer in the Royal Artillery during World War I and, in the interwar years, rose rapidly as a staff officer and as director of military training in the War Office during 1936–37. His particular expertise was in the all-important developing field of mechanized warfare.

At the outbreak of World War II, Brooke commanded II Army Corps in France. He performed with brilliance, courage, and cool efficiency during the retreat to Dunkirk and was chiefly responsible for covering the Dunkirk Evacuation of the British Expeditionary Force (BEF) during May 26–June 4, 1940. Once back in England, Brooke was assigned to command the home forces, but in December 1941, Prime Minister Winston Churchill named him chief of staff. He would hold the position throughout the war, until 1946.

Like the American general Dwight David Eisenhower, Brooke craved a key field command, but, like Eisenhower, he was destined to serve in a staff capacity. He not only headed the Imperial General Staff ably but, as chairman of the Chiefs of Staff Committee, performed the often difficult and delicate task of representing the frequently divergent views of the staff to the prime minister and to the Joint Chiefs of Staff of the U.S. forces. Quietly, he exercised an important influence on the shaping of Allied strategy in Europe.

During the war, Brooke worked well with Eisenhower, the Supreme Allied Commander, Europe, but after the war he published portions of his wartime diary that were frankly critical not only of Eisenhower, but of U.S. military strategy in the European conflict. The material provoked a lively controversy. The Crown honored his wartime service by creating him baron Alanbrooke of Brookeborough in 1945 and first viscount Alanbrooke the following year.

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Browning automatic rifle (BAR)

One of the most important infantry weapons of World War II, the BAR was introduced in World War I and modified, as the M1918A2, in 1940. It was this version that was used in World War II combat. The new model could be fired only in two automatic modes, slow (300 to 450 rounds per minute) or fast (500 to 650 rounds per minute). Because the U.S. Marine Corps preferred to use the weapon in semiautomatic mode, none of the 1940 modified BARs were used by the corps. The original World War I model of the BAR lacked the later version's buffer spring in the butt and was, therefore, fatiguing for the shooter. Introduced in the 1940 variant, the buffer spring not only increased shooter endurance, it also improved accuracy by reducing recoil. Nevertheless, the BAR was a large weapon, and it was often mounted on its own detachable folding bipod.

During World War II, the army infantry squad, consisting of nine men, was tactically organized around a single BAR. The marine squad consisted of 13 men divided into three fire teams, each of which was organized around a BAR.

Specifications for this air-cooled, gas-operated, magazine-fed, shoulder-type infantry weapon include:

Caliber: .30 (30–06)
Muzzle velocity: 2,800 feet per second
Capacity: 20-round detachable box magazine
Weight: 18.5 pounds
Length: 47 inches
Rate of fire: 550 rounds per minute
Effective range: 600 yards

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Buchenwald concentration camp

One of the largest CONCENTRATION AND EXTERMINATION CAMPS in Germany proper, Buchenwald was located in Thuringen, on the northern slope of Ettersberg, a mountain five miles north of Weimar. In addition to the main camp, Buchenwald encompassed 130 satellite camps and extension units.

Buchenwald was established well before World War II, on July 16, 1937, and originally housed just 149 inmates, mostly political detainees and criminals. The camp was officially named Buchenwald by HEINRICH HIMMLER, head of the SCHUTZSTAFFEL (SS) on July 28, 1937. By 1939, during the INVASION OF POLAND, the camp was divided into three parts: a "large camp," which housed prisoners who had some seniority; a "small camp," to quarantine new prisoners; and a "tent camp," to receive Polish prisoners. Additionally, the camp included the SS barracks and the camp factories. Buchenwald was commanded by SS-Standartenfuhrer Karl Koch from 1937 to 1941 and by SS-Oberfuhrer Hermann Pister from 1942 to 1945.

The camp grew quickly. From the original 149 in July 1937, the population swelled to 2,561 by the end of the year. Most of these were identified as political prisoners. As the Nazi regime cracked down on various groups identified as "asocial elements," Buchenwald received even more prisoners. By July 1938, there were 7,723; 2,200 more, all Jews, came from Austria on September 23, 1938. Following *KRISTALLNACHT*, November 9–10, 1938, the camp received another 10,000 Jews, so that by the end of the month the population passed 18,000. However, by the end of the year, most of the Jewish prisoners were released, bringing the camp population to 11,000.

The commencement of the war sharply increased the number of arrests throughout the Reich. Thousands of new political prisoners arrived at Buchenwald, along with thousands of Poles. By 1943, armament factories were built near the camp, which now served to house slave labor. By the end of 1944, there were 63,048 prisoners, and by February 1945, 86,232. In all, from July 1937 to March 1945, 238,980 prisoners from 30 countries passed through Buchenwald and its satellites. Of this

number, 43,045 were murdered or died from neglect and abuse.

As mentioned, the first major influx of Jewish prisoners came after *Kristallnacht.* At Buchenwald, Jews were singled out for the harshest treatment. Most were put to work 14 to 15 hours a day at the infamous Buchenwald quarry. At this point, Adolf Hitler's object was not to kill Jews, but to force them to emigrate from Germany. Therefore, during the winter of 1938–39, 9,370 Jews were released from Buchenwald after their families (and Jewish and international organizations) had arranged for their emigration.

After the commencement of war, the influx of Jewish prisoners increased, and there were no further releases. Buchenwald was used to house Jewish prisoners from Germany as well as from the "Protectorate" of Bohemia and Moravia. By September 1939, the Jewish prisoners numbered some 2,700.

On October 17, 1942, an order was issued for the transfer of all Jewish prisoners held within the Reich proper to Auschwitz Extermination Camp. All of Buchenwald's Jews, except for 204 deemed essential workers, were transferred. Two years later, Hungarian Jews began coming to Buchenwald from Auschwitz. Most of these were forced into labor at the armament factories. Beginning on January 18, 1945, Auschwitz and other camps in the east were being evacuated as Red Army troops advanced. Thousands were now transferred to Buchenwald. Among the Auschwitz evacuees were several hundred children and youths, who were consigned to a special barracks, "Children's Block 66," erected in the tent camp. This block housed more than 600 children and youths, most of whom survived. Even at this late date, however, Jewish prisoners at Buchenwald were often used for grotesque medical experiments.

Resistance cells among the prisoners formed from the very beginning of Buchenwald's existence. German Communist Party prisoners formed one such cell in 1938 with the purpose of planting members in the most important posts available to inmates. Until the end of 1938, the criminal inmates managed most of the camp's internal administration, but when authorities discovered that the criminals were conspiring with some SS personnel in schemes of corruption and theft (stealing from other inmates), inmate influence began to pass to the political prisoners. Under these conditions, some clandestine activities became possible, and by the war years, many resistance cells had developed, mostly based on the nationality of the prisoners. In 1943, a more inclusive underground movement, including Jews, was formed. Called the International Underground Committee, it directed sabotage carried out in the armament plants employing Buchenwald prisoners. Underground members also smuggled arms and ammunition from the plants into the camp. There was, however, never any large-scale uprising at the camp until very nearly the day the camp was liberated by U.S. forces.

As units of the U.S. Army approached, authorities began evacuating the Jewish prisoners from Buchenwald on April 6, 1945. On April 7, thousands more of various nationalities were evacuated from the main camps and the satellite camps. A total of 28,250 were evacuated. Of this number, 7,000 to 8,000 were murdered or died during evacuation. The evacuation was not completed because resistance members holding administrative posts sabotaged SS evacuation orders. By April 11, most of the SS guards had fled, and the remaining prisoners did not wait for the approaching American army before they rose up and, using smuggled weapons, seized control of the camp, killing the few dozen SS men who had stayed behind. Thus, on April 11, 1945, Buchenwald earned the distinction of having liberated itself. Some 21,000 prisoners, including about 4,000 Jews and 1,000 children, greeted U.S. troops when they arrived. During the Nuremberg War Crimes Tribunal in 1947, 31 Buchenwald staff members were tried; two of this number were sentenced to death, and four to life imprisonment.

See also Holocaust, the.

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Buckner, Simon Bolivar, Jr. (1886–1945)

U.S. Army commander in the Pacific theater

Buckner was commander in the Pacific theater during the tough and little-heralded Aleutian Islands Campaign and served as commander of the Tenth U.S. Army in the Okinawa Campaign. A front-line general, he was killed by a Japanese artillery shell on June 18, 1945, three days before Okinawa was finally taken. Holding the rank of lieutenant general, he was the highest-ranking U.S. officer killed in World War II combat.

Buckner was born at Munfordville, Kentucky, the son of Confederate Lt. Gen. Simon Bolivar Buckner. Destined from birth for a military career, Buckner enrolled at Virginia Military Institute and studied there from 1902 to 1904 before entering West Point, from which he graduated in 1908. He served in U.S. postings as well as in the Philippines and even flew briefly with the U.S. Army Air Service. He was not sent to France during World War I but remained in the states as a teacher and trainer. Between the wars, he taught infantry tactics at West Point from 1919 to 1923, then completed the advanced infantry course at Fort Benning in 1924. He then attended the Command and General Staff School at Fort Leavenworth, remaining there as an instructor until 1928. From here, he enrolled in the Army War College (AWC). After graduating in 1929, he taught at the AWC until 1932, when he served for a year as instructor of tactics at West Point. He was appointed commandant of cadets in 1933 and served in this capacity until 1936.

Promoted to colonel in 1937, Buckner served with the 66th Infantry Regiment, then took command of Fort McClellan, Alabama; the command coincided with command of the 22nd Infantry Regiment and District D of the Civilian Conservation Corps. Buckner was elevated to chief of staff, 6th Division, then in 1940 was tapped to head the Alaskan Defense Command with the rank of brigadier general.

Buckner was a vigorous and proactive commander who lobbied the Joint Chiefs of Staff for resources to defend Alaska against what he feared would be Soviet aggression after the conclusion of the German-Soviet Non-Aggression Pact. Buckner's forces were in a reasonably high state of preparedness when, after the Battle of Pearl Harbor, the Joint Chiefs suddenly grasped the importance of Alaska and promoted Buckner to major general. He rapidly built up forces there and, in a brilliantly ambitious move, directed construction of the Alcan Highway, connecting Alaska with the lower 48 states and creating a critically important transportation and communication artery.

In June 1942, after eluding U.S. naval units, Japanese forces occupied the Aleutian islands of Kiska and Attu. This was largely a diversionary move to draw U.S. forces away from the central and south Pacific so that the Japanese fleet could better attack Midway. In and of itself, Japanese occupation of these two remote islands had little direct military significance. However, the effect on U.S. morale was powerful. American continental territory had been invaded. Buckner led assaults on Attu and Kiska in 1943. Attu was recaptured on May 29 after 18 days of unexpectedly fierce combat. This prize retaken, Buckner jumped off for Kiska, only to find that the Japanese had withdrawn. For his achievements in the Aleutians, Buckner was promoted to lieutenant general.

Buckner was next assigned to command the newly created Tenth U.S. Army. He led this force, which included not only army personnel but Gen. Roy Geiger's III Amphibious Corps, a marine unit, into the Okinawa campaign during April–June 1945. Buckner adopted a conservative strategy, which proved so slow and costly that his colleagues in the navy and marines leveled harsh criticism against him. No one, however, questioned his boundless battlefield courage. A front-line commander, he continually exposed himself to fire and was killed by an artillery burst on June 18, 1945. Okinawa fell to the United States just three days later.

Buckner was buried in the Tenth Army Cemetery on Okinawa. Subsequently, his remains were returned to Kentucky, where he was buried beside his father. In 1954, he was posthumously promoted to general.

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Budenny, Semyon (1883–1973) *Soviet Red Army marshal*

A veteran of the Russian civil war (1918–20), Budenny was one of the Red Army's marshals during World War II. Born in Kozyurin, near Rostov-on-Don, Budenny was of peasant stock and, like many poor Russian young men, sought opportunity in the Imperial Russian Army, which he joined in 1903, serving in East Asia. During the Russian Revolutions of 1917, he threw in his lot with the Bolsheviks and was named chairman of the divisional soviet of soldiers in the Caucasus. With the outbreak of the civil war, he organized a cavalry unit to fight the counterrevolutionary Whites in the northern Caucasus in 1918, then formally joined the Communist Party the following year. As commander of the 1st Cavalry Army during 1919–24, Budenny enjoyed success against White forces and Polish forces. He was appointed to command the entire north Caucasian military district in 1922, though he also retained direct command of the 1st Cavalry Army.

In 1924, Budenny was elevated to inspector of the Red Army cavalry and served in that post until 1937, when he was named commander of the Moscow military district. He graduated from the prestigious Frunze Military Academy in 1932 and was promoted to marshal of the Soviet Union. In 1938, he was admitted as a member of the Presidium of the Supreme Soviet and became a full member of the party's Central Committee the following year. In 1940, he was promoted from command of the Moscow military district to the post of first deputy commissar for defense. This put him in position for a key command after the German INVASION OF THE SOVIET UNION in 1941. He was dispatched to the southwestern front and charged with defending against German advances into Ukraine. No Red Army senior commander was more trusted than Budenny, whose troops were the cream of the Soviet land forces. Moreover, the marshal enjoyed significant superiority of numbers on this front. Nevertheless, he was outgeneraled by German BLITZKRIEG tactics and was enveloped first at Uman and then at Kiev. These were disasters virtually unprecedented in military history. Under Budenny, the Red Army lost a million and a half men, killed or taken prisoner. The number of wounded is not known. Utterly routed, the Red Army yielded Ukraine, rich in agricultural, mineral, and industrial resources, to the invader.

In September 1941, Budyenny was relieved as commander of the southwestern front and was replaced by SEMYON TIMOSHENKO. He was, however, retained in the senior ranks of the Red Army and given command of the Reserve Front. Later in the war, he was returned to his old area of expertise and assumed command of the Soviet cavalry.

Full blame for the catastrophic failure of the defense of the Ukraine cannot be laid at the feet of Semyon Budenny, who was to a considerable degree constrained by the hold-fast orders of JOSEPH STALIN. Perhaps it was awareness of this that spared Budenny the fate of other generals who suffered serious, but much less extensive, defeats: the firing squad. Indeed, far from incurring censure, Budenny continued to enjoy Stalin's favor and was settled, after the war, into his former post as inspector of the cavalry in 1953. Even years after Stalin's death, in 1958, Budenny was honored when he was named Hero of the Soviet Union, the nation's highest military award. That he was reduced in 1961 from full membership in the Central Committee of the Communist Party to the status of candidate member was more the result of shifting Soviet politics in

the post-Stalin era than criticism of Budenny's war record.

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Bulganin, Nikolay (1895–1975) *deputy premier of the Soviet Union*

Bulganin was among the coterie of Soviet leaders whose World War II experience elevated them to major roles in the postwar Soviet Union. Born in Nizhny Novgorod, Bulganin was an early member of the Bolsheviks and entered the Cheka (secret police) as an officer in 1918. He was later detailed to manage a state-run electrical equipment factory in Moscow, a position in which he distinguished himself. In contrast to many Soviet industrial administrators, Bulganin was innovative and efficient. In 1931, he was named chairman of the Moscow Soviet, then served as premier of the Russian Republic from 1937 to 1938, when he was named chairman of the state bank of the Soviet Union. With the outbreak of World War II, Joseph Stalin tapped Bulganin for the post of deputy premier of the Soviet Union. He was made a full member of the Central Committee of the Communist Party in 1939. After the German invasion of the Soviet Union, Bulganin entered Stalin's inner circle and, in 1944, was named a member of the State Defense Committee, Stalin's war cabinet. From this point until the end of the war, Bulganin was effectively Stalin's deputy for war-related matters. After the war, in 1947, he returned to the post of deputy premier of the Soviet Union and was also named to succeed Stalin himself as minister of the armed forces, a position that carried the military rank of marshal of the Soviet Union.

In 1948, Bulganin was elevated to full membership in the Politburo of the Central Committee. After Stalin's death on March 5, 1953, Bulganin became deputy premier and minister of defense in the government of Stalin's successor, Georgy M. Malenkov. A canny politician, Bulganin turned on Malenkov when Nikita S. Khrushchev made his move to succeed him. This put Bulganin in position, on February 8, 1955, to become chairman of the Council of Ministers of the USSR, effectively the nation's premier.

Bulganin became virtually inseparable from Khrushchev but again proved disloyal by siding with the "antiparty group" that attempted to topple Khrushchev from his party leadership position in June 1957. The group was suppressed and its leaders purged from the Central Committee and its Presidium in July, but Bulganin managed to remain premier until March 27, 1958, and a member of the Presidium until September 5, 1958. At last, as 1958 came to a close, he was ousted, stripped of his marshal's rank, and consigned to a low-level party position. The final blow came in 1961, when he lost his membership on the Central Committee.

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Bulgaria

At the outbreak of World War II, Bulgaria, located in the Balkans and bounded by Romania on the north, the Black Sea on the east, Turkey and Greece on the south, Macedonia to the southwest, and Yugoslavia on the west, had a population of 6,341,000. Its king, Boris III (1894–1943), struggled in the early months of the war to keep his nation neutral. Bulgaria had lost territory in World War I, and it relied heavily on German trade. These were powerful incentives to join the Axis. Moreover, although the Bulgarian people identified with the Soviets as Slavs, the officer corps of the Bulgarian Army had a strong pro-German bias. The conclusion of the German-Soviet Non-Aggression Pact in August 1939 tended to reconcile even the Russophile Bulgarians to the possibility of alignment with Germany.

With the conclusion of the Treaty of Craivoa on September 7, 1940, Bulgaria belatedly received the

return of some of the territory lost in World War I. This served further to align the country with Germany, which pushed King Boris III to sign on to the Axis (Tripartite) Pact. The people were especially receptive at this point because the Germans let it be known that Joseph Stalin's foreign minister, Vyacheslav Molotov, had announced to his German counterpart, Joachim von Ribbentrop, the Soviet Union's intention to forcibly make of Bulgaria a political satellite. In addition, the Bulgarians balked at the prospect of British intervention in Greece. At last, Boris announced to the German government that he intended to commit Bulgaria to the Axis, but he remained indefinite as to precisely when. Contemplating the impending invasion of the Soviet Union, Adolf Hitler was especially anxious to make Bulgaria friendly.

But it was the German invasion of Greece that finally motivated Boris's prime minister, Bogdan Filov, to sign the Axis Pact on March 1, 1941. This allowed German troops to traverse Bulgaria on their way to Greece. On March 5, Great Britain responded by severing diplomatic relations with Bulgaria, but that country held off declaring war against Britain until December 13, 1941, at which time it also declared war on the United States. The country refrained from declaring war against the Soviet Union.

Boris did not actually intend to fight and, indeed, was fully aware that his armed forces were in no condition to conduct a modern war against modern opponents. Moreover, Bulgarian peasant conscripts would mutiny before they would fight at any distance from their homes. Boris was also deeply concerned that affiliation with the Axis would stir fascists within Bulgaria to rise up against him and to replace the monarchy with a fascist republic. Nevertheless, Boris dispatched troops to participate in the German invasion of Yugoslavia, an action that garnered him a large portion of Yugoslav Macedonia, at least on an administrative basis, pending the successful conclusion of the war. Nominally, Bulgaria also received Greek Macedonia and western Thrace. The Bulgarians instituted such a harsh administration in these areas that their populations rose up in revolt in September 1941, and it was only with great effort that the widespread rebellion was crushed.

As an ally, Bulgaria contributed little to the German war effort. Bulgarian troops participated minimally in the invasions of Yugoslavia and Greece, but Boris steadfastly refused to commit troops, even on a purely voluntary basis, to the war against the Soviets. He also declined, in the summer of 1943, to use his troops against Yugoslav and Albanian partisans. On the sea, the nation's few warships participated in convoy escort missions, but nothing more. Internally, however, the Bulgarian government did make a number of concessions to German demands, including, in December 1940, passage of a Defense of the Nations Act, which forbade gentiles to engage in sexual relations with Jews, which barred Jews from land ownership, and which banned Jews from a wide variety of professions. Nevertheless, Boris resisted pressure to begin the deportation of Jews, and, thanks to this, some 55,000 Bulgarian Jews survived the war.

On August 28, 1943, Boris III suddenly died shortly after a rancorous meeting with Hitler. Many believed the 49-year-old king had been poisoned because he had begun, quite clearly, to maneuver the nation out of the Axis and out of the war. A regent assumed the role of head of state, and although the regency also favored removal from the war, its leaders proved feckless. Premier Filov was replaced on September 14 by Dobri Bozhilov, who did attempt to negotiate a separate peace with the Allies but never committed to them because he feared Nazi reprisals (as had occurred in Italy and Hungary).

Shortly after the death of Boris, the people of Bulgaria at last began to experience the war firsthand. Food shortages became critical by 1943, and on November 19, 1943, Sofia was attacked. On March 30, 1944, much of the population of that city fled to refuge in the country. Yet resistance movements did not become widespread in Bulgaria. There was more popular support for the anti-German Fatherland Front, largely in reaction to Allied bombing and the successful advance of the Red Army. On September 8, 1944, Konstantin Muraviev, Bulgaria's new prime minister, yielded to

Soviet pressure and declared war against Germany. With this, the Red Army crossed into Bulgaria, and on the very next day, the Fatherland Front staged a bloodless coup in Sofia. Outside the city, the left-wing takeover was anything but bloodless. The Fatherland Front conducted a brutal purge.

The Fatherland Front had affected the army as well. Gone were the pro-German officers. Now, approximately 339,000 Bulgarian troops eagerly joined the Red Army as an adjunct to the Third Ukrainian Front (Soviet army groups were called "fronts"). These troops participated in battles in the Balkans, Hungary, and Austria. Some 32,000 of these troops were killed. By the end of the war, Bulgaria had been transformed into a communist country.

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Buna, Battle of

Gen. Douglas MacArthur's plan to defend Australia against impending Japanese invasion was not to hunker down in Australia itself, but to take the battle to New Guinea, which he correctly saw as the necessary staging area for any assault on Australia. Thus, the New Guinea Campaign was a defense by means of offensive, and the Battle of Buna, a village on the northeastern coast of Papua, was a key phase of the campaign. Here, during July 1942, the Japanese had established a beachhead, and here, beginning in November 1942, two Allied divisions attacked.

The 7th Australian Division attacked the fortified Japanese perimeter at its northwestern end, near the village of Gona, while the 32nd U.S. Division marched toward Buna village and its associated mission at the southeastern end. Simultaneously, elements of this unit attacked the two airstrips at Cape Endaiadere nearby. Gen. MacArthur was confident of a quick victory, which was even announced—very much prematurely—in the Allied press. However, intelligence had been wildly off the mark in its underestimate of Japanese strength at the perimeter. Moreover, the 32nd was green and entirely unfamiliar with jungle warfare. As the assault stalled and casualties multiplied, MacArthur dispatched Gen. Robert Lawrence Eichelberger to Buna, charging him to take the village "or not come back alive." It was vintage MacArthur, which meant that the do-or-die order had been delivered in all literal sincerity.

Eichelberger was appalled by the conditions he saw at the front. The Americans were thoroughly demoralized, starving, and ravaged by malaria. He acted quickly by relieving and replacing most of the senior commanders, establishing reliable logistics and lines of supply, and ordering up fresh reinforcements as well as armor. Under Eichelberger, the reinvigorated 32nd took Buna on December 14. However, the nearby mission held out until January 2, 1943. That same day, Cape Endaiadere fell to the Americans. MacArthur was delighted, but to Eichelberger's dismay, he tended to discount as a "mopping up operation" the additional three weeks of costly battle that were required to clear the beachhead completely of this most tenacious enemy.

Thanks to Eichelberger, MacArthur's reputation, Allied morale, and the New Guinea Campaign were all saved at Buna. The cost to the 32nd U.S. Division was staggering. Of 10,825 troops deployed, 9,688 became casualties, most falling ill with malaria and other jungle diseases. This 90 percent casualty rate did provide a valuable lesson in jungle warfare by underscoring the preeminence of logistics in prolonged tropical campaigns.

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Burma Campaign

The Burma Campaign spanned the entire breadth of the war in the Pacific, from December 1941 to August 1945. While British and American forces participated in the campaign, and while the major force, the British Fourteenth Army, was under the command of British general Sir William Joseph Slim, most of the fighting on the Allied side was done by colonial troops and troops of other nations, including Indians as well as Burmese, Chinese, Chins, Gurkhas, Kachins, Karens, Nagas, and native soldiers from British East Africa and British West Africa. The bulk of the campaign was fought by an Indian army under British command.

The Japanese sought occupation of Burma to guard the flank of their forces in Malaya and those advancing to effect the capture of Singapore. Once these objectives had been achieved, Japan saw Burma as strategically important for three reasons. First, the so-called Burma Road was a major supply route into China. Second, Burma would figure as the westernmost anchor of the new, greatly expanded Japanese Empire. Third, Burma was an essential staging area or stepping stone for a massive invasion of British-held India. The Japanese also exploited Burma for political purposes by granting it ostensible independence in August 1943 to demonstrate that Japan intended to liberate Southeast Asia from European colonial domination in what it called the Greater East Asian Co-Prosperity Sphere.

The British were especially anxious to retake Burma because they had lost it in ignominious military defeat. However, the China-Burma-India theater (CBI) was always at the bottom of the Allies' list of priorities, and adequate forces were not made available. British planners hoped that a prolonged and costly land battle could be avoided by naval action and an amphibious campaign to take the Burmese capital of Rangoon. Rangoon would serve the British as a springboard from which to retake Singapore, while it would simultaneously serve the Americans as a staging area from which to launch operations to clear the Burma Road into China. Yet plans for an amphibious assault never materialized because the CBI was at the end of the line for the distribution of landing craft, which, throughout the war, were in extremely high demand and short supply. Instead, by default, the retaking of Burma was achieved through an arduous and long overland campaign.

On December 14, 1941, Japanese forces attacked and occupied Victoria Point and its airfield at the southern tip of Burma. Japanese possession of the airfield here meant that the British could not fly reinforcements from India to Malaya. Next to fall, during January 1942, were Tavoy, Kawkareik, and Moulmein, all north of Victoria Point. The 17th Indian Division, under British Maj. Gen. John Smyth, planned to retake these positions by fighting from behind the natural barriers of the Salween, Bilin, and Sittang rivers, but, on February 23, Smyth found himself outflanked by the 33rd Division under Lt. Gen. Sakurai Shozo, who was rapidly advancing on Rangoon. In desperation, Smyth ordered the demolition of the Sittang bridge, which did delay Shozo's advance, but which also left 5,000 Indian soldiers isolated and cut off, to be captured by the Japanese, and resulted in the loss of artillery and other equipment. For this disaster, Smyth was relieved and replaced by Lt. Gen. Harold Alexander. Shozo took Rangoon on March 8 and also nearly bagged Alexander and the Burma Army. They were saved only by the rigidity of one of Shozo's subordinate commanders, who insisted on adhering to earlier orders to enter Rangoon. To do so, he had to withdraw from the position blocking Alexander, who was thereby allowed to lead his army, intact, to safety.

Chinese reinforcements advanced into Burma as far south as Toungoo, only to be repelled by the Japanese 56th Division. The Chinese troops, of the 38th Chinese Division, assisted the 1st Burma Division, which had been cut off at Yenangyaung. After


Japanese Expansion in Burma, 1939–1943
Northern Combat Area Command (Stilwell, later Sultan)
NEPAL
BHUTAN
BRITISH INDIA
Dinjan
Ledo
Sumprabum
June 17, 1942
CHINA
Myitkyina
Kunming
Imphal
Katha
Kalewa
Irrawaddy R.
Chittagong
Monywa
Mandalay
Myingyan
Lashio
Nanning
Hanoi
Haiphong
Taunggyi
BURMA (Br.)
Salween R.
Sittang R.
Luang Prabang
FRENCH INDO-CHINA
Hainan
Bay of Bengal
SIAM (THAILAND)
Mekong R.
Hue
Moulmein
Rangoon
Falls to Japan
March 1942
Tavoy
Bangkok
Tonle Sap
Phnom Penh
Saigon
Victoria Point
Dec. 1941
Andaman Sea
South China Sea
MALAYA (Br.)
Invaded by Japan
Dec. 7, 1941
DUTCH EAST INDIES
Kuala Lumpur
Singapore (Br.)
Captured by Japan Feb. 1942
INDIAN OCEAN
N
Area occupied by Japan, 1939
Area occupied by Japan, December 1941
Japanese invasion of Burma, 1942
Burma Road
"Hump" supply route to China
Chinese supply road
Chindit operation Feb.–March 1943
Chindit operation March–Aug. 1944
Allied air base
0 250 miles
0 250 km
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rescuing the Burmese, the Chinese continued their retreat through Imphal and into India. Also in retreat, beginning in March, was all that remained of the British forces in Burma. Slim led this so-called Burcorps in the longest fighting retreat in British military history, spanning March to May 1942, and ending in India.

As the Allies retreated, the Japanese continued to advance. The Japanese 18th and 56th Divisions reached the Chinese frontier by the end of April 1942, and the town of Sumprabum fell on June 17. On May 4, Akyab and its airfields on the Bay of Bengal were captured. Amid these disasters, Archibald Wavell, recently appointed commander in chief of India, launched an operation intended to retake Burma. In December 1942, however, the 14th Indian Division was defeated in its attempt to recover Akyab. The Indians tried again, and again failed, then turned against Donbaik, from which they were also repulsed in March 1943. Months of fighting had gained the Anglo-Indian forces nothing.

In the meantime, in northern Burma, Brig. Gen. Orde Wingate launched the Chindit raids on February 13. Supplying his troops by air, he managed to penetrate the Japanese lines, although he lost a third of his force of 3,000 in the process. Nevertheless, this bold and effective action, set against so many defeats, greatly heartened the British and other Allies, and Wingate became a master of guerrilla-style tactics supplied by air. It was a valuable set of lessons in jungle warfare.

In March 1943, Lt. Gen. Kawabe Masakazu assumed command of the Japanese Fifteenth Army, and, in August, Burmese independence (under strict Japanese control) was proclaimed. For their part, in October, the Allies reorganized the CBI by forming the South-East Asia Command (SEAC) under Slim. A brilliant, resourceful, and aggressive commander, Slim planned what he hoped would be a comprehensive counteroffensive against the many Japanese advances. In Arakan, a long, narrow strip of land along the eastern coast of the Bay of Bengal in southern Burma, British Lt. Gen. Sir Alexander Frank Philip Christison would take XV Corps south against Akyab. Simultaneously, American Lt. Gen. Joseph A. "Vinegar Joe" Stilwell would lead U.S. and U.S.-trained Chinese forces (Northern Area Combat Command) in coordination with forces under Chiang Kai-shek to occupy Myitkyina, a northern Burmese stronghold of the Japanese. The objective of this advance, which would also be supported by Chindits under British commander Orde Wingate, was to allow the completion of the Ledo Road, an alternative supply route into China intended to replace the Burma Road, which the Japanese now controlled. Coordinated with these two operations was a third, on the Assam front in central Burma. The 17th and 20th Indian Divisions, commanded by Lt. Gen. Geoffrey Scoones, advanced on reconnaissance patrols deep into Japanese-held country.

The Japanese responded by creating a new army in Arakan, the Twenty-eighth, and, in northern Burma, the Thirty-third. Operation Ha-Go was launched in Arakan to surround the Allied forces there. It supplemented the Imphal Offensive, a plan to invade India from Burma. To the profound shock of the Japanese, however, both operations were defeated, the failure of the Imphal Offensive in March 1944 proving to be the worst defeat in Japanese military history to that time.

Just to the north of the Assam front, Stilwell led two Chinese divisions and the American volunteer rangers code named Galahad but better known as Merrill's Marauders (*see* Frank Dow Merrill). Even as the Japanese were suffering defeat in their Imphal Offensive, in March 1944, Stilwell pushed them out of the Hukawng Valley. By hard persuasion, Stilwell managed to wring from the grasp of Chiang Kai-shek another five Chinese divisions, and he called on Wingate's Chindits to disrupt Japanese communication to his south. After very bitter fighting, Stilwell secured the airfield at Myitkyina on May 17.

In January 1945, West African colonials attacked and captured Buthidaung, then overran a key Japanese communications center at Myohaung on January 25. The 25th Indian Division landed on the island of Akyab during this month, only to find that the Japanese had already withdrawn. This cleared the way for a steady Allied advance through

Arakan, which was secured early in the year, thereby enabling the construction of airstrips to support an all-out assault on Rangoon.

The campaign to retake Rangoon was William Slim's masterpiece. He deployed his forces with the aplomb of a magician thoroughly versed in the art of deception by misdirection. In mid-January, Slim sent the 19th Indian Division across the Irrawaddy River toward Mandalay, which it approached from the north. The 2nd British and 20th Indian Divisions, as well as the 7th Indian Division, crossed the river elsewhere during February, pulling off the longest opposed river crossing of the war, crossing points where the river's width varied from 1,000 to 4,500 yards. While these crossings were being effected, the 20th Division suddenly veered southward and cut rail and road routes to Rangoon. Slim sent the 2nd Division eastward to approach Mandalay from the south, even as the 19th Division actually attacked and took it from the north on March 20, stunning the thoroughly confused Japanese defenders.

Yet Slim was also surprised. He had expected the Japanese, as usual, to make a suicidal stand rather than see Mandalay, full of symbolic as well as strategic import, fall. Instead, Lt. Gen. Kimura Hyotaro withdrew and regrouped. Slim responded deftly. He was not seduced by taking Mandalay. He understood that a truly decisive battle would have to destroy the Japanese presence, not merely take even so important a city. Therefore, Slim deployed south of Mandalay and fought Kimura at Meiktila, central Burma. The battle lasted four weeks, during February through March, and resulted in a Japanese defeat and withdrawal on March 28. This opened the way to Rangoon, except for a brief (and fierce) Japanese stand at Pyawbwe. By April 29, Slim's 17th Division was on the edge of Pegu, just 50 miles from Rangoon. Heavy rains delayed the final push, and when the Anglo-Indian forces arrived in the capital, they were unopposed. The Japanese had pulled out.

During the summer, Japanese forces executed a long fighting retreat. The Japanese Twenty-eighth Army hammered fiercely against the British divisions arrayed along the Mandalay-Rangoon road, but because Japanese battle plans had been intercepted, the British were able to put themselves wherever the Japanese wanted to be, and the Twenty-eighth Army suffered some 17,000 casualties in the space of 10 July days, whereas the British lost just 95 men. It was almost certainly the most lopsided victory of the entire war.

After the Allies retook Rangoon, the Burma Campaign was essentially won, except that the Japanese continued to fight—fiercely, in the case of the Twenty-eighth Army, but more sporadically elsewhere. It was August 28, 1945, two weeks after Emperor Hirohito had broadcasted his surrender message to the people of Japan, before preliminary surrender documents were signed in Burma.

At the beginning of the Pacific war, the Japanese had taken Burma at comparatively slight cost: 2,000 dead in Burma, another 3,500 in Malaya. With this, the Japanese effectively began the dismantling of the British Empire, although they themselves were destined to lose their conquests by the summer of 1945.

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Byrnes, James F. (1879–1972) *director of war mobilization under President Roosevelt and secretary of state under Truman*

During World War II, Byrnes served in the administration of Franklin D. Roosevelt (FDR) as director of war mobilization (1943–45)—in which capacity he was popularly dubbed "assistant president for domestic affairs"—and, in the cabinet of Harry S. Truman, as secretary of state (1945–47). Born in Charleston, South Carolina, Byrnes was a

self-educated lawyer who became a public prosecutor in 1908, then gained election to the U.S. House of Representatives in 1911, serving until 1925. In 1931, he was elected to the Senate and became especially powerful during the Roosevelt administration, personally shepherding through that legislative body the great bulk of the New Deal legislation. Although FDR frequently consulted with Byrnes, the southerner was innately a social conservative and often broke with the president over issues he considered too radical. However, as U.S. involvement in World War II loomed during 1939–41, it was Byrnes who once again was responsible for garnering Senate support for the president's defense-preparedness measures.

In 1941, Byrnes left the Senate when he was appointed to the United States Supreme Court. He left the Court, however, after only a year to accept appointment in 1942 as director of economic stabilization and, subsequently, head of the Office of War Mobilization. This was a tremendously powerful office, and Byrnes was directly responsible for overseeing the production, procurement, and distribution of all civilian and military goods, the allocation of manpower, and the institution of measures for economic stabilization during the war emergency. No other government official, save the president himself, wielded more actual authority than Byrnes during the war years.

An intimate adviser to Roosevelt, Byrnes accompanied him to the Yalta Conference in February 1945, resigning soon afterward. Following FDR's sudden death in April 1945, President Truman recalled Byrnes to government service and asked him to accept appointment as secretary of state. In this capacity, Byrnes accompanied Truman to the Potsdam Conference. Byrnes took an uncompromising hard line on such issues as obtaining from the Axis nations unconditional surrender as the only acceptable basis for ending World War II and on using the atomic bomb against Japan. Originally inclined to embrace the Soviet Union as a bosom ally, Byrnes was soured on the prospect of postwar cooperation between East and West by his experiences at Potsdam, especially over the issue of German reunification. During the cold war that set in almost immediately after the Axis surrender, Byrnes adopted an uncompromisingly anticommunist stance and called for an extensive U.S. military presence to be established in Western Europe to checkmate the expansion of the Soviet sphere. Byrnes's increasing conservatism clashed with the liberalism of Truman, prompting Byrnes's resignation as secretary of state in 1947.

Although Byrnes enjoyed a distinguished career in the national government, he never came close to achieving his most cherished ambition, which was to be elected to the presidency. In 1951, he was elected governor of South Carolina and was reelected in 1955. By this time, however, the realities of social reform had passed Byrnes by, and his later political career was marred by his insistent defense of racial segregation in public schools.

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Callaghan, Daniel Judson (1892–1942)

U.S. rear admiral hero of Guadalcanal

A United States Navy rear admiral who led a task force of five cruisers and 10 destroyers in support of U.S. landings at the Battle of Guadalcanal, Callaghan received the Medal of Honor posthumously for his actions on November 13, 1942. He was one of the heroes of this most important battle.

Callaghan was born in San Francisco and was educated in Catholic schools, including St. Elizabeth's in Oakland and the College of St. Ignatius, a high school. He went on to the U.S. Naval Academy, Annapolis, in 1911 and graduated 38th in a class of 193. He served as commander of an 8-inch turret on the cruiser *California,* then was engineering officer on the destroyer *Truxton,* which he subsequently commanded. After serving as engineering officer on the cruiser *New Orleans* in 1916, he was transferred to the Atlantic upon America's entry into World War I and assigned to convoy duty. During the interwar years, Callaghan served as fire-control officer on the battleship *Idaho,* then had assignments on the battleships *Colorado, Mississippi, Pennsylvania,* and *California,* becoming gunnery officer on the staff of the U.S. fleet commander.

In 1936, Callaghan was executive officer of the heavy cruiser *Portland* and distinguished himself sufficiently to merit appointment as naval aide to President Franklin D. Roosevelt. Callaghan accepted the honor of the appointment, although he left seagoing duty with considerable reluctance. In his capacity as naval aide, Callaghan did manage to promote the fitting out of the fleet's ships with modern and highly effective 40-mm Bofors antiaircraft cannon. However, with war clouds gathering, Callaghan at last prevailed upon the president to release him for sea duty, and he thus secured command of the heavy cruiser *San Francisco.*

In 1942, Callaghan, promoted to rear admiral, was assigned as chief of staff to Vice Admiral Robert Ghormley, who headed the newly created Southwest Pacific Command. When Ghormley was replaced by Admiral William A. "Bull" Halsey, Callaghan, at his own request, was returned to command of the *San Francisco.* In early November 1942, with the heavy cruiser as his flag ship, he was put in command of a task force charged with escorting a large transport and supply convoy in support of the massive amphibious assault on Guadalcanal. Early on the afternoon of November 12, 32 Japanese torpedo bombers swooped in on the American combat ships, intending to knock them out so that some 30,000 Japanese reinforcements could be landed unopposed on Guadalcanal. Callaghan then participated in a combined task force sent to head off the approaching Japanese invasion force. What followed on the night of November 13, 1942, was a naval battle that has been described by eyewitnesses as the "most furious" action of the entire Pacific war. The outnumbered American task force succeeded in turning

back the Japanese reinforcements in action off Savo Island. However, Callaghan was killed on the bridge of his flagship. For his leadership, he was posthumously awarded the Medal of Honor.

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Canada

At the time of World War II, Canada was a British Dominion and therefore obligated to commit troops and resources to the British war effort. At the outbreak of the conflict, it did so with dutiful resignation, but little enthusiasm. Canadian casualties in World War I had been heavy (60,000 killed, some 172,000 wounded), and the new war also exacerbated the long-standing bitter division between the French Canadian minority and the Anglophone majority. Canadian Prime Minister W. L. Mackenzie King had the extremely difficult task of leading a fearful, disheartened, and divided nation into war. He did this, initially, by pledging a war of "limited liability," in which compulsory service would be necessary, but in which no conscript would be sent overseas. Canada maintained this more-or-less temporizing policy for the first 10 months of the war. After France fell in the Battle of France, however, the desperate nature of the conflict suddenly hit home among Anglophones and French Canadians alike. The war was now perceived as a contest for survival, and Canada committed itself wholeheartedly.

Whereas early war production lifted the United States out of the Great Depression beginning early in 1940, materiel orders came late to Canada, but once they did, the hard-hit nation enjoyed an economic rebirth, with a doubling of the gross national product by the middle of the war and a virtual end to unemployment. Throughout the war, Canada served as a major manufacturing center, but, even more important, it was an agricultural powerhouse and a great source of iron, steel, oil, and synthetic rubber. By 1945, Canada was fourth among the Allies in war production, and it accounted for one-seventh of the war production of the entire British Empire. A little less than a third of this production was used by Canadian forces; the rest was contributed freely to the other Allies. This boon was of critical importance to the perpetually strapped British. As for the Canadian government, it saw war production as a means of providing full employment and rescuing the nation from the grip of the depression, as well as helping to ensure victory. The result was that in contrast to virtually all the other belligerent nations, including even the United States, the standard of living for Canadians sharply improved during World War II, and the government even managed to hold inflation to a manageable rate.

As in the case of Australia, the war brought Canada closer to the United States than even to Great Britain. However, whereas this closeness was in large measure military in the case of Australia and America, a function of the nature of the Pacific war, it was far more a matter of economics for Canada and its southern neighbor. Canada's rapidly expanding wartime economy brought a meteoric rise in trade between the two nations, especially U.S. exports to Canada. Even Canadian-made munitions and materiel often incorporated components imported from the United States. The result for Canada was an exploding trade deficit with the United States, an issue that King and President Franklin D. Roosevelt addressed in the Hyde Park Declaration of April 20, 1941. Within the compass of just six paragraphs, the two heads of state agreed to provide one another with the materiel each was most capable of producing. In cases where Canada required U.S.-made components for equipment required by the United Kingdom, these could be acquired by the U.K. under the already existing provisions of the Lend-Lease Act.

While Canada often cooperated closely with the British in military action abroad, it was with the United States that Canada forged its closest military ties for continental defense. Motivated by the fall of France, Prime Minister King met with President Roosevelt in August 1940 to draft what

became the plan for a Permanent Joint Board of Defense. The board included plans for allowing U. S. troops into Canada's maritime provinces to repel any German threat, and U.S. Army engineers were sent into Canada to build the 1,523-mile-long Alaskan International Highway (also called the Alaska Military Highway or the Alcan Highway) during March to November 1942 as an emergency war measure to provide an overland military supply route to Alaska. American service personnel also manned Canadian-based weather stations and laid an oil pipeline in the far north. Royal Canadian Air Force personnel and aircraft were dispatched to Alaska and based there after the Japanese invaded the Aleutian Islands, and a U.S.-equipped Canadian infantry brigade participated in the Aleutian Islands Campaign during 1943. U.S.-Canadian defense cooperation also went beyond the continent, as Canada and the United States collaborated in fighting the Battle of the Atlantic beginning in 1941.

In general, U.S.-Canadian relations strengthened during World War II, and this good feeling extended far into the postwar years. The Canadian government did take pains to ensure that the U.S. military presence in Canada was strictly controlled and that it would end with the conclusion of the war. As if to settle its military accounts, Canada, after the war, insisted on paying the United States for all fixed military installations it had built in the country. The exigencies of cold war defense, however, would soon bring back a U.S. military presence, and the two countries entered into a long period of close cooperation in early warning and other nuclear age continental defense systems.

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Canada, air force of

At the outbreak of the war, the Royal Canadian Air Force (RCAF) was a puny service consisting of 2,750 enlisted airmen and 298 officers in addition to 1,000 reservists. Its inventory of aircraft numbered just 270, of which 37 were combat ready. Around this unpromising nucleus, the British government, on September 26, 1939, asked the Canadians to create the British Empire Air Training Scheme (BEATS). BEATS was tasked to train a total of 20,000 military pilots and 30,000 aircrew primarily to be integrated into the British Royal Air Force (RAF). The plan must have seemed outrageous in 1939, but the RCAF grew rapidly, and BEATS proved to be Canada's greatest contribution to the Allied air war; some historians judge it to be Canada's most important contribution to the war effort as a whole.

In 1940, the RCAF trained 240 pilots, 112 navigators, and 168 other aircrew. By the next year, these numbers had risen spectacularly to 9,637 pilots, 2,884 navigators, and 4,132 other aircrew. In 1943, the peak year for BEATS, the RCAF turned out 15,894 pilots, 8,144 navigators, 6,445 bombardiers, and 8,695 other aircrew. By September 30, 1944, when the program ended, the RCAF had trained 116,417 pilots, navigators, bombardiers, and other aircrew. Australia, which also participated in BEATS, had trained 23,262 men by this time, New Zealand 3,891, South Africa 16,857, and Southern Rhodesia 8,235.

While BEATS was Canada's most significant contribution to the air war, the RCAF also flew many operational missions, sending overseas 94,000 officers and men in 48 squadrons. Many RCAF personnel were seconded to RAF squadrons, but, in response to unremitting RCAF pressure on the British, many were also formed into Canadian squadrons. Eventually, the RCAF had several fighter wings and one bomber group. Canadian fighter pilots served in the Battle of Britain, over Malta, in the North African Campaign, and in continental Europe. Canadian pilots flew transport missions out of Burma, and they manned a Catalina floatplane squadron in Ceylon. Canadian-based RCAF fliers provided not only for home defense, but flew fighter support for U.S. forces in Alaska.

In Europe, Canadians flew many strategic bombing missions beginning in June 1941. Until well into 1943, the Canadians were relegated to aging Wellington heavy bombers, which they flew from a remote base in Yorkshire. The age of the aircraft and the extra flying time required by their basing contributed to a high rate of loss, especially between March and June of 1943. By January 1944, however, more efficient command and new equipment—Lancasters and Halifaxes—brought significant improvement. The Canadians' bomber group, Group 6, consisting of eight squadrons, flew 41,000 operations in which 126,000 tons of ordnance were dropped, accounting for a little more than 12 percent of the total bombs dropped by Britain's Bomber Command. Group 6 lost 3,500 killed. Among Canadians serving in other squadrons of Bomber Command, 4,700 were killed. Total RCAF losses in World War II were 17,101 killed.

See also Canada, Army of and Canada Navy of.

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Canada, army of

At the outbreak of World War II, the Canadian Army consisted of a "Permanent Force" of just 4,261 officers and men. Additionally, a Canadian militia mustered 51,000 mostly ill-trained men. Equipment was virtually nonexistent: two light tanks, 82 Vickers machine guns, 10 Bren guns, five mortars, and four antiaircraft guns. By the end of the war, the army of Canada had expanded to a well-equipped force of 730,159 men and women.

As explained in the entry on Canada, it was a very reluctant and divided nation that Prime Minister Mackenzie W. L. King led into war. For the first 10 months of the war, King pursued a policy of what he called "limited liability," by which no conscripts would be sent to overseas duty. Two volunteer divisions were raised initially, elements of the first of which, the Canadian 1st Division, shipped out for England in December 1939. Enlistments, however, were slow and light: fewer than 35,000 between October 1939 and May 1940, despite a depression-plagued economy. With the fall of France following the Battle of France, however, enlistments skyrocketed; during June and July, 60,000 rushed to enlist. By the end of 1940, 122,000 had voluntarily joined up. In 1941, there were 94,000; in 1942, 130,000; in 1943, 77,000; and in 1944, 75,000.

By 1942, the First Canadian Army, in Europe, consisted of two corps with three infantry and two armored divisions as well as two armored brigades. By 1943, a home-based force was also fully deployed, consisting of three divisions charged with the defense of the Atlantic and Pacific coasts. King was gratified at the size of the force, but he was also concerned that it would generate huge casualty figures. Yet casualties were light during the first three years of combat, and although Canadi-

ans participated in Dunkirk and in the Dunkirk Evacuation, their involvement was peripheral, so even this fiasco created few casualties. Indeed, the real problem during the first three years of the war was the discontent of the Canadian public, which demanded action from the army.

Under political and public pressure, troops were sent to Hong Kong in September 1941. They arrived late in November and were involved in defending against a Japanese attack on December 8. The battle ended in surrender on December 25, the nearly 2,000 Canadians engaged having suffered 40 percent casualties before the rest surrendered. Canadian participation in the Dieppe Raid on August 19, 1942, produced even higher casualties: 2,752 captured or killed out of 4,963 engaged. On the brighter side, however, Canadian troops also played important roles in Operation Husky (in the Sicily Campaign) and the Normandy landings (D-day). After Sicily, the 1st Canadian Division and 1st Canadian Armored Brigade fought in the Italian Campaign, landing at Reggio Calabria on September 3, 1943, where they were soon joined by 5th Canadian Armored Division and the 1st Canadian Corps HQ. All were attached to the British Eighth Army and participated in some of the most bitter fighting in the slow but relentless Allied advance up the Italian Peninsula. In all, some 93,000 Canadian troops fought in Italy, of whom 5,399 were killed, 19,486 wounded, and 1,004 captured, a stunning 25 percent casualty rate.

Participating in the D-day landings were the 3rd Canadian Division and the 2nd Canadian Armored Brigade. The landing on Juno Beach was lightly opposed, but the mostly green Canadians were mauled by a counterattack from the 25th SS Panzer-Grenadier Regiment on June 7, 1944. Over the next several days, however, the Canadians rallied and progressed rapidly through the Falaise-Argentan pocket and into Dieppe, Boulogne, and Calais, thence into Belgium. At the Scheldt Estuary, they engaged in a bloody battle but cleared the objective by November 3, having incurred 6,367 killed or wounded.

Although the Canadians generally served as part of larger Allied forces, in February 1945, Gen. Henry Crerar was assigned command of no fewer than 13 Allied divisions, including British, U.S., Dutch, and Polish units, the largest force any Canadian army officer had ever led. He was assigned to clear the territory west of the Rhine, a mission he accomplished by the beginning of March. The First Canadian Army (transferred from Italy after a period of rest) crossed the Rhine on March 23. Canadian forces now liberated the northeastern and western Netherlands, then took up occupying positions along the coast of Germany as far east as the Elbe River. By the time of the German surrender, the Canadians in Europe had lost 11,336 killed. Total army casualties in all theaters were 42,666 killed (including 37,476 direct battle deaths) and 53,174 wounded.

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Canada, navy of

As was true of the Canadian army and air force, the Royal Canadian Navy (RCN) was an inconsiderable force at the outbreak of World War II. Manned by 1,990 officers and enlisted personnel (plus 1,700 naval reservists), the RCN fleet consisted of four modern destroyers and two obsolescent ones in addition to four minesweepers. In February 1940, the Canadian government let contracts for the construction of 64 Corvettes; before the end of the

war, a total of 122 would be built in Canada. These small vessels, the minimum crew of which was 47, were sent to sea as soon as they were built. They were immediately attached to Atlantic convoys and given the mission of antisubmarine warfare, defending the convoys against U-boat attack. Officers and crews were quickly and inadequately trained, but they made it their business to pick up what they could on the job. The ships were poorly armed, and they often lacked RADAR.

Despite the odds stacked against them, by mid-1941, the men and ships of the RCN assumed total responsibility of escorting North Atlantic convoys from Halifax, Nova Scotia, to the waters of Newfoundland, where other Allied escort ships took over. The RCN coordinated with the Royal Canadian Air Force, which provided air cover for this portion of the North Atlantic journey. Unfortunately, the RCN proved incapable of pulling off the miracles unrealistically expected of it. In assessing convoy losses to U-boat action during November–December 1942, the British Royal Navy concluded that four-fifths of convoy vessels sunk had been sunk while under escort by the RCN. For this reason, the RCN escort groups were relieved in the North Atlantic and transferred to the much less dangerous England-Gibraltar route, which allowed crews to acquire more skill and experience.

In March 1943, the retrained RCN escorts, their vessels equipped with the latest radar and antisubmarine warfare weaponry and detection devices, were reassigned to the Northwest Atlantic Command, given escort and antisubmarine warfare responsibility west of 47° west and as far south as 29° north. The service quickly redeemed itself, sinking 22 of the 33 German U-boats sunk by the Allies here after March 1943.

By 1944, the RCN was operating armed merchant cruisers in the Mediterranean and the Pacific, and also during the NORMANDY LANDINGS (D-DAY). The days following the landings, RCN destroyers patrolled the English Channel. Also by 1944, the RCN crewed two aircraft carriers (their aircrews were British, however) and two heavy cruisers. By the end of the war, the RCN had expanded its fleet to 365 ships, making it the third-largest among the Allied navies. In battle, 2,024 officers and men lost their lives, and 24 ships were sunk.

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Canaris, Wilhelm (1887–1945) *leading figure of German espionage who was also an agent of the anti-Nazi underground*

Canaris was born in Aplerbeck, near Dortmund, and, from earliest childhood, manifested an aptitude for spying. All who knew him reported his absolute, insistent need to know what everyone around him was doing, and he was nicknamed Kieker, "Snoop."

After education in the public schools, Canaris enrolled in the Imperial Naval Academy at Kiel in 1905 and, in World War I, served as an officer aboard the light cruiser *Dresden.* He was taken prisoner by the British at the Battle of the Falkland Islands in December 1914 and made a spectacular escape from Quiriquina Island near Valparaiso, Chile, making his way over the Andes, through Argentina, and via a Dutch steamer to Rotterdam, from which he returned to Germany to a hero's welcome. His feat earned Canaris recruitment by the German intelligence service, which sent him on an espionage mission to Spain. Recalled to Berlin in 1916, Canaris was trained as a U-boat commander and served in the Mediterranean during 1917. Recalled again to Berlin in 1918, he was

assigned to intelligence work until the armistice in November 1918.

Between the wars, Canaris was essentially a naval spy for the Weimar government, then served from 1931 to 1932 as chief of staff of naval operations in the Kiel area. From 1932 to 1934, he commanded the obsolete battleship *Schlesien,* until he was appointed head of German intelligence, the Abwehr, beginning on January 1, 1935. Immediately, he became aware of the attempts of Heinrich Himmler, head of the German internal security (Reichssicherheithauptamt), and Reinhard Heydrich, chief of political espionage (Sicherheitsdienst), to take over the Abwehr, and he moved quickly to ingratiate himself with both men. It was for Canaris the beginning of a double life, as he operated to placate the Nazi insiders even as he fought to keep the Abwehr independent of the party. But this was hardly his only goal. During the 1930s, Canaris built the Abwehr into perhaps the most effective intelligence service in the world, specializing in espionage, sabotage, and counterespionage and placing agents in sensitive posts in all major capitals and in many industrial establishments, especially defense-related plants in the United States. Promoted to admiral in September 1935, he soon met with Adolf Hitler and earned his absolute confidence. By the eve of World War II, in 1939, Canaris had developed German counterintelligence to such a thorough degree that virtually all British agents had been flushed out of Germany. The Abwehr was also instrumental in preparation for *Anschluss* (the invasion of Austria), the annexation of the Sudetenland, and the invasion of Poland.

Canaris's work had been important in the Polish invasion, but reports of Schutzstaffel (SS) and Gestapo atrocities soon prompted Canaris to confront Wilhelm Keitel, Hitler's chief of staff, who informed him that Hitler had personally authorized such actions. It was apparently at this moment, at the beginning of the war, that Canaris resolved to work secretly against the Hitler regime. In England and Norway, Canaris subtly but effectively compromised and undercut German intelligence, although his spies in Switzerland continued to supply valuable information to the regime. His American agents also supplied valuable information about U.S. war production capacity, which, however, Hitler refused to believe. Canaris's agents also worked through the embassies and consulates of ostensibly neutral Spain to infiltrate the Allied countries.

As the war continued, Canaris increasingly compromised and distorted the intelligence he fed to Hitler. Although, for example, his agents had penetrated the movement to oust Benito Mussolini from power in Italy, Canaris concealed the information in the hope that the fall of Italy would bring about the collapse of the entire Axis. Inevitably, it became increasingly apparent to Hitler and his advisers that Canaris was, at the very least, ineffective. On February 19, 1944, Hitler dismissed Canaris as head of the Abwehr and replaced him with Walter Schellenberg. Apparently, however, Canaris was not yet suspected of outright disloyalty. He was named chief of the Department of Economic Warfare in Potsdam, a post from which he resumed his covert operations against the regime and began to work with the German underground, the so-called Black Orchestra, in plotting the outright overthrow of Hitler. Although he did not directly participate in the July 29, 1944, assassination attempt against Hitler, he was among the thousands of military officers and others who were rounded up following the incident. Sentenced to death, Canaris received a reprieve from Himmler, who had him sent to a concentration camp in Flossenberg instead. This reprieve came to an end in March 1945, when Hitler personally ordered the admiral's execution. On April 9,1945, Canaris, stripped naked, was hanged as a traitor and would-be assassin, his corpse left unburied to rot.

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Cape Esperance, Battle of

The Battle of Cape Esperance was one of many naval battles spawned by the GUADALCANAL CAMPAIGN. On the night of October 11–12, 1942, a U.S. Navy task force commanded by R. Adm. Norman Scott fought a Japanese force under R. Adm. Goto Aritomo. Its mission was to pin down U.S. Marines onshore with suppressing fire while two Japanese seaplane carriers landed reinforcements. Thanks to advances in available U.S. RADAR technology, namely a new type of surface radar, Scott was able to surprise Aritomo's group. Unfortunately, the seaplane carriers did manage to land their reinforcements, but at great cost: One Japanese heavy cruiser and one destroyer were sunk, while another heavy cruiser was severely damaged. Goto died in the battle, and the next day U.S. aircraft sank another two destroyers.

The cost to the U.S. Navy was one destroyer sunk and damage to three other vessels. The beleaguered marines, however, were thrilled by the effective support they had received from the navy, and, for the navy, Cape Esperance was an important victory, which not only boosted morale at a time when most of the news from the Pacific was bad, but also demonstrated the effectiveness of the navy's night-fighting capability.

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Cape Matapan, Battle of

On the night of March 28, 1941, British and Italian ships fought at Cape Matapan (now Cape Taínaron), in the Mediterranean, off southern Greece. The battle was the fruit of British intelligence, which, as early as September 1940, had broken the Italian naval code. ULTRA intelligence, derived from this decryption, enabled Allied code breakers to decipher a message on March 25, 1941, revealing that Italian warships were planning to attack British convoys transporting troops and supplies from Egypt to Greece. Informed of this intelligence, Royal Navy Adm. ANDREW CUNNINGHAM, commander in chief of the Mediterranean, diverted a pair of decoys from the danger zone and laid an ambush for the Italian fleet using four cruisers and nine destroyers, which were positioned southwest of Gavdo Island. Then, on the night of March 27, Cunningham sailed with a battle squadron built around the aircraft carrier *Formidable.* Air reconnaissance from the carrier spotted three Italian groups, including one led by the *Vittorio Veneto,* the battleship that was the pride of the Italian fleet. Cunningham targeted *Vittorio Veneto* and its escorts, coordinating an assault by the cruisers and by *Formidable*'s aircraft. The planes scored several torpedo hits and also succeeded in stopping the Italian cruiser *Pola.* However, neither ship was sunk, and the outcome of the first engagement remained inconclusive.

On the next night, calculating that the Italians' fastest ships had been damaged or disabled, Cunningham decided to press a night attack with his own slower vessels. RADAR returns indicated that *Pola* was severely damaged, so Cunningham concentrated on finding it. As he searched, his squadron encountered the Italian cruisers *Zora* and *Plume,* escorted by two destroyers. These four vessels had been sent back to aid the stricken *Pola,* Italian Adm. Angelo Iachino having assumed that the principal British force had yet to leave Alexandria, Egypt. It was a fatal error, which Cunningham was quick to exploit. At Cape Matapan, he fell upon the two cruisers and their escorts, sinking them all, along with *Pola.* The only major ship to escape was *Vittorio Veneto* and her escort vessels.

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Carlson, Evans (1896–1947) *U.S. Marine leader of Carlson's Raiders*

Carlson became famous in World War II as the leader of Carlson's Raiders, a UNITED STATES MARINE CORPS guerrilla unit in the Pacific. He was born in Sydney, New York, and ran away from

Evans Carlson *(United States Marine Corps)*

home to join the army when he was only 16. He served in France during World War I as assistant adjutant general on the staff of General John J. Pershing, with the rank of captain. After the armistice, Carlson continued to serve on Pershing's staff in Germany as part of the army of occupation. He left the army in 1920, a year after returning to the United States, only to enlist as a private in the marines in 1922. Within a year, he was commissioned a second lieutenant.

As a marine, Carlson served in China from 1927 to 1929 and again in 1937, this time as an observer of the Chinese armies during the Sino-Japanese War. For about a year, he was attached to Chinese guerrilla units behind Japanese lines. After returning to the United States, he wrote and lectured on the dangers of Japanese expansionist ambitions in Southeast Asia and warned the nation that Japan was a potential and formidable enemy.

In 1941, Carlson was named to command the 2nd Marine Raider Battalion (Carlson's Raiders), a unit he trained based on his Chinese experience. He took the raiders into battle in August 1942, leading them in a surprise attack on Makin Island in the Gilberts. This was followed by a month-long operation behind Japanese lines on Guadalcanal in November. As a result of these operations, Carlson emerged as one of the great heroes of World War II. His courage was extraordinary, but so was his leadership, which relied on building teamwork within his unit, which ran contrary to the traditional strict military adherence to chain of command. Operations were always subject to thorough discussion, in which Carlson would solicit comment and suggestion from all ranks. This—and the fact that Carlson's Raiders were handpicked—contributed to the high morale and tremendous effectiveness of the raiders. Carlson used a Chinese phrase to describe his approach to guerrilla command, calling his raiders the Kung-Ho—"Work Together"—Battalion. That phrase became popularized as Gung-Ho and was soon adopted by marines and others to describe a marine who was both heedlessly courageous and fanatically committed to battle. While this interpretation of the phrase was surely inspired by Carlson and his men, fearless in operations behind the lines, it did not do justice to Carlson's "work together" command philosophy. Today, that approach continues to influence the training and operation of America's elite and unconventional forces (such as Seals, Delta Force, and so on).

Continuous combat in jungle environments damaged Carlson's health, as did untreated or inadequately treated wounds. He served throughout the war but was forced into retirement in 1946 with the rank of brigadier general.

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Casablanca Conference

The Casablanca Conference was held from January 12 to January 23, 1943, at Casablanca, Morocco,

between President Franklin D. Roosevelt and Prime Minister Winston Churchill, together with their top military aides, advisers, and chiefs. The objective of the conference was to plan the ongoing and future military strategy of the Western Allies. Although Joseph Stalin was invited, he did not attend.

The principal topics for discussion included agreeing definitively on the next step to come after the conquest of North Africa. The leaders concluded that Sicily would be the Allies' next objective. Also under discussion was the deployment of forces in the Pacific theater and, in the Far East, how scarce resources could best be apportioned. Finally, and after much debate, it was also agreed to continue the intensive Strategic Bombing of Germany.

While the focus of the Casablanca Conference was almost entirely military in nature, Roosevelt and Churchill also covered ongoing, top-secret research on the atomic bomb, and they pondered the delicate situation of competing claims for the leadership of the Free French war effort against the Axis. Perhaps the most consequential agreement the two Allies reached was that neither would accept anything short of "unconditional surrender" from Germany, Italy, and Japan. In the eye of history, this policy proved controversial. Some historians believe that anti-Nazi factions in Germany might have succeeded in overthrowing Adolf Hitler and then negotiated a substantially earlier peace, had they not been disheartened by apparent Allied vindictiveness and intransigence. Other historians believe that under the circumstances, unconditional surrender constituted the only acceptable, effective terms. Accepting anything less would have been to recapitulate the tragic prewar errors of Appeasement.

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U.S. general George S. Patton Jr. was military host of the Casablanca Conference. He is shown here with President Franklin D. Roosevelt at Casablanca on January 17, 1943. *(Patton Museum of Cavalry and Armor, Fort Knox, Kentucky)*

Cassino, Battles of

Cassino is a town a mile west of Monte Cassino, a rocky hill about 80 miles south of Rome, atop which was a Benedictine monastery. During World War II, the Germans fortified both the town and the commanding hill. It was, in fact, an obvious strategic choice; the town and its hill provided a formidable defensive position and had been the scene of battles and sieges since antiquity. To complete the advance on Rome. Mark Clark's Fifth U.S. Army had to break through the Gustav Line, the well-prepared defensive line that spanned the Italian peninsula at this position. The series of battles in and around Cassino would prove heartbreaking in their cost.

The first battle began on January 4, 1944. In the course of it, the monastery atop the hill, which the Allies believed was occupied by Germans and part of the German defenses, was destroyed by Allied bombers on February 15. In fact, the Germans did not occupy the monastery until after it had been reduced to rubble, which proved to be highly effective for creating defensive positions, providing even better cover than the intact building. Accordingly, more air attacks were ordered in, and the ruins were intensively bombed on March 15.

Clark had overall command of the Fifth U.S. Army proper, but, in the field, British general Harold Alexander directed the battle, which included, in addition to American and British troops, soldiers from India, Canada, Australia, South Africa, Poland, Belorussia, and New Zealand. Three assaults were launched against the monastery hill: January 17–25, February 15–18, and March 15–25. All failed. Neither the city nor the hill was seized.

The Fourth Battle of Monte Cassino was fought by the II Polish Corps under General Wladyslaw Anders from May 11 to May 19. The first assault, during May 11–12, resulted in heavy Polish losses, but it did succeed in allowing the British Eighth Army, commanded by Gen. Sir Oliver Leese, to break through German lines in the Liri River valley just below the monastery. The Poles then mounted a second assault from May 17 to May 19, in concert with French Moroccan troops. The latter, accustomed to mountain warfare, proved especially valuable, and, at great cost, the German 1st Parachute Division was at last dislodged from its defenses surrounding the monastery. Exhausted and depleted, the Poles and Moroccans nevertheless nearly enveloped the retreating German paratroops, but many of them were able to withdraw intact. By the morning of May 18, a reconnaissance team from the Polish 12th Podolian Uhlans Regiment occupied the monastery ruins and raised the Polish flag over them.

The brutally won prize of Monte Cassino gave the Allies the high ground and cleared the last great obstacle to the final advance on Rome. The series of battles were, in the end, a strategic victory for the Allies, who nevertheless suffered some 54,000 casualties, killed or wounded, compared with losses for the Germans amounting to about 20,000. As if the terrible toll in lives were not sufficiently tragic, the destruction of the ancient monastery was certainly unnecessary. Despite Allied intelligence to the contrary, the German defenders of Monte Cassino and the town of Cassino did not occupy the monastery. Only after it had been reduced to rubble did the German soldiers take up defensive positions. It would not be until 1969 that the Americans admitted the bombing had been an error.

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casualties in World War II

In terms of human life, World War II was the most destructive armed conflict in history. The total number of military personnel deployed during the war was approximately 120,908,000. The total military dead of all causes was approximately 20,280,000. The total military wounded in action was approximately 47,980,000. But the war took an even greater toll on civilian populations. Overall, civilian deaths directly ascribable to the war (including victims of bombing, murder, and genocide, as well as the privation, starvation, and disease directly caused by the war) are estimated at from 30 million to 55 million.

The following is a breakdown of military casualties by combatant nation.

Nation	Mobilized*	Dead (all causes)	KIA**	WIA***
Germany	9,200,000	3,250,000	2,850,000	7,250,000
Japan	6,095,000	2,565,878	1,555,308	326,000
Italy	4,000,000	380,000	110,823	225,000
Romania	600,000	300,000	169,882	n/a
Hungary	350,000	200,000	147,435	89,313
Finland	250,000	82,000	79,047	50,000
Austria	800,000	280,000	n/a	350,117
Bulgaria	450,000	18,500	6,671	21,878
USSR****	12,500,000	8,668,400	6,329,600	14,685,593
China*****	5,000,000	2,220,000	n/a	1,761,335
Yugoslavia+	500,000	305,000	n/a	425,000
Poland+	1,000,000	597,320	123,178	766,606
U.K.	4,683,000	403,195	264,443	369,267
Australia	680,000	37,467	23,365	39,803
Canada	780,000	42,666	37,476	53,174
India	2,150,000	48,674	36,092	64,354
New Zealand	157,000	13,081	10,033	19,314
South Africa	140,000	8,681	6,840	14,363
U.S.A.	16,353,659	407,318	292,131	671,801
France	5,000,000	245,000	213,324	390,000
Greece++	414,000	88,300	17,024	42,290
Belgium	800,000	22,651	8,460	55,513
Norway	25,000	3,000	1,598	364
Netherlands	500,000	7,900	6,344	2,860
Denmark	15,000	6,400	1,800	2,000
Czechoslovakia	180,000	n/a	6,683	8,017
Brazil	200,000	n/a	943	4,222
Philippines	105,000	n/a	27,258	n/a
British Colonies	n/a	n/a	6,877	6,972

*Maximum number of troops mobilized

**Killed in Action (battle deaths)

***Wounded in Action

****Recent historical research, still under way, suggests that these figures, staggering as they are, may have been grossly underreported.

*****Includes casualties from 1937 to 1945.

+Troops mobilized include regulars only, but casualty figures include regulars and partisans.

++Troops mobilized include regulars and partisans, as does military dead of all causes; KIA and WIA include regulars only.

Civilian deaths are impossible to break down accurately. Estimates follow.

Germany (bombing deaths): 593,000 (includes 56,000 foreign workers and 40,000 Austrians)
Germany (victims of crossfire in the west): 10,000
Germany (victims of Soviet fire and retribution in the east): 619,000
Japan: 658,595
Hungary: 290,000
Romania: 200,000
Austria: 170,000
Italy: 152,941
Bulgaria: 10,000
Finland: 2,000
USSR: 7,000,000–12,000,000
Poland: 5,675,000 (including 3 million Jews, amounting to approximately half the total of 6 million Jews killed in the Holocaust)
Yugoslavia: 1.2 million or more
France: 350,000
Greece: 325,000
Czechoslovakia: 215,000
Netherlands: 200,000
U.K.: 65,000
Philippines: 91,000
Belgium: 76,000
Norway: 7,000
U.S.A.: 6,000 (of whom 5,638 were members of the Merchant Marine)

Civilian property losses may be summarized as follows.

Germany: 39 percent of dwellings destroyed or severely damaged in the 49 largest cities
Japan: 40 percent of dwellings destroyed in the 66 largest cities
Great Britain: 30 percent of dwellings destroyed or severely damaged
Poland: 30 percent of dwellings destroyed or severely damaged
Yugoslavia: 20 percent of dwellings destroyed or severely damaged
France: 20 percent of dwellings destroyed or severely damaged
Netherlands: 20 percent of dwellings destroyed or severely damaged
Belgium: 20 percent of dwellings destroyed or severely damaged

Other catastrophic civilian losses include:

Japan: 80 percent of merchant marine sunk
France: 70 percent of merchant marine sunk
Belgium: 60 percent of merchant marine sunk
Norway: 50 percent of merchant marine sunk
Netherlands: 40 percent of merchant marine sunk

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causes of World War II

The proximate cause of World War II may be found in the aggressively expansionist policies of Adolf Hitler's Germany (rationalized under the conceptual policy of Lebensraum), Benito Mussolini's Italy, and imperialist Japan. Behind these policies lay a complex of economic, political, nationalist, racial, and even mythological forces. Most of this complex was embodied in a conflict between political ideologies, particularly fascism and Nazism on the one hand versus communism on the other; another ideological dynamic was capitalist democracy (as embodied in the Western democracies) versus totalitarianism (as embodied in the fascist and Nazi powers). Had Hitler not betrayed the German-Soviet Non-Aggression Pact he concluded with Joseph Stalin, it is likely that the democratic versus totalitarian dynamic would have trumped the natural ideological opposition of fascism-Naziism versus communism. But the German invasion of the Soviet Union made uneasy allies of the western democracies and communist Russia. Hitler's pact with Stalin was, for Hitler, a matter of temporary convenience. Not only was Hitler ideologically opposed to communism, he was motivated by racial beliefs—the racial mythology at the heart of Nazism—that made the


Fascist Europe
Border of Germany, 1937
Border of Germany, Sept. 1, 1939
Borders, Nov. 1942
German Reich
German-occupied territory
Italian-occupied territory
Axis associates
Allies
Neutral
0 300 miles
0 300 km
N
FINLAND
Helsinki
Leningrad
USSR
(German ally until June 1941)
Moscow
Reichkommissariat of Norway
Oslo
SWEDEN
Stockholm
Riga
Reichkommissariat of Ostland
Edinburgh
UNITED KINGDOM
North Sea
Copenhagen
DENMARK
Baltic Sea
EAST PRUSSIA
Belfast
IRELAND
Reichkommissariat of Nether-Lands
London
Berlin
Warsaw
Stalingrad
ATLANTIC OCEAN
GERMANY
General Government of Poland
Reichkommissariat of Ukraine
Brussels
BELGIUM
Paris
Prot. of Bohemia & Moravia
SLOVAKIA
BESSARABIA
TRANSNISTRIA
FRANCE
Munich
Vienna
Budapest
SWITZ.
AUSTRIA
HUNGARY
ROMANIA
VICHY FRANCE
ITALY
Zagreb
Belgrade
Bucharest
Black Sea
CROATIA
SERBIA
Sofia
PORTUGAL
Madrid
Corsica
Rome
Tirane
Istanbul
TURKEY
Lisbon
SPAIN
ALBANIA
BULGARIA
Sardinia
GREECE
Athens
Aleppo
SYRIA
Mediterranean Sea
Tangier (Spain occupied)
Algiers
Sicily
CYPRUS (Br.)
LEBANON
IRAQ
Casablanca
MOROCCO
ALGERIA
Tunis
TUNISIA
Crete
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conquest of the Slavs a kind of racial duty and national destiny. Nazi racial mythology held that the Slavic "race" was inherently inferior to the German, or Aryan, race.

For Japan, race was also an issue. Since virtually the first extensive contact between the Western powers and the nations of Asia, Asians had been the economic, political, and cultural victims of white Christian racism. Western imperialism with regard to the East was rationalized in large measure by a Western assertion of cultural, moral, religious, and racial superiority. Asia was widely subjugated and colonized. Although Japan made compromises with the Western powers beginning in the mid-19th century, it remained one of the few Asian nations that was never conquered or colonized. However, contact with the West resulted in a blending of Japanese and Western traditions. Particularly powerful was the synergy of Western military doctrine, tactics, and equipment with Japanese warrior traditions. By the beginning of the 20th century, Japan was becoming a formidable industrial power and, as the Russo-Japanese War (1904–05) stunningly demonstrated, had already become a major military power. After Japan's victory over Russia, the Japanese military assumed an increasingly important role in Japanese government. Industry and militarization proceeded apace. Yet modernization did not produce greater social tolerance. As Japan became more powerful economically and militarily, it sought expansion of its empire, and it sought, in effect, redemption of Asia from white Western Christian imperialism. The racial dimension of Japan's desire for empire did not preclude its own treaty of convenience with the West: the Axis (Tripartite) Pact with Nazi Germany and fascist Italy.

Broadly speaking, these are the economic, political, nationalist, racial, and mythological forces that contributed to the outbreak of the war. Another key causal dimension is historical. Most historians view the period between World War I and World War II not as a peace but as a truce, and an uneasy one at that. World War I created economic disaster and unresolved national, ethnic, and quasi racial hatreds. It ended with the Treaty of Versailles, which imposed on Germany nationally humiliating and economically ruinous terms, creating the desperate conditions in which a charismatic dictator could readily find acceptance for a political, cultural, and mythic program that promised national and racial regeneration. Moreover, the Great War had created such general devastation that the putative victors suffered as much as the vanquished. The collective sentiment prevailing among the Western democracies was antiwar. This gave Hitler and the Japanese militarists the leeway they needed to establish the early phases of their expansionist programs, including rearmament and actual conquest, virtually unopposed.

If World War I caused general hardship and political instability in Europe, it also changed the political structure of much of the rest of the world beyond Europe by substantially undermining the old colonial order and stimulating a wide variety of nationalist and independence movements. Between the wars, much of the world oscillated violently among competing political ideologies. There was continual crisis, crisis that was greatly exacerbated by economic collapse. Although many national economies failed to recover from World War I, some nations prospered during the 1920s. However, by the beginning of the 1930s, economic depression was a worldwide phenomenon, reaching even the United States, which, otherwise politically stable, sought generally to isolate itself from the upheavals of Europe and Asia. Isolationism precluded American intervention, moral or otherwise, in the rise of Nazism, fascism, and Japanese imperialism.

By the 1930s, then, the Western democracies, beleaguered by economic depression and fearing a new world war, were largely demoralized, afflicted by a kind of collective political malaise and a willfully blind complacency. In contrast, the dictatorships, fascist, Nazi, communist, and militaristic, were increasingly suffused with an intoxicating mythology of conquest and national rebirth. Hitler's early expansionist moves—the remilitarization of the Rhineland (in defiance of the Treaty of Versailles), *Anschluss* (the annexation of Austria), the annexation of the Czech Sudetenland, and, ultimately, the absorption

of all Czechoslovakia—were met not by western democratic opposition, but by an Appeasement Policy, which, far from appeasing Hitler, encouraged further aggressive expansion. Japan's imperialist ventures, most notably the conquests wrought by the Sino-Japanese War, brought economic opposition from the United States. President Franklin D. Roosevelt imposed an embargo on the export to Japan of war materiel and raw industrial materials. He saw these economic steps as viable alternatives to war. However, they actually provoked Japan into attacking the United States at the Battle of Pearl Harbor.

Finally, all these events took place despite the existence of an international deliberative body created by the Treaty of Versailles. The League of Nations was supposed to provide international arbitration and mediation as alternatives to war. The failure of the United States to join the league virtually ensured its doom from the beginning. Weak from the start, the League of Nations soon became quite powerless to stop the forces of war.

In addition to these broad forces, the following specific events and factors contributed to create the conditions in which war became virtually inevitable.

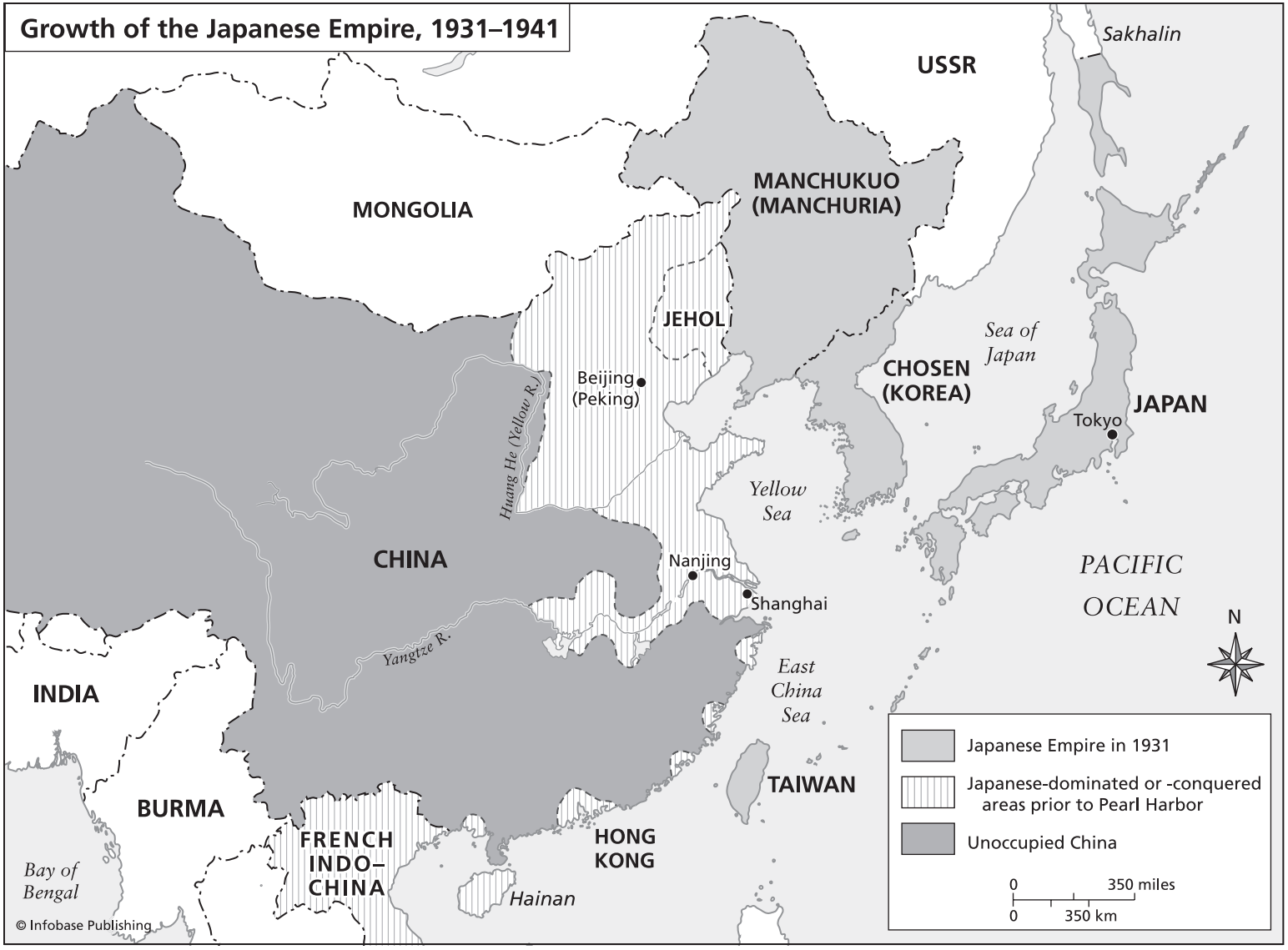
Reichstag Fire. When the German parliament building, the Reichstag, burned on February 27, 1933, Adolf Hitler blamed the arson on a Dutch Communist. In reality, the man was mentally incompetent and had almost certainly been hired by the Nazis themselves to commit the arson. Hitler seized on the event to declare a state of emergency and to make widespread arrests. He presented himself to German voters as the only person in Germany capable of restoring stability to the nation. Nevertheless, in March 1933, the Nazis failed to capture a majority of Reichstag seats, whereupon Hitler secured directly from that body the absolute powers of a dictator. This led to the arrests of more anti-Nazis and the passage of an Enabling Act, which gave Hitler unlimited emergency powers for a five-year period. The act was subsequently renewed.

Hitler's Anti-Semitic Policies. Hitler's anti-Semitism served him in his rise to power in Germany by providing a scapegoat against which he could direct collective national hatred and anxiety. Anti-Semitism was soon revealed, however, as more than a means of scapegoating; it was an absolute doctrine of Nazi belief, and the drive to persecute and ultimately murder not only German Jews, but all European and even world Jewry, became a cause of war. Hitler and his fellow Nazis needed war in order to carry out the program of genocide that became the Holocaust.

Anti-Comintern Pact. Concluded on November 25, 1936, the Anti-Comintern Pact between Germany and Japan was the first step toward creating the wartime Axis. Italy signed on to the pact in 1937. Ostensibly a pledge of mutual defense against communist aggression, it was, in fact, a military alliance against the Soviet Union.

Spanish Civil War. As the entry on the Spanish civil war explains, this very bloody 1936–39 conflict between left- and right-wing factions over control of Spain's government was a kind of surrogate war between the Western democracies and the Soviet Union on the one side and fascist Italy and Nazi Germany on the other. It drew the battle lines of the much bigger war to come, and it gave Hitler's Luftwaffe in particular an opportunity to practice and hone the all-important aerial component of Blitzkrieg.

Japan's Greater East Asia Co-Prosperity Sphere. Throughout the 1930s, Japan's militarists were driven by a need to acquire control over what they called the Southern Resources Area, which encompassed Malaya, the Philippines, Indochina, and the Dutch East Indies. Japanese politicians dubbed this the Greater East Asia Co-Prosperity Sphere and attempted to rationalize their aggressive wartime conquest of this vast region as the reclamation by and for Asians of territory usurped by the West. In reality, the Greater East Asia Co-Prosperity Sphere was the empire that Japanese rulers and militarists believed was theirs by divine right. In a less metaphysical vein, this Southern Resources Area contained most of the raw materials required by industry and the military, as well as an abundant supply of food and labor. Possession of the territory would make Japan autonomous and inordinately powerful.


Growth of the Japanese Empire, 1931–1941
USSR
Sakhalin
MONGOLIA
MANCHUKUO (MANCHURIA)
JEHOL
Sea of Japan
CHOSEN (KOREA)
JAPAN
Beijing (Peking)
Huang He (Yellow R.)
Tokyo
Yellow Sea
CHINA
Nanjing
Shanghai
PACIFIC OCEAN
N
Yangtze R.
East China Sea
INDIA
TAIWAN
BURMA
FRENCH INDO–CHINA
HONG KONG
Bay of Bengal
Hainan
Japanese Empire in 1931
Japanese-dominated or -conquered areas prior to Pearl Harbor
Unoccupied China
0 350 miles
0 350 km
© Infobase Publishing

U.S. Trade Embargos Against Japan. As explained in the entry U.S Embargo on Japan, the Roosevelt administration's attempts to curb Japanese expansionism not by armed opposition but through embargoes on war materiel and other staples succeeded not in pacifying Japan, but in provoking it to attack the United States directly, thereby bringing America into World War II.

Russo-Finnish War. As explained in the entry on the Russo-Finnish War, this conflict resulted from the Soviet Union's territorial demands on Finland. It served to align Finland with Germany and give German forces a vital additional route of invasion into the Soviet Union.

Danzig, the Polish Corridor, and the Polish Crisis. In addition to Germany's prewar demands for Czech cession of the Sudetenland, Hitler called for the cession of the free city of Danzig (Gdansk) as well as the "Polish Corridor" that connected Danzig with Poland proper. The Treaty of Versailles had declared the historically German city of Danzig a free city and then compounded this by designating a narrow strip of territory as the Polish Corridor, which not only severed Danzig from Germany, but, Germans felt, flagrantly violated their national sovereignty. Poland's rejection of Germany's suggestion, in October 1938 that Danzig and the Polish Corridor be ceded prompted Hitler to plan the invasion of Poland, which was executed on September 1, 1939, thereby beginning World War II in Europe as Britain and France honored agreements to defend Poland against German aggression.

See also Nazi Party (NSDAP).

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Ceylon

At the time of World War II, Ceylon (Sri Lanka), an island in the Indian Ocean, was a British colony and had been since 1818. It escaped the Japanese juggernaut of the opening weeks of the war and remained one of the very few sources of natural rubber still controlled by the Allies. In addition, its position in the Indian Ocean made it a vital transportation link to British India.

When Japan entered the war in December 1941, Australian troops were rushed to garrison Ceylon until British troops could arrive to reinforce the island. Early in 1942, the British Eastern Fleet was established there, and, in March 1942, Prime Minister Winston Churchill assigned V. Adm. Geoffrey Layton as commander in chief of the island, giving him absolute authority over the military as well as civilians there (some 6 million Sinhalese and Tamils). His mission was to prepare the island's defenses. However, no sooner did he arrive in Ceylon than a Japanese carrier striking force under V. Adm. Nagumo Chuichi sailed into the Indian Ocean to attack. The British Eastern Fleet, under Adm. James Somerville, sailed to the defense, as Nagumo launched bombing raids against Ceylon from his carriers. While he targeted Ceylon, V. Adm. Ozawa Jisaburo led a smaller Japanese force in a raid into the Bay of Bengal, destroying 23 merchant vessels (20 in a single day) and bombing two Indian towns. The surface actions of Nagumo and Ozawa were coordinated with Japanese submarine attacks against shipping off India's west coast.

Somerville's resources were uneven in quality. He had three aircraft carriers, two of which were new, but his five battleships were obsolescent and slow. He decided that the most effective way to check Nagumo was to make a preemptive attack, planned for the night of April 1, 1942. When Nagumo's fleet failed to materialize, however, Somerville was forced to retire to a base on Addu Atoll in order to refuel and replenish water supplies. While he was doing this, he sent an aircraft carrier (*Hermes*), two cruisers (*Dorsetshire* and *Cornwall*), and an Australian destroyer to Ceylon for repair and escort duties. Thus, Somerville was hardly prepared to launch his preemptive attack when the opportunity suddenly arose on April 4. Learning that Nagumo had been sighted, Somerville sailed from

Addu Atoll but arrived too late to preempt Nagumo's raid on Ceylon.

On April 5, the Japanese targeted Colombo, the colonial capital, as well as Colombo's harbor. A British destroyer and an armed merchant cruiser were quickly sunk, and 27 British airplanes were destroyed. Next, Japanese aircraft sank the *Dorsetshire* and *Cornwall* as they attempted to steam out of Colombo harbor. Somerville quickly grasped the terrible reality: His carrier-based aircraft were obsolete and far outclassed by the Japanese. Realizing that he could not protect his elderly battleships, he sent them to Kilindini, in British East Africa, then set about trying to create a desperate diversion using the rest of his inferior fleet. As luck would have it, Nagumo suffered a failure of reconnaissance and was unable to locate the rest of Somerville's ships. On April 9, he did launch an air raid against Trincomalee, a Ceylonese port, which resulted in the sinking of the aircraft carrier *Hermes* and the Australian destroyer *Vampire,* but, grievous as these losses were, they could have been much worse. Ceylon lay exposed to further attack and invasion, yet these never came to pass. The Japanese withdrew, and no further fighting took place on Ceylon for the rest of the war.

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Chamberlain, Neville (1869–1940) *British prime minister and proponent of appeasement*

British prime minister from May 28, 1937, to May 10, 1940, Neville Chamberlain wanted to avoid another world war and embarked upon a disastrous Appeasement Policy in an attempt to stem the ambitions of Adolf Hitler and, at the very least, buy time for Britain to prepare defenses against fascist Italy, which the prime minister considered the more immediate threat. Born in Birmingham, the son of statesman Joseph Chamberlain, young Neville was sent to Andros Island in the Bahamas to manage his father's sisal plantation. With this practical training in business behind him, he returned to Birmingham and became a successful industrialist. In 1915, he was elected the city's lord mayor and in December 1916, during World War I, joined the coalition government of Prime Minister David Lloyd George as director general of national service. Frustrated by the limited scope of authority in this position, Chamberlain resigned in August 1917 and, the following year, entered Parliament as a Conservative. Chamberlain was Britain's postmaster general during 1922–23, paymaster general of the armed forces in 1923, minister of health in 1923 and from 1924 to 1929, then again in 1931, and, finally, chancellor of the exchequer during 1923–24 and from 1931 to 1937. He became prime minister on May 28, 1937, assuming the reins of a government that desperately wished to avoid war, even as Benito Mussolini and Adolf Hitler were becoming increasingly aggressive in voicing their expansionist designs.

Chamberlain was more fearful of the extravagantly bellicose Mussolini than of Hitler, and he was especially anxious to drive a wedge between the Italian fascist and the German Nazi. In an effort to appease Mussolini, he agreed, on April 16, 1938, to recognize Italian control over Ethiopia, despite the pleas of Ethiopian emperor Haile Selassie. He also insisted on absolute British neutrality with regard to the Spanish civil war (1936–39), in which both Italy and Germany were involved. Finally, in an effort to demonstrate Britain's peaceful intentions, Chamberlain authorized the abandonment of Britain's naval bases in Ireland. Although Chamberlain argued that this was largely a symbolic gesture, many in British politics, chief among them Winston Churchill, protested this as a show of weakness and a serious diminishment of Britain's defenses.

But it is for Chamberlain's attempts to appease Hitler—"active appeasement," the prime minister termed his policy—that he is most infamously remembered. Three times in September 1938, Chamberlain traveled to Germany, hat in hand, as it were, in the hope of preventing a new world war,

which threatened to begin over Hitler's demand that Czechoslovakia cede to Germany the German-speaking SUDETENLAND. Such was Chamberlain's anxiety to avoid war that he quickly concluded with Hitler the Munich Agreement of September 30, persuading French premier ÉDOUARD DALADIER to agree, with the British government, to allow the cession of the Sudetenland and to withdraw from any agreement to defend Czechoslovakia. From the Czech point of view, Chamberlain had, quite simply, sold the nation out. As most of the British people saw it, however, he had performed a last-minute miracle, bringing what he called "peace with honour" and "peace for our time."

With the hindsight of history, of course, Chamberlain's policy of "active appeasement" seems craven, and the Munich Agreement a tragedy. However, neither was the product of cowardice or naïveté. Chamberlain believed that Britain was ill-prepared to go to war, and he hoped that the Munich Agreement would buy sufficient time to rearm the nation. Immediately after concluding the Munich Agreement, the prime minister ordered a crash program of rearmament in preparation for war. And when, in abrogation of the Munich Agreement, Hitler marched beyond the Sudetenland to seize all of Czechoslovakia during March 10–16, 1939, Chamberlain repudiated active appeasement. He declared the absolute Anglo-French guarantee to defend Poland, Romania, and Greece in the event of attack. In April, Chamberlain ordered general military conscription, the first peacetime conscription in the history of Britain.

Even these preparations for war, belated as they were, were frustrated by the stunning conclusion of the GERMAN-SOVIET NON-AGGRESSION PACT on August 23, 1939. Chamberlain had planned to include the Soviet Union in Britain's mutual assistance agreement with France. Chamberlain did rush to conclude an assistance pact with Poland the very day after the German-Soviet pact was announced, and he made good on this agreement upon the INVASION OF POLAND on September 1, 1939. On September 3, Chamberlain secured from Parliament a declaration of war.

Chamberlain did not prosecute the war vigorously in its opening weeks, a period known as the "phony war" or, in Chamberlain's own phrase, a "twilight war," but he did courageously take into his war cabinet his most vociferous critic, Winston Churchill, who was named first lord of the admiralty. Nevertheless, the course of the war quickly went from bad to worse, and when British operations in Norway failed in April 1940 (*see* NARVIK, BATTLES OF), support for Chamberlain among his fellow Conservatives collapsed. Even as German armies swept into Belgium and the Netherlands, Chamberlain resigned on May 10. Churchill, now prime minister, quickly assembled a coalition government, in which Chamberlain stayed on as lord president of the council. He was, however, a stricken man, broken in health, and stepped down on September 30, 1940. Within weeks, Neville Chamberlain was dead.

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Channon, Henry (Chips) (1897–1958)
leading British profascist and chronicler of the right wing

Born in Chicago and educated in America and France, Channon was an intensely conservative personality who despised his native country, moved to Britain after World War I (initially to study at Christ College, Oxford, then to live permanently), and became a profascist figure in the Conservative government. Channon, who came to be called "Chips" because he had shared quarters during college with a friend known as "Fish," inherited fortunes from his father and grandfather and was therefore independently wealthy. He made a name

for himself as the editor of the *British Gazette,* a right-wing paper opposed to the general strike of 1926, and he became a minor novelist and historian. He was also an avid diarist, whose diaries, published posthumously, chronicle the world of the right-wing well-to-do between the wars and during World War II.

Channon's marriage in 1933 to Honor Guinness, daughter of the second earl of Iveagh, catapulted him to membership in the House of Commons. Here he was a strong voice against communism and an ardent supporter of Spain's fascist leader. General Francisco Franco. Channon opposed Neville Chamberlain's policy of neutrality in the Spanish civil war, believing Britain should actively support Franco, but he was an enthusiastic supporter of Chamberlain's Appeasement Policy, not so much because he hoped it would bring "peace for our time," but because he thought that Adolf Hitler could thereby be maneuvered into attacking the Soviet Union.

In 1938, Chamberlain appointed Channon parliamentary private secretary to Rab Butler, one of Chamberlain's junior ministers. Channon remained in government throughout World War II, albeit in minor posts.

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Chennault, Claire (1890–1958) *Creator and commander of the famed Flying Tigers in China*

Chennault recruited, organized, and commanded the American Volunteer Group (AVG), better known as the Flying Tigers, a group of intrepid American fighter pilots who flew, as soldiers of fortune, for the Chinese Air Force in World War II and proved highly effective against far superior Japanese forces. After the AVG was absorbed into the United States Army Air Forces (USAAF), Chennault was assigned to command the newly created U.S. Fourteenth Air Force.

Life magazine cover featuring Claire Chennault. *(Author's collection)*

Chennault was born in Commerce, Texas, and joined the army infantry as a first lieutenant in 1917. Two years later, he transferred to the Signal Corps for flight training. After earning his wings, he was assigned as the commander of a pursuit squadron. Operating in the infancy of American military aviation, Chennault became an avid student of fighter strategy and tactics. He attended the Air Corps Tactical School in 1931, becoming, after graudation, an instructor there until 1936. He emerged from his study an advocate of the strategic importance of fighters, a doctrine that was vehemently opposed by the so-called bomber mafia of the interwar years. United States Army Air Corps planners relied on the bomber not only as the major air weapon, but as the *only* air weapon of strategic

importance. Fighter development as well as fighter doctrine were relegated to supporting roles, and, discouraged, Chennault retired from the army in 1937, having achieved no higher rank than captain.

In the year of his retirement, with the Sino-Japanese War in progress, Mme. Chiang Kai-shek, the influential wife of Nationalist China's generalissimo Chiang-Kai-shek, recruited Chennault to organize and train the American Volunteer Group—the Flying Tigers. Their aircraft were obsolescent P-40s, markedly inferior to Japanese fighter aircraft. Chennault recognized this but used the shortcomings of the P-40 to his advantage, choosing and training AVG pilots who were willing to learn and to develop superior tactics that would more than compensate for the limitations of their aircraft. The result was a cadre of splendid, creative, and courageous aviators.

The AVG operated out of bases in China from December 1941 to July 1942, when it officially became the 23rd Fighter Squadron of the U.S. Army Air Forces. During this period, the Flying Tigers shot down 299 Japanese aircraft with a loss of 32 planes and 19 pilots. Although some recent historians believe these figures are variously inflated, none disputes the overall success of the AVG against numerically and technologically superior Japanese aircraft. Under Chennault, fighter planes proved their strategic value by substantially retarding Japanese offensive progress in China.

Chennault returned to USAAF service in April 1942 with the rank of colonel and was soon promoted to brigadier general. In July, with the absorption of the AVG into the USAAF, he was named commanding general of all army air forces in China. In March of the following year, he was named to command of the Fourteenth Air Force, which specialized in ground attack and other support of General Joseph A. "Vinegar Joe" Stilwell's operations in the China-Burma-India (CBI) theater. Chennault never shook the hard-won habits of a military maverick. Now part of the military establishment, he nevertheless repeatedly frustrated his superiors by circumventing the chain of command to work directly with Chiang Kai-shek. Nevertheless, in a chronically undermanned and undersupplied Allied theater, Chennault produced results, and he retained command of the Fourteenth Air Force through the entire war, retiring after Japan's surrender in 1945.

In the postwar years, Chennault organized the Chinese National Relief and the Civil Air Transport to assist Chiang Kai-shek in the fight against the Chinese communists. Although he had left U.S. service, the USAF honored Chennault's service and achievements by promoting him to the honorary grade of lieutenant general just nine days before he succumbed to cancer in 1958.

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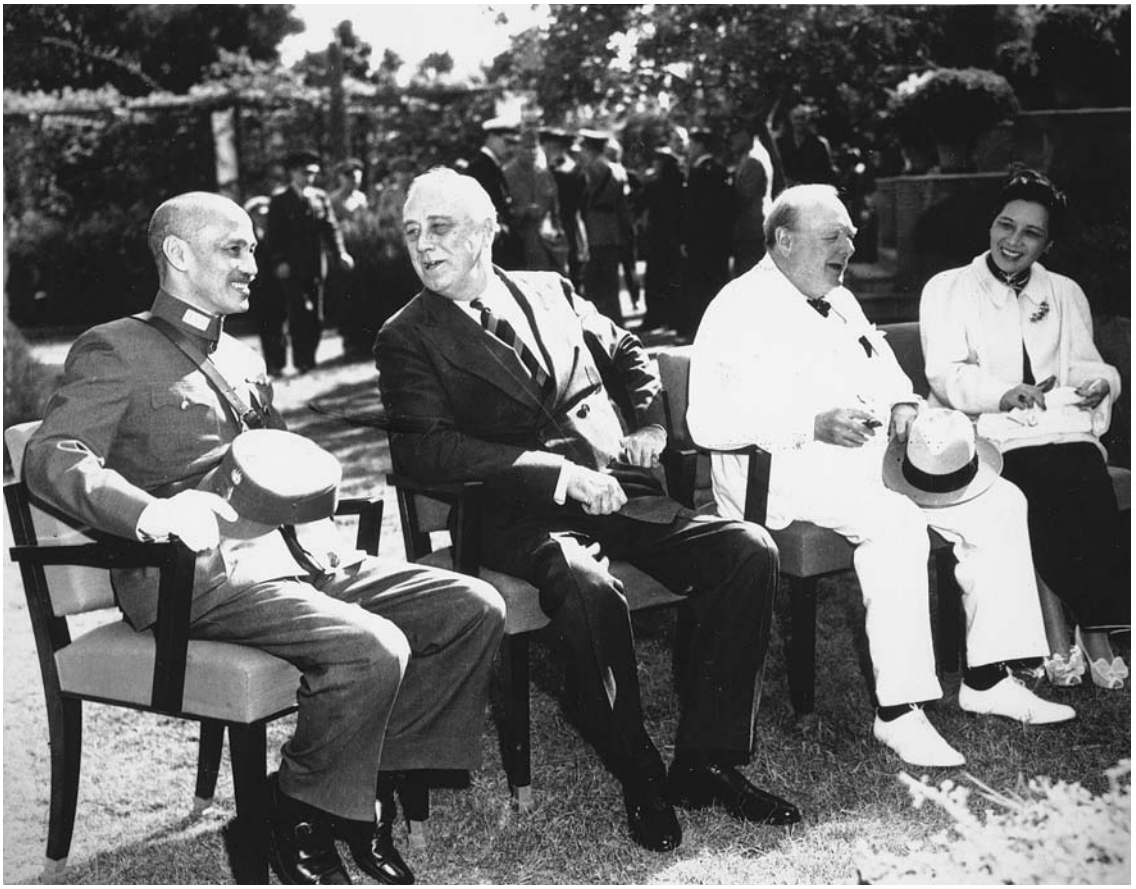
Chiang Kai-shek (Jiang Jieshi) (1887–1975) *leader of Nationalist China during World War II*

As head of state of Nationalist China, Chiang Kai-shek was a major, albeit often difficult, ally of the United States and Great Britain against Japan, which had been waging war against China since the start of the Sino-Japanese War in 1937, a conflict that melted into World War II. Born into a merchant and farmer family in Chekiang (Zhejiang), Chiang graduated from the Paoting (Baoding) Military Academy in 1906, then continued his military education in Japan during 1907–11. He served in the Japanese army from 1909 to 1911 and learned much from this experience. Like many other young Chinese intellectuals of the period, Chiang became a revolutionary, determined to modernize China by bringing about the overthrow of the corrupt and backward Manchu dynasty. While he was in Japan, in 1911, Chiang heard news of widespread revolution at home. He returned to China and participated in the more-or-less desultory combat that overthrew the tottering Manchus. No sooner was the dynasty toppled, however, than

Yüan Shih-k'ai (Yuan Shìkài), officially president, manifested a desire to become the new Chinese emperor. During 1913–16, Chiang participated in the fight to overthrown Yüan.

For more than a year, during 1916–17, Chiang slipped out of the spotlight and became involved, in Shanghai, with the Green Gang (Ch'ing-pang [Qingbang]), a secret society that, in the chaotic aftermath of revolution, engaged in nefarious financial manipulations. However, Chiang emerged again in 1918, this time as a lieutenant to Sun Yat-sen, leader of the Nationalist Party, or Kuomintang (Guomindang). Sun's goal was to unify China, and toward this end, he began to reorganize the Nationalist Party according to the Soviet model. Chiang visited the USSR in 1923, where he closely observed the Red Army. On his return to China, he was named commandant of a military academy, which he ran according to Soviet principles. The Nationalists embraced the Chinese Communists, welcoming them into the party. But after Sun's death in 1925, the Communist faction grew increasingly strong and threatened to take over the Nationalists.

Backed by the students of his academy, the so-called Whampoa Army, Chiang emerged as the most powerful of Sun Yat-sen's heirs apparent. He



Chiang Kai-shek in conference with Franklin Roosevelt and Winston Churchill. At the right is Chiang's charming, politically savvy wife, Soong Mei-ling, known to the world as Madame Chiang Kai-shek. *(National Archives and Records Administration)*

acted against the rising Communist tide and, in 1927, broke with them and expelled them from the Nationalist Party. In the meantime, he made progress toward reunifying China under the Nationalist banner, with himself as de facto head of state. He had defeated and suppressed most of the warlords who vied for power, and in 1928, entered Peking (Beijing) with his army. It was in Nanking, however, that Chiang established the capital of the Nationalist government and became recognized as the legitimate head of the new Chinese state.

Chiang embraced Western culture and trade. His 1930 marriage into the powerful Soong family, which had many Western ties, reinforced his Western leanings, and his wife, Mei-ling, beautiful, charming, intelligent, and extraordinarily canny, made an appealing ambassador to the West. A progressive, Chiang led an ambitious program of social reform, although comparatively little of it was actually put into practice because of continual threats from the warlords and the Communists. Even worse were the war clouds looming from the direction of Japan. In 1931, that empire seized Manchuria and seemed clearly poised to use this province as a stage from which to launch a general invasion of the rest of China. Beleaguered by the Communists, Chiang refused to resist the Japanese, concentrating instead on defeating the Communists. This proved to be an elusive goal, and, in the meantime, the Japanese position grew stronger.

At last, in 1937, the Sino-Japanese War began, leaving Chiang no choice but to turn from opposing the Communists to forging an uneasy alliance with them against the mutual enemy invading the nation. China struggled alone against the Japanese until the end of 1941, when the United States and Britain declared war on Japan. Now China was a major ally in the fight against the Axis. Although this conferred a certain prestige on Chiang Kai-shek and the Nationalists, his regime had become increasingly corrupt and was losing touch with the people. Although Chiang mustered large armies during World War II, they were poorly equipped, were poorly led, and were riddled with defeatism. Moreover, Chiang continually interfered with American and British commanders in the China-Burma-India theater. Still, he remained a faithful ally, and, for his Nationalists, the war, terrible though it was, served as a kind of reprieve, a suspension in the steady advance of the Communists under the visionary leadership of Mao Zedong (Mao Tse-tung).

Almost immediately after the surrender of Japan, civil war erupted anew in China. By 1949, Chiang Kai-shek retreated to Taiwan, where he established a Nationalist government supported by the United States. On the continent, China was finally unified—under Mao's Communist regime. In 1955, the United States concluded an agreement guaranteeing the security of Taiwan against Communist incursion. By the early 1970s, as President Richard Nixon sought détente with Mao's China, the American connection to Taiwan became increasingly tenuous. Chiang did not live to see the United States break diplomatic relations with Taiwan in 1979 when it established full diplomatic ties with the People's Republic on the mainland.

Many historians ascribe Chiang's defeat at the hands of the Communists to his strategy during World War II. Chiang refrained from using his armies to stage concerted counteroffensives against the Japanese invaders. He harassed the invaders, to be sure, but he bided his time, relying on the United States and the British to bring about Japan's defeat. He thus sought to preserve his army intact to fight what he knew would be a Communist onslaught as soon as the war was over. This innately conservative plan had the unanticipated consequence of making Chiang seem passive and weak. His unwillingness to fight vigorously against the invaders made him lose face with many of his long-suffering countrymen. The Communists offered an alternative, and the majority seized it.

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Chile

During World War II, Chile presented something of a paradox among South American nations. Although it was the most liberal of those states and was, in spirit, strongly pro-Allied, Chile, while endorsing the anti-Axis resolutions of the Rio Conference, initially refused to sever diplomatic relations with the Axis countries. As a result, Lend-Lease Act agreements were never concluded between the United States and Chile, and the Chilean government found itself under continual pressure to act against the German agents who freely operated in the country, reporting on Allied shipping through the region.

It was not until January 20, 1943, that the Chilean Senate agreed to sever relations with the principal Axis powers, but the senate stood fast in its refusal to declare war on Germany. Chile did declare against Japan on February 12, 1945, and was a signatory to the United Nations Declaration.

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China, armed forces of

Since the beginning of the 20th century, China had been in a chronic state of civil war, fought over by competing warlords as well as by the two largest factions, the Nationalists (Koumintang, or KMT), under the leadership of Chiang-Kai-shek, and the Communists, led mainly by Mao Zedong. As a result, the nation was especially vulnerable to invasion by the Japanese, which led to the Sino-Japanese War. Beginning in 1937, that conflict was absorbed into World War II in December 1941.

During the period of World War II, a fragmented China had many armed forces, including individual forces maintained by each major political regime (especially the Nationalists and the Communists), and provincial forces, which ranged from fairly well-organized and well-armed militias to mere gangs of outlaws. Finally, the Japanese occupiers of Manchuria (Manchuoko) organized their own Chinese-manned forces against the Allies.

NATIONALIST FORCES

As chairman of the National Military Council, Chiang Kai-shek exercised direct and effectively absolute control over the Central Armies, which consisted of about 300,000 men when the Sino-Japanese War began in 1937. These troops had been trained during the 1930s by German advisers Chiang had engaged. Of this number, about 80,000 were organized into an elite corps known as the Generalissimo's Own. They were equipped with up-to-date German-made weapons. Although the Central Armies were the best of China's conventional military forces, and the Generalissimo's Own the best of the best, they were all generally inferior to the Japanese forces and, for that matter, the forces of the West.

The Nationalists also tenuously commanded the loyalty of a less organized, less well-equipped coalition of heterogeneous forces, amounting by 1937 to some 1.2 million. Thus, Chiang Kai-shek had perhaps 1.5 million men to field against the Japanese invaders, which, though outnumbered, were far better equipped, trained, and led. The result was that perhaps as many as 1 million of the 1.5 million men of the Nationalist armies became casualties in the first year of the Sino-Japanese War. Chiang Kai-shek instituted conscription to make up his losses, and he also incorporated more regional forces as they became available. However, between 1937 and 1939, the Japanese advanced rapidly through central and southern China. After 1939 and during the major phases of World War II, the Japanese ended their offensive and concentrated on operations to cut off China from communication with the outside. Their object was now

to win the war here through attrition rather than outright conquest.

Beginning in the summer of 1941 and before the Burma Road was cut off by the Japanese early in 1942 (*see* BURMA CAMPAIGN), Chiang Kai-shek's forces received American munitions and supplies under the terms of the LEND-LEASE ACT. After the closure of the Burma Road and until the completion of the Ledo Road under the direction of U.S. commander JOSEPH A. "VINEGAR JOE" STILWELL in January 1945, China was supplied solely by Allied airlift over the notoriously hazardous Himalayan HUMP route. However, the bulk of these airlifted supplies went not to indigenous Chinese forces, but to U.S. forces operating in China. The inequity of supply operations created a good deal of friction between U.S. troops and their Chinese allies.

What little the Nationalist forces had in the way of modern equipment, including armor, artillery, mechanized transport, and aircraft, was destroyed by the Japanese during 1937–38. Early in World War II proper, the gap in air power was addressed valiantly, albeit inadequately, by the small American Volunteer Group, or FLYING TIGERS, under the leadership of American military maverick CLAIRE CHENNAULT. As if the material deficiency of the Nationalist forces did not present difficulty enough, the leadership and administration of the forces were corrupt at every level. Particularly abhorrent were Chinese conscription practices, which amounted to wholesale abduction and created much ill will among the people. It seemed that as the army increased in size, it declined in effectiveness. By 1941, the Nationalist army had swelled to 5.7 million, and during 1937–45, some 14 million were drafted. It is estimated that between 1937 and 1945, about 1.3 million Nationalist and Nationalist-associated troops were killed and another 1.8 million wounded. As great as these numbers are, it is also true that Chiang Kai-shek tended to hold his forces back, using them mainly to harass the Japanese rather than confront them in all-out offensives. Most historians believe that this was purposeful policy on Chiang's part, an effort to preserve as much of his army for what he knew would be a postwar showdown with his very temporary ally, the Chinese Communist Party.

COMMUNIST FORCES

The Japanese invasion forced a military alliance between the Nationalists and the Communists, in which the Communists ostensibly agreed to be commanded by Nationalist officers and, ultimately, by Generalissimo Chiang Kai-shek. The Nationalists, accordingly, designated the bulk of Communist forces, which were in northern China, as the Eighteenth Group Army, consisting of three divisions. In 1938, another unit, the New Fourth Army, was organized in the region of the lower Yangtze River. This organizational scheme was largely for the benefit of public show, however. In actuality, while both the Nationalists and Communists wanted to defeat the Japanese, they operated quite independently of one another. Indeed, although both called the New Fourth Army by the same name, the larger force the Nationalists had dubbed the Eighteenth Group Army, the Communists themselves referred to as the Eighth Route Army. In addition to these two forces, the Communists also controlled local and militia forces.

Generally speaking, the Communist armies were less well equipped than the Nationalists, which meant that they were very poorly equipped indeed, but they were better led and had a far higher level of morale and commitment to the cause. By the end of the war, in August 1945, regular Communist forces mustered about 1 million men, while the local and militia forces, mostly under Communist control, consisted of at least 2 million and maybe somewhat more. The militia and local forces, however, consisted strictly of part-time soldiers and were used as second-line troops, supplying logistics prior to combat and repair and recovery afterward.

JAPANESE-CONTROLLED FORCES

In Japanese-occupied regions, administrators were quick to establish puppet governments and collaborationist military forces. From the Japanese point of view, these forces were notoriously unreliable, their loyalties and their numbers quite fluid. At

their peak, it is possible that collaborationist forces amounted to 1.8 million men, but the Japanese found that they could make little military use of them. They required direct and continual supervision, and they could not be counted on to carry out missions assigned to them. Nevertheless, maintaining even relatively ineffective puppet forces allowed the Japanese at least to neutralize a substantial body of potential enemies: If the soldiers could not be counted on to fight *for* the Japanese, neither would they fight *against* them. Moreover, the existence of these puppet forces also tended to throw the Nationalists, Communists, and Allied armies off balance. The collaborationist forces represented the continual possibility of a new, vast army the Japanese might suddenly deploy. The fact is that this eventuality never materialized, and the collaborationist forces saw little action.

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Chindits

Chindit is a corruption of the Burmese *chinthe,* the word describing the winged stone lions that guard Buddhist temples and that were adopted as the insignia of these Long Range Penetration (LRP) troops who fought under the command of Brig. Gen. Orde Wingate during the Burma Campaign. Chindits fought far behind enemy lines, relying for supply on air drops and also relying on close-air support in place of conventional artillery support. As long-range penetration troops, the Chindits specialized in attacking the enemy from the rear and so made full use of the tactics of extreme mobility and surprise. A small, elite force, the Chindits were never expected to deal knockout blows, but, by continually threatening the enemy where it least expected attack, they forced the Japanese to continually redeploy frontline troops to the rear, thereby rendering the rest of their forces vulnerable to conventional attack from conventional Allied forces. Wingate frequently spoke of his mission as forcing the Japanese to "drop their fists." The genius of Chindit deployment was that it was always coordinated with conventional forces, so that Chindit raids were not mere gestures intended to disrupt and demoralize, but guerrilla- or Commando-style components of full-scale conventional attack.

The Chindits comprised the 13th Kings Liverpool Regiment, the 32nd Gurkha Rifles, the No. 142 Commando Company, and the 2nd Burma Rifles. Wingate organized these forces not into the customary battalions, but into eight self-contained, autonomous columns, further divisible into four patrols of four sections. When necessary, Wingate abandoned even this unconventional organizational scheme and reorganized ad hoc to suit the mission.

The two major Chindit operations included:

Operation Longcloth. Launched in February 1943, the operation was aimed at destroying railroad lines in northern Burma. One important line was indeed cut, but an attempt to destroy the Mandalay-Lashio line resulted in intense fighting, which prompted Wingate to order his columns to disperse and make their way back, individually and as best they could, to Allied lines. Of 3,000 men engaged, 2,182 returned, each having traveled some 1,000 miles on foot, mostly through dense jungle. While Operation Longcloth was at best only a partial tactical success, the British public hailed it as a triumph, and Winston Churchill recalled Wingate to London so that he could take him to the Quebec Conference in August 1943. There, he sold President Franklin D. Roosevelt and his military advisers on the concept of long-range penetration. This resulted in enthusiastic backing for new Chindit and other LRP forces.

Operation Thursday. Deploying 20,000 men, including Chindits and other LRP troops, Wingate coordinated with Chinese forces

under U.S. general Joseph A. "Vinegar Joe" Stilwell to counter the Imphal Offensive, a major Japanese thrust into India via Burma. Wingate was tasked with attacking the 18th Japanese Division from the rear in order to sever its communications, causing this unit to "lower its fists," so that Stilwell could attack frontally with great effect. Wingate was determined not only to accomplish this mission, but also to bring up his reserves to attack the Fifteenth Japanese Army as well, thereby turning a diversionary mission into a full-scale offensive. This bold plan was aborted when Wingate was killed in a plane crash on March 24. His successor, the far more conservative Walter Lentaigne, shifted the focus of Operation Thursday back to supporting Stilwell, and, in fact, the Chindits themselves came under Stilwell's direct command in May 1944.

Without the leadership of Wingate, the Chindits were not used effectively. Stilwell employed them as he needed them, which was essentially as a conventional force. The result was heavy casualties, and the by-now legendary Chindit Special Force was disbanded in February 1945.

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Christison, Sir Alexander Frank Philip (1893–1993) *Britain's excellent senior commander in Rangoon and Southeast Asia*

During World War II, Christison commanded the British forces at Rangoon, where he proved highly effective against the Japanese. By the end of the war, he was the highest-ranking British officer in Southeast Asia, and the honor of accepting the surrender of all Japanese forces in the theater fell to him on September 3, 1945.

Christison served in World War I and, on the eve of World War II, during 1937–38, was commanding officer of the duke of Wellington's regiment, then from 1938 to 1940, commanding officer of the Quetta Brigade, India. In 1940, he was named commandant of Staff College, Quetta, then became commander of the 15th Division in 1941. He transferred to command of the XXXIII Indian Corps, Burma, in 1942, and to the XV Indian Corps, Burma, in 1943. He commanded this unit through 1945, when he took command of the Fourteenth Army, also in Burma. Simultaneously, Christison was named commander in chief, Allied Land Forces South East Asia.

After accepting the Japanese surrender, Christison served as military governor of the Dutch East Indies. During 1946–47, he was commander in chief of the Northern Command and of the Scottish Command, as well as governor at Edinburgh Castle. In 1947, he was appointed aide-de-camp general to the king, a post he held until his retirement from the army in 1949. Christison went on to become secretary of the Scottish Education Department in the 1950s and 1960s. He lived to the remarkable age of 100.

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Churchill, Sir Winston (1874–1965) *prime minister of Britain and the Allies' single greatest war leader*

One of the giants of British history, world history, and the 20th century, Winston Churchill was prime minister of Great Britain through most of World War II and led the transformation of his nation's darkest days into what he himself called its "finest hour." He also became one of the war's most distinguished historians.

Prime Minister Winston Churchill, with Franklin Roosevelt and their military advisers, at the Casablanca Conference, February 1943. *(National Archives and Records Administration)*

The son of Lord Randolph Churchill (descended from the first duke of Marlborough) and Jennie Jerome, an American, Winston Churchill was packed off to Harrow School, where he compiled a miserable academic record and, after graduation, eschewed the university education that befitted his aristocratic station. Instead of enrolling at Oxford or Cambridge, as was expected of him, he chose Sandhurst, the British military academy, from which he graduated in 1894 with a commission in the 4th Hussars. Almost at the outset of his military career, Churchill took a two-month leave in 1895 to cover unrest in Cuba as a war correspondent. This assignment completed, he returned to his regiment and was dispatched with it to India, where he served in the Malakand expedition to the Northwest Frontier during 1897. While on active duty, he continued to write as a war correspondent and published the first of his many distinguished historical works, *The Malakand Field Force.*

In 1898, while serving in Lord Horatio Kitchener's expedition into the Sudan, Churchill rode in the charge of the 21st Lancers at the Battle of Omdurman and, afterward, published a two-volume account of the British army's Sudanese experience in *The River War,* which appeared in 1899,

the same year in which Churchill resigned his army commission to enter politics. Defeated in his first bid for Parliament, he took up journalism once again, sailing to South Africa on assignment for the *Morning Post* to cover the Second Boer War. Always eager to put himself in danger, Churchill was captured by the Boers but managed an escape so daring that he instantly became a world celebrity. This feat also made him a popular hero at home, and in 1900 he was elected to Parliament as a Conservative.

Already well received as a writer, Churchill now earned a reputation as an eloquent speaker and brilliant debater. Yet he could not remain tied down to the Conservatives for very long, and in 1904, he suddenly declared himself a Liberal. Churchill's timing proved impeccable, as the Liberals came to power in 1905, and Churchill, already a shining star, was named undersecretary of state for the colonies. He was elevated to the cabinet three years later, as president of the Board of Trade and, in 1910, was appointed home secretary. But it was in his next appointment, in 1911, as first lord of the admiralty, that Churchill was given his first great opportunity to excel. Working closely with First Sea Lord Admiral Lord Fisher of Kilverstone, he crafted and championed an ambitious program to modernize the Royal Navy in preparation for what Churchill correctly saw as a coming world war. As a result of his efforts, Churchill felt boundless confidence in the Royal Navy at the outbreak of World War I. Acting on this confidence, he planned, in 1915, a daring but tragically unrealistic amphibious assault on the Turkish-held Dardanelles, control of which would open a supply line to Britain's ally Russia. It was one thing to have confidence in great ships, but half the execution of an amphibious operation takes place on land, and it was this piece of the operation that had been poorly conceived and was destined to be even more ineptly executed. The Gallipoli assault ended in a blood-drenched disaster, which worsened as the land campaign developed and failed. In disgrace, Churchill was removed as first lord of the admiralty and relegated to a minor cabinet post.

Winston Churchill had every reason to believe that his political career had been ended by Gallipoli. In an effort to comfort himself, he took up painting, which would become both a solace and a passion for the rest of his life. Yet while Churchill despaired, there were many others who had not ruled him out but recognized the value of his boldness, courage, and resolve. These were manifest in his decision to leave the government and accept field command of the 6th Royal Scots Fusiliers. With this unit, Churchill fought in France until May 1916, when he returned to England.

In July 1917, Churchill's friend, political ally, and new prime minister, David Lloyd George, returned him to government in the cabinet post of minister of munitions. Churchill threw himself into this work with boundless energy and quickly succeeded in increasing munitions production so dramatically that an actual shell surplus was achieved before the war ended. While Churchill gloried in the traditions of arms, he was also a technological visionary, with a strong belief in the potential of new weapons systems. He became an ardent champion of armored warfare—the tank—which he believed was just the weapon needed to break the stalemate of the western front. The heavily armored all-terrain vehicle could defy machine gun fire, mow down barbed wire and other obstacles, and roll over trenches. Churchill's vision for the tank far exceeded what was technologically feasible in 1917–18, but the weapon did figure importantly in the late stages of the war, and it would certainly become a major weapon in the next war.

In 1918, Churchill left munitions to become secretary of state for war and air, serving in this capacity until 1921, when he was again named secretary of state for the colonies. In this post, he negotiated key treaties in the Middle East and also hammered out the 1921 agreement creating the Irish Free State, which signaled the end of centuries of bitter conflict between England and Ireland. Yet these advances meant little when Lloyd George's government fell in 1922, for Churchill lost his office as well as his seat in Parliament.

The collapse of the Liberal government prompted Churchill to realign himself with the

Conservatives, and it was under the Conservative banner that he was returned to Parliament in 1924, joining the cabinet of Prime Minister Stanley Baldwin in what was effectively the number-two post in British government: chancellor of the exchequer, roughly the equivalent of the American secretary of the treasury. Once again, however, Churchill met with disaster. In 1925, one year after he took office, Churchill returned Britain to the gold standard, an act that drastically deepened the depression following the end of the Great War. When the economic hardship he himself had exacerbated triggered the general strike of 1926, Churchill responded not with sympathetic understanding but mean-spirited condemnation. The breach this created with British labor would never be healed.

Churchill stepped down in 1929 and for the next decade held no cabinet office—though he remained very much in the public eye, first as a vehement critic of Baldwin's proindependence policy for India, then as an even fiercer critic of Baldwin's refusal to acknowledge the growing menace of "Hitlerism" and his consequent failure to rearm Britain. Churchill warned that Germany was spoiling for a new world war, and he advocated putting Britain on a full war footing, with special attention paid to developing a program that would match Germany's growing air power. Churchill believed that the Germans would attack Britain from the air in an attempt to bring the nation to its knees and ripen it for invasion. When Baldwin stepped down in 1938, Churchill became the leading opponent of Prime Minister Neville Chamberlain's Appeasement Policy. Churchill vigorously argued that a dictator could not be appeased and that, moreover, sacrificing Czechoslovakia's Sudetenland was immoral, cowardly, and, perhaps worst of all, strategic folly. With an eye for the broad strokes of strategy, Churchill pointed out that Czechoslovakia's position at what was effectively the nexus of the European continent made it the keystone of middle Europe. Moreover, its coal fields and arms industry were of tremendous value to any power.

Chamberlain forged ahead with appeasement, but Churchill refused to back down. When the prime minister returned from the Munich Conference (September 29–30, 1938), having given Adolf Hitler the Sudetenland and claiming, as a result, to have achieved "peace for our time," Churchill called the affair a "total and unmitigated defeat." Wishful thinking nevertheless prevailed among most Britons, and Chamberlain was widely regarded as a hero. Events, fast approaching, would, of course, prove Churchill right.

After the invasion of Poland in September 1939 and the consequent commencement of World War II, Chamberlain immediately acted for what he believed was the good of the nation and offered Churchill his former post as first lord of the admiralty. Churchill jumped at the opportunity and, with characteristic aggressiveness, proposed an immediate assault on Norway to dislodge the Germans there. Like the Gallipoli Campaign of World War I, the Battle of Narvik was a fiasco, and the British assault on Norway was quickly aborted. But this time, it was Chamberlain, not Churchill, who took the fall. He resigned, and Churchill replaced him as prime minister. Rather than brood on the Norway disaster, he threw himself into the business of defending Britain and, indeed, the entire free world.

Churchill turned to the United States, resolutely neutral in 1940, and began to develop a warm personal relationship with President Franklin D. Roosevelt, wooing him into a de facto alliance through such measures as the Lend-Lease Act. Despite this, the war continued to go very badly for Britain, as France faltered and collapsed in the Battle of France. In June 1940, the British army was beaten back and, up against the English Channel, very nearly annihilated, saved only by the brilliant Dunkirk Evacuation. Later in the summer, the Battle of Britain commenced as the German Luftwaffe conducted a massive bombing campaign against Britain's cities, especially London. With invasion apparently imminent, Churchill stirringly prepared his people to resist with all that they had. He made inspirational speeches that successfully glorified sacrifice and hardship, and the combination of his personal character and rhetorical skill fired the courage of the nation. Fortunately—and

to the shock of Nazi Germany—it was the Royal Air Force (RAF) that emerged victorious in the Battle of Britain, staving off invasion.

As effective as Churchill was in building consensus, morale, and an unshakeable sense of mission, he was also fully engaged in every aspect of the actual conduct of the war. Nevertheless, unlike Hitler and Benito Mussolini, who imposed their will on their military commanders, usually to the detriment of sound strategy, Churchill forged an effective partnership with the military. He did insist that British forces assume the offensive as quickly as possible, that they take the battle to the enemy, and he diverted an entire armored division, one of only two in Britain, to fight the armies of Hitler and Mussolini in the Middle East. But aside from this broad stroke of strategic policy, Churchill listened to his military professionals, bought into their plans, and showed them the highest degree of loyalty and confidence. He also proved flexible with regard to Joseph Stalin and the Soviet Union. An ardent foe of communism, Churchill nevertheless forged a strong alliance with the Soviet Union after it had been invaded by Germany, pledging to prosecute the war to the end and to make no separate peace. When the United States entered the war after the Japanese attack on Pearl Harbor on December 7, 1941, Churchill quickly took a strong hand in fashioning a three-way alliance among the United States, U.S.S.R., and Britain.

The most controversial item of Churchill's strategic policy in World War II was doubtless his insistence on avoiding an invasion of the European mainland until what he called the "soft underbelly of Europe" had been breached by clearing North Africa and the Mediterranean of the enemy. He did not want to face another Dunkirk disaster, but he did want to institute vigorous offensive operations. Most U.S. commanders believed the soft underbelly approach was timid and wasteful of resources and that a direct invasion from the west—even as the Soviets fought from the east—would end the war sooner. Roosevelt, however, ultimately agreed with Churchill and committed large American forces to North Africa. It was not until summer 1943 that the Allies invaded Sicily and then mainland Italy, having fought the first part of the "European" war in North Africa. And it would not be until June 6, 1944, that the Normandy landings (D-day) would usher in the main Allied offensive in Europe.

To be sure, Churchill's "soft underbelly" strategy dominated much of the war, but his strategic influence diminished once the Normandy campaign was under way. Indeed, as Allied victory came firmly into sight, Churchill increasingly turned a wary eye toward the Soviets, seeing in them a grave postwar threat. It was not merely his hatred of communism that motivated his fears, but his detestation of all manner of totalitarian regimes. To resist Stalin, Churchill advocated a drive by the western Allies directly into Berlin to prevent the city's occupation by the Soviets. Both President Roosevelt and his successor, President Harry S. Truman, however, backed Supreme Allied Commander Dwight D. Eisenhower, who believed it far more important to destroy the last German resistance in the west. Berlin, he argued, was a political, not a military, objective, and he did not want to squander casualties on it.

In a tactical sense, Eisenhower's plan was sound, but Churchill, as usual, looked beyond the tactical range to see the overall strategic consequences of an action. Indeed, he looked beyond World War II itself and to a world that, in his own phrase, would be divided by an "iron curtain," with the democracies on one side and the totalitarian communist regimes on the other. Thus, in some significant ways, Churchill was disheartened by the final conditions of the Allied victory in Europe. Worse, he received what any other man would have felt as a crushing blow. In July 1945, with Germany defeated but Japan still in the war, he was replaced as prime minister by Clement Attlee.

During the postwar years, Churchill was returned to office in 1951 and was honored with a knighthood. In July 1953, he suffered a stroke but continued in office until April 1955, when he was succeeded by Anthony Eden. He spent the last decade of his life painting and seeing to the publication of the last of his great literary works, the

four-volume *History of the English Speaking Peoples* (1956–58). Indeed, had he not been a statesman, Churchill would nevertheless be remembered as a great journalist and historian. He produced a prodigious body of biographical and historical writings, including a monumental six-volume history of World War II, published during 1948–54, which earned him the Nobel Prize for literature in 1953. If anything, however, he treasured even more the honorary United States citizenship conferred on him in 1963 by President John F. Kennedy and the Congress, to date the only such honor ever rendered by this country.

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Ciano, Count Galaezzo (1903–1944) *Fascist Italy's foreign minister who turned against Mussolini*

Count Galaezzo Ciano rose to prominence in the fascist government of Benito Mussolini after he married Mussolini's daughter Edda in 1930. It was Ciano who helped propel Italy into World War II after the fall of France. However, Ciano also took a leading role in the ouster of Mussolini, for which he ultimately paid with his life.

Born in Livorno, Italy, Ciano early on became a follower of Mussolini and participated in the 1922 march on Rome, which catapulted the fascists to power. After pursuing law studies at the University of Rome, Ciano worked as a journalist, then entered the Italian diplomatic corps. He was posted to Rio de Janeiro and Buenos Aires, and he served as consul general in Shanghai and as Italy's minister to China. He made a politically advantageous marriage to Edda Mussolini in 1930, which brought him appointment as chief of the press bureau (1933), undersecretary of state for press and propaganda (1934), and, finally, membership on the Fascist Grand Council, the inner party that made all policy decisions.

Handsome and dashing, Ciano cut the kind of romantic figure that was especially appealing to fascists. In Italy's war of conquest against Ethiopia, Ciano led a bomber squadron during 1935–36. After the war, he was named minister of foreign affairs on June 9, 1936, and was likely being groomed by Mussolini as his heir apparent and successor.

If anything, Ciano was more aggressive than Mussolini. He urged the Duce to conclude an alliance with Germany, although he distrusted Adolf Hitler, especially after the invasion of Poland in September 1939, which was undertaken without first consulting Italy per the terms of the alliance Ciano had concluded with his German counterpart, foreign minister Joachim von Ribbentrop. Acting on his misgivings, he now advised Mussolini not to declare war, but to adopt a policy of noninterference and nonbelligerence. However, when France fell and Germany seemed unstoppable, Ciano counseled Mussolini to enter the war. Both he and Mussolini anticipated a quick general German victory, and both believed Italy could make painless territorial gains.

It did not take long for Ciano to change his mind yet again. Italy never fared well in the war, and as Axis defeats accumulated in North Africa during 1942, Ciano conspired with other prominent fascists in promoting the idea of Italy's making a separate peace with the Allies. Mussolini, growing increasingly suspicious of his son-in-law, dismissed him along with his entire cabinet on February 5, 1943. Ciano was given a "safe" appointment as ambassador to the Vatican. This, however, was not enough to neutralize Ciano's influence as more and more fascists turned against Mussolini. Ciano was in the vanguard of those who, at the meeting of the Fascist Grand Council during July 24–25, 1943, voted for the removal of Mussolini. Unfortunately for Ciano, the new government formed under Marshal Pietro Badoglio charged Ciano with corruption and embezzlement. Ciano fled Rome to avoid prosecution but was seized by pro-Mussolini partisans and Germans as he made his way through northern Italy. He was impris-

oned, and after Hitler set up Mussolini as his puppet in German-controlled northern Italy, Mussolini ordered the execution of Ciano as a traitor. On January 11, 1944, at Verona, he was shot in the back by a firing squad. Mussolini's daughter never forgave her father for the act.

Ciano kept extensive and highly revelatory diaries of the inside workings of the fascist regime from 1937 to 1943. Recovered after the war, they were translated into English and published in 1946.

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civil defense

Civilian populations have always suffered in wartime, but World War II brought a historically unprecedented level of suffering, as civilian populations became the target of all manner of attack, especially from the air. All the major combatant nations developed systems of civil defense—that is, systems intended to afford passive protection of civilians, to maintain communications and government administration, and to repair and reconstruct infrastructure and industry. World War II civil defense systems encompassed programs of training and preparation; public warning systems; systems by which the public reported attacks, damage, approaching aircraft, and so on; and systems for the coordination of police and fire services.

FRANCE

At the outbreak of World War II, French civil defense operations were administered by the Ministry of War, which established liaison with a network of antiaircraft stations set up throughout the country to defend towns. These stations were manned chiefly by civilian volunteers who were members of the Association des Volontaires de la Défense Passive. Towns were grouped into sectors, which were in turn subdivided into blocks (*ilots*), each of which was supervised by a volunteer chief (*chef*). In addition to providing for antiaircraft defense, French civil defense authorities declared compulsory in November 1938 the possession of gas masks, but by the outbreak of war, on September 1, 1939, only a third of the required masks were available and had been distributed.

Thousands of French citizens volunteered to sandbag the architectural and artistic treasures of Paris as a protection against air raid, and authorities enacted draconian measures to prevent looting, including the death penalty for anyone actually caught in the act. Authorities recruited women workers to fill places vacated by men who had been conscripted or had volunteered for military service. Large numbers of children were evacuated from Paris, and, indeed, many adult Parisians fled the city as well.

GERMANY

Before the war and even during its early months, Germany neither planned nor established extensive systems of civil defense. The assumption was that victory would be achieved so quickly through vigorously offensive means that passive defense was almost unnecessary. However, with typical Teutonic thoroughness, authorities classified Germany's towns according to their value for war production. In 106 first-priority cities and towns, air raid shelters were constructed during the 1930s. In a second tier of 201 towns, the government provided nothing more than certain emergency measures. In all other towns, civil defense was regarded as an entirely local matter.

The one area in which Germany acted early, pursuant to a law of June 26, 1935, was antiaircraft defenses for all major cities, towns, and military-related installations. An all-volunteer Reich's Air Defense League (*Reichsluftschutzbund*) was created to help harden cities against air raids, but shelter building was grossly inadequate. Antiaircraft artillery stations were deployed by Civil Aerial Defense authorities (*Ziviler Luftschutz*) under the command of the Luftwaffe. As early as 1940, the Luftwaffe conscripted members of the Hitler Youth,

ages 16 to 18 years, to man the guns so that troops would be freed up for the front.

German authorities, from Adolf Hitler down, were slow to give substantial priority to civil defense, because to do so might be perceived as an indication of doubt about ultimate victory. Thus, it was late in 1943 before Germany deployed a radar-based system of early warning against aerial attack, despite almost daily bombing. Construction of public shelters also lagged, even as the number and intensity of air raids increased during the Allies' Strategic Bombing of Germany.

On September 25, 1944, Hitler personally created the Deutsche Volkssturm, a formally established civil defense force, which, staffed largely by underage boys and overage men, was less a genuine civil defense organization than a last-stand army. All German males between the ages of 16 and 60 were liable for service, and Hitler anticipated pressing into service some 6 million to be drawn from the German workforce currently exempted from military service.

GREAT BRITAIN

A major component of British civil defense was the formation of the Local Defence Volunteers on May 14, 1940. Dubbed "Dad's Army" and soon officially renamed the Home Guard, this force reached a peak enlistment of 1,727,000 men and 31,000 women in June 1944, before it was disbanded in December of that year. The function of the Home Guard was chiefly to watch the coasts and to guard airfields and factories. However, the Home Guard was also used as a means of preparing 17-year-old and 18-year-old boys for service in the regular military. Additionally, Home Guard personnel performed a variety of civil defense duties, and some 140,000 manned antiaircraft artillery.

Another civil defense organization was the Observer Corps, which later became the Royal Observer Corps. At the peak of its strength in 1942, the organization consisted of 33,100 men and about 1,000 women. Observers performed valuable service by providing early warning of incoming enemy bombers that had managed to fly below radar coverage. Some 1,500 observer posts, manned day and night, were linked to control centers, which, in turn, communicated with Royal Air Force (RAF) airfields and greatly facilitated the dispatch of interceptor missions. When Germany began launching V-1 buzz bomb attacks, members of the Royal Observer Corps would fire signal rockets to indicate the position of each incoming rocket to aid interceptors.

As early as September 1935, the British government urged local authorities to organize Air Raid Precautions (ARP), and in April 1937, the government created the Air Raid Wardens' Service. ARP volunteers and Air Raid Wardens were responsible for enforcing Blackout regulations and instructing citizens in gas-proofing procedures. They also supervised construction of covered trenches. In addition to such trench shelters and the designation of London's Underground (subway system) as a public shelter, the government distributed Anderson shelters to be installed in the gardens of London houses. Once the Blitz began, ARP personnel and Air Raid Wardens participated vigorously in warning, rescue, fire-fighting, and clean-up operations.

By the end of 1940, civil defense volunteers were organized into Civil Defence (General) Service, Casualty Services, and the Fire Service. Civil Defence (General) personnel included the air raid wardens, rescue parties, stretcher bearers, and mes-

The women of Chichester, Great Britain, cheerfully display their gas masks. All sides anticipated the use of chemical weapons against civilian populations. *(Chichester Government Museum)*

sengers. Casualty personnel included ambulance drivers and first-aid providers. The Fire Service was composed of professional fire fighters as well as volunteer auxiliaries. In addition, regular policemen were equipped to perform air raid duties, and they were assisted by part-time volunteers. In all, about 1.5 million Britishers participated directly in civil defense, primarily in air-raid related activities. The air raid wardens were highly organized and operated out of designated posts. Before raids, they warned their assigned populations. During the raids, they reported bomb strikes, and they supervised the large public shelters.

ITALY

Italy did not create a formal civil defense authority or the equivalent of Germany's Volkssturm or Britain's Home Guard. Instead, large numbers of regular troops were deployed within Italy for coastal and antiaircraft (AA) defense. Even so, antiaircraft defense was mostly inadequate. Scarce AA artillery was deployed to defend the most important locations only; elsewhere, spotters were given binoculars and a telephone with which they could issue warnings and, perhaps, alert interceptor aircraft. Italian diplomats based in Switzerland, over which most Italian-bound British bomber formations flew, telephoned commanders in Italy, who sounded the air raid sirens and dispatched interceptor aircraft. The only volunteer civil defense organization active in Italy was the National Union for Antiaircraft Protection (Union Nazional Protezione Antiarea, UNPA), whose members were mostly responsible for enforcing blackout regulations and for assisting fire fighters.

JAPAN

On April 5, 1937, the Japanese government enacted an Air Defense Law, which assigned responsibility for civil defense to the governors of Japan's prefectures. Two years later, auxiliary police and fire units were created nationwide, and the Great Japan Air Defense Association and the Great Japan Fire Defense Association were created to provide training and to furnish funding to local citizens' groups. Despite these nationwide voluntary bodies, civil defense remained largely a local matter, and the Japanese government did virtually nothing to build civil defense systems until late in 1943, when Japanese authorities studied reports of the devastation of German cities. A program of public shelter construction was inaugurated, and contingency plans were drawn up for the evacuation of major cities, in particular the evacuation of children, many of whom were, in fact, moved to the country and rural villages. Some citizens were effectively *forced* to evacuate by the fire-prevention steps taken in many cities. Recognizing the highly inflammable nature of most Japanese domestic structures, authorities preemptively destroyed tens of thousands of houses to create fire breaks.

By late 1944, as American air raids increased in tempo and intensity, citizens were encouraged to join block associations and bucket brigades. Moreover, citizens were urged to take an "Air Defense Oath," by which they pledged to stand their ground in the defense of fires, even in the presence of high-explosive bombs. To adhere to such an oath was a prescription for suicide. Bucket brigades were hardly an adequate defense against the firestorms that swept cities subjected to intensive incendiary attack.

As the Japanese government and military became increasingly desperate in the final stages of the war, anticipating as inevitable a massive invasion, civilian participation in the war effort turned from civil defense to fulfilment of a Homeland Operations Plan: the active resistance to invasion. Initially, People's Volunteer Units were created, consisting of men as well as women and including school-age children, to assist the military in such civil defense activities as construction, reconstruction, evacuation, and the maintenance of public order. These units quickly became the basis for last-ditch fighting forces. On June 22, 1945, the government enacted a military service law creating the People's Volunteer Combat Corps, which recruited men from age 15 to 60 and women from 17 to 40. Because weapons were in extremely short supply, most members of the corps were equipped with nothing more formidable than bamboo staffs and bamboo spears. That the government thought

of the corps as a suicide unit is apparent from the slogan attached to it: "The Glorious Death of One Hundred Million." Japan's surrender following the atomic bombing of Hiroshima and Nagasaki made an invasion unnecessary, and the People's Volunteer Combat Corps never saw action.

SOVIET UNION

In the Soviet Union, the Local Air Defense (Mestnoe PVO) had responsibility for air raid shelters, fire fighting, and chemical warfare defense. Under authority of the MPVO, local soviets organized everyone between the ages of 16 and 60 for the purposes of civil defense, and the official Soviet claim is that citizen volunteers prepared sufficient shelter resources for 20 million people. These volunteers also fought fires, provided rescue and first aid, defused unexploded ordnance, and aided in reconstruction.

In addition to civil defense volunteers operating under the MPVO, the Narodnoe Opolchenie (NO), or Home Guard, was an emergency force composed of men who had not been subject to the first call-up of conscripts and of women volunteers. In many cases, the NO was assembled and sent into battle with little or no training. Often, NO formations were absorbed into regular Red Army units. Despite their typically desperate nature, NO units were very important in the defense of Moscow and Leningrad, and 2 million men and women fought in such formations.

UNITED STATES

In the United States, civil defense was in large measure a morale-building activity. Early in the war, there was widespread public fear of sabotage by enemy agents. The Federal Bureau of Investigation (FBI) was charged with domestic counterintelligence and was anxious to avoid interference from a zealous public. Channeling popular enthusiasm and anxieties into civil defense preparedness activities was a useful means of harmlessly directing public energies. This also applied to the growing outcry for antiaircraft defenses. Rather than allocate military personnel desperately needed elsewhere, civilian volunteers were assigned various antiaircraft defense duties. Because the Axis lacked long-range bombers, there was, in fact, little danger of air raid in the United States. Nevertheless, in May 1941, President Franklin D. Roosevelt issued an executive order creating the Office of Civilian Defense (OCD), headed by the popular New York mayor Fiorello LaGuardia, who was assisted by First Lady Eleanor Roosevelt. Once the United States actually entered the war, leadership of the OCD was assigned to James Landis. Mrs. Roosevelt's unpopular efforts to recruit African Americans for participation in the OCD resulted in her ouster, and, at its peak in 1943, some 12 million volunteers, almost exclusively white males, served. About 6 million were assigned as air raid wardens, with responsibility for carrying out air raid drills and enforcing blackout regulations. A cadre of some 600,000 OCD members were trained as aircraft spotters but became notorious for registering false alarms. Other OCD members served essentially as local ombudsmen, assisting people with wartime rationing regulations and similar war-related matters.

A special OCD operation was the Civil Air Patrol (CAP), an association of civilian pilots flying their own small planes and serving mainly as spotters in antisubmarine warfare operations off the Atlantic coast. A few CAP pilots were armed, and, reportedly, they made 57 attacks against German submarines.

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Clark, Mark (1896–1985) *commander of the Fifth U.S. Army in the costly and protracted Italian campaign*

Dubbed the "American Eagle" by no less a figure than Winston Churchill, Clark was an aggressive and personally courageous American com-

Lieutenant General Mark Clark on the USS *Ancon* during the Sicily Campaign *(National Archives and Records Administration)*

mander who nevertheless drew intense criticism for his leadership during the costly Italian Campaign. Clark was born at Madison Barracks, Sackets Harbor, New York, into the family of a career army officer. He graduated from West Point and entered the infantry as a second lieutenant in 1917, and in April 1918 was sent to France with the 5th Infantry Division. Clark fought in the Aisne-Marne offensive. After he was wounded in June, he was assigned as a staff officer in the First Army, serving in this post during the Saint-Mihiel offensive of September 12–16 and the culminating Meuse-Argonne during September 26–November 11. After the armistice, he served in Germany on Third Army staff during the occupation.

Clark returned to the United States in November 1919 and was promoted to captain. He was posted throughout the Midwest until 1921, when he was transferred to the general staff in Washington, D.C. In 1924, he enrolled in the Infantry School at Fort Benning, Georgia, graduating in 1925. Promoted to major in 1933, Clark graduated from the Command and General Staff School at Fort Leavenworth, Kansas, in 1935, then, like many other army officers during the depression, was assigned to command a contingent of the New Deal's Civilian Conservation Corps (CCC). He served in this capacity in Omaha, Nebraska, from 1935 to 1936, when he enrolled in the Army War College.

After graduating from the Army War College in 1937, Clark held a staff post in the 3rd Infantry Division until 1940, when he was appointed an instructor at the Army War College. Here he worked vigorously to expand and prepare the army for what he was certain was the inevitable involvement of the United States in World War II.

After promotion to brigadier general in August 1941 and then to major general in April 1942, Clark was named chief of staff of army ground forces in May. In July, he became commander of U.S. ground forces in Britain and immediately set about organizing II Corps there. Never content with a desk job, Clark planned and then personally led an extremely hazardous espionage operation to obtain intelligence on Vichy French forces in North Africa in preparation for Operation Torch, the Allied North African landings.

In November 1942, Clark was promoted to lieutenant general and given command of Allied forces in North Africa under Dwight D. Eisenhower. Working with Eisenhower, Clark became one of the chief architects of the invasion of Sicily (Operation Husky), which was launched from North Africa. From Sicily, Clark led the Fifth Army, as its commander, in landing at Salerno on September 9, 1943. The landing encountered heavy resistance, but Clark held out, buying sufficient time for the arrival of Allied reinforcements and for the naval action that put an end to German counterattacks during September 10–18. With the Salerno beachhead secure, Clark and the Fifth Army began an agonizing advance up the Italian peninsula from October 1943 to June 1944. In the meantime, on January 22, 1944, additional elements of Clark's forces were landed at Anzio. These

troops fought their way through to Rome, which they reached on June 4.

In the advance on Rome, Clark acted largely on his own initiative, going so far as to defy the directives of his superior, British general Sir Harold Alexander, who commanded the Fifteenth Army Group, which combined the U.S. Fifth and British Eighth Armies. Clark's enterprise meant that the American army would indeed conquer Rome, but by concentrating on this objective, Clark allowed a strategic German withdrawal. In a highly controversial command decision, Clark had opted to take a great city rather than concentrate on destroying the enemy army. The result was that the German army retreated in good order, and the Allies would therefore continue to meet resistance in Italy throughout the war.

During July–December 1944, Clark commanded the Allied advance across the Arno River and north to the German defenses known as the Gothic Line. In December, he was named to replace Alexander as commander of the Fifteenth Army Group and from this new position directed the hard-fought Allied offensive through the Gothic Line, into the Po Valley, and, as Germany's armies collapsed on every front, finally into Austria during April 9–May 2, 1945.

After Germany surrendered and the Fifteenth Army Group was deactivated, Clark was named Allied high commissioner for Austria, essentially the military governor of the country. He served in this demanding office from June 1945 to May 1947, when he was named to command of the Sixth Army. In 1949, he left this command to become chief of army field forces. This post he left in May 1952, when he was appointed the third overall U.S. commander during the Korean War, succeeding Matthew Ridgway, who had replaced General Douglas MacArthur after MacArthur had been relieved by President Harry S. Truman. Clark remained in command in Korea until after the armistice of July 27, 1953.

After World War II, Clark wrote two popular memoirs, *Calculated Risk* (1950) and *From the Danube to the Yalu* (1954). He retired from the army in 1954 and took up new duties as commandant of the Citadel, South Carolina's prestigious military academy. He served there until 1960, then retired to the suburbs of Washington, D.C.

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Clay, Lucius D. (1897–1978) *U.S. Army's brilliant logistics chief for Europe*

In World War II, Clay, the U.S. Army's youngest brigadier general, made his reputation not as a combat commander, but as director of material, Army Service Forces, in charge of logistics in Europe. After the war, he became the architect of the Berlin Airlift.

A native of Marietta, Georgia, Clay was born the sixth child of U.S. Senator Alexander Stephens Clay and served as a Senate page. He entered West Point in 1915 and graduated in 1918 with a commission in the Corps of Engineers. From 1924 to 1928, he taught civil and military engineering at West Point and later headed several civil engineering projects

Lieutenant General Lucius Clay *(National Archives and Records Administration)*

at the Civil Aeronautics Authority's Defense Airport Program in during 1940–41, overseeing the expansion and enlargement of 277 airports and the construction of 197 new ones.

Promoted to brigadier general in 1942, Clay became assistant chief of staff for material (Service of Supply) and then director of material, Army Service Forces. He directed the clearing and rebuilding of the badly damaged port of Cherbourg just after the Normandy landings (D-day), a monumental task that made this vital port available to the Allies. During the postwar era, on March 15, 1947, Clay succeeded Dwight D. Eisenhower as military governor of Germany. The crowning achievement of Clay's career came at the commencement of the cold war, when he became the architect and chief administrator of the Berlin Airlift during 1948–49, the West's first clear victory against Soviet communist expansion in Europe. Clay retired in May 1949, just days after the Soviet blockade of Berlin had been lifted. After he returned to the United States and entered the private sector as a businessman, the city of West Berlin named a broad boulevard in his honor, Clay Allee.

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Colmar Pocket

During the Allied advance through France following the Normandy landings (D-day) and Operation Cobra, which followed, elements of the German Nineteenth Army continued stubbornly to hold a bridgehead at Colmar, west of the Rhine and south of Strasbourg. By the end of 1944, this 30-square-mile so-called Colmar Pocket posed a threat to Dwight D. Eisenhower's broad-front strategy of bringing all advancing units to the Rhine before launching crossings of the river at several points simultaneously. More immediately, the Colmar Pocket threatened the Sixth Army Group under Lt. Gen. Jacob Devers, whose lines were greatly overextended. After the First French Army failed to neutralize the pocket, elements of the German Nineteenth Army advanced from their positions and staged a counteroffensive against the Allies at Strasbourg in a bid to retake the city. Although alarming, this advance offered the Allies an opportunity for an open fight, and I Corps of the First French Army, together with the 21st U.S. Corps, checked the advance. The cost to the Allies was great: 18,000 killed or wounded. However, the Germans, who refused to retreat, lost some 36,000. The Nineteenth Army virtually ceased to exist.

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commandos

Although the term *commandos* was sometimes applied generically as a synonym for any special operations or "irregular operations" unit, during World War II it had specific application to British special forces units. In 1940, the British army raised 10 so-called Independent Companies, special forces troops to be used against the Germans in Norway. From this group, pursuant to Winston Churchill's order to mount hit-and-run raids against the occupied coast of the European continent, battalion-size units, officially called Commandos, were formed. They were trained in small-group tactics and fought as self-contained groups. Briefly, the Commandos were renamed Special Forces battalions, but in March 1941 were once again designated Commandos, and the name remained for the rest of the war.

When they were first formed, the Commando battalions were numbered 1 through 9 and 11 and 12, each mustering 500 men. They participated in the Dieppe raid and other early operations. Later in the war, the Commandos were joined by a unit known only as No. 10, which was made up of personnel drawn from the governments-in-exile of

nations occupied by the Nazis. Another unit, designated No. 14, was formed specifically to raid occupied Norway. And still another Commando unit, No. 30, was an interservice intelligence-gathering organization.

In addition to the army Commandos, there were a number of Royal Marine Commandos. After 1942, these were given Commando battalion numbers (Nos. 40–48) and integrated into four Special Service Brigades, which included the army and the marine Commandos. From December 1944, the name of these brigades was changed to Commando Brigades.

See also NARVIK, BATTLES OF.

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"Commissar Order"

Commissars were officers of the political departments that were established within the Soviet Red Army. The function of the commissar was to indoctrinate troops politically and, even more important, to ensure that the Communist Party exercised direct control over and through the military command structure.

On June 6, 1941, about two weeks before the INVASION OF THE SOVIET UNION commenced, the WEHRMACHT high command (OKW) issued the Kommissarbefehl, or "Commissar Order." It was aimed at destroying Soviet communism by physically liquidating all who had responsibility for transmitting the actual ideology of the Communist Party and the Soviet state. In violation of international common law as well as the GENEVA CONVENTIONS, the order stipulated: "If captured during combat or while offering resistance, [commissars] must on principle be shot immediately." More broadly, the order continued: "Even if they are only suspected of resistance, sabotage, or instigation thereto . . . protection granted to prisoners of war . . . will not apply to them. After having been segregated they are to be liquidated."

The Commissar Order was signed by General Walter Warlimont and approved by the OKW chief of staff, General WILHELM KEITEL, who was acting under the direct order of ADOLF HITLER. Early in the war, during the summer of 1941, Keitel attempted to destroy all copies of the Commissar Order, presumably to cover up evidence of what he knew to be a blatant war crime.

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concentration and extermination camps

From the beginning of his regime, ADOLF HITLER used mass detention as a weapon, arresting and holding those whom he perceived as posing a threat to his power. The first of Hitler's political prisons were nothing more than improvised confinement facilities in basements, cellars, and other places. In such places, beginning in January 1933 when Hitler assumed the post of chancellor, the STURMABTEILUNG (SA), the brownshirted muscle of the Nazi party, confined those they had rounded up. In March, the SA established larger camps at Nohra, Thuringia, and Oranienburg, Prussia. At this time, the SCHUTZSTAFFEL (SS), working in concert with the Bavarian Political Police, established DACHAU, generally considered the first true concentration camp of the Nazi regime.

Before the year ended, more camps—Sonnenburg, Lichtenburg, Börgermoor, Esterwegen, and Brandenburg—were established, all in Prussia. These were quickly followed by Sachsenburg in Saxony. In May 1934, administration of the camps, which now held about 80,000 inmates, was completely assumed by the SS. SS chief HEINRICH HIMMLER assigned Theodor Ecke, who had been commandant at Dachau, to reorganize the camps. Ecke closed all the SA camps, reformed the admin-

istration of the others, and created the SS Death's Head units that served as guards. As inspector of concentration camps, Ecke was responsible for their physical administration, whereas incarcerations and releases were handled by the GESTAPO.

Under Ecke, the number of prisoners was vastly decreased, at least temporarily, and the number of camps, as of the end of 1934, reduced to five: Esterwagen, Lichtenburg, Moringen (which held just 49 prisoners, all women), Dachau, and Sachsenburg. In 1935, five new camps were authorized to accommodate those arrested in actions against communists and those judged undesirable or "antisocial," including Gypsies and habitual criminals. Beginning in November 1938, after *KRISTALLNACHT*, Jews began to arrive in substantial numbers as well. By this time, the camps had progressed beyond simple incarceration facilities and were now also used as quarters for forced labor in factories managed by the SS.

The second generation of camps included Sachsenhausen, which was opened near Berlin in July 1936. BUCHENWALD was established the next year near Weimar, whereupon Sachsenburg and Lichtenburg were closed and Dachau greatly expanded. In 1938, Mauthausen was established near Linz, as was Flossenburg. These were adjacent to stone quarries, in which prisoners were worked, often quite literally, to death. Ravensbrück was established next to accommodate a growing number of female prisoners.

Under Ecke (who was killed in action in the Soviet Union in 1943 and replaced by Richard Glücks), the camps were generally divided into five departments. The first consisted of the commandant and his staff. The second was the political department, under the direction of a Gestapo officer. The third, headed by an SS officer, oversaw the day-to-day operations of the camp. The fourth handled general administrative tasks. And the fifth was the medical department. The guards, all SS Death's Head men, were commanded separately from the rest of the soldiers at the camp.

The outbreak of war with the INVASION OF POLAND brought a rapid rise in the concentration camp population. New facilities were built at Neuengame (near Hamburg, 1940), at Stutthof (near Danzig, 1941), at Gross-Rosen (near Breslau, 1941), and at Natzweiler (in Alsace, 1941). Two camps that had been intended to serve to hold prisoners of war were converted to concentration and extermination camps: AUSCHWITZ (near Cracow, 1941) and Majdanek (near Lublin, 1941).

Early in 1942, Operation Reinhard commenced. Its purpose was to murder the Jewish population of conquered Poland, some 2,284,000 human beings. BELZEC, established in March 1942 near Lublin, was intended exclusively to kill Polish Jews. SOBIBOR and TREBLINKA were soon added. Here Polish Jews as well as Jews from other parts of Europe were murdered. In addition to these three camps, built specifically to carry out Operation Reinhard, Chelmno, Majdenek, and Auschwitz were also now used as death camps. At this point, the usual method of execution was by the introduction of carbon monoxide gas into sealed chambers.

Beginning about 1942, Germany's slave labor system expanded far beyond the original SS factories to encompass the entire German armaments and munitions industries. This spurred the establishment of a vast network of satellite camps, more than a thousand, erected near the widely dispersed factories. That the concentration camps were increasingly seen as essential to war production was made apparent by the integration of the office of the concentration camp inspector into the SS Main Office of Economy and Administration, under Oswald Pohl. The SS billed the various armaments and munitions firms for the use of the prisoners' labor, greatly enriching the SS coffers.

The INVASION OF THE SOVIET UNION produced a new abundance of prisoners beginning after June 1941. Pursuant to Hitler's infamous COMMISSAR ORDER, many thousands of Red Army officers were sent to the camps to be murdered, among them the son of JOSEPH STALIN. By 1942–43, some of the concentration and death camps were being used for medical experimentation, typically of the cruelest and most grotesquely brutal sort, often with fatal outcomes.

As the need for more space to accommodate prisoners and more facilities to murder them

increased, the SS built or acquired more camps, including BERGEN-BELSEN. In 1944, not only did the number of camps and their population reach a high, the SS had developed mass extermination to its most extreme, using Zyklon-B gas at Auschwitz and Birkenau to kill Jewish prisoners at an astounding rate. The slave-labor camps also reached the apex of horror during this year, as Dora-Mittelbau, near Nordhausen, was established for the forced manufacture of components for the V-1 BUZZ BOMB and V-2 ROCKET.

At the start of 1945, the SS held 511,537 male prisoners and 202,674 female prisoners. The system, however, was beginning to collapse. Red Army troops managed to liberate some eastern camps by the summer of 1944, most notably Majdanek in July, but the Germans were generally quick to "evacuate" prisoners to camps in central Germany. This, of course, created increasingly intolerable crowding, and disease, always rampant in the camps, became uncontrollable. Many prisoners died in the course of their evacuation, either of privation, exposure, or outright murder. As the British and Americans closed in from the west, SS guards scrambled to kill more of their prisoners, presumably in an effort to leave no one behind to make witness to the horrors that had been perpetrated. Nevertheless, Buchenwald was liberated on April 11, 1945, Bergen-Belsen on April 15, and Dachau on April 30.

Many of the 6 million Jews murdered in THE HOLOCAUST were killed in the death camps of Operation Reinhard and in Auschwitz, Birekenau, Chelmno, and Majdenek. In addition to these victims, it is estimated that another 600,000 non-Jews died in the camps, the majority of them murdered.

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See also FINAL SOLUTION, THE.

Coningham, Sir Arthur (1895–1948) *British air officer who formulated the key doctrines of close air support*

Australian born and raised in New Zealand, Coningham fought in Samoa and Egypt during World War I but was sent home in April 1916 for medical reasons. Not wanting to be out of the war, he set sail for England, where he enlisted in the Royal Flying Corps and made a name for himself as a dogfighter. By the end of the war, Coningham was a squadron commander and had earned the affectionate nickname of "Mary," a corruption of *Maori,* which reflected his New Zealand and Australian origins.

During the interwar years, Coningham promoted military aviation with a number of demonstration flights, including a spectacular east-west traversal of Africa from Cairo to Kaduna (in Nigeria) and back again. The 6,500-mile trip consumed 24 days.

On the eve of World War II, in July 1939, Coningham was named to command Fourth Group, Bomber Command. In July 1941, he was transferred to Egypt, where he took command of the unit that became the Western Desert Air Force. Coningham led a brilliant program of close air support, which was instrumental in the British victory at the second BATTLE OF EL ALAMEIN and the ultimate defeat of the "Desert Fox," ERWIN JOHANNES EUGEN ROMMEL. During these operations, Coningham formulated the doctrine and tactics of effective close air support, coordinating ground and air elements as entirely interdependent forces. So effective were Coningham's practices that they were eagerly studied and adopted by the United States in July 1943, becoming an integral part of U.S. warfighting doctrine.

After the final victory in North Africa, Coningham led Allied air forces in Sicily and Italy during 1943, then participated in the planning of the Normandy landings (D-day). Beginning during this operation, he commanded the Second Tactical Air Force and remained at the head of it through the end of the war, supplying close air and other tactical support for troops as they progressed from the beaches of Normandy to Germany and final victory. Coningham retired from the Royal Air Force after the war, in 1947, and met his death the following year in an airplane crash.

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conscientious objectors

Following the universal conflagration of World War I, worldwide antiwar and pacifist movements developed, and it was widely assumed at the outbreak of World II that the numbers of conscientious objectors (COs), those who refuse conscription on avowed religious or moral grounds, would be legion, so large, in fact, as to have a significant impact on the war effort. This proved not to be the case. However, conscientious objectors did make themselves known in virtually all the combatant nations.

By the time of World War II, conscientious objection was a well-established tradition in Europe and America. In Europe, the Mennonites developed the first explicit and cogent policy of conscientious objection during the 16th century, and the Society of Friends (Quakers) emerged with a similar doctrine in England during the next century. Although, historically, few governments recognized the legitimacy of conscientious objection—and, in consequence, individuals who refused conscription were generally punished by law—a notable exception was 19th-century Prussia, which exempted Mennonites from military service but levied on them a military tax instead. Generally, the United States was more liberal than most other governments. The first U.S. conscription law, enacted during the Civil War, explicitly provided for alternative service in cases of conscientious objection.

In 1940, when a peacetime draft was enacted in the United States, the new selective service law included a provision for "conscientious objector status," to be conferred exclusively on members of recognized pacifistic religious sects. The law did not accept philosophical, ethical, moral, or political beliefs as a basis for securing CO status. In the United States during World War II, COs were assigned various forms of national service unrelated to the military and not controlled by the military. During the war, some 100,000 young American men (.0029 percent of those liable for conscription) were legally designated conscientious objectors and were assigned to what was officially defined as Civilian Public Service. Programs of such service were administered under strict supervision, and the men involved in them lived in camps that more closely resembled prisons than barracks or conventional civilian work camps, such as those of the depression-era Civilian Conservation Corps (CCC). About 6 percent of U.S. conscientious objectors were jailed for violating the CO provisions of the selective service laws.

In Great Britain, specially constituted tribunals granted unconditional exemptions from military service to 6.1 percent of those who identified themselves as conscientious objectors. Another 10 percent were granted CO status on condition of performing alternative service, which consisted of ordinary civilian jobs officially deemed useful to the war effort. British COs were not confined to work camps, although some (fewer than 10 percent) were imprisoned for all or part of the war. In all, about 60,000 Britons were granted legally sanctioned status as conscientious objectors. Australia, New Zealand, the Netherlands, and the Scandinavian countries had policies similar to that of Great Britain.

The Axis nations, Germany, Italy, and Japan, did not recognize the rights of conscientious objectors, nor did France, Belgium, or the Soviet Union. There are no reliable figures on the numbers of those punished by imprisonment or other sentence

in these countries for attempting to maintain themselves as conscientious objectors.

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convoy system

One of the lessons of World War I was the necessity of adhering to a convoy system for overseas transport. Merchant ships traveling without protection were simply too vulnerable to attack from surface raiders, submarines, and aircraft. At its most basic, a convoy is nothing more than a collection of merchant vessels traveling under escort by warships, and all the combatant nations that had access to ocean transport used convoys during World War II. However, the Axis nations used them to a far lesser extent than the Allies. Germany used only coastal convoys. Italy used coastal convoys as well as trans-Mediterranean convoys. Japan employed a haphazard escort system, which resulted in heavy losses of merchantmen.

In contrast to the Axis, the Allies, who depended heavily on transatlantic transport, developed an elaborate system of convoys. Regular convoys were assembled at a single port, left port together, then sailed together. Operational convoys were for the movement of troopships and were generally small, consisting of four ships, typically civilian ocean liners requisitioned for troop transport, and escorted by fast surface ships. The very fastest ocean liners, most notably the British liners *Queen Mary and Queen Elizabeth,* did not travel in convoys but sailed alone. Their chief defense was speed.

At first, westbound convoys were escorted only partway across the Atlantic to a point at which their escorts would intercept eastbound ships, come about, and escort them. The conclusion of the ABC–1 Staff Agreement and the Atlantic Charter between Great Britain and the United States, however, provided U.S. Navy escorts in the west. By May 1941, bases were also established in Iceland, which enabled armed escort across the entire Atlantic. This did leave a so-called air gap in the mid-Atlantic, an area beyond the range of defensive air coverage, which was not closed until late in the war.

The inherent problem with convoys was variation in the speed of the convoy vessels. Convoys consisting mostly of fast ships could adopt a zigzag course, which was an effective evasive tactic, but slower, less maneuverable ships were incapable of such tactics and instead took evasive courses, deliberately departing from the major and most direct sea lanes in order to avoid interception by enemy surface raiders and submarines.

Early in the war, troop convoys were heavily escorted, whereas supply convoys were provided with a single escort, such as an armed merchant cruiser. As German U-boat tactics improved—and they improved rapidly—the Allies arrived at a new formula for deploying escorts. Each convoy was assigned at least three escorts plus additional escorts calculated by dividing the number of merchant ships in the convoy by 10. Thus, if a convoy consisted of 80 ships, it would be escorted by 11 armed naval vessels (3 plus 8). These might include some combination of cruisers, light cruisers, destroyers, destroyer escorts, and corvettes. The escort for large convoys often included an escort carrier, a small aircraft carrier capable of launching aircraft to furnish air cover as required.

In addition to speed and armed escort, the size of the convoy was another factor in its successful defense. By late 1942, the Allies concluded that larger convoys were inherently safer than smaller ones. This conclusion might have seemed counterintuitive, but it was borne out by analysis of loss statistics. The perimeter of an 80-ship convoy was only one-seventh longer than that of a 40-ship convoy. Therefore, 80 ships, covered (according to the Allied formula) by 11 escorts, could be defended more effectively than 40 ships covered by just seven escorts. By 1943–44, convoys routinely consisted of well over 100 ships, with one convoy, in the summer of 1944, numbering 187 vessels.

The Allies not only crossed the Atlantic and the Pacific, they engaged in extremely hazardous Arctic Convoy Operations and high-loss Mediterranean convoys. Convoys across this body of water suffered losses three times the rate of Atlantic convoys, and it was ultimately decided to risk very fast merchant vessels sailing the Mediterranean alone. In sharp contrast to the situation on the Atlantic, these solo ships had a much better chance of reaching their destination than convoyed vessels.

Total losses of Allied merchant shipping from 1939 to 1945 amounted to 5,150 ships (21,570,720 tons). However, the effectiveness of the convoy system can be gauged from the ratio of losses of independently routed ships to convoyed ships. For every 80 independently routed ships sunk, 20 convoyed ships were lost.

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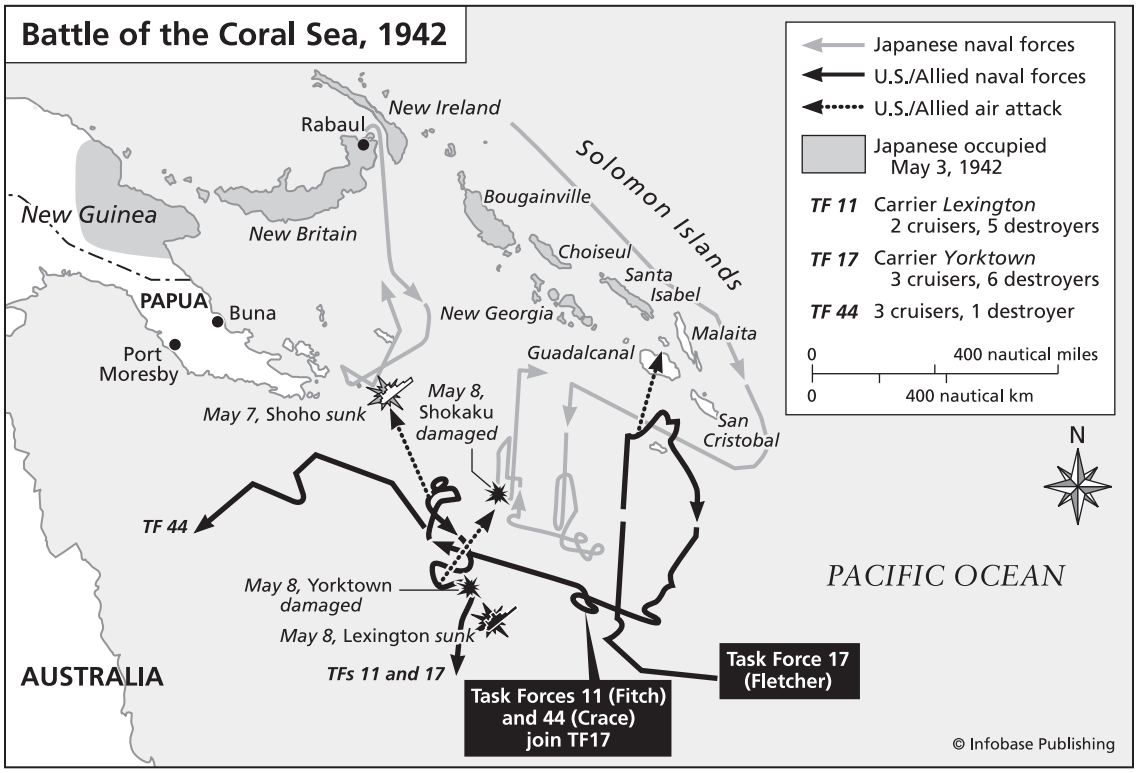
Coral Sea, Battle of the

On May 4, 1942, a Japanese invasion force commanded by Adm. Shigeyoshi Inouye left Rabaul, New Britain, bound for Port Moresby, New Guinea. Simultaneously, another Japanese force, led by the carriers *Shokaku* and *Zuikaku,* sailed into the Coral Sea, northeast of Australia. The object of these coordinated movements was an assault on Australia preparatory to an invasion of the country. Recognizing the imminent threat, and in the face of one Japanese triumph after the other, U.S. Adm. Frank Fletcher assumed command of a hastily assembled task force and ventured into the Coral Sea to meet the Japanese.

On May 7, Fletcher launched planes from the aircraft carriers *Yorktown* and *Lexington,* which attacked the invasion fleet north of the Louisiade Archipelago. The Japanese carrier *Shoho* was sunk, forcing the troop transports under escort to turn back. On May 8, the main body of the American force and the main body of the Japanese force approached one another. They did not, however, make a visual sighting. Instead, both launched history's first over-the-horizon attack, using aircraft to fight a naval engagement at long range and without direct ship-to-ship contact. Naval warfare was changed forever.

The battle was fierce and costly to both sides. U.S. aircraft damaged the *Shokaku* but at the cost of 33 out of 82 of the attacking craft. The Japanese, in turn, sank the *Lexington* as well as a destroyer and a tanker. They lost 43 of 69 aircraft committed to the battle. Tactically, the American side lost the battle by suffering significantly heavier losses, including that of a capital ship. Strategically, however, the Japanese were defeated. For the first time in the war, a Japanese advance had been stopped. Not only was Port Moresby saved—and, with it, Australia—but the Japanese had been driven into retreat, out of the Coral Sea. The battle set up the circumstances under which the more decisive Battle of Midway would be fought early the next month. A clear (albeit costly) American victory, Midway would be the indisputable turning point of the Pacific war.



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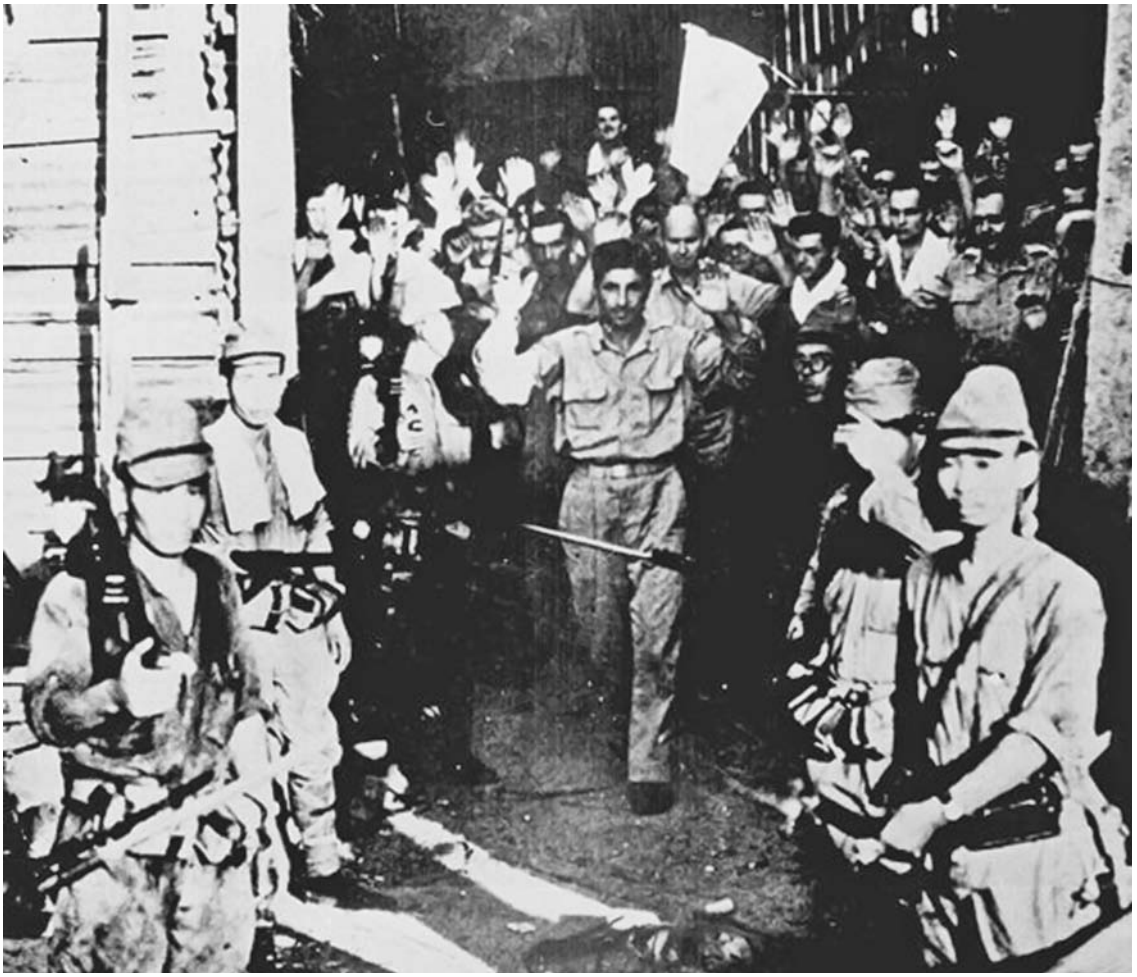
Corregidor, defense of

Corregidor is a small island, 3.5 miles long and 1.5 miles wide, located some two miles off the Bataan Peninsula. At the start of World War II, it was heavily fortified, and it was to this fortress island that Lt. Gen. Douglas MacArthur withdrew his headquarters after Lt. Gen. Homma Masaharu landed his Fourteenth Japanese Army on Luzon in December 1941. While MacArthur commanded from Corregidor, the bulk of his army forces withdrew to the adjacent Bataan Peninsula. Ordered by President Franklin D. Roosevelt to evacuate himself and family to Australia, MacArthur turned over his headquarters and his command to Lt. Gen. Jonathan Wainwright on March 11, 1942.

Well before World War II, Corregidor had been dubbed the "Gibraltar of the East" and was stocked with ammunition and sufficient food to sustain 10,000 for six months. Heavily fortified, the rock-like island was pierced through with a network of tunnels, which contained a hospital, living quarters, and other facilities. Three smaller fortified islands were located nearby, together forming a fortress system that controlled Manila Bay and a superb harbor, which the Japanese desperately wanted.

Homma laid siege to Corregidor and mercilessly bombarded the island by air and with heavy artillery. The bombardment destroyed all the surface facilities on the island but left the underground

systems entirely intact. In the meantime, the campaign to take Bataan proceeded much more slowly and at far greater cost than the Japanese had anticipated. However, on April 9, 1942, Bataan finally fell, giving Homma an artillery position much closer to Corregidor. From this position, his forces resumed continual barrages and incessant air raids, which leveled the beach defenses and knocked out all but three of the fortress island's guns. Corregidor's jungle was burned, the shore road pounded into the bay, and mountainsides and cliffs blasted into avalanche. Only after a full month of this bombardment did Homma land his 4th Division on Corregidor, during the night of May 5. This force suffered stunning losses, incurring 1,200 casualties out of the 2,000 men committed to the landing. Nevertheless, once a beachhead was established, artillery and tanks were off-loaded, and an advance was made against the half-starved Filipino and American garrison of 11,000. Wainwright incurred heavy casualties and, as the assault force closed in on the tunnels of Corregidor during the morning of May 6, Wainwright surrendered. This marked the fall of the Philippines.



U.S. and Filipino soldiers surrender Corregidor to the Japanese. *(Library of Congress)*

See also BATAAN DEATH MARCH; BATAAN, FALL OF; and PHILIPPINES, FALL AND RECONQUEST OF.

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corvettes

Designed as a coastal escort vessel, the corvette emerged in World War II as a transoceanic convoy escort ship intended for antisubmarine warfare. Small, inexpensive warships that could be quickly built, they were used primarily in the Royal Canadian Navy and the British Royal Navy, although the Royal Navy also sent some to the U.S. Navy, which reclassified them as patrol gunboats and used them for coastal duty.

The most important corvettes were those of the Flower class (so-called because all were named after flowers), 145 of which were built in Britain and 113 in Canada during 1930–42. The general specifications of the Flower class included:

Displacement: 950 tons
Length: 205 feet
Beam: 33 feet
Draft: 11.5 feet
Propulsion: two fire-tube Scotch boilers, one four-cylinder triple-expansion steam engine rated at 2,750 horsepower
Top speed: 16 knots
Range: 3,500 nautical miles
Crew: 85
Radar and sonar equipped
Armament (early): one 4-inch gun, two .50-caliber twin machine guns, two Lewis .303 caliber twin machine guns, two Mk. II depth charge throwers, two depth charge rails, and 40 depth charges
Armament (later): one 4-inch gun, one 2-pounder Mk.VIII single pom-pom gun, two 20-mm Oerlikon single guns, one Hedgehog ASW mortar, four MK.II depth charge throwers, two depth charge rails, and 70 depth charges

A smaller class of corvette, 44 ships launched during 1943–44, was the Castle class (so called because all were named after English castles). Whereas the Flower class resembled a coastal gunboat, the Castle class looked more like a frigate or even a DESTROYER ESCORT and was better suited to transatlantic duty. The Royal Canadian and British Royal Navies operated the vessels. A single ship was transferred to the Norwegian Navy.

General specifications of the Castle class included:

Displacement: 1,060 tons
Length: 252 feet
Beam: 36.75 feet
Draft: 10 feet
Propulsion: one four-cylinder triple-expansion steam engine rated at 2,950 horsepower
Top speed: 16.5 knots
Range: 4,295 nautical miles
Armament: one 101.6 mm gun; two twin and six single 20-mm antiaircraft guns; Squid ASW mortar; depth charge launches, rails, and depth charges
Crew: 120

Further reading: Lenton, H. T. *British Escort Ships.* London: Macdonald & Jane's, 1974; Milner, Marc, and Ken MacPherson. *Corvettes of the Royal Canadian Navy: 1939–1945.* St. Catherines, Ontario: Vanwell, 1993; Williams, Andrew. *The Battle of the Atlantic: Hitler's Gray Wolves of the Sea and the Allies' Desperate Struggle to Defeat Them.* New York: Basic Books, 2003.

Coventry air raid

On the night of November 14–15, 1940, as part of THE BLITZ, German bombers raided this industrial city in the British Midlands, making use of a major advance in electronic warfare, the Pathfinder Force, KG 100, and X-Gerät radio beacon systems. Of 509 German aircraft sent against Coventry, 449 reached their target, and only one was shot down. This rep-

resented not only a major failure of Royal Air Force interceptor aircraft, but also a failure of British radio-beam countermeasures, which were designed to jam electronic guidance systems. The result of the raid was the destruction of a dozen armaments factories and most of the city's commercial center. Coventry Cathedral, dating from the 14th century, was left in ruins and became, for Britishers and the rest of the free world, a symbol of German aggression and the desperate, devastating nature of World War II. Some 380 British civilians were killed and 865 injured. The Coventry raid provided impetus to the rapid improvement of British antiaircraft defenses and electronic countermeasures.

Further reading: Fountain, Nigel. *The Battle of Britain and the Blitz: Voices from the Twentieth Century.* London: Michael O'Mara Books, 2003; Harrison, Tom. *Living Through the Blitz.* New York: Random House, 1989; Longmate, Norman. *Air Raid: The Bombing of Coventry, 1940.* London: Hutchinson, 1976.

Crete, action on

The Allies wanted to hold the island of Crete as the site of an air base from which bombing raids against the Ploesti oilfields, vital to the German war machine, could be launched. However, the demands of other fronts left Crete weakly garrisoned by just 35,000 men (British, Commonwealth, and Greek troops), poorly armed and subject to noncohesive command. Moreover, the harsh, mountainous terrain of Crete impeded defense. Artillery and air support were virtually nil.

On May 20, German paratroops of Fliegerkorps 11, under General Kurt Student, landed at both ends of Crete. The Allies responded by broadcasting defenders across the island, spreading them thin. For their part, the Germans had underestimated the size of the island's garrison and had to call for reinforcements from the island of Milos. The troop transports were either dispersed or sunk by British air and sea attacks. Despite this blow to the attackers, the paratroopers managed to take the airfield at Maleme, which quickly turned the tide hopelessly against the defenders.

German paratroops load into J-52s for the airborne assault on Crete. *(U.S. Army Command and General Staff School)*

On May 26, Lt. Gen Sir Bernard Freyberg, in command of the garrison, reported that his position was untenable. After securing permission to evacuate, he ordered a retreat on May 27 to Sphakia while troops at Heraklion were quickly evacuated by British warships. The defenders of the Retimo airfield were cut off and captured. In the meantime, the main force, at Sphakia, fell under heavy air attack, and the evacuation ships were pummeled. Three cruisers and six destroyers were sunk, and 17 other vessels were damaged. By May 30, the evacuation had to be aborted, leaving 5,000 men still on the island. Most of these were doomed to capture, but a small body escaped to join the Cretan resistance and were active until the German withdrawal from Crete in 1944.

After the Allied evacuation, Italian troops were sent to occupy the eastern Cretan provinces of Siteia and Lasitho while German troops held the rest of the island. Total losses at the Battle of Crete were 1,742 British, Greek, and Commonwealth troops killed, 2,225 wounded, and 11,370 captured. Royal Navy losses were some 2,000 men killed and 183 wounded. Losses to the Germans testified to the ferocity of the Allied defense: 7,000 were killed. Viewed by Adolf Hitler as a Pyrrhic victory, the Battle of Crete persuaded him to ban further Airborne Assaults as too costly, and, for the rest of

the war, the Germans never launched another major paratroop operation.

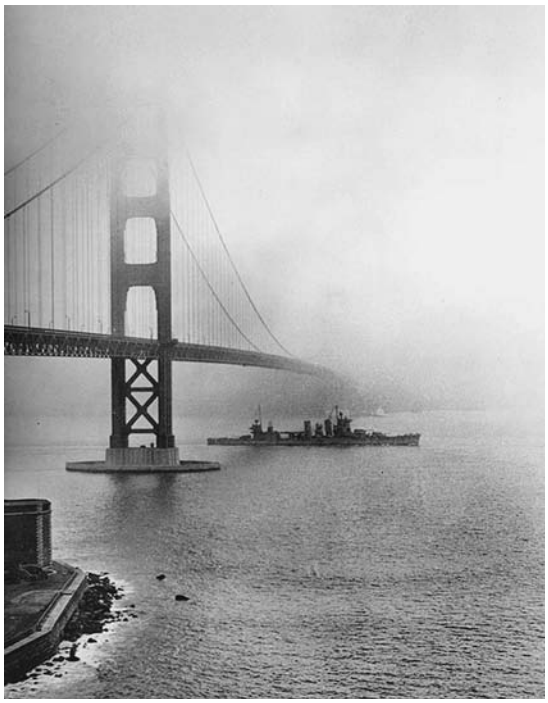
Further reading: Beevor, Antony. *Crete: The Battle and the Resistance.* Denver: Westview Press, 1994; Forty, George. *Battle of Crete.* Hersham, U.K.: Ian Allan, 2002; Shores, Christopher, Brian Cull, and Nicola Malizia. *Air War for Yugoslavia Greece and Crete 1940–41.* London: Grub Street, 1993; Willingham, Matthew. *Perilous Commitments: Britain's Involvement in Greece and Crete 1940–41.* London: Spellmount, 2004.

cruisers

Larger than a destroyer and significantly smaller than a battleship, the World War II cruiser combined the agility and high speed of the smaller ship with something of the range, armament, and armor of the larger vessel. It was, therefore, a ship of great versatility, used for everything from convoy escort duty, to fleet reconnaissance, to offensive operations, to amphibious fire support. Its name, appropriately enough, was derived from the era of sail, when *cruiser* was virtually synonymous with *frigate* and described a fighting ship that was smaller and more maneuverable than a ship of the line (the sail equivalent of a battleship), but still a formidable firing platform. In consequence, the cruiser-frigate became the workhorse of many navies, performing scouting duties and aggressively hunting for enemy vessels. By the end of the 19th century, early in the age of steam propulsion, the cruiser emerged as the frigate of the era.

By the beginning of the 20th century, cruisers were evolving from so-called protected cruisers, which were only partly armored with plating on their decks, to fully armored cruisers, plated on the hull. However, by World War I, the modern cruiser had become, in effect, a small battleship, displacing up to 20,000 tons and resembling a mighty dreadnought, though with limited armor in order to achieve speed. Such vessels were called battle cruisers and, while fast (25+ knots), were vulnerable because of their thin armor.

During the interwar years, the cruiser proper was revived by the Washington Treaty of 1922, which limited displacement of this vessel type to 10,000 tons, about half the size of a World War I–era battle cruiser. However, well before the outbreak of World War II, most of the signatories to the treaty had violated it by building larger cruisers. It was perceived that the function of the cruiser had changed. Aircraft carrier–launched aircraft performed the role of scouts, and submarines were seen as superior to surface ships for purposes of raiding convoys. Therefore, the cruiser mission was redefined as chiefly a firing platform, much like a battleship. The cruiser's guns were used to provide artillery bombardment in conjunction with amphibious operations and also to supply antiaircraft fire as part of the defensive component of aircraft carrier task forces. Indeed, some cruisers were built or reconfigured primarily for the antiaircraft role, bristling with many four- or five-inch rapid-fire guns.



The cruiser USS *San Francisco* enters San Francisco Bay, December 1942. *(National Archives and Records Administration)*

FRANCE

The most important French cruiser class was the La Galissonnière, which consisted of six ships, all launched during the 1930s. They were light cruisers (displacing just 7,600 tons standard and 9,120 tons under full load) capable of high speed, in excess of 35 knots. Their largest guns were six inches, and the ships of this class had nine of these, which outclassed rival vessels of the time.

The fleet of La Galissonnière cruisers saw little action in World War II. Three of the vessels were commandeered by the Allies, while the other three were scuttled during the German occupation; they had never left the port of Toulon. Two of these ships were salvaged by the Italian Navy but were subsequently sunk by Allied aerial bombardment in 1943.

General specifications of the La Galissonnière class included:

Ships: *La Galissonnière* (1933), *Jean de Vienne* (1935), *Marseillaise* (1935), *Gloire* (1935), *Montcalm* (1935), *Georges Leygues* (1936)
Displacement: 7,600 tons standard, 9,120 tons fully loaded
Length: 586 feet 3 inches
Beam: 57 feet 4 inches
Draft: 17 feet 5 inches
Power plant: geared turbines making 84,000 shaft horsepower, two shafts
Top speed: 35.7 knots
Armament: nine 6-inch guns, eight 3.5-inch guns. eight 0.52-inch antiaircraft guns, and four 21.7-inch torpedo tubes
Aircraft: accommodations for two floatplanes
Crew: 540

GERMANY

Germany had nine cruisers in World War II, including three of the *Deutschland* class, which were often called "POCKET BATTLESHIPS" by the Allies. The Germans referred to the Deutschland class vessels as *Panzerschiffe,* armored ships. Germany used its cruisers chiefly as surface raiders, preying on Allied convoys.

Displacing 12,100 tons standard and 16,200 tons fully loaded, the Deutschland class, launched between 1931 and 1934, substantially exceeded the limits of the Washington Naval Treaty. They mounted six 11-inch guns and eight 5.9-inch guns, making them a formidable firing platform, yet one that, at 28.5 knots, was faster than full-scale battleships of the day. The *Admiral Graf Spee* was lost in the Battle of the Plate River very early in the war. The *Admiral Scheer* served briefly, albeit effectively, as a surface raider. After the loss of the *Admiral Graf Spee,* the *Deutschland* was renamed *Lützow* for fear that its proud name would make it a conspicuous target and that, if sunk, it would be a severe blow to German pride and morale. Like most of the German surface fleet, it spent the greater part of the war in port. Nevertheless, both it and the *Admiral Scheer* were sunk by British bombs late in the war.

General specifications of the Deutschland class included:

Displacement: 12,100 tons standard, 16,200 tons fully loaded
Length: 610 feet 3 inches
Beam: 69 feet 11 inches
Draft: 19 feet
Power plant: eight MAN diesel engines, making a total of 56,000 shaft horsepower, two shafts
Top speed: 28.5 knots
Armament: six 11-inch guns, eight 5–9-inch guns, six 4.1-inch antiaircraft guns, eight 37-mm antiaircraft guns, 10 20-mm antiaircraft guns, and eight 21-inch torpedo tubes
Aircraft: accommodation for two floatplanes
Crew: 1,150

The other major German class of cruiser was the Hipper class, which consisted of the *Admiral Hipper* (1937), *Blücher* (1937), and *Prinz Eugen* (1938). Displacing 14,475 tons standard and 18,400 tons fully loaded, these vessels violated the Washington Naval Treaty limits even more flagrantly than the ships of the Deutschland class.

The *Admiral Hipper* was used in operations related to the invasion of Norway in 1940 and served effectively as a surface raider through 1942. At the end of 1942, however, ADOLF HITLER, concerned about the vulnerability of his surface fleet,

ordered all heavy ships to port, and both the *Admiral Hipper* and *Prinz Eugen* (which had served as companion ships to the infamous battleship *Bismarck*) were captured at the end of the war. In 1945, the U.S. Navy considered commissioning the captured *Prinz Eugen* but found its machinery to be unreliable, so used it as a target ship in an atomic bomb test. As for the *Blücher,* it was sunk by Norwegian shore batteries in 1940.

General specifications of the Hipper class included:

Displacement: 14,475 tons standard, 18,400 tons fully loaded
Length: 690 feet 4 inches
Beam: 71 feet 10 inches
Draft: 25 feet 10 inches
Power plant: geared turbines making 132,000 shaft horsepower, three shafts
Top speed: 33.4 knots
Armament: eight 8-inch guns, 12 4.1-inch guns, 12 37-mm antiaircraft guns, 24 20-mm antiaircraft guns, and 12 21-inch torpedo tubes
Aircraft: accommodation for two floatplanes
Crew: 1,450

GREAT BRITAIN

At the time of World War II, the cruiser was effectively the backbone of the Royal Navy. The cruiser fleet consisted of a dozen separate classes. In addition to these were 18 other individual cruisers that fell into no particular class. The four most important classes were the County and Town classes of heavy cruisers, and the Arethusa and Dido classes of light cruisers.

The 13 ships of the County class were all launched during the 1920s and were compliant with the displacement limits of the Washington Naval Treaty. Most of these ships were used as convoy escorts, despite their inadequate antiaircraft defenses and consequent vulnerability to air attack.

General specifications of the County class included:

Ships: *Berwick* (1926), *Cornwall* (1926), *Cumberland* (1926), *Kent* (1926), *Suffolk* (1926), *Australia* (1927), *Canberra* (1927), *Devonshire* (1927), *London* (1927), *Shropshire* (1928), *Sussex* (1928), *Dorsetshire* (1929), *Norfolk* (1928)
Displacement: 9,825 tons standard, 14,000 tons fully loaded
Length: 633 feet
Beam: 66 feet
Draft: 21 feet 6 inches
Power plant: geared turbines making 80,000 shaft horsepower, four shafts
Top speed: 32 knots
Armament: eight 8-inch guns, eight 4-inch antiaircraft guns, eight to 16 2-pounder antiaircraft guns, and eight 21-inch torpedo tubes
Aircraft: accommodation for one to three flying boats (depending on ship)
Crew: 660

The Town class heavy cruisers were all launched in the late 1930s and are sometimes referred to as the Southampton class. They were built to be on par with the new generation of Japanese and American cruisers and featured an impressive array of armament.

General specifications of the Town class included:

Ships: *Newcastle* (1936), *Southampton* (1936), *Birmingham* (1936), *Glasgow* (1936), *Sheffield* (1936), *Liverpool* (1937), *Manchester* (1937), *Gloucester* (1937), *Belfast* (1938), *Edinburgh* (1938)
Displacement: 10,550 tons standard, 13,175 tons fully loaded
Length: 613 feet
Beam: 63 feet 3 inches
Draft: 17 feet 6 inches
Power plant: geared turbines making 82,500 shaft horsepower, 4 shafts
Top speed: 32 knots
Armament: 12 6-inch guns, eight 4-inch antiaircraft guns, eight or 16 2-pounder guns, and six 21-inch torpedo tubes
Aircraft: accommodation for three flying boats
Crew: 850

Four Arethusa class light cruisers were launched during the 1930s, all of which served with distinction in the Mediterranean during the war. General specifications of the class included: Ships: *Arethusa* (1934), *Galatea* (1934), *Penelope* (1936), *Aurora* (1936).

Displacement: 5,250 tons standard
Length: 506 feet
Beam: 51 feet
Draft: 13 feet 9 inches
Power plant: 64,000 shaft horsepower, 4 shafts
Top speed: 32.25 knots
Armament: six 6-inch guns, eight 4-inch antiaircraft guns, eight 2-pounder antiaircraft guns, and six 21-inch torpedo tubes
Aircraft: accommodation for one flying boat (in all except *Aurora*)
Crew: 470

The Dido class were all launched after the war was under way and were built with the express purpose of providing strong anti-aircraft defense for convoys as well as serving as a firing platform to cover amphibious operations. General specifications included:

Ships: *Dido* (1939), *Euryalus* (1939), *Naiad* (1939), *Phoebe* (1939), *Sirius* (1940), *Bonaventure* (1939), *Hermione* (1939), *Charybdis* (1940), *Cleopatra* (1940), *Scylla* (1940), and *Argonaut;* the "improved Dido class" ships included *Bellona* (1942), *Black Prince* (1942), *Diadem* (1942), *Royalist* (1942), and *Spartan* (1942)
Displacement (1942): 5,770 tons standard, 6,970 tons fully loaded
Length (1942): 512 feet
Beam (1942): 50 feet 6 inches
Draft (1942): 17 feet 3 inches
Power plant (1942): geared turbines making 64,000 shaft horsepower, four shafts
Top speed (1942): 32.25 knots
Armament (1942): eight 5.25-inch guns, eight or 12 2-pounder antiaircraft guns, 12 20-mm antiaircraft guns, and six 21-inch torpedo tubes
Crew (1942): 535

ITALY

A very powerful (if somewhat obsolescent) force at the beginning of World War II, the Italian navy was badly led and essentially squandered during the war. Its 20 cruisers were divided into the Zara, Condottieri, and Capitani Romani classes.

The Zara class consisted of the *Zara* (1930), *Fiume* (1930), *Gorizia* (1930), and *Pola* (1931) and constituted the Italian Navy's heavy cruiser fleet, the ships displacing between 11,500 and 11,900 tons standard and 14,200 and 14,600 tons fully loaded. Like German ships, they exceeded the displacement limits of the Washington Naval Treaty and were, in fact, formidable vessels that, however, lacked radar and other state-of-the-art refinements. Worse, they were very poorly commanded during World War II. Three of the ships fought ineffectively in the abortive Battle of Calabria early in the war, and the *Pola, Zara,* and *Fiume* were all lost in the March 1941 Battle of Matapan.

General specifications of the Zara class included:

Displacement: 11,500–11,900 tons standard, 14,200–14,600 tons fully loaded
Length: 599 feet 5 inches
Beam: 67 feet 7 inches
Draft: 19 feet 4 inches
Power plant: geared turbines making 108,000 shaft horsepower, two shafts
Top speed: 32 knots
Armament: eight 8-inch guns, 16 3.9-inch guns, and eight 37-mm antiaircraft guns
Aircraft: accommodation for two floatplanes
Crew: 830

The 12-ship Condottieri class consisted of light cruisers launched during the early 1930s. They were fine ships, but, again, lacked radar and, even worse, lacked competent commanders. For that matter, Italy's senior naval planners never formulated a coherent offensive strategy, so that few of the ships were actually committed to combat. Two of the most recently built of the class not only survived the war but were converted to guided-missile cruisers during the cold war.

General specifications of the Condottieri class included:

Ships: *Alberto di Giussano* (1930), *Giovanni delle Bande Nere* (1930), *Alberico da Barbiano* (1930), *Bartolomeo Colleonio* (1930), *Armando Diaz* (1930), *Luigi Cadorna* (1930), *Raimondo Montecuccoli* (1931), *Muzio Attendolo* (1933), *Emanuele Filberto Duca d'Aosta* (1932), *Eugenio di Savoia* (1933), *Luigi di Cavoia Duca degli Abruzzi* (1933), *Giuseppe Garibaldi* (1933)
Displacement: 9,195 tons standard, 11,260 tons fully loaded
Length: 612 feet 5 inches
Beam: 61 feet 11 inches
Draft: 17 feet
Power plant: geared turbines making 102,000 shaft horsepower, 2 shafts
Top speed: 33.5 knots
Armament: 10 6-inch guns, eight 3.9-inch antiaircraft guns, eight 37-mm antiaircraft guns, 10 20-mm antiaircraft guns, and six 21-inch torpedo tubes
Aircraft: accommodation for two floatplanes
Crew: 900

The Capitani Romani class were very light cruisers capable of very high speeds in excess of 40 knots. Had they been completed in time to be used effectively, they would have made highly capable surface raiders, able to outrun anything thrown against them short of air cover. However, speed was achieved at the sacrifice of armor, and, in this respect, they resembled destroyers almost more than cruisers. Their fate as combatants was largely academic, however, because four were destroyed while under construction, and five more were sunk while in the process of fitting out. Just three were actually launched (and a fourth later salvaged), but the only naval service they saw was with the postwar fleets of France and Italy.

General specifications of the Capitani Romani class included:

Ships: *Attilio Regolo* (1940), *Pompeo Magno* (1941), *Giulio Germanico* (1941), *Scipione Africano* (1941)
Displacement: 3,750 tons standard, 5,400 tons fully loaded
Length: 466 feet 6 inches
Beam: 47 feet 3 inches
Draft: 13 feet 5 inches
Power plant: geared turbines making 110,000 shaft horsepower, two shafts
Top speed: about 43 knots
Armament: eight 5.3-inch guns, eight 37-mm antiaircraft guns, eight 20-mm antiaircraft guns, and eight 21-inch torpedo tubes
Aircraft: no accommodation
Crew: 425

JAPAN

Japan's Imperial Navy relied extensively on cruisers, which it did not use for escort duty, but for attack and as firing platforms in support of amphibious operations. Particularly favored were the heavy cruisers, the most important of which were the Mogami class and the Myoko class.

The Mogami ships, four in number, were launched between 1934 and 1936 and were both heavily armed and extremely fast, achieving a top speed of 37 knots. The price for this combination of armament and speed was a paucity of armor and a very slender beam, which made for instability and poor sea keeping. Modifications shortly before the war augmented both armament and beam.

General specifications of the Mogami class included:

Ships: *Mogami* (1934), *Mikuma* (1934), *Suzuya* (1934), *Kumano* (1936)
Displacement: 12,400 tons standard
Length: 669 feet
Beam: 66 feet 3 inches
Draft: 19 feet
Power plant: geared turbines making 150,000 shaft horsepower, four shafts
Top speed: 40 knots
Armament: 10 8-inch guns, eight 5-inch guns, eight 25-mm antiaircraft guns, and 12 24-inch torpedo tubes
Aircraft: accommodation for three floatplanes
Crew: 850

The Myoko class vessels were older than the Mogami ships but were massive and durable, albeit slower than the latest generation of Japanese cruisers. General specifications included:

Ships: *Myoko* (1927), *Nachi* (1927), *Haguro* (1928), *Ashigara* (1928)
Displacement: 13,380 tons standard
Length: 661 feet 9 inches
Beam: 68 feet
Draft: 20 feet 9 inches
Power plant: geared turbines making 130,000 shaft horsepower, 4 shafts
Top speed: 33.5 knots
Armament: 10 8-inch guns, eight 5-inch guns, eight 25-mm antiaircraft guns, and 16 21-inch torpedo tubes
Aircraft: accommodation for three floatplanes
Crew: 780

UNITED STATES

No nation's navy made more extensive use of cruisers than did that of the United States, which used them equally for convoy escort, for offensive operations, and, paramountly, to support amphibious operations. The two most important classes of American cruisers that saw service in World War II were the Northampton class and the Cleveland class.

The Northampton class were products of the Washington Naval Treaty, displacing a little more than 9,000 tons standard and 12,350 tons fully loaded. They represented a significant improvement over the earlier Pensacola class inasmuch as the Northampton ships regrouped the guns and provided more accommodation space as well as generally improved seaworthiness. The ships of this class performed valiantly in the Pacific but took a beating, with three out of six badly damaged and one, the *Northampton,* sunk. The *Chester* passed through the war unscathed and remained in commission until 1960. The *Augusta* had the distinction of carrying President Franklin D. Roosevelt to his prewar epoch-making conference with Prime Minister Winston Churchill in Placentia Bay, Newfoundland, a meeting that produced the Atlantic Charter.

General specifications of the Northampton class included:

Ships: *Northampton* (1929), *Chester* (1929), *Louisville* (1930), *Chicago* (1930), *Houston* (1929), *Augusta* (1930)
Displacement: 9,050–9,300 tons standard, 12,350 tons fully loaded
Length: 600 feet 3 inches
Beam: 66 feet
Draft: 16 feet 3 inches
Power plant: geared turbines making 107,000 shaft horsepower, four shafts
Top speed: 32.5 knots
Armament: nine 8-inch guns, eight 5-inch antiaircraft guns, two 3-pounders, and eight 0.5-inch antiaircraft guns
Aircraft: accommodation for four floatplanes
Crew: 1,200

Just before and during the war, the United States embarked on an ambitious program of new cruiser construction, the Cleveland class, which ultimately consisted of 26 ships completed as cruisers, plus nine hulls converted to fast light carriers. The ships were spacious and formidable. None were lost in combat.

General specifications of the Cleveland class included:

Ships: *Cleveland* (1941), *Columbia* (1941), *Montpelier* (1941), *Denver* (1942), *Santa Fe* (1942), *Birmingham* (1942), *Mobile* (1942), *Vincennes* (1943), *Pasadena* (1943), *Springfield* (1944), *Topeka* (1944), *Biloxi* (19443), *Houston* (1943), *Providence* (1944), *Manchester* (1946), *Vicksburg* (1943), *Duluth* (1944), *Miami* (1942), *Astoria* (1943), *Oklahoma City* (1944), *Little Rock* (1944), *Galveston* (1945), *Amsterdam* (1944), *Portsmouth* (1944), *Wilkes-Barre* (1943), *Atlanta* (1944), *Dayton* (1944), *Baltimore* (1942), *Boston* (1942), *Canberra* (1943), *Quincy* (1943), *Pittsburgh* (1944), *St. Paul* (1944), *Columbia* (1944), *Helena* (1945), *Bremerton* (1944), *Fall River* (1944), *Macon* (1944), *Toledo* (1945), *Los Angeles* (1944), *Chicago* (1944)

Displacement: 10,000 tons standard, 13,775 fully loaded
Length: 610 feet
Beam: 66 feet 6 inches
Draft: 25 feet
Power plant: geared turbines making 100,000 shaft horsepower, 4 shafts
Top speed: 33 knots
Armament: 12 6-inch guns, 12 5-inch guns, eight, 24, or 28 40-mm antiaircraft guns; 10 to 21 20-mm antiaircraft guns
Aircraft: accommodation for four floatplanes
Crew: 1,425

Further reading: Friedman, Norman. *U.S. Cruisers: An Illustrated Design History.* Annapolis, Md.: Naval Institute Press, 1984; Ireland, Bernard, and Tony Gibbons. *Jane's Naval History of WWII.* New York: HarperResource, 1998; Lacroix, Eric, and Linton Well II. *Japanese Cruisers of the Pacific War.* Annapolis, Md.: Naval Institute Press, 1997; Whitley, M. J. *Cruisers of World War Two: An International Encyclopedia.* Annapolis, Md.: Naval Institute Press, 1996.

cryptology

World War II saw an explosion in the development of cryptology, the science and technology of creating and breaking codes such as those used by diplomats as well as military personnel. All the major combatant nations employed specialists in encryption and decryption, personnel who worked in what the military calls signals intelligence. The British and the Americans were particularly far advanced in signals intelligence, intercepting and breaking a wealth of coded messages. Even before the war, U.S. Naval intelligence had succeeded in breaking PURPLE (Japanese Diplomatic Cipher) and, during the war, broke most of the Japanese naval codes. The British, with a collection of scientists and mathematicians working at Bletchley Park, outside London, succeeded in breaking the German Enigma codes, fantastically complex coded messages produced with the aid of a protocomputer known as an Enigma machine.

The subjects of cryptology, signals intelligence, and code breaking in World War II are covered in the following entries: Espionage and Counterespionage; Geheimschreiber; Magic (Japanese Code); MI5 (British Military Intelligence); MI6 (British Military Intelligence); Navajo Code Talkers; Office of Strategic Services (OSS); Orange (Japanese code); and Ultra.

Further reading: Budiansky, Stephen. *Battle of Wits: The Complete Story of Codebreaking in World War II.* New York: Free Press, 2000; Gilbert, James L., and John P. Finnegan, eds. *U.S. Army Signals Intelligence in World War II (Cryptography).* Walnut Creek, Calif.: Aegean Park Press, 1998; Marks, Leo. *Between Silk and Cyanide: A Codemaker's War, 1941–1945.* New York: Free Press, 2000.

Crystal Night. *See Kristallnacht.*

Cuba

No battles took place on this island, some 90 miles off the coast of Florida, and no Cuban troops participated in combat. However, Cuban president Fulgencio Batista (1901–73) was friendly to U.S. interests—he depended heavily on American support to retain power—and was quick to join the United States in declaring war on Japan and Germany. Cuba declared against Japan on December 9, 1941, just one day after the United States, and against Germany on December 11, the day Germany declared against the United States.

For the most part, the declarations were symbolic in significance. However, Cuban authorities did work to counter Axis intelligence agents in their country. One German spy, Heinz Luning, was not only apprehended, but executed, the only Axis agent to be executed in Latin America during the war. Batista also secured passage of a conscription law and began registering men for military service in August 1942. No troops were sent overseas, however. Already the site of several U.S. naval bases and other military installations, Cuba approved the establishment of even more during the war.

Further reading: Gellman, Irwin F. *Roosevelt and Batista: Good Neighbor Diplomacy in Cuba, 1933–1945.* Albuquerque: University of New Mexico Press, 1973.

Cunningham, Alan (1887–1983) *British general defeated by Erwin Rommel in North Africa*

Far less well known than his older brother, Adm. Sir Andrew Cunningham, Lt. Gen. Sir Alan Cunningham started the war as commander of British forces in Kenya beginning in November 1940. He preformed very effectively in East Africa in 1941, which earned him promotion to overall command of the Eighth British Army, which had been formed of British and Commonwealth personnel to oppose the forces of German general Erwin Johannes Eugen Rommel in North Africa. Cunningham led an offensive (Operation Crusader) in November 1941, and was promptly out-generaled by Rommel at the Battle of Sidi Rezegh. When Gen. Claude John Ayre Auchinleck, British commander in chief of the Middle East, demonstrated his lack of confidence in Cunningham by intervening in Operation Crusader, Cunningham was removed from combat command and reassigned to rear-echelon administrative posts.

Further reading: Doherty, Richard. *A Noble Crusade: The History of Eighth Army, 1941 to 1945.* New York: Sarpedon, 1999; Kelly, Orr. *Meeting the Fox: The Allied Invasion of Africa, from Operation Torch to Kasserine Pass to Victory in Tunisia.* New York: Wiley, 2002.

Cunningham, Andrew (1883–1963) *British First Sea Lord and a principal naval planner of the D-day landings*

Cunningham was Britain's First Sea Lord from October 1943 and was a member of the British Chiefs of Staff as well as the Allies' Combined Chiefs of Staff. Distinguished in his contributions to the Allied war effort, his most valuable service may well have been as one of the principal architects of Operation Neptune, the sea-going phase of the Normandy landings (D-day).

At the outbreak of World War II, in September 1939, Cunningham held the rank of acting admiral and was commander in chief of the Mediterranean Fleet. An aggressive, proactive commander, he was determined to establish and maintain British naval supremacy on the Mediterranean. In November 1940, he ordered a massive air attack against the Italian fleet at Taranto, which dealt it a crippling blow. Cunningham was a master at provoking battle on his own terms, especially against the Italian fleet at the Battle of Matapan.

Cunningham was formally promoted to admiral in January 1941 and, from June to October 1942, headed the British Admiralty Delegation in Washington, D.C. In November, he was named Allied Naval Commander Expeditionary Force and directed the naval phase of Operation Torch, the Allied landings in North Africa. Promoted to fleet admiral in January 1943, he was named commander in chief of the Mediterranean and, as Allied naval commander, directed the naval phase of the landings on Sicily in July 1943 and at Salerno in September.

Cunningham replaced Sir Dudley Pound as First Sea Lord after Pound's death in October 1943 and played a major role in planning the Normandy landings and invasion. Even as he coordinated naval operations for Operation Overlord, he mustered the largest British fleet ever assembled—for action in the Pacific.

Cunningham was highly regarded as much for his fighting spirit, very much in the tradition of Lord Nelson and certainly of a piece with Winston Churchill, as he was for his skill as a naval tactician and strategist. He saw the war through, then retired in March 1946. He was the elder brother of British army general Sir Alan Cunningham.

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Cunningham, Winfield Scott (1900–1986) *naval commander of the defense of Wake Island*

U.S. Navy commander Winfield Scott Cunningham was in overall command of the small detachment of marines and others who heroically

defended Wake Island in the days following the Japanese attack on Pearl Harbor and general advance across the Pacific. Cunningham was born in Rockbridge, Wisconsin, and received an appointment to the U.S. Naval Academy in 1916, at the age of 16. Because of the pressures of World War I, his class graduated early, in 1919, and Cunningham was assigned to the naval transport *Martha Washington.* Subsequently, he served aboard USS *Scorpion* and USS *Whipple.* In 1923, he joined the officer complement of the light cruiser USS *Milwaukee,* then trained as a naval aviator, receiving his wings in 1925. In 1926, he transferred to the aviation unit of the battleship *Oklahoma* and also qualified for landings on the navy's first aircraft carrier, USS *Langley.* In 1935, Cunningham was assigned as executive officer of Fighting Squadron 2 on the aircraft carrier *Lexington,* and in 1936 he assembled and trained a fighter squadron for USS *Yorktown.*

Cunningham became navigator aboard USS *Wright* in April 1940. In the months and weeks before Pearl Harbor, the *Wright* supported the establishment of aviation bases on Midway, Canton, Johnston, Palmyra, and Wake Islands, transporting marines, aviation personnel, and civilian contractors to and between these valuable bases. In November 1941, Cunningham was assigned as Officer in Charge, All Naval Activities, Wake Island. On November 28, Cunningham replaced USMC major James Devereux, who continued to serve as commander of the Marine First Defense Battalion under Commander Cunningham.

From December 8 to December 23, Cunningham directed an extraordinary defense of Wake Island by the overwhelmingly outnumbered marines. The Japanese attackers lost hundreds of casualties and two battleships. Cunningham and the Wake Island survivors were made prisoners of war. However, on the night of March 11, 1942, Cunningham and others managed to escape from a Japanese prison in China, only to be recaptured. A second escape was attempted on October 6, 1944, but Cunningham was recaptured. He survived and was liberated at the end of the war, returning to the United States on September 8, 1945. Cunningham continued to serve in the postwar navy, retiring as a rear admiral on June 30, 1950.

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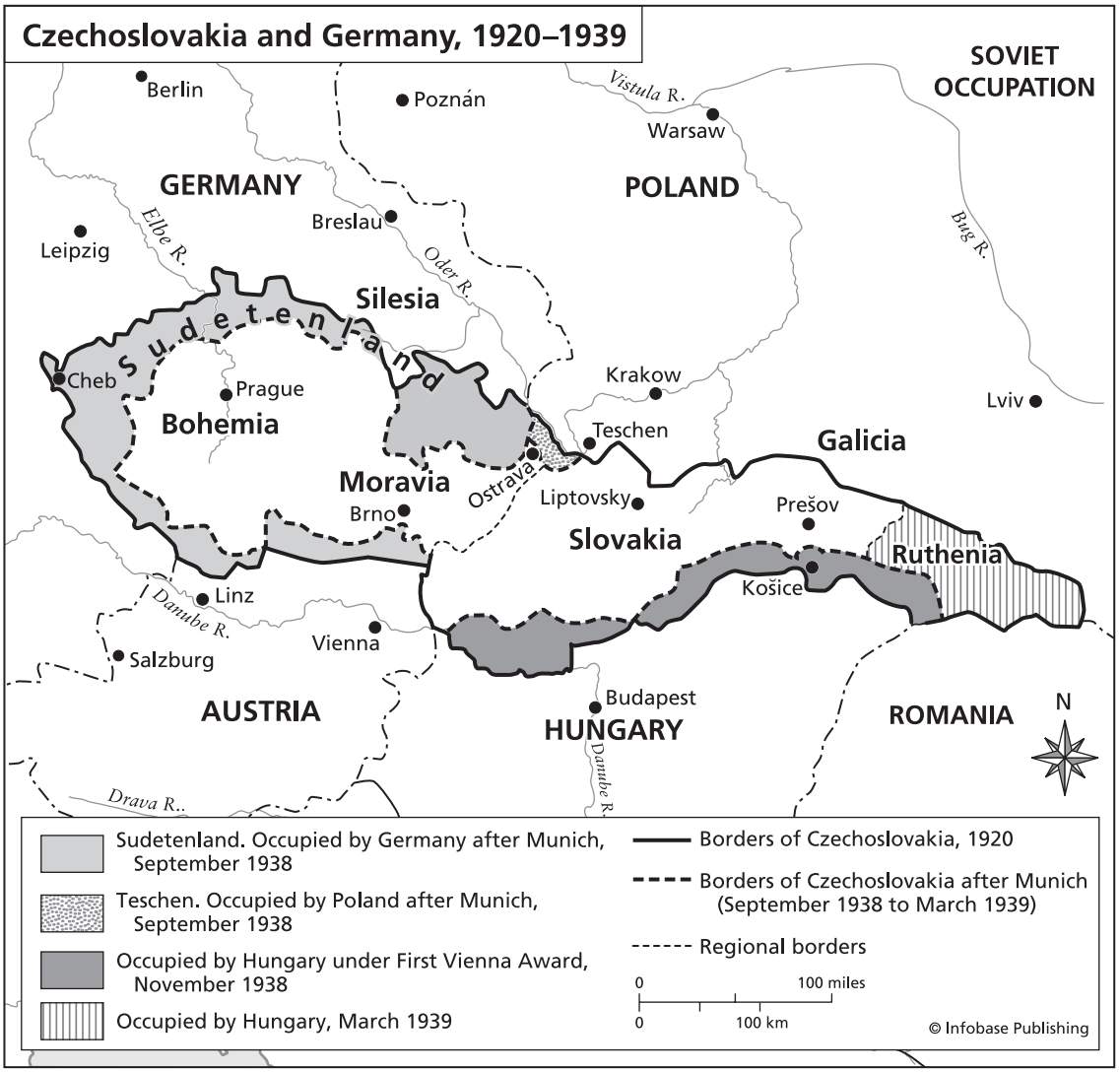
Czechoslovakia

In 1938, Czechoslovakia was a democratic republic created after World War I under the terms of the Treaty of Versailles and situated strategically in middle Europe. To the west and northwest was Germany, to the northeast Poland, to the east Romania, and to the south Hungary and Austria. The nation contained valuable iron ore and coal, as well as a highly developed industrial capacity, including the famed arms manufacturer Skoda. Population in 1938 was more than 14 million, including 10 million Czechs and Slovaks, as well as 3 million Germans and small minorities of Hungarians, Poles, and Ukrainians. The Germans lived mainly along the western, northern, and southern fringes of Czechoslovakia, an area called the Sudetenland.

After Germany's *Anschluss* with Austria, Czechoslovakia became the next target of Adolf Hitler's expansionist ambitions on the eve of World War II. The September 1938 Munich Conference and Agreement, which implemented British prime minister Neville Chamberlain's Appeasement Policy, resulted in the cession of the Sudetenland to Germany. With the loss of this territory went the heavily fortified border, possession of which would greatly facilitate Germany's subsequent invasion of the Soviet Union. When the Sudetenland was ceded to Germany, Poland opportunistically stepped in to seize Teschen, home of a Polish minority. At this time, too, Slovakia, the eastern portion of Czechoslovakia, effectively became a German client state, though a part of Slovakia, as well as all of Ruthenia, fell at this time to Hungary. Thus dismembered, Czechoslovakia



now consisted only of Bohemia and Moravia, and even these regions were soon invaded and occupied by the German WEHRMACHT on March 15, 1939, in contravention of the Munich Agreement. Hitler effectively annexed this region to the Third Reich as the "Protectorate of Bohemia and Moravia" under the governance of Baron Konstantin von Neurath, who, proving incompetent, was quickly replaced as *Reichsprotektor* by REINHARD HEYDRICH, a man who earned the epithet "The Butcher of Prague." The Czech government proper was no more than a shell with a figurehead president, Emil Hácha.

The Nazi occupation of the mutilated Czechoslovakia was brutal, yet less so than the Nazi regime in Poland and in the occupied Soviet Union. As elsewhere, however, Jews were singled out, rounded up, deported, and made victims of THE HOLOCAUST. Yet the occupiers were keenly concerned with exploiting the industrial productivity of the

region. Therefore, they tended to make concessions to the laboring classes, whose hard work was rewarded. In this way, the basis for organized resistance in occupied Czechoslovakia was significantly co-opted. Nevertheless, a resistance movement did come about, and its boldest act was the assassination of no less a figure than *Reichsprotektor* Heydrich. This resulted in extravagantly brutal reprisals, including, most infamously, the wholesale destruction of the village of Lidice. It was not until May 1945 that a full-scale popular uprising erupted, in Prague, which aided the final advance of the Red Army.

While resistance within Czechoslovakia was neither intense nor extensive, EDVARD BENEŠ successfully established a very active Czech government in exile in London. In Great Britain, Beneš formed a Czech legion, a unit of brigade strength, consisting of 5,000 men equipped with tanks, which served in the NORMANDY LANDINGS (D-DAY) and in subsequent engagements. Three Czech fighter squadrons and one Czech bomber squadron flew with the Royal Air Force, and Czech intelligence operatives served with the British throughout the war.

In July 1941, the Beneš government concluded a treaty with the Soviet Union by which the USSR recognized the legitimacy of the government in exile and, with the United States and Great Britain, upheld its status as an Allied power. In the Soviet Union, two Czech parachute brigades and, ultimately, an entire corps (1st Czechoslovak Army Corps) served on the eastern front. A regiment of fighter pilots also served under the auspices of the Soviet air forces.

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D

Dachau concentration camp

Established in March 1933, Dachau was among the first of the Nazi concentration camps. It was located 12 miles north of Munich and was originally intended as a "correctional" facility for those who spoke out against the regime of Adolf Hitler or who were for other reasons regarded as socially undesirable. Between its opening in 1933 and the end of the war in May 1945, some 225,000 persons had been inmates at the prison. Official Nazi records list 31,950 deaths, although this figure is certainly much too low. While Jews were among those incarcerated here, Dachau also housed political prisoners, including the former Austrian chancellor Kurt von Schuschnigg and various German anti-Nazi activists. Dachau was the scene of atrocities that included so-called medical experiments, the most notorious of which involved deliberately infecting inmate test subjects with malaria and also measuring the effects of immersion in cold water for long periods. The former work was supposed to contribute to developing vaccines and other measures to protect German troops against malaria, and the latter "experiments" were intended to assist pilots downed in the icy North Atlantic.

See also concentration and extermination camps; and Holocaust, the.

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Daladier, Édouard (1884–1970) *French premier who reluctantly signed the Munich Pact with Hitler*

With British prime minister Neville Chamberlain, French premier Édouard Daladier signed the Munich Pact of September 30, 1938, giving Adolf Hitler the Czech Sudetenland. Born in Carpentras, France, Daladier was first elected to the Chamber of Deputies in 1919 as a member of the Radical Party. A vigorous politician, he served from 1924 to 1933 variously as minister of colonies, minister of war, minister of public instruction, and minister of public works. On January 31, 1933, he formed his own government, which dissolved in October. The next year, in January 1934, he formed another government, which endured a mere four weeks. In 1935, he led the Radical Party in a coalition with the Socialists and the Communists as the Popular Front, with himself as premier.

Like Chamberlain, Daladier was concerned at virtually any cost to avoid war with Germany and thus cooperated in Chamberlain's Appeasement Policy by endorsing the Munich Pact, thereby abrogating France's treaty agreement to defend the national integrity of Czechoslovakia. Appeasement, of course, failed to avert armed conflict, and Daladier led France into a war for which it had failed to prepare. In June 1940, when France fell following the Battle of France, Daladier attempted a last-minute escape to French North Africa, where he intended to establish a government in exile. In

Morocco, however, agents of the Vichy Government arrested him and returned him to France. There he was tried at Riom in February 1942. With others who had resisted the Vichy compromise, Daladier publicly accused Henrie-Philippe Pétain and his followers of having failed to prepare for war. Vichy authorities in turn remanded Daladier to German custody, and he remained a prisoner of the Reich until the liberation of France in 1945.

After the war, Daladier was again elected to the Chamber of Deputies, serving from 1946 to 1958. Diehard president of the much-diminished Radical Party, he opposed the constitution promulgated by Charles de Gaulle in 1958. After the failure of his opposition, he retired from politics and public life.

Further reading: Daladier, Édouard. *Prison Journal 1940–1945.* New York: Perseus, 1995; Jackson, Julian. *The Fall of France: The Nazi Invasion of 1940.* Oxford and New York: Oxford University Press, 2003; Shirer, William L. *The Collapse of the Third Republic: An Inquiry into the Fall of France in 1940.* New York: Da Capo, 1994.

Daluege, Kurt (1897–1946) *Nazi official who perpetrated the Lidice massacre*

Daluege, among the earliest members of the Nazi Party (NSDAP), established the first Sturmabteilung (SA) unit in Berlin in 1926, then two years later transferred to the Schutzstaffel (SS) and became a senior officer. He served as a member of the Nazi delegation in the Prussian legislature in 1932 and the following year became a member of the Reichstag. Appointed chief of the Order Police (Orpo) in 1936, he succeeded Reinhard Heydrich in 1942 as Reich protector (military governor) of Bohemia and Moravia. He authorized the Lidice massacre in reprisal for the assassination of Heydrich.

Daluege was born in Kreuzburg on September 15, 1897, and fought with distinction in World War I. Active in the Freikorps after the war, he joined the Nazi Party virtually at its inception in 1922. After forming the first SA unit in Berlin in 1926, he transferred to the SS in 1928 and began a close working relationship with SS chief Heinrich Himmler. In 1936, three years after his election to the Reichstag, Daluege was tapped by Hermann Göring as head of the Prussian police. When Göring took control of all German police forces, he named Daluege chief of the Orpo, the Order Police (Ordnungspolizei). In this position, Daluege created the Kameradschaftsbund Deutscher Polizeibeamten, ostensibly a fraternal organization of police officials, but, in fact, a body intended to facilitate the suppression of internal revolt.

After the beginning of World War II, Daluege became deputy to Reinhard Heydrich in the SS. In May 1942, Heydrich was fatally wounded by Czech assassins, whereupon Adolf Hitler and Himmler dispatched Daluege to Prague to replace the fallen Heydrich as Reich protector of Czechoslovakia. Daluege's first actions were to visit upon the Czechs brutal reprisals for the assassination. The most notorious of these was the annihilation of the village of Lidice, which was razed. All 173 of its male inhabitants were summarily executed, and its 198 women were sent to a Ravensbrueck concentration camp. On Daluege's orders, 256 other Czechs suffered death for Heydrich's assassination.

Daluege was arrested after World War II and charged with war crimes. He was convicted by a Czech court and hanged in Prague on October 24, 1946.

Further reading: Hilberg, Raul. *Perpetrators, Victims, Bystanders: Jewish Catastrophe 1933–1945.* New York: Perennial, 1993; MacDonald, Callum. *The Killing of Reinhard Heydrich: The SS 'Butcher of Prague.'* New York: Da Capo, 1998; Reitlinger, Gerald. *The SS: Alibi of a Nation, 1922–1945.* New York: Da Capo, 1989.

Dambusters raid

In March 1943, the Royal Air Force (RAF) formed 617 Squadron, a heavy bomber unit flying four-engine Lancasters, that trained for one specialized task: to bomb and thereby breach the dams in Germany's industrial Ruhr valley. The objective was to create flooding that would extensively damage war

industries and also that would disrupt river navigation and the supply of drinking and industrial water. Three major dams were targets: the Möhne and Sorpe, which provided much of the water supply for the Ruhr, and the Eder Dam, which was essential to maintaining the navigable waters of the Wester River and the Mittelland Canal. For this mission, the British airship and aircraft engineer Barnes Wallis developed a special dambuster bomb. Knowing that the dams were protected by nets intended to deflect conventional bombs, Wallis proposed a bouncing bomb, which would clear the nets, bounce off the water, then smash into the dam wall, but remain intact until it had sunk to a depth of 30 feet. At that point a hydrostatic fuse (like those used in depth charges) would detonate 6,600 pounds of powerful RDX explosive, ensuring that the dam would rupture catastrophically well below the water line. Concerned that the bomb would fail to travel down the dam wall to the required depth, Wallis designed a canister, or drum-shaped bomb, 50 inches in diameter and 60 inches long. He further designed a rig to mount it across the bomb bay of the Lancaster, and installed a small motor in the bomb bay that would start the canister spinning forward, so that it would indeed roll down the wall of its target.

The design was only half the requirement of the mission. The bomb had to be dropped just 60 feet above the water, so that it would bounce with sufficient force to reach the dam with the momentum required to roll down to the required depth. This called for flying skill of the most exacting and daring order.

After intensive crew training, and with the Wallis bombs installed, 19 Lancasters took off on the night of May 16–17, 1943, under the leadership of Wing Commander Guy Gibson. Eight of the aircraft were lost, but the Möhne and Eder Dams were indeed breached, bringing a massive flood. The Sorpe Dam remained undamaged. While many German citizens were flooded out of their homes, the hoped-for dislocation and disruption of industry did not occur, and the dams themselves were repaired by October. Gibson was decorated with the Victoria Cross. Although another dambusting mission was never attempted—and the Wallis bomb was never again deployed—the 617 Squadron was retained intact for other precision bombing missions.

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Darlan, Jean-François (1881–1942)
commander of Vichy French forces in North Africa

Darlan was an admiral in the French navy who served as deputy premier (under Henri-Philippe Pétain) of the Vichy Government. He was in Algiers and assumed command of Vichy French forces in North Africa when the Allies invaded with Operation Torch. Gen. Dwight D. Eisenhower concluded a controversial rapprochement with him, securing his cooperation with the Allies in return for Allied confirmation of his appointment as high commissioner for French North Africa.

Darlan graduated from the French naval academy in 1902 and joined the French navy, commanding a naval artillery battle during World War I. By 1929, Darlan was an admiral and, as war clouds gathered in the mid-1930s, was engaged in rebuilding the French navy. Darlan was named admiral chief of staff in 1936 and in 1937 admiral of the fleet, in command of all French naval forces. With war approaching, the right-wing Darlan gave vent to his anti-English sentiments and, as the Battle of France got under way, expressed his hope that Germany would win the war. Following the resignation of French premier Paul Reynaud on June 16, 1940, Darlan eagerly threw his support behind Marshal Pétain and the collaborationist Vichy government. Pétain named Darlan minister of the navy, and after Pétain formally concluded

the armistice with Nazi Germany, Darlan ordered the French fleet to colonial bases in North Africa, ordering officers and sailors to conduct themselves in loyalty to Vichy.

In February 1941, Darlan replaced Pierre Laval as vice premier, and the aging Pétain named him his successor. At the same time, Darlan became minister for foreign affairs, defense, and the interior. In January 1942, he was appointed commander in chief of French armed forces and the high commissioner for North Africa. Fearing the concentration of so much authority in one man, Adolf Hitler pressured Darlan to yield his cabinet posts to Pierre Laval on April 17, 1942, but he remained Pétain's deputy premier and retained his military and North African posts.

When the Allied North African invasion came on November 8, 1942, Vichy forces acted in accordance with Darlan's orders and resisted, but Darlan immediately entered into negotiations with the Allies, agreed to a cease fire on November 10, and surrendered the following day. Moreover, he agreed to cooperate fully with the Allies in return for Eisenhower's confirmation and approval of his position as the chief civil and military administrator of French North Africa. Eisenhower saw an opportunity to neutralize the Vichy forces without bloodshed. Free French leader Charles de Gaulle was outraged by Eisenhower's endorsement of a collaborationist. The French resistance was similarly appalled. They regarded Darlan as a traitor. But both Winston Churchill and Franklin D. Roosevelt concurred in and supported Eisenhower's bold decision. For his part, Darlan did prepare to assist the Allies in their military operations in western North Africa. In the meantime, the panic-stricken Vichy government scrambled to give assurances to Hitler. He, however, turned a deaf ear and sent troops into the unoccupied zone of France and into Tunisia.

Darlan was not fated to exercise his newly confirmed office for long. On Christmas Eve 1942, he was assassinated in Algiers by Ferdinand Bonnier de la Chapelle, an anti-Nazi royalist. Bonnier de la Chapelle had been trained by the British Special Operations Executive (SOE) and had been a member of the French resistance. However, historians believe that he was acting on his own authority and out of personal hatred for Darlan rather than on orders of any nation or organization.

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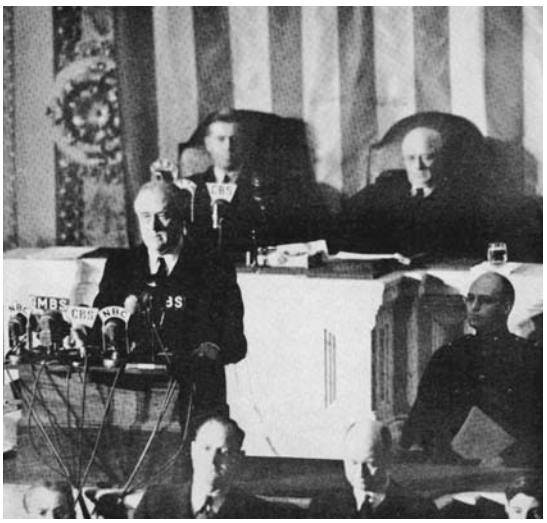
declarations of war

World War II began on September 1, 1939, with the German invasion of Poland. Declarations of war spanned 1939 to 1945.

1. Germany invades Poland without declaration, September 1, 1939
2. Great Britain, France, Australia, and New Zealand declare against Germany, September 3, 1939
3. Canada declares against Germany, September 10, 1939
4. USSR invades Poland without declaration, September 17, 1939
5. USSR declares against Finland, November 13, 1939
6. Germany invades Denmark and Norway without declaration, April 9, 1940
7. Germany invades Holland and Belgium without declaration, May 10, 1940
8. Italy declares against Great Britain and France, June 10, 1940
9. Italy invades Greece without declaration, October 28, 1940
10. Bulgaria declares against the Allies, April 6, 1941
11. Germany invades Greece and Yugoslavia without declaration, April 6, 1941
12. Italy invades Yugoslavia without declaration, April 6, 1941
13. Germany invades USSR without declaration, June 22, 1941
14. USSR declares against Germany, June 22, 1941
15. Italy and Romania declare against USSR, June 22, 1941
16. Hungary and Slovakia declare against USSR, June 27, 1941

17. Finland declares against USSR, June 26, 1941
18. Great Britain declares against Finland, Hungary, and Romania, December 5, 1941
19. Japan declares against Great Britain and the United States, December 7, 1941
20. United States declares against Japan, December 8, 1941
21. Germany and Italy declare against the United States, December 11, 1941
22. United States declares against Germany and Italy, December 11, 1941
23. Hungary declares against the United States, December 11, 1941
24. Brazil declares against Germany and Italy, August 22, 1942
25. Bolivia declares against Germany, Italy, and Japan, April 7, 1943
26. Iran declares against Germany, September 9, 1943
27. Italy declares against Germany, October 13, 1943
28. Liberia declares against Germany and Japan, January 26, 1944
29. Romania declares against Germany, August 25, 1944



U.S. president Franklin D. Roosevelt asks Congress for a declaration of war against Japan, December 8, 1941. *(Library of Congress)*

30. Bulgaria declares against Germany, September 7, 1944
31. Ecuador declares against Germany and Japan, February 2, 1945
32. Peru declares against Germany and Japan, February 11, 1945
33. Chile declares against Japan, February 14, 1945
34. Venezuela declares against Germany and Japan, February 16, 1945
35. Uruguay declares against Germany and Japan, February 22, 1945
36. Turkey declares against Germany and Japan, February 23, 1945
37. Egypt declares against Germany and Japan, February 24, 1945
38. Syria declares against Germany and Japan, February 26, 1945
39. Lebanon declares against Germany and Japan, February 27, 1945
40. Saudi Arabia declares against Germany and Japan, March 1, 1945
41. Iran declares against Japan, March 1, 1945
42. Finland declares against Germany, March 4, 1945 (stipulating that a state of war has existed from September 15, 1944)
43. Argentina declares against Germany and Japan, March 27, 1945
44. Brazil declares against Japan, June 6, 1945
45. USSR declares against Japan, August 8, 1945

Dempsey, Miles (1896–1969) *British general*

Miles Christopher Dempsey commanded the Second British Army, the principal British element in the advance across western Europe following the Normandy landings (D-day). He was born in New Brighton, England, and received his commission in 1915, in time to fight in France during World War I. At the outbreak of World War II in 1939, he held the rank of lieutenant colonel but was in command of an entire infantry brigade in France, performing brilliant rearguard cover for the Dunkirk Evacuation during May–June 1940. He was rapidly promoted, and in November 1942,

as a lieutenant general, Dempsey assumed command of XIII Corps, Eighth British Army, in the North African Campaign. Dempsey's corps formed the right wing of Bernard Law Montgomery's forces in the Sicily Campaign, in July 1943. In September, it was Dempsey and his XIII Corps that led the invasion of mainland Italy across the Strait of Messina. In the remarkable span of 17 days, Dempsey led his corps some 300 miles up the Italian west coast to link up with Lieutenant General Mark Clark's Fifth U.S. Army forces at Salerno.

Modest, unassuming, efficient, and quietly competent, Dempsey made a stark contrast with the flamboyant and typically strident Montgomery. Nevertheless, Montgomery recognized talent when he saw it and chose Dempsey to command the Second British Army (which included Canadian and Polish as well as British units) in the Normandy invasion of June 1944. Dempsey landed on Gold, Juno, and Sword beaches on June 6, then advanced inland, capturing Caen on July 9. Dempsey was content to follow orders to batter at the German armored units, tying them down, while the First U.S. Army executed Operation Cobra and broke out of Normandy on July 25. Only then did Dempsey lead his army in battles at Mortain and Falaise, advancing swiftly eastward across northern France and Belgium after these engagements. After this advance, he was assigned a role in Operation Market Garden, Montgomery's failed and costly attempt in September 1944 to capture Arnhem, Netherlands, as a bridgehead into Germany.

It was March 1945 before Dempsey finally led the Second British Army across the Rhine. After crossing, he advanced northeastward, taking the major industrial centers of Bremen, Hamburg, and Kiel and reaching the Danish frontier by the end of the war in May 1945.

After Germany's surrender, Dempsey was transferred to the Asian theater, where he was named commander in chief of Allied land forces in Southeast Asia. He served in this post through V-J Day and in 1946 was transferred to chief command of forces in the Middle East. He served here until his retirement in 1947.

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Denmark, invasion of and resistance in

Denmark hoped to be respected as a neutral in World War II, but, fearing Nazi aggression, concluded a nonaggression pact with Germany early in 1939. This isolated Denmark from the rest of Scandinavia but preserved its lucrative trade with Britain until the actual occupation of the country, which began in April 1940.

The Danes were well aware that, militarily, they could do little to resist German aggression. At the time of the occupation, in April 1940, the Danish army consisted of a mere 14,000 men, a number that included 8,000 brand new draftees. The navy manned coastal defenses and had only two major but obsolescent ships. There was no separate air force, but, between them, the Danish army and navy divided 50 obsolete aircraft.

Thanks to the anti-Hitler sabotage of German intelligence chief Wilhelm Canaris, the Danes were given several days' notice of the impending German invasion. However, although they learned of it on April 4, 1940, Danish military authorities did nothing to prepare for the attack until April 8, when Copenhagen was reinforced, as was the border with Germany. These steps were to no avail, and, beginning on April 9, the Germans easily took the country, encountering almost no resistance from the Danish army and absolutely none from the navy.

The first German troops crossed into Denmark at 4:15 a.m. By 6 in the morning, Copenhagen was occupied. In the meantime, a successful Airborne Assault (the first in any war) was launched south of Zealand. Effectively paralyzed, the Danish government ordered a ceasefire and accepted German occupation.

Because the Danish government cooperated with the occupiers, it was not only allowed to retain

a show of neutrality, but also permitted to retain control over the day-to-day administration of government, the police, and the law courts—at least until August 29, 1943, when the rise of the RESISTANCE MOVEMENT in Denmark prompted the Germans to take over administration entirely. Until this time, however, with the Nazis triumphant on many fronts, Danish public opinion largely favored a policy of collaboration. Yet as the tide gradually turned against Germany, the collaborators became less and less collaborative. In 1942, Werner Best, a hardline Nazi bureaucrat, was sent to Denmark to wrest more compliance short of seizing complete control of the government. Outwardly, a majority of the Danish people continued to support collaboration, voting overwhelmingly in March 1943 to support Denmark's collaborationist foreign minister, Erik Scavenius. Yet the resistance movement stepped up acts of sabotage, and workers often went on strike, significantly crippling the industries that fed the Nazi war machine. The British used the BBC to broadcast propaganda, and British Special Operations Executive (SOE) agents were infiltrated into the country to help organize the resistance and coordinate with Allied intelligence requirements. As the power and influence of the underground became increasingly apparent, ADOLF HITLER intervened, formally bringing Denmark under direct German control on August 29, 1943. The Germans now moved quickly to arrest influential citizens believed to be resistance leaders and to preemptively neutralize the tiny, and thus far silent, Danish navy. Naval personnel responded by scuttling their few ships to keep them out of German hands.

The Germans called on Niels Svenningsen, a leading Danish collaborationist, to attend to the day-to-day administration of the country under close Nazi supervision. However, beginning in June 1944, Copenhagen was swept by a general strike in direct protest of German brutality. An increasing number of Danes joined the Frihedsrådet, the Freedom Council, the country's chief resistance organization (founded on September 16, 1943). The council very effectively coordinated underground activities throughout Denmark. Its leadership consisted of six Danes, each representing a major resistance group, and one British SOE agent. The council operated an underground press, which, by 1944, was publishing an astounding 254 illegal newspapers, the combined circulation of which reached some 11 million—in a country with a population of just 3.85 million.

As the NORMANDY LANDINGS (D-DAY) approached, the activities of the Danish underground focused on sabotaging railroad lines in Jutland in order to create an obstacle to reinforcement of the Atlantic coast by German troops stationed in Norway. Danish intelligence, supplied by the underground, provided vital information about the V-1 BUZZ BOMB, one of which fell on the Danish island of Bornholm during an early test flight. The underground also had spectacular success in saving some 7,000 Jews when the Germans began arresting Danish Jews in fall 1943. This large group of refugees was spirited into Sweden—and safety—during the night of October 1.

Denmark's now vigorous resistance did not escape unscathed. Indeed, the GESTAPO succeeded in rounding up many of its top leaders. Informed of this, the Allies sent 18 British Mosquito bombers and 25 U.S. Mustang fighters in March 1945 to bomb Copenhagen's Gestapo headquarters (the Shell House) in a successful effort to destroy its records and to create a diversion that allowed many prisoners held there to escape. Total numbers in the internal Danish resistance probably reached 40,000 at the movement's height. The Danish police were so thoroughly infiltrated by resistance members that the Germans disbanded the force in September 1944 and deported some 2,000 officers. Citizen patrols had to be formed to take the place of the regular police in an effort to control crime.

Danish resistance to the Nazi occupation included Danish expatriates. Henrik Kauffmann, who was in the United States during the invasion serving as Denmark's minister to the country, declared himself an independent representative of the Danish government and, in that capacity, signed a treaty with the Americans in April 1941, giving control of Greenland, a Danish possession, to the United States. The Faeroe Islands were occupied by Britain in April 1940, and the following month

Iceland, at the time a Danish colony, declared its temporary independence. British troops occupied Iceland and were subsequently relieved by American soldiers. In 1944, Iceland proclaimed its permanent independence.

The portion of Denmark's merchant marine fleet that was at sea during the invasion turned itself over to the Allies: some 230 ships and 6,000 sailors. Most joined the Allied merchant marine and suffered heroic losses as a result: 1,500 deaths and nearly two-thirds of the merchant fleet sunk. Other expatriates served aboard two Royal Navy minesweepers and other warships or in the Royal Air Force, British army, or American army. A select number joined the SOE and reentered Denmark to serve in the underground.

The surrender of the Germans to the Allies on May 4, 1945, prompted resistance leaders to seize control of Denmark on May 5. The German commander on Bornholm Island refused to give up, and the island had to be bombed (May 7–8) by Soviet aircraft and then "visited" by Soviet warships (May 9) before the diehard finally capitulated. Soviet troops remained in occupation of the island until April 1946.

In the immediate postwar years, the resistance saw to it that the most egregious collaborators were identified and arrested. In all, about 34,000 Danes were tried and received some form of judicial punishment for having collaborated with the Nazi occupation.

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Desert Rats

The nickname *Desert Rats* was applied to at least three British army organizations that were instrumental in the North African Campaigns against the Italians and Erwin Rommel's Afrika Korps. The name derives from the jerboa, a nocturnal rodent native to North Africa, which hops like a kangaroo.

The 4th Armoured Brigade, which was formed in Egypt in 1938, before the outbreak of war but after the Munich Conference and Agreement, has traditionally claimed to be the first British unit to have adopted the sobriquet *Desert Rats.* However, the 7th Armoured Division appropriated the name and preceded the 4th Armoured Brigade back to England in preparation for the Normandy landings (D-day). The 4th Armoured Brigade left North Africa and participated in the fighting in Italy before returning to England prior to the D-day invasion. When the 4th reached England, it discovered that the 7th was not only calling itself the Desert Rats, but had created a divisional badge featuring an image of a jerboa. Thus spurred, the 4th Armoured Brigade created its own jerboa badge. Finally, the nickname *the Desert Rats* was also often applied generally to the entire Eighth British Army to honor its combat success against the Axis forces in North Africa.

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destroyer escorts

The destroyer escort was an exclusively American ship type first built during World War II. Like the Japanese, American naval planners saw little need for defensive or escort ships before the outbreak of the war, but the terrible toll exacted by German submarines against Allied convoys in the Battle of the Atlantic demonstrated an urgent need for such warships, and a total of 565 destroyer escorts were rushed through production during the war years. That 425 of these were completed and commissioned between April 1943 and April 1944 is astounding even for U.S. wartime production

capacity. Some of the mass production techniques employed to build Liberty Ships were adapted to the destroyer escorts. Large subassemblies were constructed at welding and fabrication shops across the United States, then shipped by rail to the appropriate shipyard.

Although the primary mission of the destroyer escort was convoy defense, the ship could also be pressed into attack service when necessary as the next best thing to a destroyer. However, destroyer escorts were contingency ships, which cost half what it cost to build destroyers and took much less time to build. They were smaller and less fully armed, but they could be put into the sea fast.

Of the 563 destroyer escorts built during and shortly after the war, 78 were built for Great Britain, six for France, and eight for Brazil. A total of 30 of the Edsall class ships were delivered to the U.S. Coast Guard. All the rest of the production went to the U.S. Navy. Originally intended for Atlantic service, a significant number also found their way to the Pacific, often in attack roles rather than the defensive role for which they had been designed. In addition to convoy defense and antisubmarine warfare, the destroyer escorts were used for shore bombardment, picket duty, surface engagements, and even troop transport.

More than a thousand destroyer escorts were ordered during the war, but almost half these orders were cancelled. The majority of the destroyer escort fleet was decommissioned and mothballed after the war, but a few were put into naval reserve duty. Some 52 ships were reactivated during the Korean War, and it was 1973 before the last of the World War II vessels was stricken.

There were six classes of destroyer escort in World War II. All classes made a top speed of 20 to 24 knots and were crewed by 12 to 15 officers and 175 to 200 enlisted personnel.

Evarts class:

Length: 289 feet 5 inches
Beam: 35 feet 1 inch
Displacement: 1,436 tons
Power plant: diesel making 6,000 horsepower
Armament: three 3-inch guns, eight K guns, one twin 40-mm antiaircraft gun, nine 20-mm antiaircraft guns, two depth charge racks, one Hedgehog, and no torpedo tubes

Buckley class:

Length: 306 feet
Beam: 36 feet 9 inches
Displacement: 1,673 tons
Power plant: steam making 12,000 horsepower
Armament: three 3-inch guns, eight K guns, one twin 40-mm antiaircraft gun, eight 20-mm antiaircraft guns, two depth charge racks, one Hedgehog, and one triple torpedo tube

Rodderow class:

Length: 306 feet
Beam: 36 feet 11 inches
Displacement: 1,450 tons
Power plant: steam making 12,000 horsepower
Armament: two 3-inch guns, eight K guns, two twin 40-mm antiaircraft guns, 10 20-mm antiaircraft guns, two depth charge racks, one Hedgehog, and two triple torpedo tubes

Cannon class:

Length: 308 feet
Beam: 36 feet 10 inches
Displacement: 1,525 tons
Power plant: diesel making 10,800 horsepower
Armament: three 3-inch guns, eight K guns, one twin 40-mm antiaircraft gun, eight 20-mm antiaircraft guns, two depth charge racks, one Hedgehog, and one triple torpedo tube

Edsall class:

Length: 306 feet
Beam: 36 feet 10 inches
Displacement: 1,490 tons
Power plant: diesel making 6,000 horsepower
Armament: three 3-inch guns, eight K guns, one twin 40-mm antiaircraft gun, eight 20-mm

antiaircraft guns, two depth charge racks, one Hedgehog, and one triple torpedo tube

Butler class:

Length: 306 feet
Beam: 36 feet 10 inches
Displacement: 1,600 tons
Power plant: steam making 12,000 horsepower
Armament: three 3-inch guns, eight K guns, one twin 40-mm antiaircraft gun, eight 20-mm antiaircraft guns, two depth charge racks, one Hedgehog, and one triple torpedo tube

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destroyers

The destroyer emerged as a warship type at the end of the 19th century. At that time, the term *destroyer* was applied to small, fast ships used to defend battleships from torpedo boat attack. When they were first developed, in the 1890s, destroyers were, in fact, called torpedo-boat destroyers. However, by World War I, their mission had changed from that of countering torpedo boats to serving as platforms for launching torpedoes. They were also typically sent ahead of the battle fleet to serve as its eyes and ears and to defeat, using guns, enemy destroyers. Once the opponent's destroyers were neutralized, the attacking destroyers would switch from deck guns to torpedoes to attack such capital ships as battleships and cruisers.

Before the end of World War I, the submarine had evolved into the principal torpedo-launching vessel, and so the primary role of the destroyer changed again. The vessels were fitted with antisubmarine warfare systems, including hydrophones and depth charges, and were assigned to escort merchant ship convoys and battle fleets, defending them against submarine attack. This antisubmarine escort role was carried over into World War II, but the destroyer mission by that time was also augmented to include antiaircraft (AA) defense. The ships were equipped with radar and antiaircraft guns.

U.S. destroyer in "battle dress" camouflage *(U.S. Navy)*

AMERICAN DESTROYERS

Before the United States entered World War II, the British, their convoys under devastating submarine attack, were in desperate need of destroyers. President Franklin D. Roosevelt concluded the Lend-Lease Act, which traded World War I–era American destroyers for the use of British naval bases in the Western Hemisphere. Before and during World War II, the United States developed 14 major classes of destroyers.

Allen M. Sumner class. The 70 destroyers of this class represented the next evolutionary step from the highly successful Fletcher class, putting greater emphasis on antiaircraft defense. Otherwise, they shared the same power plant as the Fletcher ships but incorporated more battle-survivable twin rudders and were somewhat larger, both wider in beam and longer. Of the 70 ships of this class, five were lost to enemy action.

General specifications of the class included:

Length: 376 feet 6 inches
Beam: 40 feet 10 inches

Draft: 14 feet 5 inches
Displacement (standard): 2,200 tons
Displacement (full): 3,315 tons
Armament: six 5-inch 38 caliber guns, two 40-mm twin antiaircraft mounts, two 40-mm quadruple antiaircraft mounts, and two 21-inch quintuple torpedo tubes
Propulsion: four boilers driving two General Electric turbines, making 60,000 horsepower
Top speed: 34.2 knots
Crew: 20 officers, 325 enlisted

Bagley class. The Bagley class dates to 1934, and eight destroyers of the class were built. Although not the fastest of the U.S. destroyers deployed in World War II, the Bagley class was very stable and therefore served as an excellent antiaircraft platform. During 1942 and 1943–44, the ships were extensively modified with the addition of advanced AA systems, including six 20-mm guns, air and surface search radar, and a twin 40-mm mount. All eight destroyers of this class served in the Pacific Fleet, participating in every major engagement.

General specifications included:

Length: 341 feet 3 ⅝ inches
Beam: 35 feet 6 ⅛ inches
Draft: 12 feet 9.5 inches
Displacement (standard): 1,624 tons
Displacement (full load): 2,245 tons
Power plant: two General Electric geared turbines making 49,000 horsepower
Top speed: 37 knots
Armament (Bagley in May 1944): four 12-mm L/38 guns, two forward superfiring, two aft superfiring; two 40-mm L/56 antiaircraft guns in one twin mount; seven 20-mm L/70 antiaircraft guns; 16 533-mm torpedo tubes in four quadruple wing mounts; four K-Gun depth charges; and two depth charge tracks
Crew: eight officers, 150 enlisted

Benham class. Most of the 10 Benham class destroyers were built in 1938, and all served in the Pacific. They shared the following specifications:

Length: 340 feet 9 inches
Beam: 35 feet 6 inches
Draft: 13 feet 3 inches
Displacement (standard): 1,500 tons
Displacement (full load): 2,350 tons
Power plant: three boilers driving two Westinghouse turbines at 50,000 horsepower
Top speed: 40.7 knots
Armament: four 5-inch 38-caliber guns, two 40-mm twin antiaircraft mounts, and two 21-inch quadruple torpedo tubes
Crew: 16 officers, 235 enlisted

Benson/Gleaves/Livermore/Bristol class. The 96 destroyers of this class (which encompassed a total of four variations) were built during 1937–39 and were the backbone of the U.S. destroyer fleet from 1940 to 1942. They represented an evolutionary improvement on the Sims class, which preceded these ships but featured a general layout that was similar to the earlier generation of vessels, except belowdecks, where there was now a more efficient alternating engine room–boiler room layout. This necessitated two pipes (smoke stacks), because the boilers were now farther apart. The new destroyers also featured enhanced antiaircraft capabilities.

Ships of these classes served in every naval operation of World War II. Initially, most were deployed to the Atlantic, but as the Atlantic became less active as a battlefield in 1944–45, many were redeployed to the Pacific.

General specifications included:

Length: 348 feet
Beam: 36 feet
Draft: 13 feet 8 ¼ inches–13 feet 9 ¾ inches
Displacement (standard): 1,838–1,911 tons
Displacement (full load): 2,572–2,591 tons
Top speed: 35 knots
Armament (as launched): five 127-mm L/38 guns, six 12.7-mm L/90 antiaircraft guns in single mounts, 10 533-mm torpedo tubes in two quintuple centerline mounts, two depth charge tracks, and 10 depth charges
Crew: nine–10 officers, 182–199 enlisted

The Farragut class consisted of eight destroyers authorized in 1918 but not designed until 1931. They were highly advanced ships for their time, and

all were completed by mid-1935. As Destroyer Squadron 1, all eight were present at the Battle of Pearl Harbor on December 7, 1941, and one of the class, USS *Monaghan,* depth charged and sank a Japanese "midget" submarine during the attack. During the war, some of the Farraguts fought in the Aleutians, while others served elsewhere in the Pacific.

General specifications included:

Length: 341 feet 3 inches
Beam: 34 feet 3 inches
Draft: 12 feet 4 inches
Displacement (standard): 1,365 tons
Displacement (full load): 2,255 tons
Power plant: four boilers driving two Curtis turbines for 42,800 horsepower
Top speed: 37 knots
Armament: four 5-inch 38-caliber guns, two 40-mm twin antiaircraft mounts, and two 21-inch quadruple torpedo tubes
Crew: 16 officers, 235 enlisted

Fletcher class. The 175 ships of this class constituted what most naval historians believe to have been the best class of destroyers in World War II. They were introduced in 1942 and became the mainstays of the destroyer fleet from 1943 on. They were fast and capable of absorbing heavy damage. The Fletchers fought through most of the Pacific war. They all displaced about 2,100 tons (standard) and 2,900 tons (fully loaded), making them significantly larger than any preceding American destroyers. This allowed the Fletchers increases in armament, machinery, ammunition, stores, and fuel oil. The ships were built at a fast rate, with 175 launched from 11 shipyards over a 32-month period. The Fletcher class became the most numerous class of destroyers in any nation's navy.

The Fletchers served in the Pacific during World War II and, in the postwar period, saw action in Korea and even Vietnam. Many were transferred to the navies of other nations, and the last one, *Cuitlahuac* (ex-*John Rodgers*), was not decommissioned from the Mexican Navy until 2001.

General specifications included:

Length: 376 feet 5 inches
Beam: 39 feet 7 inches
Draft: 13 feet 9 inches
Displacement (standard): 2,325 tons
Displacement (full load): 2,924 tons
Power plant: four Babcock & Wilcox boilers driving two-shaft G.E.C. geared turbines for 60,000 shaft horsepower
Top Speed: 36 knots
Armament: five 5-inch guns, four 1.1-inch guns, four 20-mm antiaircraft guns and 10 21-inch torpedoes
Crew: 34 officers, 295 enlisted

Gearing class. The 105 ships of this class were launched in the final year of the war (the lead ship, *Gearing,* on February 18, 1945), and many believe it was the most advanced destroyer to emerge from World War II. Certainly, the ships proved durable, serving with the U.S. Navy for some three decades after the war (having been modernized) and with the navies of other nations for even longer. The Gearing class was essentially the same in design as the Sumner class except for the addition of 14 more feet of length to accommodate additional fuel and antiaircraft weapons. They were the final class of U.S. World War II destroyers.

General specifications included:

Length: 390 feet 6 inches
Beam: 40 feet 10 inches
Draft: 14 feet 4 inches
Displacement (standard): 2,425 tons
Displacement (full load): 3,479 tons
Power plant: four Babcock and Wilcox boilers driving two sets of turbines generating a total of 60,000 shaft horsepower
Top speed: 34.5 knots.
Armament: three 5-inch 38-caliber twin gun mounts; five 40-mm gun mounts, ten 21-inch quintupled torpedo tubes, and two depth charge racks of Mk–6 and 7 (cylindrical) and later Mk–9 and 14 (teardrop) depth charges
Crew: 20 officers, 325 enlisted

Gridley class. Consisting of four vessels built in the mid 1930s, the ships used a hull design similar to the earlier Mahan class but featured a single pipe

(smokestack). The Gridley class also mounted 16 torpedo tubes, the heaviest battery ever among American destroyers. Most important, a new power plant produced 50,000 shaft horsepower for a top speed of 42.8 knots, at the time the highest speed of any American destroyer. Although the ships served well in the Pacific, there were lingering concerns over the stability and hull strength of the class.

General specifications included:

Length: 341.33 feet
Beam: 35.4 feet
Draft: 35.4 feet
Displacement (standard): 1,589 tons
Displacement (full load): 2,405 tons
Power plant: 50,000 shaft horse power
Top speed: 42.8 knots
Armament: four single 5-inch/38 DP guns, seven single 20-mm antiaircraft guns, four .50-caliber machine guns, four quad 21-inch torpedo tubes, two depth charge racks, and 14 depth charges
Crew: 10 officers, 225 enlisted

Mahan class. The 16 ships of the Mahan class were authorized in 1934 as improved versions of the Farragut class. Two of the ships, the *Cassin* and *Downes,* were sunk at the Battle of Pearl Harbor. The rest served mainly as escorts for aircraft carriers. Except for battle losses, the ships served throughout World War II.

General specifications included:

Length: 341 feet 4 inches
Beam: 35 feet 5 inches
Draft: 13 feet 2 inches
Displacement (standard): 1,465 tons
Displacement (full load): 2,345 tons
Power plant: four boilers driving two General Electric turbines for 49,000 horsepower
Top speed: 39.2 knots
Armament: four 5-inch .38 caliber guns, two 40-mm twin antiaircraft mounts, and two 21-inch quadruple torpedo tubes
Crew: 16 officers, 235 enlisted

Porter class. Planning for what became the Porter class began in the late 1920s, as naval authorities looked for a large destroyer (sometimes called a destroyer leader) to serve in an intermediate role between conventional destroyers and light cruisers. The intended mission of these large destroyers was to use their guns to break through the enemy screen, creating a breach through which the smaller (following) destroyers would advance. The eight ships of the class were all built during the 1930s. When the ships went to war, they were modified with augmented antiaircraft armament. Three ships of the class, the *McDougal, Winslow,* and *Moffett,* served in the Atlantic during World War II, while the five other vessels served in the Pacific, mainly escorting carriers.

General specifications included:

Length: 381 feet 1 inch
Beam: 37 feet
Draft: 13 feet 9 inches
Displacement (standard): 1,850 tons
Displacement (full load): 2,840 tons
Power plant: four boilers driving two turbines for 50,000 horsepower
Top speed: 36.4 knots
Armament: five 5-inch .38 caliber guns, two 40-mm twin antiaircraft mounts, one 40-mm quadruple antiaircraft mount, and two 21-inch quadruple torpedo tubes
Crew: 16 officers, 278 enlisted

Sims class. The 12 ships of this class were authorized in 1937 and constituted the last destroyer class to be completed before the beginning of World War II. Its design was both backward and forward looking. Like earlier destroyers, the Sims class had a single fireroom and engine room instead of a pair of each, the latter innovation affording a substantial increase in survivability. Unlike previous generations, however, the class had a lengthened, 348-foot hull plus a faired sheer strake, a design feature that gave it a strikingly modern appearance for the time, as did its streamlined bridge. The ships were completed between 1939 and 1940. During the war, ships of this class operated in the Atlantic, the Mediterranean, and the Pacific. Seven survived the war.

General specifications included:

Length: 348 feet 4 inches
Beam: 36 feet

Draft: 13 feet 4 inches
Displacement (standard): 1,570 tons
Displacement (full load): 2,465 tons
Power plant: three boilers driving two Westinghouse turbines for 50,000 horsepower
Top speed: 38.7 knots
Armament: four 5-inch .38-caliber guns, two 40-mm twin antiaircraft mounts, and two 21-inch quadruple torpedo tubes
Crew: 16 officers, 235 enlisted

Somers class. The five ships of this class started out as Porter class vessels but were finally built with innovative power plants that warranted assignment to a new class. The more efficient power plant allowed room for three centerline torpedo mounts. The ships were completed in 1935–36, and, during the war, all served exclusively in the Atlantic or Mediterranean, except the *Sampson,* which was later transferred to the Pacific.

General specifications of the class included:

Length: 381 feet
Beam: 36 feet 11 inches
Draft: 14 feet
Displacement (standard): 1,850 tons
Displacement (full load): 2,905 tons
Power plant: four boilers driving two General Electric turbines for 52,000 horsepower
Top speed: 39.0 knots
Armament: five 5-inch .38-caliber guns, three 40-mm twin antiaircraft mounts, and two 21-inch quadruple torpedo tubes
Crew: 16 officers, 278 enlisted

Clemson and Wickes classes. Most of the destroyers of these World War I–vintage destroyers were transferred to Great Britain in 1940.

BRITISH DESTROYERS

The Royal Navy made extensive use of destroyers in antisubmarine warfare and to escort convoys.

A-class. These 11 ships were commissioned in the early 1930s; two were built for the Royal Canadian Navy. Each ship of the class featured four to eight quad torpedo tubes, and, during the war, they were equipped with augmented antiaircraft defenses. The class was used extensively during the war. Six were sunk.

General specifications included:

Length: 323 feet
Displacement: 1,350 tons
Beam: 32 feet
Draft: 12.2 feet
Power plant: three boilers driving two steam turbines for 34,000 horsepower
Top speed: 35 knots
Armament (as built): four 4.7-inch guns, eight 0.5-inch machine guns, and eight 21-inch torpedo tubes
Crew: 138

B-class. These nine ships essentially duplicated the specifications of the A-class with few minor modifications.

C-class. The six ships of this class were very similar to the A and B classes. All six were turned over to the Royal Canadian Navy before the outbreak of the war, save one ship, which was turned over early in the war. They were used almost exclusively as convoy escorts.

D-class. The 10 ships of this class repeated the major specifications of classes A through C.

E-class. These 10 ships were built in the mid-1930s and were larger than their predecessors. They were intended as "destroyer leaders," ships tasked with breaking through enemy screening vessels and thereby making way for follow-on attack by other ships of the flotilla.

General specifications included:

Length: 329 feet
Displacement: 1,405 tons
Power plant: geared turbines, two shafts, making 36,000 horsepower
Top speed: 36 knots
Armament: four 4.7-inch guns, eight 0.5-inch antiaircraft guns, and eight 21-inch torpedo tubes
Crew: 145 men

F class. These eleven ships repeated the E class with minor modifications.

G class. The 10 ships of the G class were all built in the mid-1930s as light destroyers with two stacks.

Their general specifications included:

Length: 323 feet
Displacement: 1,350 tons
Power plant: two boilers driving geared turbines, two shafts, for 34,000 horsepower
Top speed: 36 knots
Armament: four 4.7-inch guns, two 0.5-inch antiaircraft twin mounts, and eight 21-inch torpedo tubes
Crew: 145 officers and enlisted

H and I classes: These repeated G class, except for minor modifications.

J class. The ships of the J, K and N classes were developed in response to political pressures to cut costs while producing new and more powerful destroyers. The destroyers of this class were ordered in March 1937, and the first of eight ships laid down before the end of the year. Considered formidable combatants, the ships of this class were sent into the most intensive theaters, and they suffered heavy losses.

General specifications included:

Length: 357 feet
Displacement: 1,690 tons
Power plant: two boilers driving geared turbines, two shafts, for 40,000 horsepower
Top speed: 36 knots
Armament: six 4.7-inch guns, four 2-pounder antiaircraft guns, eight 5-inch machine guns, and 10 21-inch torpedo tubes
Crew: 183 officers and enlisted

K and N classes. These essentially repeated the J class, except for minor variations.

L class. The eight ships of the L class were authorized in 1937 and were the product of revised thinking after observations made during the Spanish civil war. The new ships included heavier antiaircraft armament than previous generations of destroyers. They were also the first British destroyers to have their guns in fully enclosed mountings.

General specifications included:

Length: 345 feet
Displacement: 1,930 tons
Power plant: two Admiralty boilers driving Parsons geared turbines, two shafts, for 48.000 horsepower
Armament (typical): six 4.7-inch guns, one 4-inch antiaircraft gun, four 2-pounder antiaircraft guns, eight 0.5-inch antiaircraft guns, and four 21-inch torpedo tubes
Top speed: 36 knots
Crew: 221 officers and enlisted

M class. This class repeated the L class with minor modifications.

O class. The eight ships of this class were ordered pursuant to the First Emergency Flotilla Program announced in 1939 immediately after the outbreak of World War II. The British Admiralty recognized a pressing need for destroyers for antisubmarine warfare and for convoy escort. The lead ship of the class, the *Onslow,* was laid down in 1940, and the other seven ships were completed by the end of 1942.

General specifications included:

Length: 345 feet
Displacement: 1,540 tons
Top speed: 36 knots
Armament: four 4.7-inch guns, four 2-pounder antiaircraft guns, six 20-mm antiaircraft machine guns, and four 21-inch torpedo tubes
Crew: 175 officers and enlisted

P class. These four ships repeated the O class.

Q class. Laid down and built during the early years of the war, six of the eight ships of this class were delivered to the Australian navy.

General specifications included:

Length: 359 feet
Displacement: 1,692 tons
Power plant: two boilers driving geared turbines, two shafts, for 40,000 horsepower
Top speed: 36 knots
Armament: four 4.7-inch guns, four 2-pounder antiaircraft guns, six 20-mm antiaircraft

machine guns, and eight 21-inch torpedo tubes
Crew: 176 officers and men

R class. Repeated the Q class.

S class through W class. These classes, consisting of eight ships each, were all built under provisions of ongoing Emergency Flotilla Programs through 1944.

Their general specifications included:

Displacement: 1,700 tons
Top speed: 37 knots
Armament: four 4.7-inch guns, four 2-pounder antiaircraft guns, six 20-mm antiaircraft machine guns, and eight 21-inch torpedo tubes
Crew: 180 officers and enlisted

Z class. Essentially repeated the S through W classes, with minor modifications.

Town class. The 51 ships of the Town class were World War I–vintage U.S. Navy destroyers exchanged with Great Britain under Lend-Lease. They were extensively refitted by the British and, in the case of Royal Canadian Navy vessels, refitted in Canadian shipyards.

General specifications of the class included:

Length: 314 feet
Displacement: 1,190 tons
Armament: four 4-inch guns, four 21-inch torpedo tubes, and depth charge throwers
Crew: 190 men

Admiralty S class. The 11 World War I–era ships of this class were used at the beginning of World War II but were badly outclassed by the enemy's modern destroyers. Three of the ships were refitted as minelayers, while six others were dispatched to the Far East in 1939 as part of local defense flotillas at Hong Kong and Singapore.

General specifications of the class included:

Displacement: 905 tons
Power plant: two boilers driving geared turbines, 2 shafts, for 27,000 horsepower
Top speed: 36 knots
Armament: three 4-inch guns, one 2-pounder antiaircraft guns, and four 21-inch torpedo tubes
Crew: 90 officers and enlisted

Admiralty V and W classes. These were World War I destroyers that had been consigned to reserve duty prior to the outbreak of the war. They were pressed into service for fleet duties and convoy escort, then were relegated to escort duty as newer destroyers became available.

General specifications included:

Length: 312 feet
Displacement: 1,188 tons
Power plant: two boilers driving geared turbines, 2 shafts, for 30,000 horsepower
Top speed: 34 knots
Armament (original): four 4-inch guns, two 2-pounder antiaircraft guns, and six 21-inch torpedo tubes
Armament (as modified for fast escort duty): four 4-inch antiaircraft guns, and eight 0 .5-inch antiaircraft guns
Armament (as modified for short-range escort duty): three 4-inch guns, and one 3-inch antiaircraft gun, two 2-pounder antiaircraft guns, and three 21-inch torpedo tubes
Armament (as modified for long-range escort duty): two 4-inch guns, one 3-inch antiaircraft gun, two 2-pounder antiaircraft guns, and one Hedgehog
Crew: 134 officers and enlisted

Admiralty Modified W class. There were 15 Admiralty W class ships modified early in the war with more powerful guns.

General specifications included:

Length: 312 feet
Power plant: two boilers driving geared turbines, two shafts, for 27,000 horsepower
Top speed: 34 knots
Armament (original modification): four 4.7-inch guns, two 2-pounder antiaircraft guns, and six 21-inch torpedo tubes

Armament (as short-range escort): three 4.7-inch guns, one 3-inch antiaircraft gun, two 2-pounder antiaircraft guns, and three 21-inch torpedo tubes
Armament (as long-range escort): two 4.7-inch guns, one 3-inch antiaircraft gun, two 2-pounder antiaircraft guns, and one Hedgehog
Crew: 134 officers and enlisted

Tribal class. The 27 ships of the Tribal class were planned in 1934 as a response to the new large destroyers being built by Japan, Italy, and Germany. The first seven of the class were ordered in March 1936. Eight of the class were built during the war for the Royal Canadian Navy, and Australia built three for its own navy.

General specifications of the class included:

Length: 377 feet
Displacement: 1,883 tons
Power plant: two boilers driving geared turbines, two shafts, for 44,000 horsepower
Top speed: 36 knots
Armament: eight 4.7-inch guns, four 2-pounder antiaircraft guns, eight 0.5-inch antiaircraft machine guns, four 21-inch torpedo tubes
Crew: 190–219 officers and men

Battle class. The 18 ships of this class were conceived in 1941, largely in response to Prime Minister Winston Churchill's request for ships to counteract German air attacks on convoys. After much design discussion, the first orders were placed in mid-1942.

General specifications included:

Length: 379 feet
Displacement: 2,325 tons
Power plant: two 2 Admiralty three-drum boilers driving Parson I. R. single reduction turbines for 50,000 horsepower
Top speed: 30 knots
Armament (original): four 4.5-inch guns, one 4-inch gun, eight 40-mm Bofors guns, six 20-mm Oerlikon antiaircraft machine guns, one .303 Vickers, two sets quadruple hand-worked torpedo tubes, with 8 torpedoes, four depth charge throwers, two rails, and 60 depth charges
Crew: 240–288, increasing to 380 in wartime

FRENCH DESTROYERS

The French destroyers at the beginning of World War II comprised three major classes.

L'Adroit class. Of the 14 ships of this class, 10 were lost by 1942.

Their general specifications included:

Length: 351 feet
Displacement: 1,378 tons
Power plant: two boilers driving geared turbines, two shafts, for 35,000 horsepower
Top speed: 33 knots
Armament: four 5.1-inch guns, two 37-mm antiaircraft guns, four 13-mm antiaircraft guns, and six 21.7-inch torpedo tubes
Crew: 100 officers and enlisted

Bourrasque class. Of the dozen ships of this class, seven were lost during 1940 and 1942.

Their general specifications included:

Length: 347 feet
Displacement: 1,298 tons
Power plant: two boilers driving geared turbines, two shafts, for 31,000 horsepower
Top speed: 33 knots
Armament: four 5.1-inch guns, two 37-mm antiaircraft guns, four 13-mm antiaircraft guns, and six 21.7-inch torpedo tubes
Crew: 7 officers and 138 enlisted

Le Hardi class. All eight ships of this destroyer class, the largest, fastest, and most modern destroyers in the French fleet, were lost in North Africa on November 27, 1942.

Their general specifications included:

Length: 383 feet
Displacement: 1,772 tons
Power plant: two boilers driving geared turbines, two shafts, for 58,000 horsepower
Top speed: 37 knots

Armament: six 5.1-inch guns, two 37-mm antiaircraft guns, four 13-mm antiaircraft guns, and seven 21.7-inch torpedo tubes
Crew: 187 officers and enlisted

GERMAN DESTROYERS

Type 34. In November 1932, even before Adolf Hitler came to power, the German Navy began planning its response to the large destroyers being built by Poland and France, even though the Treaty of Versailles forbade Germany from building destroyers of this size. German planners recognized that while its navy would almost certainly be smaller than that of its opponents, the individual ships could be superior. Accordingly, the first of the new class of destroyers, called the Type 34, would be heavier, more powerful, and better armed than the preceding generation of vessels. The Type 34 became the most numerous class of German destroyers, at 16 ships, but suffered from structural flaws and poor mechanical reliability. Another weakness was a lack of adequate storage for ammunition, so that some ships ran out of ammunition in the middle of an action.

General specifications included:

Length: 390.42 feet
Beam: 37.07 feet
Displacement (standard): 2,268 tons
Displacement (full load): 3,206 tons
Power plant: 70,000 horsepower
Top speed: 38 knots
Armament: five 127-mm (5.0-in) guns in single mounts, four 37-mm (1.46-in) cannon in two double mounts, six 20-mm (0.79-in) machine guns in single mounts, eight 21-inch torpedo tubes in two quadruple mounts, four depth charge launchers with two on each side of the superstructure, and two rails fitted at stern
Crew: 325 officers and enlisted

Type 36A or Z23 Class. Whereas the Type 34 destroyers were built prior to the war, the Type 36A, also called the Z23 Class, were built during the war and were launched between 1940 and 1942. The new ships were an incremental improvement over the previous generation, providing more powerful guns and greater range.

General specifications included:

Length: 416.67 feet
Beam: 39.4 feet
Displacement (standard): 2,600 tons
Displacement (full load): 3,600 tons
Power plant: two boilers driving two turbines for 70,000 horsepower
Top speed: 36 knots
Armament: three single and one twin 150-mm gun, two twin 37-mm antiaircraft guns, five single 20-mm antiaircraft guns, and two quad 21-inch torpedo tubes
Crew: 321 officers and enlisted

Type 36B or Z35 class. The 150-mm guns of the Type 36A class proved to be disappointing performers, so the new 36B ships were designed around 127-mm main guns. They were somewhat lighter than the 36A ships but basically of similar profile.

General specifications included:

Length: 416.67 feet
Beam: 39.4 feet
Displacement (standard): 2,525 tons
Displacement (full load): 3,505 tons
Power plant: two boilers driving two turbines for 70,000 horsepower
Top speed: 36 knots
Armament: five single 127-mm guns, two twin antiaircraft guns, three quad and three single 20-mm antiaircraft guns, and two quad 21-inch torpedo tubes
Crew: 321 officers and enlisted

SP1 or Z40 class. These ships were originally conceived as "scout cruisers," vessels bigger than destroyers but smaller than light cruisers. The Allies classified them as large destroyers. Only three were built.

Their general specifications included:

Length: 498.7 feet
Beam: 47.9 feet
Displacement (standard): 4,540 tons

Power plant: two boilers driving two geared turbines for 77,500 horsepower
Top speed: 36 knots
Armament: three twin 150-mm guns, one twin 88-mm gun, four twin 37-mm antiaircraft guns, three quad 20-mm antiaircraft guns, and two quintuple 21-inch torpedo tubes
Crew: number unknown

T22 or Ebbing class. This class encompassed light destroyers with greater capability and capacity than torpedo boats.

General specifications included:

Length: 334.6 feet
Beam: 32.8 feet
Displacement (standard): 1,295 tons
Displacement (full load): 1,755 tons
Power plant: two boilers driving steam turbines for 32,000 horsepower
Top speed: 32.5 knots
Armament: four single 105-mm guns, two twin 37-mm antiaircraft guns, six single 20-mm antiaircraft guns, and two triple 21-inch torpedo tubes
Crew: 198 officers and enlisted

ITALIAN DESTROYERS

The Italian Navy sailed five major classes of destroyers, which were generally referred to as torpedo boats.

Generale class. These six ships were of World War I vintage and were quite small, although, for their size, well armed. None were employed in front-line operations because they would have been readily outclassed by virtually any modern opponent.

General specifications included:

Length: 241.1 feet
Beam: 24 feet
Displacement (standard): 635 tons
Displacement (full load): 890 tons
Power plant: two boilers driving steam turbines for 15,000 horsepower
Top speed: 30 knots
Armament: three single 102-mm guns, two 76-mm antiaircraft guns, and two twin 450-mm torpedo tubes
Crew: 105 officers and enlisted

Turbine class. Built during 1927–28, the eight ships of this class were inadequately armed with low-velocity 120-mm main guns. All were sunk early in the war, except for the *Turbine* itself, which was taken over by the Germans after the Italian capitulation. It was sunk in September 1944.

General specifications included:

Length: 304 feet
Beam: 30.2 feet
Displacement (standard): 1,090 tons
Displacement (full load): 1,700 tons
Power plant: two boilers driving two turbines for 40,000 horsepower
Armament: two twin 120-mm guns, two single 40-mm antiaircraft guns, and two triple 21-inch torpedo tubes
Crew: 180 officers and enlisted

Navigatore class. Built during 1928–30, the dozen ships of the Navigatore class were large for their day, but by the time of World War II, they were surpassed by the increasing scale of modern destroyers. They were very fast ships, but the light construction that gave them their speed detracted from their seakeeping qualities and also made them more vulnerable to enemy fire.

General specifications included:

Length: 353.5 feet
Beam: 33.5 feet
Displacement (standard): 1,945 tons
Displacement (full load): 2,580 tons
Power plant: two boilers driving two geared turbines for 50,000 horsepower
Top speed: 38 knots
Armament: three twin 120-mm guns, three single 37-mm antiaircraft guns, and two twin or triple 21-inch torpedo tubes
Crew: 225 officers and enlisted

Soldato class. This was the first of several similar classes of Italian destroyers, which began con-

struction in 1930–32 and ended in 1937–38. These were fine ships capable of high speed although deficient in their torpedo complement.

General specifications included:

Length: 350.2 feet
Beam: 33.3 feet
Displacement (standard): 1,830 tons
Displacement (full load): 2,460 tons
Power plant: two boilers driving two geared turbines for 48,000 horsepower
Top speed: 39 knots
Armament: four or five 120-mm guns, one 37-mm antiaircraft gun, and two triple 21-inch torpedo tubes
Crew: 218 officers and enlisted

Ariete class. The Ariete class was built during the war, in 1942–43 and was definitely classed by the Italians as a torpedo boat type rather than as a destroyer. Of the 40 ships planned, only 16 were laid down, and only one was delivered to the Italian fleet.

General specifications included:

Length: 269.8 feet
Beam: 28.2 feet
Displacement (standard): 800 tons
Displacement (full load): 1,125 tons
Power plant: two boilers driving two turbines for 22,000 horsepower
Top speed: 31 knots
Armament: two single 100-mm guns, two single 37-mm antiaircraft guns, and two triple 21-inch torpedo tubes
Crew: 155 officers and enlisted

JAPANESE DESTROYERS

The Japanese entered World War II with perhaps the finest destroyers among any of the combatants, culminating in the highly advanced Akitsuki class, which were intermediate between true destroyers and light cruisers. The Imperial Navy used its large destroyer fleet in a variety of roles, from providing off-shore support for the army, to escort duty, to offensive action that took the battle to the American fleet. The major classes of Japanese destroyers included the following.

Minekaze class. Built between 1919 and 1922, the destroyers of this aging class served throughout World War II. Advanced for their time, they were outclassed by the beginning of the war but were often armed with extra depth charges and augmented antiaircraft defenses to serve as convoy escorts.

General specifications included:

Length: 336.3 feet
Beam: 29.5 feet
Displacement (standard): 1,215 tons
Displacement (full load): 1,650 tons
Power plant: two boilers driving two geared steam turbines for 38,500 horsepower
Top speed: 39 knots
Armament: four single 120-mm guns, two machine guns, and two triple 21-inch torpedo tubes
Crew: 148 officers and enlisted

Fubuki class. There were 20 ships of this class launched between 1927 and 1931. They represented at that time the cutting edge of destroyer design, and, indeed, the ships remained formidable adversaries throughout World War II. Their leading characteristic was their size, a precedent that other nations would follow, albeit mostly in ships built during the war.

General specifications included:

Length: 388.3 feet
Beam: 34 feet
Displacement (standard): 2.090 tons
Power plant: two boilers driving two geared steam turbines for 50,000 horsepower
Top speed: 37 knots
Armament: three twin 127-mm guns, two machine guns, and three triple 24-inch torpedo tubes
Crew: 197 officers and enlisted

Ootori class. These eight ships, launched during 1935–37, were in stark contrast to the prevailing Japanese philosophy of building ever larger destroyers. Designers created a very light, slender ship, then packed it with an ambitious array of armaments. The result was not entirely successful, as the ships showed poor seakeeping and even a

tendency to capsize. Nevertheless, these eight vessels served through much of the war.

Their general specifications included:

Length: 289.9 feet
Beam: 26.9 feet
Displacement (standard): 840 tons
Displacement (full load): 1,060 tons
Power plant: two boilers driving two geared steam turbines for 19,000 horsepower
Top speed: 30 knots
Armament: three single 120-mm guns, one 40-mm antiaircraft gun, and one triple 21-inch torpedo tube
Crew: 112 officers and enlisted

Akatsuki and Kagero classes. These two classes were virtually identical, except that the Kagero class (18 ships) was slightly broader in the beam than the four ships of the Akatsuki class. The Akatsuki ships were launched in the early 1930s, whereas the Kagero class ships were launched between 1938 and 1941. Both were large, speedy, highly survivable combatants, but, like other Japanese destroyers, they had been designed primarily for surface combat and had to be extensively modified with weapons for antisubmarine warfare and antiaircraft defense.

General specifications of the Kagero class included:

Length: 388.6 feet
Beam: 35.4 feet
Displacement (standard): 2,035 tons
Displacement (full load): 2,490 tons
Power plant: two boilers driving two geared steam turbines for 52,000 horsepower
Top speed: 35 knots
Armament: three twin 127-mm guns, two twin 25-mm antiaircraft guns, and two quad 24-inch torpedo tubes
Crew: 240 officers and enlisted

Akitsuki class. Massive by destroyer standards, the ships of this class might, in fact, be deemed light cruisers. The guns of these dozen ships were powerful and plentiful, generally capable of a higher rate of fire than their Western opponents. These ships were formidable antiaircraft platforms, and they had room for plenty of depth charges to use against submarines. Speed, at 33 knots, was adequate.

General specifications included:

Length: 440 feet
Beam: 38.1 feet
Displacement (standard): 2,700 tons
Displacement (full load): 3,700 tons
Power plant: two boilers driving two geared steam turbines for 52,000 horsepower
Top speed: 33 knots
Armament: four twin 100-mm guns, two twin 25-mm antiaircraft guns, and one quad 24-inch torpedo tube
Crew: 285 officers and enlisted

Matsu class. The ships of this class were products of desperation. Although 28 were planned, only 17 were built during 1944–45 in an effort to make up the heavy losses suffered by the Imperial Navy. The ships were small and inelegant, designed for rapid construction from dwindling supplies of raw materials.

Their general specifications included:

Length: 328.1 feet
Beam: 30.7 feet
Displacement (standard): 1,260 tons
Displacement (full load): 1,530 tons
Power plant: two boilers driving two geared steam turbines for 19,000 horsepower
Top speed: 27.5 knots
Armament: one twin and one single 127-mm gun, four triple and 12 single 25-mm antiaircraft guns, and one quad 24-inch torpedo tube

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Dieppe raid

Originally code named Operation Rutter, the raid on Dieppe, a German-occupied French port, was launched on August 19, 1942. It was planned by the Combined Operations Headquarters of the British army in collaboration with the General Headquarters of the Home Forces, which had delegated authority to Gen. Bernard Law Montgomery, at the time commander in chief of the Southeastern Command. Montgomery fashioned the raid into a full-scale frontal assault on Dieppe but made no provision for preparation in the form of aerial bombardment. While the raid was planned by the British, it was executed primarily by Canadian troops of the 2nd Canadian Division, commanded by Maj. Gen. J. H. Roberts, largely in response to a Canadian request for a greater role in the war. When adverse weather postponed Operation Rutter on July 7, 1942, Montgomery reconsidered the entire enterprise and ended up recommending that it be discarded altogether. Thus, Dieppe might never have happened but for the fact that Montgomery was transferred to command of the Eighth British Army in North Africa, leaving Vice Admiral Lord Louis Mountbatten, chief of Combined Operations, to revive Rutter as Operation Jubilee. Not only was this decision unfortunate from a tactical point of view, it presented a grave security risk, since Operation Rutter, planned then cancelled, was no longer a secret. Nevertheless, the operation went forward—and would prove disastrous.

Operation Jubilee was launched from five English ports between Southampton and Newhaven and included 4,963 Canadians, 1,075 British, and 50 U.S. Army rangers, a force far too small for an ambitious frontal assault on the port of an occupied country. Much more impressive was the naval force assembled to support the raid, 237 warships and landing craft, until one recognizes that no battleships were employed because of the difficulties of maneuvering in the English Channel. Eight destroyers were expected to lend fire support to the landings. It was a mission for which destroyers were not at all suited. Naval bombardment preparatory to a major amphibious assault requires the heavy guns of battleships or cruisers. Nor was air cover adequate, because the British declined to divert heavy bombers from the Strategic bombing of Germany. Only fighter squadrons were deployed in the hope of drawing the Luftwaffe into open battle. There was no preparatory aerial bombardment.

Although aerial reconnaissance had been thorough, it was limited to coastal defenses and did not reveal the German gun emplacements in the cliffs of the headlands. Indeed, on-the-ground intelligence was generally lacking, and very little was known about German order of battle or even basic numbers. Terrain had been superficially assessed, not from military maps or eyewitnesses, but from a collection of holiday snapshots. Thus, an inadequate force was being sent, without preparation by naval or aerial bombardment and virtually blind, against the superbly prepared defenses of a highly skilled enemy.

The raid stepped off at dawn and began with attacks along a 10-mile front against a coastal battery near Varengeville, German positions at Pourville, German positions at Puys, and the coastal battery near Berneval. The German garrisons offered a stout defense and, even worse, a German convoy in the area fired on the landing force. (This came as a surprise to the Canadians, but should not have, since the admiralty *twice* warned them of the presence of the convoy.) Because of the exchange with the convoy, the vital element of surprise, already compromised, was completely sacrificed.

The commandos succeeded in temporarily suppressing fire from the Berneval battery, and commandos also captured the Varengeville battery. But elsewhere, the landings went very badly. At Puys, the Canadians landed late. At Pourville, the Canadians landed unopposed, but many were landed in the wrong places, thereby delaying the assault on the high ground to the east. This deficit would never be corrected. By the time the unintentionally piecemeal preliminary landings were completed,

the Germans had positioned strong reinforcements to repel the threat.

At 5:20 in the morning, a half-hour after the initial flank attacks, the main assault was launched by the Royal Hamilton Light Infantry, the Essex Scottish Regiment, and tanks of the 14th Army Tank Regiment. Aircraft did nothing but lay a smokescreen, and the landing of the tanks was delayed. As a result, the defenders recovered the initiative quickly, pinning down most of the assaulting troops before they could enter the town of Dieppe. When the tanks finally landed, only 15 of 27 were able to negotiate the sea wall, and these were soon blocked by German defenses.

Pinned down, the Canadians were being torn apart. However, poor communication led Roberts to assume that the assault was going as planned. Therefore, he ordered two of his floating reserves, Les Fusiliers Mont-Royal and commandos of the Royal Marines, to land, inadvertently leading them into ambush. The Fusiliers were immediately pinned down under the port's cliffs, while the commandos, literally rushing to their destruction, were saved by their field commander from total annihilation. Perceiving the true nature of the situation, he was able to turn back at least some of the landing craft before he was fatally stricken by fire from shore.

At 11 A.M. the order was given to abort the raid and withdraw from the beaches. By this time, German fire was heavier than ever, and the next four hours saw continual slaughter. By two in the afternoon, the survivors had withdrawn. Of 4,963 Canadians committed to battle, 3,367 were killed, wounded, or taken prisoner. (Miraculously, most of the wounded eventually recovered.) British ground casualties were 275, and the Royal Navy lost a destroyer and 33 landing craft and suffered 550 casualties, killed or wounded. The Royal Air Force fared very poorly, losing 106 aircraft. As for the Germans, casualties were nearly negligible: 48 of 945 aircraft and 591 men killed or wounded.

Prime Minister WINSTON CHURCHILL, who had demanded offensive action prematurely, nearly became a political casualty of Dieppe, as did Mountbatten, who endured much justified criticism. Yet while it is difficult to find much benefit in what was an unmitigated fiasco and, indeed, a tragic waste of life, the lessons of Dieppe did not go unheeded. First, the Allies took to heart the absolute necessity of providing aerial bombardment preparation and then sustained close air support for any amphibious assault. They learned the absolute necessity of overwhelming sea support. They learned the importance of securing thorough ground-based intelligence. They learned the vital importance of never compromising secrecy or sacrificing the element of surprise. Most of all, they learned that a frontal assault on Europe would require huge numbers and absolute coordination among all units. These were valuable lessons, but the fact is that they should have been learned without the fruitless sacrifices of Dieppe, which, despite lessons learned, was in no real sense a prelude to the much later NORMANDY LANDINGS (D-DAY), although a few historians and writers have suggested as much.

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Dietrich, Josef "Sepp" (1892–1966) *key SS commander found culpable for the Malmédy Massacre*

Sepp Dietrich was one of ADOLF HITLER's inner circle, the first commander of SS Watch Battalion-Berlin, which became the SS Leibstandarte (Life Guard)-Adolf Hitler, and later the chief of Führer's Security. It was Dietrich's SS who provided a seven-man shooting party during the infamous Night of the Long Knives (June 28–29, 1934), the overthrow of the STURMABTEILUNG (SA).

Dietrich was born in Hawangen, Bavaria, and joined the German Army in 1911. He fought with distinction and valor during World War I and was one of the crew that manned Germany's very first tank. After the war, Dietrich joined the FREIKORPS and took part in the violent overthrow of Munich's local Communist regime. He soon joined the NAZI

Sepp Dietrich *(Library of Congress)*

Party (NSDAP) and, in 1928, enrolled in the newly formed Schutzstaffel (SS). Rising rapidly in the SS, he became a member of Hitler's inner circle, eventually coming to work and live in the chancellery, occupying a room in Hitler's personal suite. The führer assigned Dietrich to create and command the SS Watch Battalion-Berlin, which evolved into the SS Leibstandarte (Life Guard)-Adolf Hitler. Appointed chief of Hitler's personal security force, Dietrich was assigned to provide the hit squad for the raid on the SA during the Night of the Long Knives (June 28–29, 1934). After this, on July 1, 1934, Dietrich was promoted to SS Obergruppenfuehrer, equivalent in rank to a Wehrmacht general. Dietrich went on to develop the SS Leibstandarte into an elite combat unit, which served with distinction in the Battle of France. For his role in the campaign, Dietrich received the Knight's Cross of the Iron Cross on July 5, 1940. His Leibstandarte was next expanded into a full brigade as Dietrich led it in the invasion of Yugoslavia and the invasion of Greece.

Commanding the 1st SS Panzer Division, Dietrich took part in the invasion of the Soviet Union and was largely responsible for ensuring his troops' survival during the retreat through Russia. Dietrich was in command of the SS 1st Panzer Division in Normandy during D-day and suffered profound disillusionment with Hitler when he was ordered to hold his ground rather than retreat to a more favorable defensive position. Despite this, Dietrich accepted Hitler's assignment as the spearhead of the December 1944 Ardennes offensive. Despite his leading role in the SS, Dietrich had a reputation for avoiding the worst extremes of German Atrocities and even, on one occasion, protested personally to Hitler the wholesale shooting of unarmed Jewish civilians. Yet he may have shared the guilt for the Malmédy Massacre, the cold blooded murder of American prisoners of war during the Ardennes offensive. (After the war, he was found guilty of having committed an "offense against customs and ethics of war," though other high-ranking German officers came to his defense.)

Dietrich's last battle was fought in Vienna. Failing to halt the Red Army's advance into the city, Dietrich fled west and surrendered his army to U.S. general George Smith Patton Jr. on May 8, 1945.

After a military tribunal found him guilty of complicity in the Malmédy Massacre, Dietrich was sentenced to life imprisonment. The sentence was subsequently commuted to 25 years, and Dietrich was released in 1955, after serving 10. However, a German court ordered his arrest and trial for his role in the murder of Ernst Roehm and other SA members. Sentenced to 18 months, he was released in February 1958. Eight years later, he succumbed to a heart attack.

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Dimitrov, Georgi (1882–1949) *leader of anti-Nazi resistance in Bulgaria*

A Bulgarian communist leader, Dimitrov, based in Moscow, directed anti-Nazi resistance in Bulgaria

during World War II. He was born in Kovachevtsi, Bulgaria, and worked as a printer. Active in the trade union movement, Dimitrov became a prominent socialist and led the Bulgarian parliament's socialist opposition to financing World War I. In 1919, Dimitrov was instrumental in the creation of the Bulgarian Communist Party. He traveled to the Soviet Union, where he was elected to the executive committee of the Comintern (Communist International) in 1921, then returned to Bulgaria in 1923 to lead a communist uprising. When the uprising was suppressed, Dimitrov fled to Berlin in 1929 and became head of the central European Comintern.

Dimitrov came to international prominence after the burning of the Reichstag on February 27, 1933. He and other prominent communists were accused of arson. Acting as his own counsel at his trial, Dimitrov defended himself so brilliantly that he was acquitted. He left Berlin and moved to Moscow, where he was named secretary general of the Comintern's executive committee, serving from 1935 to 1943. In this role, he nurtured the development of various national popular front movements against the Nazis, suspending this activity only when Joseph Stalin and Adolf Hitler concluded the German-Soviet Non-Aggression Pact. After the German invasion of the Soviet Union, however, Dimitrov resumed his work.

Beginning in 1944, Dimitrov began directing from Moscow Bulgaria's organized resistance to the nation's puppet government. He returned to Bulgaria immediately after the war and was appointed prime minister of the communist Fatherland Front government. The following year, he masterminded the formation of the Bulgarian People's Republic.

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Dirksen, Herbert von (1882–1955) *Nazi diplomat*

Dirksen was a Weimar diplomat and then a diplomat in the Nazi service. Born in Berlin, he studied law and became an attorney, then an assistant judge. He served with distinction in combat in World War I, earning an Iron Cross, then joined the diplomatic service, with postings in Kiev (1918–19) and Warsaw (1920–21). He was appointed consul-general in Danzig (Gdansk) in 1923 and served until 1925, when he was appointed chief of the East European division of the Foreign Office. In 1928, he was named ambassador to the Soviet Union and served until 1933. Adolf Hitler approved Dirksen's appointment as ambassador to Japan in 1933, and he served in that office until 1938, when he was tapped to replace Joachim von Ribbentrop as ambassador to Great Britain.

Recalled at the outbreak of World War II, Dirksen returned to Berlin and retired. Although Dirksen was a member of the Nazi Party, he was cleared in June 1947 of any complicity in war crimes. He published *Moscow, Tokyo, London,* a valuable memoir of German foreign relations during the Weimar years and the prewar years of the Third Reich.

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Dissard, Marie Louise (1880–1974) *French resistance worker*

As a member of the French resistance, Dissard was responsible for arranging the return to Britain of more than 250 Allied airmen who had bailed out of disabled aircraft over France. Born in Toulouse in 1880, Dissard was 60 years old when France fell after the Battle of France in 1940. She joined the resistance immediately, working under Ian Garrow, a British soldier who, having missed the Dunkirk evacuation, remained in France and worked to arrange an escape route for Allied airmen over the Pyrenees. Dissard and Garrow were based in Toulouse, from which they ran operations in Paris, Marseilles, and Perpignan.

When Garrow was captured in October 1941, Albert Guerisse became head of the escape network. Dissard succeeded him when he was arrested. Because of her relatively advanced age, the GESTAPO did not suspect that she was a resistance member. This gave her considerable freedom to travel throughout France, arranging escape for airmen. Her customary procedure was to escort airmen to Toulouse, where, through the network, she arranged lodgings. From here, they were moved to Perpignan and transferred to the care of guides for the trek across the Pyrenees.

Crisis came for Dissard in January 1944 when one of the Pyrenees guides was arrested in Perpignan. In a grave breach of resistance practice, he had carried a notebook, which contained Dissard's name. Fortunately, she learned of this discovery and was able to go into hiding. She found refuge in various attics, cellars, and garages in and around Toulouse, regaining her freedom only after France had been liberated. Remarkably, all during this period of hiding and evasion, Dissard continued her work for the escape network. Of the 250-plus airmen she rescued, 110 were sent into escape even as the Gestapo was hunting for her. After the war, the U.S. government recognized Dissard's services with the nation's highest civilian award, the Medal of Freedom.

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dive bombers

In World War II, a dive bomber was an aircraft designed to dive against its target at a very steep angle to achieve the highest degree of accuracy. The principle was simple: Dropping a bomb very close to its target decreases the time it takes for the bomb to reach the target, and the speed of the dive provides momentum that increases the speed of the dropped bomb. Together decreased distance and increased speed reduce the effects of drag, making the path of the bomb much more predictable. The dive bomber was used for tactical rather than strategic bombing, that is, targets were such high-value individual installations as bridges, command buildings, important vehicles, and ships.

The dive bombing concept dates to World War I. No special aircraft existed then, but Royal Air Force pilots developed and practiced steep dive techniques. They were severely limited by the inherent fragility of early airframes, which could not withstand the stress of recovery from a steep dive. U.S. Marine aviators in action against Haitian and Nicaraguan guerrillas in the 1920s employed limited dive bombing techniques. Although aircraft technology advanced sufficiently in the late 1920s to allow steeper dives and safer recoveries, the U.S. Army Air Corps focused on the development of strategic bombers. The U.S. Navy, however, recognized the value of dive bombers as antiship weapons and ordered the first aircraft designed specifically for the dive bombing mission, the Curtiss F8C Helldiver.

The Helldiver was a two-seat biplane first delivered to the navy in 1928 as the F8C-1. It was powered by a 430-horsepower Pratt and Whitney radial engine and had a top speed of a little more than 140 mph, but it was sturdy, and, in 1929, the navy ordered a modified version designated as the F8C-4, which could carry a modest bomb load that could be deployed in a steep dive. (The F8C-4 Helldiver is not to be confused with the later SB2C Helldiver, a far more advanced monoplane dive bomber introduced in 1940.)

If the F8C-4 pleased the U.S. Navy, it made an even greater impact on a German military observer visiting the United States in the early 1930s. Ernst Udet, who was otherwise unimpressed by the mostly backward state of American military aircraft, purchased four F8C-4s and sent them to Germany. Luftwaffe planners immediately understood their significance. Dive bombing would allow a relatively small air force to become a potent tactical weapon, precisely what was needed to conduct BLITZKRIEG-style assaults. Inspired by the F8C-4, German designers developed the Junkers Ju 87 Stuka, destined to become the archetypal and most feared dive bomber in the world.

The prototype first flew in 1934, and various production models were produced, the most advanced of which, the Ju 87 D-1, appearing in 1941. The Stuka was extraordinarily effective against vehicles, fortifications, ships, and personnel. Against the latter, the effects were not merely physical but psychological as well. The Stuka descended at an angle of 80°, like a giant bird of prey. Sirens were fitted on its nonretractable wheel covers, so that an unearthly keening was emitted as the aircraft dived, amplifying the effect of terror and panic. Most innovative was an automatic pull-up system, which was activated upon bomb release. It ensured that the plane pulled out of its dive even if the pilot lost consciousness due to high G forces.

The Stuka was most devastatingly effective early in the war, during the INVASION OF POLAND and the BATTLE OF FRANCE, the heyday of Blitzkrieg. Once the Allies deployed even moderately advanced fighters against the aircraft, it proved highly vulnerable. Nevertheless, some 5,709 Stukas were built before the end of the war. General specifications of the Ju 87 D-1 included:

Wingspan: 45 feet 3 inches
Top speed: 255 mph
Service ceiling: 24,000 feet

The Japanese also developed dive bombers for deployment from aircraft carriers and against naval targets. The first was the Aichi D3A, code named "Val" by the Allies. The Val was among the aircraft used against PEARL HARBOR and, it was one of these planes that dropped the first bombs of the attack. A two-seat aircraft, the Val was the standard Japanese carrier-based dive bomber during the early stages of the Pacific War. Its general specifications included:

Wingspan: 47 feet 2 inches
Power plant (D3A2): one 1,200-horsepower Kinsei 54
Top speed (D3A2): 281 mph
Service ceiling (D3A2): 35,700 feet
Armament: two fixed forward-firing 7.7-mm machine guns in wings and one 7.7-mm manually aimed machine gun in rear cockpit
Bomb load: one 250-kg bomb under fuselage plus two 60-kg bombs under wings

Like the German Stuka, the Japanese Val soon proved vulnerable to enemy fighters and was replaced by the Yokosuka D4Y Suisei, called "Judy" by the Allies. Introduced in 1942, the early units were unreliable and suffered from structural problems that were catastrophic in a dive bomber. But once these problems had been solved, the Judy was a highly effective two-seat dive bomber. A total of 2,157 were built. General specifications included:

Wingspan: 37 feet 9 inches
Power plant (D4Y3, D4Y4): one 1,560-horsepower Mitsubishi Kinsei 62 14-cylinder two-row radial
Top speed: (D4Y3): 356 mph.
Service ceiling: 34,500 feet
Armament (typical): two 7.7-mm fixed forward-firing machine guns above engine and one 7.7-mm manually aimed 7.7-mm machine gun in rear cockpit
Bomb load: one 250-kg bomb in internal fuselage bay and two 30-kg bombs, one under each wing

By this time, the U.S. Navy was flying the Douglas SBD Dauntless and the Curtiss SB2C. Design on the Dauntless began in 1938, and the aircraft went into production in 1940 for the U.S. Marine Corps and the U.S. Navy. The U.S. Army Air Corps ordered the SBD-3 version in 1941, designating it A-24. However, the army made little use of the aircraft. General specifications of the final version, SBD-6, included:

Wingspan: 41 feet 6 inches
Power plant: one 1,350-horsepower Wright R–1820–66 Cyclone nine-cylinder radial piston engine
Top speed: 255 mph
Ceiling: 25,200 feet
Armament: two forward-firing 12.7-mm (0.5-inch) machine guns and two 7.62-mm (0.3-inch) machine guns on flexible mounts
Bomb load: up to 1,600 pounds of bombs under fuselage and up to 650 pounds of bombs under wings

Nearly 5,936 Dauntless dive bombers were built, but even more—some 7,000—of the Curtiss SB2C Helldiver rolled off assembly lines to join the fleet in 1943. A two-seat dive bomber, the aircraft had a reputation for being very difficult to handle at slow speeds and was initially so despised by pilots that the designation *SB2C* was said to denote "Son of a Bitch, Second Class." Nevertheless, the Helldiver was responsible for the destruction of more Japanese targets than any other aircraft. Specifications of the SB2C–4 version included:

Wingspan: 49 feet 9 inches
Power plant: one 1,900-horsepower Wright R–2600–20 Cyclone 14 radial piston engine
Top speed: 295 mph
Ceiling: 29,100 feet
Armament: two 20-mm wing-mounted cannon and two 7.62-mm (0.3-inch) machine guns in rear cockpit
Bomb load: up to 2,000 pounds of bombs on underwing racks and in fuselage bay

While the Americans, Germans, and Japanese made extensive use of dive bombers, the British never developed either overland or antiship equivalents of this aircraft. Indeed, the dive bomber as an aircraft type proved to be short lived. It disappeared after the war as the speed of level-flying aircraft increased and the vastly improved quality of computing bombsights provided great accuracy for level bombing or bomb runs from shallow angles.

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Dobbie, William (1879–1964) *British military governor of besieged Malta*

Lieutenant General Sir William Dobbie was military governor of Malta. A profoundly religious man raised in the church of the Protestant Plymouth Brethren, he took what many considered a religious approach to leadership and has been criticized for his failure to attend to such practical matters as building adequate bomb shelters, laying up sufficient stores, and instituting effective civil defense and food rationing programs, all of which were badly needed during the SIEGE OF MALTA.

Dobbie had served in the Boer War and in World War I. Between the two world wars, he was commandant of the British School of Military Engineering.

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Dodecanese campaign of 1943

Dodecanese, from the Greek, meaning "Twelve Islands," is a group of islands in the Aegean Sea off the southwestern coast of Turkey. By the terms of the 1923 Treaty of Lausanne, the islands became possessions of Italy and were thus during World War II (after which, they became part of Greece). As part of the Mediterranean Sea naval operations, battles were fought on and among these islands during 1943. Important Axis installations included Italian air bases on Rhodes (the largest and most important of the islands), an airstrip on Cos, and a seaplane base with naval shore batteries at Leros. Germany had an air base at Scarpanto.

On the very day Italy concluded a separate peace with the Allies, September 8, 1943, a British officer was parachuted into Rhodes, charged with coaxing the 30,000 men of the Italian garrison

there to turn against and take prisoner the 7,000 Germans on the island. Astoundingly, the vastly outnumbered Germans preempted this by attacking the Italians, who quickly surrendered—to the Germans.

Under British general Henry Maitland "Jumbo" Wilson and on orders directly from Winston Churchill, a British brigade of infantry was dispatched to join other small units already in the area, so that by the beginning of October, some 4,000 British troops were thinly deployed across eight of the Dodecanese, as well as the island of Samos to the north of the group. Unfortunately, lack of Allied air support (which was heavily committed to the ongoing Italian campaign), prevented the outnumbered British from gaining air superiority, and, surprisingly enough, the Germans were determined to hold the islands. On October 3, they attacked the British contingent at Cos, which quickly surrendered. At this point, Wilson and others advised Churchill to order a general withdrawal from the Dodecanese. Churchill, as usual, had a grander strategic motive for wanting to hold the islands. He thought the islands could be used as a springboard to an offensive in the Balkans, which might bring hitherto neutral Turkey (a nation that pressed a claim of sovereignty over the Dodecanese) into the war on the side of the Allies. This would infuse 40 fresh divisions into the cause. Nevertheless, both his British advisers and American allies objected, albeit to no avail. Ordering that Leros and Samos be held, Churchill resolved to carry on with plans to invade Rhodes.

In November, reinforcements arrived on Leros, bringing the number of British troops there to 2,500, half of the 5,000 now deployed throughout the islands. The Germans counterattacked on November 12, quickly overrunning the still-outnumbered British. Even Churchill now saw that he had no choice but to order a general withdrawal. The entire venture had been a disaster comparable in scale, although not in ultimate effect, to the Dieppe raid. British losses included 4,800 men (five battalions) and heavy naval losses. Six cruisers and 33 destroyers (including 7 belonging to the Greek Navy) had been committed to the campaign. Of these, four cruisers were badly damaged, six destroyers were sunk, and another four were damaged. Also sunk were two submarines and 10 coastal craft and minesweepers. Of the 288 British airplanes that fought, 113 were downed. German losses, in contrast, were disproportionately small: 1,184 men and 15 small landing craft.

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Dollfuss, Engelbert (1892–1934) *Austrian chancellor who vainly opposed* Anschluss

Opposed to what he saw as the impending *Anschluss*, Adolf Hitler's annexation of Austria, Dollfuss, the nation's chancellor, aligned himself with Benito Mussolini in the hope of maintaining Austrian independence. Born in Lower Austria on October 4, 1892, Engelbert Dollfuss studied law at the University of Vienna and economics at the University of Berlin. With the outbreak of World War I, he served as an officer in the Austrian Army, and, after the war, as a conservative Roman Catholic, he became active in the Christian Socialist Party. Dollfuss served as secretary of the Lower Austrian Peasant Federation and, in 1927, as director of the Lower Austria Chamber of Agriculture. After a brief stint as president of the railways system in 1930, he became secretary of agriculture in 1931. With the Christian Socialists maintaining an exactly one-vote majority in the Austrian lower house, Dollfuss was named chancellor of Austria on May 20, 1932.

Dollfuss's chief concern was the worldwide economic depression, which had hit post–World War I Austria especially hard. Drawn by the promise of $9 million in loans from the League of Nations and fearful of Allied pressure, Dollfuss declined to join Germany in a customs union. This

alienated him from both the German and Austrian Nazis, as well as from pro-German Austrians and Austrian socialists. Amid a public outcry against Dollfuss, the three presidents of the Austrian parliament resigned, whereupon Dollfuss suspended parliament and ruled by decree. Now in desperate need of foreign support and increasingly concerned over the threat posed by Hitler, Dollfuss turned to the Italian fascist Benito Mussolini, who at this point in his career, had by no means thrown in his lot with that of Hitler. At a meeting in Riccione in 1933, he secured from the Italian dictator a guarantee to defend Austrian independence in return for the abolition of political parties in Austria and the restructuring of the nation's constitution along fascist lines. Acting on this agreement, Dollfuss abolished the Austrian parliament in September 1933 and set about creating a fascist Austria with his "Fatherland Front," which replaced political parties. Dollfuss deployed a secret police force, with which he ruthlessly squelched opposition, and he increasingly subjugated his government to Italy.

At Mussolini's behest, Dollfuss deliberately instigated social unrest in Austria to give him an excuse for the bloody suppression of the Austrian socialists in February 1934. On May 1, 1934, Dollfuss proclaimed a new constitution in Austria, which effectively made Austria an Italian satellite. In delivering Austria to Mussolini, Dollfuss cut himself off from all domestic support. Far from saving Austria from German domination, subjugation to Italy stirred a majority of Austrians to support Hitler. This triggered an Austrian Nazi coup attempt on July 25, 1934. Although the coup miscarried, Dollfuss was assassinated. Socialism reigned in Austria for the next four years, until March 1938, when Hitler's army marched into Vienna and consummated *Anschluss.*

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Dollmann, Friedrich (1882–1944) *German army commander*

A career army officer, Dollmann enlisted in the German army in 1899 and, during World War I, commanded an artillery battalion. He was part of the select group of officers who remained in the army during the interwar period, and he managed to continue his rise, primarily in the artillery branch. By 1932, he was a brigadier general and three years later a corps commander. By 1936, he held the rank of lieutenant general.

As commander of the Seventh German Army, Dollmann was among the leaders of the invasion of France during the Battle of France in May and June 1940. Instrumental in executing the western Blitzkrieg, he earned the admiration of no less a figure than Adolf Hitler and was promoted to general in July 1940. During the next four years, Dollmann operated out of a headquarters in Le Mans, commanding the Seventh German Army in northern France. Its task was to defend Normandy and Brittany against any cross-channel Allied invasion. However, by the time of the Normandy landings (D-day) beginning on June 6, 1944, Dollmann's Seventh German Army consisted of just six infantry divisions manned mostly by second-rate, poorly equipped troops. The reason for this is that the best divisions stationed in France had been deployed to the area adjacent to Pas de Calais, the cross-channel passage by which German high command (and Hitler) anticipated the Allied invasion. Predictably, Dollmann's men were unable to arrest the Allied advance—at Normandy, not Calais—and after American forces overran the Cotentin peninsula and took Cherbourg (June 26), Hitler, who had once sponsored Dollmann, now threatened him (and others) with courts martial. Those around Dollmann saw that their commander was deeply shaken by Hitler's threats. He died under mysterious circumstances at his headquarters on June 28, 1944. Officially, the cause was fixed as a heart attack or a stroke, but many believe he committed suicide by poisoning.

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Dönitz, Karl (1891–1980) *chief of the German Navy*

A German admiral, Dönitz was the architect of SUBMARINE strategy and replaced ERICH RAEDER as chief of the navy during World War II. Just before committing suicide on the eve of Germany's collapse, ADOLF HITLER named Dönitz head of state, and it was Dönitz who authorized surrender to the Allies.

Dönitz was born in Grünau and joined the navy on April 1, 1910, serving on U-boats during World War I. This experience persuaded the young officer that submarines would play an increasingly important role in naval strategy. Between the world wars, Dönitz remained in service with the Reichsmarine, the diminutive navy Germany was permitted under the harsh terms of the TREATY OF VERSAILLES. Operating clandestinely, Dönitz set about building a modern submarine force, even though submarines were strictly prohibited to Germany by the Versailles Treaty.

In 1935, Dönitz was named chief of the Submarine Force and was instrumental in expanding the force, which came to dominate the German Navy. Promoted to rear admiral shortly after the start of World War II, Dönitz held a simultaneous post as flag officer in charge of the fleet's submarines. With brilliance, the admiral molded a relatively unprepared U-boat fleet into a devastating weapon, leading a highly effective campaign against Allied shipping in the North Atlantic, a campaign that threatened to strangle Great Britain. Dönitz's success encouraged him to claim greater and greater shares of German war funding, and he soon became highly unpopular with the other service chiefs and, in particular, with navy commander in chief Erich Raeder, an old-line sailor who favored surface vessels over submarine warfare. Success, however, spoke loudest, and Dönitz gained funding as well as promotion to vice admiral in 1940 and admiral in 1942. His rise came at the expense of Raeder, whom Dönitz replaced as commander in chief of the navy on January 30, 1943. Dönitz never relinquished his direct, hands-on role as commander of the U-boat force, and it now constituted the bulk of the German fleet.

The year 1943 was, however, a turning point for Dönitz's fortunes and those of the German submarine fleet. The Allies were beginning to achieve substantial success in antisubmarine warfare, and while losses among Allied convoys were still high, they were declining, even as more and more German submarines were being sunk. In search of technological improvements, Dönitz introduced and championed the snorkel. Submarines of the day were hybrid diesel-electrics; they were propelled by an air-breathing diesel engine while surfaced, and by electric motors while submerged. The diesels continually charged the batteries that powered the electric motors, which, however, had limited endurance. The snorkel permitted shallow-depth operation of the diesel engines, thereby saving battery power and greatly extending the time submarines could operate underwater. It was an important advance, because submarines were especially vulnerable on the surface. However, by this time, the Allies had developed SONAR and hydrophone technologies, which made it easier to locate submarines underwater. For this reason, Dönitz's technological advances made relatively little impact. With each passing month, he was losing the BATTLE OF THE ATLANTIC.

Hitler named Dönitz his successor as chancellor in the will he composed on April 30, 1945, the day he committed suicide. For just over a week after Hitler's death, Dönitz conducted the government of what little was left of the Third Reich. On May 7–8, 1945, it was Dönitz who negotiated surrender to the Allies.

Admiral Dönitz was tried and convicted of war crimes at the NUREMBERG WAR CRIMES TRIBUNAL later in 1945. He was sentenced to 10 years in Spandau Prison and served his full term, gaining release

in 1956. He lived out the remainder of his life quietly in a suburb of Hamburg.

A highly skilled commander, Karl Dönitz developed tactics that had a devastating impact on Allied shipping. The most important of these were Wolf pack U-boat tactics, whereby submarines hunted in coordinated groups. He also created an extensive support network for the vessels—including seaborne tankers and submarine tenders for underway replenishment—which greatly extended submarine range. Always forward looking, Dönitz married submarine and aerial technology, developing tactics that coordinated aerial reconnaissance with submarine attacks on convoys.

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Donovan, William (1883–1959) *leader of the U.S. Office of Strategic Services (OSS)*

"Wild Bill" Donovan headed the U.S. Office of Strategic Services (OSS) during 1942–45. Born in Buffalo, New York, he was trained in law and began practicing in his hometown in 1907. He served with General John J. Pershing in the Punitive Expedition against Pancho Villa in 1916 as a member of the New York National Guard. After this, he saw combat in France during World War I with the 165th Infantry Regiment. He fought with great bravery and distinction, earning not only promotion to the rank of colonel but also the Medal of Honor.

After the war, in 1922, Donovan became U.S. district attorney for western New York, then served as assistant attorney general in the Justice Department from 1924 to 1929. He returned to the private practice of law in the 1930s but never severed his many connections to both the civil government and the military. On the eve of American entry into World War II, in 1940, President Franklin D. Roosevelt called on Donovan to outline plans for the creation of a national central intelligence service at a time when the nation had no such body. Roosevelt formally appointed Donovan coordinator of information on July 11, 1941, and on June 13 of the following year he was named chief of what was now the OSS.

The OSS was a military, not a civilian, agency. Its wartime mission was threefold: to gather foreign intelligence, to conduct propaganda and counterpropaganda campaigns, and to conduct covert actions. Donovan had OSS operatives active in all theaters of the war except for the Pacific. The Latin American nations were also, for reasons of hemispheric diplomacy, exempted.

The OSS became a valuable source of intelligence during the war, especially in Europe. It also served as the foundation for the postwar Central Intelligence Agency, an entity Donovan enthusiastically supported, though he declined to take any role in its creation or operation. Donovan remained in government service after the war, serving as ambassador to Thailand in 1953–54.

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Doolittle, James Harold "Jimmy" (1896–1993) *U.S. Army Air Forces officer and leader of the Doolittle Raid on Tokyo*

A U.S. Army Air Corps (USAAC) and U.S. Army Air Forces (USAAF) officer, Doolittle is best remembered for leading the spectacular carrier-launched Doolittle Tokyo Raid early in the war. He was born in Alameda, California, and educated at Los Angeles Junior College and the University of California. He joined the Army Reserve Corps in October 1917 shortly after the United States

entered World War I and was assigned to the Signal Corps, in which he served as a flight instructor through 1919. In 1920, Doolittle was commissioned a first lieutenant in the U.S. Army Air Service (USAAS) and earned national attention by making the first transcontinental flight in less than 14 hours, on September 4, 1922. Established now as a world-class flier, Doolittle was enrolled under USAAC auspices in the aeronautical science program at Massachusetts Institute of Technology. He earned a doctorate of science degree from that institution in 1925, then worked in several military aviation testing stations. Simultaneously, during 1925–30, Doolittle participated in high-profile air races as well as demonstrations of experimental aircraft. His objective was to promote aviation generally and military aviation in particular. A major breakthrough came in September 1929, when he demonstrated the potential of instrument flying by making the first ever instruments-only ("blind") landing.

In 1930, Doolittle resigned his commission to become aviation manager for Shell Oil, where he worked on the development of new high-efficiency aviation fuels. He also continued to race, claiming victories in a number of prestigious competitions, including those for the Harmon (1930) and Bendix (1931) trophies. In 1932, he set a world speed record. However, as war became imminent in July 1940, Doolittle returned to active duty as a major in the U.S. Army Air Corps. In the months following the Battle of Pearl Harbor (December 7, 1941), the American and Allied forces were in a desperate defensive position in the Pacific theater. In an effort to raise Allied morale and to force the Japanese to divert a portion of their air forces to defense of their homeland, Doolittle eagerly embraced a proposal for a bombing raid on Tokyo. With others, he planned the logistics of the raid. The formidable problem was that Tokyo was far out of range of any U.S. air bases. Aircraft carriers were not designed to launch bombers capable of the mission. Doolittle worked with navy and army air forces personnel to devise techniques for launching 16 B-25 medium bombers from the deck of the USS *Hornet*.

Doolittle personally led all-volunteer crews, who took off from the *Hornet* on April 18, 1942. All aircraft were launched successfully, but each airman understood that fuel limitations meant that no return trip was possible—and, in any case, no aircraft carrier could possibly accommodate a B-25 landing. Doolittle and his men would have to land in China, hope to evade capture, and find their way back to Allied lines. It was as close to a suicide mission as any ever undertaken by American fighting men.

The Doolittle Tokyo Raid succeeded, although, in strictly military terms, that success was modest in that the damage to Tokyo and other targets from 16 medium bombers was trivial. However, the raid on the Japanese homeland provided a morale boost of incalculable effect, and it surely did much to spur the American war effort. As planned, it also served to tie down a portion of the Japanese air

James H. "Jimmy" Doolittle *(National Archives and Records Administration)*

force to home defense, and it must have made an impact on the morale of the hitherto undefeated Japanese.

Doolittle and most of his raiders survived the action, and Doolittle was promoted to brigadier general. He was sent to England to organize the Twelfth U.S. Air Force in September 1942 and, with the temporary rank of major general, commanded the Twelfth in Operation Torch, the assault portion of the Allied North African Campaign. During March 1943–January 1944, Doolittle commanded strategic air operations in the Mediterranean theater and was promoted to the temporary rank of lieutenant general in March 1944. He was given command of the British-based Eighth Air Force, which executed massive and ongoing bombing operations against Germany during January 1944–May 1945.

After V-E Day, Doolittle was transferred to the Pacific once again. With the Eighth Air Force, he provided support in the Battle of Okinawa (April–July 1945) and the massive bombardment of the Japanese home islands.

Following the war, in May 1946, Doolittle left active duty (remaining in the reserves) and became an executive with Shell Oil. While working in the private sector, he was often called on by the government to serve as an adviser on scientific, technological, and aeronautical commissions during 1948–57. Even after he retired from Shell and the Air Force Reserve in 1959, he continued to work as a consultant, not only in matters of science and aeronautics, but in national security policy issues as well.

Doolittle is justly remembered for the Tokyo raid that bears his name. But he was even more important during the war as a high-level army air force commander, and his contributions to aviation include the testing and development of technological advances and the raising of public awareness of and support for the emerging field.

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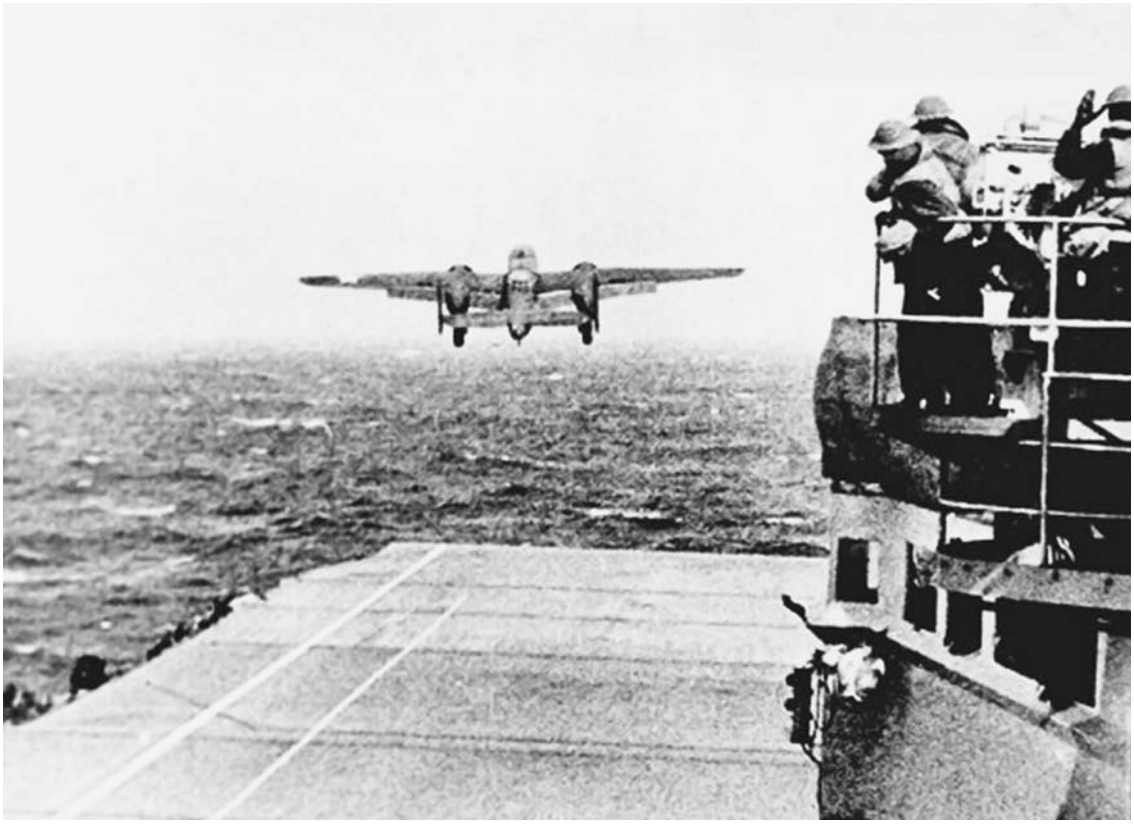
Doolittle Tokyo Raid

On April 18, 1942, with the Japanese victorious on every front, Lieutenant Colonel James H. "Jimmy" Doolittle of U.S. Army Air Forces (USAAF), led 16 B-25 Mitchell bombers from the deck of the aircraft carrier *Hornet* on a daring—well-nigh suicidal—bombing raid against Tokyo and other Japanese cities. The pilots knew that they could not deliver enough bombs on their targets to cause anything approaching strategically significant damage. However, in the wake of the Battle of Pearl Harbor and other American and British defeats, Doolittle and his raiders wanted to carry out a mission that would generally raise American and Allied morale, that would depress the morale of the Japanese, and that would force the Japanese to keep a large number of aircraft on patrol over the home islands rather than in combat. Doolittle and his men also knew that, difficult as it was to launch twin-engine medium bombers from the deck of an aircraft carrier, it was impossible to land them there again, and they could not carry sufficient fuel to fly to a friendly base. After the raid, they would have to land in China and hope for the best in their efforts to escape and evade capture and return home.

The origin of the Doolittle raid is obscure. Official early USAAF histories credited President Franklin D. Roosevelt with the idea, but U.S. Fleet Commander Adm. Ernest J. King said that he first heard of it as an off-handed remark from his operations officer, who observed that it was possible to launch twin-engine bombers from an aircraft carrier, a prospect that made an early air attack on Japan feasible, albeit just barely. Enthusiastic about the idea, King conferred with USAAF chief General Henry H. ("Hap") Arnold, who also greeted it with enthusiasm. Arnold chose Doolittle, a great pilot with formal training in aerodynamics, to organize and lead an air group to execute the mission. Doolittle decided on using the



One of Jimmy Doolittle's B-25s lifts off the deck of USS *Hornet* en route to bomb Tokyo. *(Library of Congress)*

B-25B Mitchell medium bomber, which was both modern and combat proven. Quick tests proved that it could indeed be launched from a carrier while hauling a militarily useful bomb load and sufficient fuel to strike Tokyo, then continue to airstrips in China. Once Doolittle had established to his satisfaction the technical feasibility of the mission, he set about recruiting volunteers for a top secret mission he could not at the time explain, other than to warn each prospect that it was highly dangerous. After gathering pilots and crews for 16 planes, Doolittle led a special training program for his men and oversaw necessary modifications to their aircraft.

The *Hornet,* newly launched, would carry the planes, but the mission was so secret that the carrier's skipper, Captain Marc Mitscher, was not briefed until just before the aircraft were loaded onto the flight deck. On April 2, 1942, the *Hornet* sailed and was joined en route by the carrier *Enterprise,* Vice Admiral William "Bull" Halsey's flagship, on April 13. The *Enterprise* would provide air cover during the approach to the launching point, which was scheduled to be reached on April 18. This position was about 400 miles off the Japanese mainland. Shortly before dawn on the 18th, however, enemy picket boats were sighted much farther east than expected. Although the U.S. ships either evaded or sank the enemy craft, they had been able to transmit radio warnings. With the element of surprise hanging in the balance, Doolittle decided to launch his raid immediately, not 400 miles off

the coast, but 700, which would strain fuel supply even more and quite probably prevent at least some of the aircraft from finding relatively safe haven in China.

The raiders took off, all successfully, about 8 A.M., 16 five-man crews in all. One bomber attacked Kobe, another Nagoya, and a third, slated to bomb Osaka, instead dropped its ordnance on the Yokosuka naval yard and on Yokohama. A fourth plane was forced to divert to a landing at Vladivostok. The 12 other raiders bombed Tokyo at noon. As chance would have it, the Japanese were conducting a drill, a mock air raid, at the time. This probably diluted the psychological effect of the raid, but it also provided a diversion that helped the bombers escape. No bomber was lost over Japan.

Damage inflicted was modest. Some 50 people were killed and 100 houses damaged or destroyed. The damage to the prestige and air of invulnerability that had surrounded the Japanese militarists was much more severe. Another effect of the raid was to remove official objections to the plan proposed by Admiral YAMAMOTO ISORUKU to draw out the American fleet to the area of Midway Island and deliver a fatal blow there. In fact, the BATTLE OF MIDWAY would result in an American victory that turned the tide of the war in the Pacific.

After the raid, the bombers, now critically short of fuel, either crash landed in China or were abandoned, their crews bailing out. Almost miraculously, Doolittle and 70 other mission members survived, all eventually finding their way back home. One airman was killed in parachuting from his plane, and eight were captured by the Japanese. Of this number, three were executed and one died in prison.

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Dowding, Hugh (1882–1970) *head of British Fighter Command during the Battle of Britain*

Britain's air chief marshal, Hugh Dowding was also head of Fighter Command during the BATTLE OF BRITAIN. Under his leadership, the Luftwaffe was defeated in the skies above England and the nation thereby saved from invasion.

Dowding was trained as an artillery officer but became a squadron commander in the Royal Flying Corps during World War I and ended that war with the rank of brigadier general. He was then commissioned in the newly formed Royal Air Force (RAF) and served in command, staff, and training posts in Britain and Asia. In 1936, he was named commander in chief of the newly created Fighter Command and was responsible for advocating the development of RADAR and of the great Spitfire and Hurricane fighters. These technological developments would prove invaluable during the Battle of Britain.

When World War II began, Dowding fought fiercely against dispersal of fighter resources first in Norway and then in the BATTLE OF FRANCE. Slated for retirement, he extended his service and led Fighter Command in the Battle of Britain. The RAF was outnumbered by the German Luftwaffe, but Dowding conducted a campaign that leveraged superior strategy and tactics, prevailing against the Germans and, by denying the Luftwaffe air supremacy, preventing what was surely imminent invasion.

Dowding was a great husbander of resources, coordinating his fighters with ground-based radar information. Some of his subordinates believed he was too cautious. Whereas Dowding fought the battle chiefly over English skies, some advocated conducting an aerial counteroffensive farther out over the English Channel. Dowding's advancing age was cited as the reason for his replacement as commander in chief of Fighter Command on November 24, 1940. It is likely, however, that the command's failure to defend against the COVENTRY AIR RAID was the more immediate cause. Certainly, at the time, Dowding was given little enough credit for what he had accomplished in the Battle of Brit-

ain. However, over the years, the importance of his early leadership has been widely recognized.

Dowding was given other assignments, as liaison to U.S. aircraft factories and as a kind of inspector general of factories at home. He was never satisfied with these assignments and requested retirement in November 1942. The following year he was created Baron Dowding of Bentley Priory.

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Dresden air raid

The massive Allied air raid on the medieval German city of Dresden during February 13–14, 1945, was enormously destructive and highly controversial. Many historians and others have condemned it as an act of wanton and vengeful destruction, a mission with no true military purpose. Others have seen it as just another episode of the STRATEGIC BOMBING OF GERMANY, a program intended to hasten the end of the war.

Capital of Saxony, Dresden was a city of beautiful medieval architecture. Its major industry was the creation of fine china, and it had little heavy industry, even during the war. Because it was considered of negligible strategic importance, it had been largely bypassed by Allied bombers, except for a minor U.S. raid in October 1944.

In January 1945, under the direction of British air marshal ARTHUR "BOMBER" HARRIS, plans were drawn up for Operation Thunderclap to attack Berlin and other major population centers as the Soviet Red Army was closing in rapidly from the east. The idea was that the raids would make defense against the Soviet advance more difficult and that they would disrupt the flow of westward-bound refugees from that advance. It was particularly important, western Allied leaders felt, to make a demonstration of support for the Soviet effort.

The first Thunderclap missions were flown over Berlin and Magdeburg on February 3, and over Magdeburg and Chemnitz on February 6. On February 9, Magdeburg was targeted a third time. Harris had wanted to put Dresden at the top of the list, but raids against that city were delayed by adverse weather. When February 13 looked good for a night raid, Royal Air Force Bomber Command sent 796 Avro Lancaster heavy bombers and nine Mosquito fighter bombers over Dresden. Together, they dropped 1,478 tons of high-explosive bombs and another 1,182 tons of incendiaries. The combination of rubble and the intensive incendiary bombing created not merely a series of fires, but a firestorm, which engulfed the city. As if this were not bad enough, the U.S. Eighth Air Force followed up with a daylight raid on February 14 using its B-17 Flying Fortresses to multiply the already devastating destruction. As a result of the two raids, more than 50,000 civilians, including westward-bound refugees, died. Dresden lay in ruins.

Immediately after the raids, war correspondents and others raised questions as to the purpose, utility, and morality of the attacks on Dresden. Even WINSTON CHURCHILL, who had endorsed Operation Thunderclap, was appalled. "Bomber" Harris, however, voiced no doubts about the operation he had led and considered the destruction of cities perfectly legitimate in a total war.

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Dulles, Allen (1893–1969) *head of the U.S. Office of Strategic Services (OSS) in Europe*

Younger brother of JOHN FOSTER DULLES, Allan Dulles headed the OFFICE OF STRATEGIC SERVICES (OSS) in Europe during World War II, beginning in November 1942. He was born in Watertown, New York, and received a master's degree from Princeton University in 1916, then went on to a

career in the U.S. diplomatic corps. In 1922, he was promoted to chief of the Near Eastern division of the U.S. Department of State. Dulles took time out to acquire a law degree, which he received in 1926, then was appointed attorney to the U.S. delegation in Peking (Beijing). Shortly afterward, he entered the private sector, joining his brother's New York City law firm.

With America's entry into World War II following the Battle of Pearl Harbor, Colonel William Donovan, creator and director of the Office of Strategic Services (OSS), recruited Dulles. As Donovan saw it, Dulles was well qualified for high-level intelligence work because he had an extensive diplomatic background but was no longer part of the formal State Department bureaucracy. Donovan put Dulles in charge of an OSS office operating in Bern, in neutral Switzerland. Dulles served there from October 1942 to May 1945, coordinating the activities of resistance movements in Germany. Dulles was able to make contact with Fritz Kolbe, a German foreign office clerk and anti-Nazi, who transmitted to him some 1,500 top-secret foreign office cables. These were invaluable in unmasking many of Germany's spies who had infiltrated Britain and other Allied countries. Dulles also was primarily responsible for establishing an extensive intelligence network in the south of France. But perhaps his greatest coup was the role he played as a covert intermediary in negotiating the surrender of all German troops in northern Italy shortly before V-E Day.

After the war, in 1948, Dulles was named chairman of a committee that surveyed and evaluated the American intelligence establishment. He was instrumental in recommending the creation of the Central Intelligence Agency (CIA), which was formally established in 1951, with Dulles as deputy director under General Walter Bedell Smith. Dulles was appointed director by President Dwight D. Eisenhower two years later. Dulles presided over a number of cold war intelligence successes during the Eisenhower years and was reappointed by President John F. Kennedy. But he shouldered a large amount of the blame for the abortive and disastrous Bay of Pigs invasion of Cuba in April 1961 and in the fall of that year resigned. He then wrote widely about the field of intelligence.

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Dulles, John Foster (1888–1959) *U.S. diplomat*

Older brother of Allen Dulles, John Foster Dulles was instrumental in creating the United Nations Charter at the Dumbarton Oaks Conference, in Washington, D.C., toward the end of World War II and was also a senior adviser at the first United Nations conference in San Francisco. It was Dulles who acted as key negotiator of the definitive peace treaty with Japan in 1951. As secretary of state (1953–59) in the cabinet of President Dwight D. Eisenhower, Dulles was the architect of many U.S. policies that shaped the postwar world.

Dulles was born in Watertown, New York, into a family with a long political tradition. His maternal grandfather, John Watson Foster, was secretary of state under President Benjamin Harrison, Robert Lansing, an uncle by marriage, was secretary of state under Woodrow Wilson. Educated at Princeton University, George Washington University, and the Sorbonne, Dulles joined the New York law firm of Sullivan and Cromwell in 1911 as a specialist in international law. He became senior partner in the firm in 1927. However, Dulles was never exclusively committed to the private sector, and after World War I, he served at Wilson's behest as legal counsel to the U.S. delegation to the Versailles Peace Conference. He was also a member of the war reparations commission.

Dulles was called to government service again at the end of World War II, to collaborate on the

composition of the United Nations Charter. President Harry S. Truman sent him to San Francisco as a senior adviser at the opening meeting of the United Nations. When, after fruitless discussion, it became clear that a definitive peace treaty with Japan that would be acceptable to the United States would not be acceptable to the Soviet Union, President Truman and Secretary of State Dean Acheson chose not to call a peace conference for the negotiation of the treaty, but instead assigned Dulles the monumental undertaking of personally negotiating the treaty individually with each nation that had been involved in the conflict. Dulles negotiated with 49 nations, including Japan itself, and the final treaty was signed in San Francisco in 1951.

When Dwight D. Eisenhower succeeded to the White House in 1953, he appointed Dulles his secretary of state. His tenure was controversial in that he, not the president, took the firmer hand in shaping foreign policy. Dulles was directly responsible for creating the Southeast Asia Treaty Organization (SEATO) and the Central Treaty Organization (CENTO), the latter uniting Turkey, Iraq, Iran, and Pakistan in a U.S.-dominated mutual defense organization. It was as secretary of state that Dulles directed the composition of the Trieste agreement (1954), which partitioned the free territory between Italy and Yugoslavia, and the Austrian State Treaty (1955), which restored that nation's pre-*Anschluss* (1938) frontiers and forbade any future union with Germany.

Dulles's postwar policies were vehemently anticommunist and anti-Soviet, and he seemed almost to revel in pushing the USSR to the brink and declaring in no uncertain terms that U.S. nuclear policy was one of "massive nuclear retaliation" to any Soviet aggression. His unwillingness to compromise in the cold war earned Dulles many admirers and detractors, but President Eisenhower's confidence in him never wavered, and he awarded him the Medal of Freedom on April 15, 1959, a month before Dulles succumbed to cancer.

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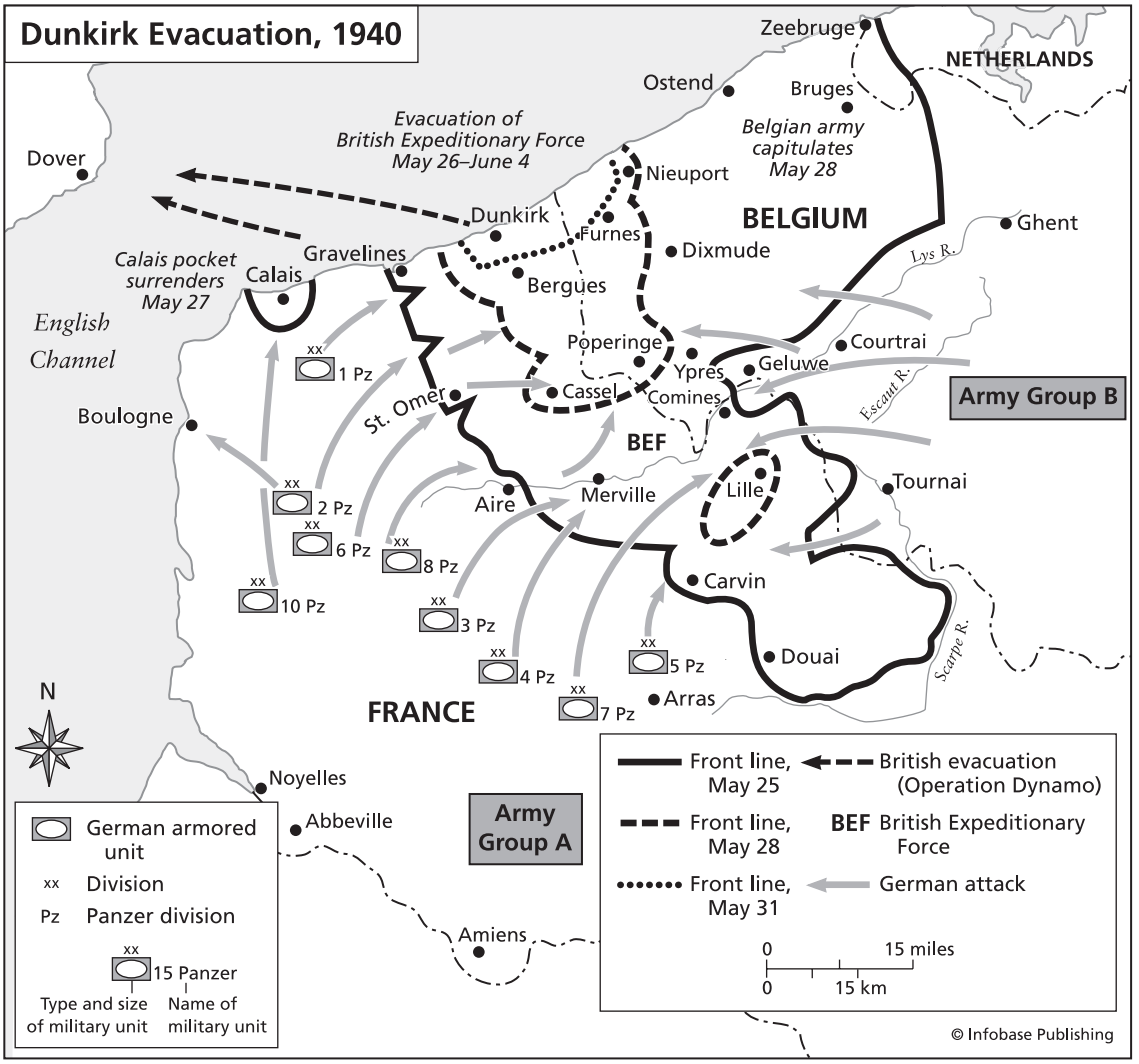
Dunkirk evacuation

The German Blitzkrieg brought the Battle of France to so swift and devastating a conclusion that the bulk of the British Expeditionary Force (BEF) and other troops had no choice but to retreat to Dunkirk on the English Channel French coast near the Belgian border. German general Gerd von Rundstedt expressed to Adolf Hitler his reservations about the extremely aggressive tactics of Blitzkrieg advocate and armor commander Heinz Guderian, who was determined to push virtually the entire BEF into the English Channel. Rundstedt believed that Guderian's tanks could not do this alone and advised calling a halt to their advance until more conventional infantry divisions could catch up. Hitler agreed, Guderian's advance was halted, and a narrow window of opportunity was thereby opened for British and French troops to be evacuated from Dunkirk.

The evacuation, which has been called miraculous, was a mammoth effort (appropriately code named Operation Dynamo) between May 26 and June 4, 1940. The British Admiralty cobbled together a fleet of 693 ships, including 39 destroyers, 36 minesweepers, 77 civilian trawlers, 26 civilian yachts, and a motley assortment of other small craft, which fetched from Dunkirk 338,226 soldiers, including 140,000 French troops. The Allies were forced, however, to abandon a huge cache of heavy equipment. (Even before Operation Dynamo began, some 28,000 nonessential British personnel had been evacuated via Dunkirk.)

Although Operation Dynamo was extremely successful, it was accompanied by much confusion and friction between the British and the French. Indeed, initially, the French were not allowed to embark on the evacuation ships, and only after virtually all the British troops had been evacuated were large numbers of French troops taken off en



masse. On the last two nights of the operation, 53,000 French soldiers embarked. Nor was the evacuation as heroic, stoic, and orderly as it is often portrayed to have been. Officers sometimes used small arms to control panicky troops in the evacuation lines, and the sailors managing the small boats that transferred troops from shore to waiting vessels not infrequently used their oars to beat off those threatening to overload and swamp their tiny craft. It is true, however, that the greatest disorder occurred early in the operation, as the rear echelon troops were being evacuated. The front line troops, who were the last to leave, tended to be far more disciplined, calm, and orderly.

Fortunately for Operation Dynamo, the notoriously treacherous waters of the English Channel were uncommonly calm. Nevertheless, all ships were subject to attack by Luftwaffe aircraft and by U-boats as well as by small German E-boats, the equivalent of allied torpedo boats, or PT boats. The

Luftwaffe also bombed and strafed Dunkirk itself, razing the town. Far greater casualties would have been incurred among the French and British evacuees had the weather permitted more air attacks. Moreover, the Royal Air Force (RAF) provided extensive air cover for the evacuation, and, so swift had been the German advance that the Luftwaffe had not had time to prepare forward bases. As a consequence, it experienced a severe logistical strain, which also limited air attack. Indeed, it may be argued that the tremendous smoke coverage created by Luftwaffe bombing actually worked to the Allies' advantage, screening much of the evacuation process. Nevertheless, covering the evacuation cost the RAF 177 precious aircraft—though its contribution to the effort was absolutely instrumental to its success. Prime Minister Winston Churchill, although vastly relieved by the success of Dynamo, reported to Parliament on June 4 that "Wars are not won by evacuations." However, he was able to point out that the RAF had taken such a toll on the Luftwaffe that the air component of the operation could well be counted a British *offensive* victory.

As the evacuation proceeded, it quickly became apparent that the greatest bottleneck in the operation was in conveying evacuees from the shore to the larger vessels. On May 29, the operation was announced to the British public, and masters of small power craft, ranging from 30 to 100 feet in length, rallied to the cause, volunteering small craft and crew to transfer troops from shore to ship. The yeoman service of this fleet of "Little Ships" gave rise to what was popularly called the "Dunkirk Spirit" and did much to transform an ignominious military defeat and retreat into what was popularly perceived as a triumph. (There was much heroism in this, but, again, perhaps not always as much as popular lore suggests. At the outbreak of the war, a Small Vessels Pool was created, by which modest civilian motorized craft were registered and were to be made available for emergency military service. Nevertheless, the Rye fishing fleet and some coastal lifeboat crews flatly refused to volunteer for service in the evacuation.)

After a devastating Luftwaffe attack on June 1, during which a passenger liner and three destroyers were sunk and four other vessels severely damaged with much loss of life, daylight sailings were discontinued, and the rest of Operation Dynamo was carried out under cover of darkness. By this point, the perimeter around Dunkirk was shrinking rapidly. Admiral Sir Bertram Ramsay, in command of Operation Dynamo, ordered officers to shoot any soldiers who drew back from the perimeter without orders. At dawn on June 2, the last of the British warships retired, and the few remaining BEF personnel were evacuated aboard a civilian ferry. That night, ships did return to pick up French troops, but were unable to do so. A political uproar compelled Ramsay to dispatch more ships the following night, which managed to pluck a final 27,000 French soldiers from the port.

The importance of the Dunkirk evacuation cannot be overestimated. Operation Dynamo saved the bulk of the BEF. To have lost so many men would likely have forced Britain to negotiate peace—that is, surrender to—with the Germans. By allowing Rundstedt to delay Guderian's advance, Hitler may not have lost the war in the spring of 1940, but he certainly gave up an extraordinary opportunity to win it.

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Dutch East Indies, action in

Also called the Netherlands East Indies, this was, at the time of World War II, a vast Dutch colony in Southeast Asia encompassing Java, Sumatra, Dutch Borneo, Dutch New Guinea, Celebes, the western portion of Timor, and the Moluccas. The colony was an extraordinarily rich source of oil (concentrated in Sumatra), tin, bauxite (the ore from which aluminum is produced), and coal. The col-

ony was densely populated by some 70.5 million persons, including a quarter million Dutch nationals (most of whom fell into Japanese hands and suffered internment under extremely inhumane conditions for the duration of the war).

After the Netherlands fell to Germany and came under occupation in May 1940, the People's Council in Batavia, Java, declared the colony loyal to the Dutch government in exile. This did not impress Japan, Germany's Axis partner, which proclaimed the region part of the so-called Greater Asia Co-Prosperity Sphere and summarily demanded a large portion of the colony's produce, as well as fishing and mining rights and access to all ports. The People's Council protested the Japanese declaration and demands, but nevertheless traded with Japan until August 1941, when the Dutch government in exile ordered the colony to cease trade and, in particular, to cut off the supply of oil. Thus, when general war broke out in the Pacific in December, the Dutch East Indies loomed as a great prize for the Japanese.

On December 20, 1941, elements of the Sixteenth Japanese Army, operating from Mindanao in the Philippines, attacked Dutch Borneo, Celebes, and the Moluccas. In a rare Japanese Airborne Assault, paratroops seized the Celebes airfield on January 11, then fanned out to the oilfields of Dutch Borneo and the airfields in Celebes and the Moluccas. Paratroops also preceded the Sixteenth Japanese Army's land invasion of southern Sumatra on February 16. This captured the major refinery at Palembang, Sumatra. Three days later, paratroops cleared the way for the Japanese occupation of Dutch Timor.

As would be the case throughout the war, what the Allies called the China-Burma-India theater was very meagerly provided with the means to defend itself. Colonial forces, aided in some measure by American, Australian, and British troops, put up valiant demonstrations of resistance but were overwhelmed. Particularly deficient were the Allies' air assets in the area. Most available aircraft were destroyed on the ground during raids on February 19 and 27. In the air, Japanese Zeroes easily outflew Allied fighters, and Japanese naval strength overpowered the slim Allied resources in the region.

On February 25, 1942, the ABDA (American-British-Dutch-Australian) Command, under General Sir Archibald Wavell, considered by the Allies to have been defeated, was dissolved. The Dutch governor general took command of what forces remained, but, on March 8, after the Japanese had advanced from landing places in Java, he surrendered them. Some 93,000 troops of the Royal Netherlands East Indies Army, together with various other Allied units, became prisoners of war. Also on March 8, Japanese troops arrived in northern Sumatra from Singapore. Sumatra was completely overrun by the end of March and was being used as a staging area for the invasion of Dutch New Guinea. Here, guerrilla resistance remained fierce through October, and, in fact, the Japanese never fully subjugated Dutch New Guinea.

The vast territory that the Japanese did come absolutely to control was divided for administrative purposes between the Imperial Army and the Imperial Navy. Guerrillas throughout the region were active during the entire war and made significant inroads against the Japanese in Dutch Timor. However, attempts by the Special Operations Executive to organize and assist the guerrillas proved futile because of logistical problems (paramountly, the jungle terrain and climate) and the noncooperation or outright hostility of most of the native population, which saw the Japanese occupation as a means of evicting the long-hated European overlords. Only near the end of the war, from May to July 1945, did Special Operations Australia (SOA) forces succeed in executing amphibious operations on British Borneo, which threatened the Japanese hold on the rest of the island. The war ended, however, before the SOA had expanded its invasion.

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E

Eaker, Ira (1896–1987) *architect of the strategic bombing of Germany*

Ira Clarence Eaker, an American military aviation pioneer, commanded the Eighth U.S. Bomber Command, based in England, and led the first raids in the Strategic Bombing of Germany. He was the chief planner of the Combined Bomber Offensive, the strategic bombing collaboration of the Royal Air Force (RAF) and U.S. Army Air Forces (USAAF), which became known as the Eaker plan.

Born in Field Creek, Texas, and raised in Texas and Oklahoma, Eaker was educated at Southeastern State Teachers College (now Southeastern Oklahoma State University) and entered the U.S. Army in 1917 as a second lieutenant. In March 1918, he attended ground school at the University of Texas, Austin, and then began flight training at Kelly Field, San Antonio. After earning his wings on July 17, 1918, he was promoted to first lieutenant and sent to Rockwell Field, California, where he met Colonel Henry Harley ("Hap") Arnold and Major Carl A. (Tooey) Spaatz, with whom he developed a close working relationship that would have profound consequences for the air war in World War II.

In July 1919, Eaker assumed command of Second Aero Squadron in the Philippines, then, as captain, was reassigned in 1920 as commander of the Third Aero Squadron. Returning to the United States in 1921, he was assigned to Mitchel Field, New York, and also attended Columbia Law School. He then served on the staff of Major General Mason M. Patrick, chief of the U.S. Army Air Service (USAAS), in Washington, D.C.

One of 10 USAAS pilots chosen to make the Pan American Goodwill Flight in 1926, Eaker and his copilot were the only team to complete the entire 23,000-mile, 23-nation flight. In 1929 Eaker, with Spaatz and Elwood R. Quesada, flew a Fokker trimotor for 150 hours, 40 minutes, and 15 seconds between Los Angeles and San Diego, refueling in flight through a hose lowered from a Douglas C–1. This endurance record was unbroken for many years. In 1930, Eaker took midair refueling to the next step, flying the first transcontinental flight that relied solely on the technique. Next, in 1935, Major Eaker flew blind—relying on instruments only—from Mitchel Field, New York, to March Field, Riverside, California.

After attending the Air Corps Tactical School at Maxwell Field, Alabama, and the Army Command and General Staff School at Fort Leavenworth, Kansas, in the late 1930s, Eaker was promoted to colonel in December 1941 and to brigadier general in January 1942, when he was sent to England to form and command the Eighth Bomber Command. Eaker spearheaded the development of daylight precision bombing in the European theater and hammered out the so-called Eaker plan, which reconciled the RAF's policy of nighttime raids with the USAAF's policy of day-

Ira Eaker *(United States Air Force History Center)*

time precision bombing. The solution was for night and day raids, the British responsible for the night, the Americans for the day.

In December 1942, Eaker was assigned command of the Eighth Air Force, based in England, and was promoted to lieutenant general on September 13, 1943. The next month, he assumed command of both American air forces in the United Kingdom, the Eighth and the Ninth, then, on January 15, 1944, was assigned to command the joint Mediterranean Allied Air Forces (MAAF), taking over from British air marshal Arthur Tedder. With 321,429 personnel and 12,598 aircraft, Eaker's MAAF was the world's largest air force.

On March 22, 1945, Eaker was sent to Washington, D.C., as deputy chief of the USAAF under Hap Arnold. It fell to Eaker to transmit the command from President Harry S. Truman to Spaatz, then commanding the Pacific Air Forces, to drop the atomic bomb on Hiroshima.

Eaker retired from the military in 1947, becoming an executive with the Hughes Aircraft Corporation from 1947 to 1957, then a corporate director of Douglas Aircraft Company. He left this position in 1961 to return to Hughes as a consultant. At this time, he took up journalism and became a nationally syndicated columnist, writing on national security matters. Eaker was also coauthor, with Arnold, of *This Flying Game* (1936), *Winged Warfare* (1941), and *Army Fliers* (1942).

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East Africa, action in

In contrast to nearly every other front in the opening months of World War II, the action in East Africa was spectacularly favorable to the Allies. This was a result of the resourcefulness of British commanders, the remarkable work of British cryptology experts (who quickly broke the key Italian codes), and the timid ineptitude of the key Italian theater commander, Aimone Roberto Margherita Maria Giuseppe Savoy, duke of Aosta.

The Italians initially seized the upper hand during June 1940, moving out from their colony of Ethiopia (then called Abyssinia) to occupy Karora, Gallabat, Kurmak, and Kassala, all near the border of Sudan. Italian troops also occupied Moyale, on the border of Kenya and, in August, advanced into British Somaliland, which thereby became the first British colony to fall into the hands of the Axis. On paper, the situation looked quite desperate for the British. Against some 92,000 Italian troops and 250,000 Ethiopians under Italian arms, the British had about 40,000 colonial soldiers. British armor was almost nonexistent, and whereas the Italians

had 323 aircraft available, the British commanded at most 100. What the Italians lacked, however, the British possessed in abundant quality: brilliant leadership. The duke of Aosta failed to exploit his manifest superiority of numbers and equipment and instead took cognizance only of his isolated position, far from any sources of resupply and reinforcement. Rather than act quickly and offensively against the British, Aosta hunkered down and, as a result, fell under attack by British units and by growing numbers of anti-Italian Ethiopian rebels called by the Allies "Patriots."

In October 1940, the British commanders devised a highly effective strategy for East Africa. Major General William Platt, British commander in chief of the Sudan, was assigned to lead the 5th Indian Division against Gallabat in November, then against Kassala in January 1941. The newly named commander in chief of Kenya, Lieutenant General Sir Alan Cunningham, was tasked with taking Kismayu, also in January. In the meantime, Haile Selassie, the exiled emperor of Italian-occupied Ethiopia, was assigned then-Major Orde Wingate as his military adviser to help him organize and prepare Patriot units.

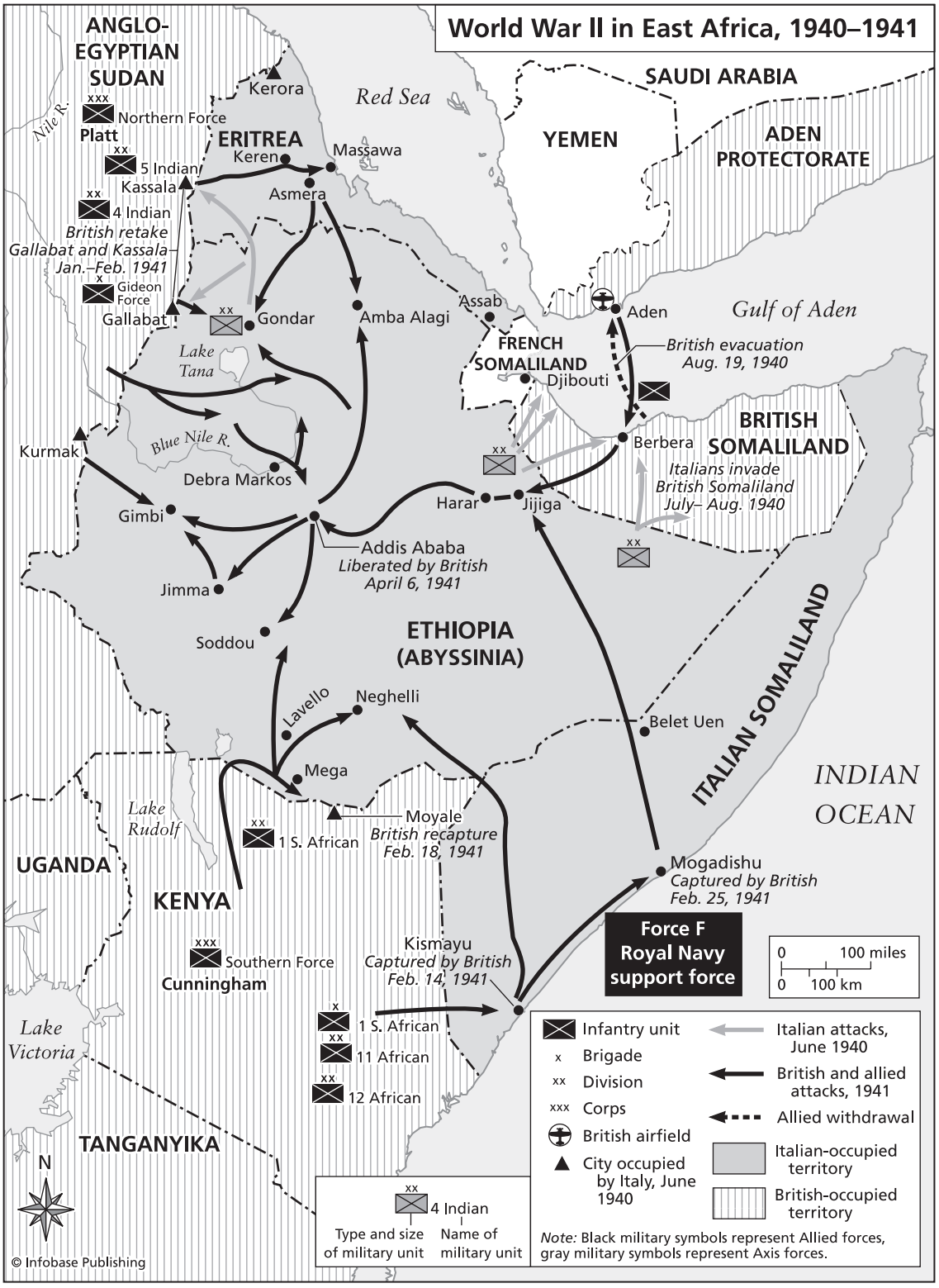
Platt's field commander of the 10th Indian Infantry Brigade, Sir William Joseph Slim, attacked Gallabat on November 6 but was driven back by Italian air attacks. However, the Italians, as usual, failed to press their advantage and remained on the defensive. Using decrypts of coded Italian messages, Slim and others were readily able to anticipate all Italian moves and thereby quickly turned the British withdrawal into renewed multiple attacks. As the hunkered-down Italians were fending off British offensives, word of early British victories in the North African Campaigns brought panic to the Italian ranks and thoroughly demoralized Aosta, who withdrew from the Sudanese frontier, relinquishing all the advance positions he had occupied. Beginning on January 19, 1941, Platt unleashed columns to harry and pursue the retreating Italians.

After suffering heavy losses, Aosta ordered General Luigi Frusci, commander in chief of Eritrea, to hold southwest of Keren. Aosta reinforced Frusci in terrain that greatly favored the defenders. Platt, whose forces were augmented by the 4th Indian Division, battered away at Frusci, who did not yield Keren until March 27. Asmara then fell to Platt on April 1. Although fighting would continue, the Battles of Keren and Asmara were decisive for the action in East Africa. More than 3,000 Italians were killed, as against 536 British and Indian troops.

After taking Keren and Asmara, Platt detailed forces to advance against the important port of Massawa. The six Italian destroyers that had been stationed there set sail, bound for a raid on British-held Port Said. However, British aircraft attacked them heavily, sinking four and forcing the Italians to scuttle the remaining two. Massawa fell on April 8 to a contingent of Indian and Free French troops.

With Eritrea reeling under Platt's onslaught, Cunningham struck from Kenya, using what was now a large contingent of 33,000 East African troops, 9,000 West Africans, and 27,000 South Africans. Six South African air squadrons provided close air support. Cunningham tried to incite the Patriots to rebel in the Ethiopian province of Galla-Sidamo, but the action failed to gel. Nevertheless, his forces did retake Moyale on February 18, 1941, but they did not advance beyond this point. Another attack, also launched by Cunningham, was far more successful. Beginning on February 11, two of his East African divisions advanced along the Indian Ocean coast, pushing the Italians before them. On February 14, Kismayu was captured, followed soon by Mogadishu in Italian Somaliland. Cunningham coordinated this advance with action in the interior, and all of Italian Somaliland and Ethiopia fell to the British by April 6, when the Italians evacuated Addis Ababa, the Ethiopian capital. In the space of two months, Cunningham's forces had covered 1,700 miles, pushing out or scooping up a very large portion of Aosta's command. Only 501 British and colonials were killed or wounded.

In the meantime, Orde Wingate was making spectacular use of the Ethiopian Patriots. Assigned merely to secure the province of Gojjam as a seat of command for Haile Selassie, Wingate used guerrilla tactics not only to accomplish this, but


World War II in East Africa, 1940–1941
ANGLO-EGYPTIAN SUDAN
Nile R.
xxx Northern Force
Platt
xx 5 Indian
Kassala
xx 4 Indian
British retake Gallabat and Kassala— Jan.–Feb. 1941
x Gideon Force
Gallabat
Kerora
Red Sea
ERITREA
Keren
Massawa
Asmera
xx
Gondar
Amba Alagi
Lake Tana
Blue Nile R.
Kurmak
Debra Markos
Gimbi
Addis Ababa
Liberated by British April 6, 1941
Jimma
Soddou
ETHIOPIA (ABYSSINIA)
Lavello
Neghelli
Mega
Lake Rudolf
xx 1 S. African
Moyale
British recapture Feb. 18, 1941
UGANDA
KENYA
xxx Southern Force
Cunningham
Kismayu
Captured by British Feb. 14, 1941
x 1 S. African
xx 11 African
xx 12 African
Lake Victoria
TANGANYIKA
N
SAUDI ARABIA
YEMEN
ADEN PROTECTORATE
Assab
Aden
Gulf of Aden
FRENCH SOMALILAND
Djibouti
British evacuation Aug. 19, 1940
xx
Berbera
BRITISH SOMALILAND
Italians invade British Somaliland July– Aug. 1940
Harar
Jijiga
xx
Belet Uen
ITALIAN SOMALILAND
INDIAN OCEAN
Mogadishu
Captured by British Feb. 25, 1941
Force F
Royal Navy support force
0 100 miles
0 100 km
Infantry unit
x Brigade
xx Division
xxx Corps
British airfield
City occupied by Italy, June 1940
Italian attacks, June 1940
British and allied attacks, 1941
Allied withdrawal
Italian-occupied territory
British-occupied territory
xx 4 Indian
Type and size of military unit
Name of military unit
Note: Black military symbols represent Allied forces, gray military symbols represent Axis forces.
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to intimidate a large-scale surrender of Italian-controlled African forces at Debra Markos on April 6. This cleared the way for Haile Selassie to return to the throne, and he entered Addis Ababa on May 5, 1941. The restoration of the emperor accomplished, Wingate rallied his small force in pursuit of the scattered Italians, taking prisoner 1,100 Italians and 7,000 Italian-controlled colonials at Addis Derra on May 20.

As Cunningham and Wingate made their spectacular gains, the rest of the British forces formed the jaws of a great pincer, which closed on Aosta's fallback position in the mountains of Amba Alagi in Eritrea. Aosta, who had relinquished all his early advantages through fear of being cut off, was now cut off indeed, and hopelessly so. He stubbornly rejected a British surrender demand on April 20, whereupon British and colonial forces began a slow series of methodical attacks and advances, forcing the Italians to withdraw behind a rapidly shrinking defensive perimeter. At last, on May 16, 1941, Aosta yielded. The war in East Africa was virtually over except for mop-up operations at Galla-Sidaamo, Gondar, and Assab, where isolated Italian units held out. These surrendered by November.

The spectacular victory against Italy forced this Axis power to relinquish Ethiopia and its other holdings in the region. They were humiliating defeats that hurt Italian morale as severely as they, in turn, lifted the morale of the hard-pressed Allies. Of more immediate strategic importance, however, the taking of the coastal regions along the Indian Ocean, Red Sea, and Gulf of Aden meant that these approaches to the Suez Canal were no longer a war zone, as defined by the U.S. Neutrality Acts then in force. as such, President Franklin Roosevelt, sympathetic to the Allied cause but inhibited by a still-isolationist Congress, could now allow U.S. merchant ships through to the Suez Canal to deliver much-needed materiel to British forces. The British and British colonial victories in this remote part of the world were thus dramatically leveraged both in terms of morale and overall strategy.

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Eden, Anthony (1897–1977) *British foreign secretary during most of World War II*

Robert Anthony Eden, first earl of Avon, viscount Eden of Royal Leamington Spa, served before (1935–38), during (1940–45), and after (1951–55) World War II as Britain's foreign secretary and, during the postwar years, as prime minister (1955–57). He was born in Windlestone, Durham, and saw combat during World War I. He enrolled at Christ Church, Oxford University, after the war to study Arabic and Persian, then was elected to the House of Commons in 1923. Eden was appointed undersecretary of state for foreign affairs in the cabinet of Stanley Baldwin in 1931, then lord privy seal (with special responsibility for international relations) in 1934. In 1935, he filled the specially created cabinet post of minister for League of Nations affairs, became foreign secretary at the end of that year, but resigned in February 1938 in protest of Prime Minister Neville Chamberlain's policy of Appeasement, which culminated in the Munich Conference and Agreement.

Eden returned to Chamberlain's government at the beginning of World War II, in September 1939, as dominions secretary (without a cabinet seat), and when Winston Churchill replaced Chamberlain as prime minister on May 10, 1940, he named Eden secretary of state for war. Despite this title, Eden actually served as foreign secretary from December 23, 1940 until Churchill and the Conservatives were voted out in July 1945.

Eden was a strong advocate for such key British generals as Sir John Dill, Alan Brooke, and Archibald Wavell, the latter a figure who did not always enjoy Churchill's confidence. After Wavell achieved victories in the Middle East, however, Churchill placed increasing reliance on Eden's counsel and sent him as his representative to meetings he could not attend personally. In particular,

Eden was the envoy of choice to Moscow, and Churchill ensured that he was present at all the major Allied conferences, except for the Casablanca Conference, from which foreign secretaries were explicitly barred.

Eden and Churchill presented a unified public presence throughout the war, but Eden was never Churchill's yes man, and he disagreed with his chief on several critical issues, including, most importantly, the status of the Polish government in exile and the role of Charles de Gaulle in the Free French government and Free French Forces. Whereas Churchill supported the so-called Morgenthau Plan, a peace proposal that would have transformed Germany into a kind of pastoral economy, Eden vehemently opposed it, an opposition shared by Harry S. Truman after he became president. There is evidence that Eden deliberated the feasibility and advisability of unseating Churchill in 1942. Yet the pair managed to conduct a vigorous and ultimately successful wartime government, and Churchill praised Eden as his great support and "mainstay."

Eden, like Churchill, became a victim of the defeat of the Conservative government at the end of the war, but, on October 27, 1951, after Churchill and the Conservatives were returned, Eden was again appointed foreign secretary and was explicitly designated deputy prime minister. Despite his own serious illness, he succeeded Churchill as prime minister on April 6, 1955, resigning on January 9, 1957, amid the scandal of the Suez crisis but citing ill health as his reason.

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Egypt, action in

Egypt was not a part of the British Empire during World War II, but it was only nominally independent of British control. By the terms of the 1936 Anglo-Egyptian Treaty, Britain claimed the right to defend the Suez Canal, a lifeline to the Far Eastern reaches of the British Empire, and the Egyptian government, in time of emergency, was obliged to give British forces control of virtually everything of military value in Egypt. Thus, Egypt was, in effect, occupied by British forces throughout the war, and its capital, Cairo, served as the headquarters for the British Middle East Command. Despite all this, Egypt's King Farouk and his prime minister, Ali Mahir, were solidly anti-British and at least mildly profascist. While they did not actively oppose the British, neither did they cooperate wholeheartedly in arresting German and Italian nationals (though these were ultimately rounded up). British pressure forced Farouk to remove Ali Mahir in June 1940, but when Italian troops invaded Egypt on September 17, 1940, at the start of the Western Desert Campaigns, Farouk violated his pledge to declare war on Italy in the event of an invasion. Instead, he held his kingdom in a state of nonbelligerency. It was left to British forces alone to drive the invaders out, which they did by June 1941.

Prime Minister Ali Mahir was replaced by Hasan Sabri, who continued to walk a fine line between nonbelligerency and the demands of the British occupiers. He died in November 1940 and was replaced by Husayn Sirry, under whom economic conditions in Egypt precipitously deteriorated. Food shortages were rampant, rationing programs failed, and Egypt was near revolt. In the meantime, the British forced Farouk to sever diplomatic relations with the Vichy Government, even as Axis forces closed in on the borders of Egypt. Large numbers of Egyptians, hungry and desperate, began to see in the approach of the Germans and Italians the possibility of deliverance. This prompted Sirry to resign, whereupon the British, fearful of losing the Egyptian populace to the Axis cause, demanded that Farouk name the frankly pro-British Mustafa al-Nahhas to step in and form a new government. When Farouk declined to act, the British demanded his abdication, backing up this demand with a show of force. Farouk yielded, and al-Nahhas came to power. He readily cooper-

ated with British authorities to suppress pro-Axis activity in Cairo and elsewhere, even as Erwin Rommel and his panzers crossed into Egyptian territory in 1942.

Despite the ascension of al-Nahhas, a large portion of the Egyptian population and a majority faction of the Egyptian Army remained not only anti-British but vocally pro-Axis. Fortunately, the second of the two Battles of El Alamein was fought and won in November 1942, driving Rommel out of Egypt. As it became apparent that Egypt would no longer be a combat theater, relations between Britain and Egypt improved. Britain, its attention now turned to other theaters of the war, suspended its active support of al-Nahhas, whom Farouk replaced with Ahmad Mahir. Early in 1945, when the defeat of the remaining Axis powers, Germany and Japan, seemed inevitable, Mahir obtained the approval of the Egyptian parliament to declare war on these nations. Mahir was assassinated before the declaration was formalized, but it was nevertheless made on February 26, and by this means Egypt secured a place among the founders of the United Nations. To have declared war earlier, during the Axis invasion, would have represented for Farouk capitulation to the British. Now that the Axis had been all but defeated, the declaration was actually an assertion and proclamation of national sovereignty.

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Eichelberger, Robert Lawrence
(1886–1961) *U.S. field commander under Douglas MacArthur*

Serving under General Douglas MacArthur, Robert Eichelberger led important operations against the Japanese in the jungles of the Pacific islands, including the make-or-break Battle of Buna during the New Guinea Campaign. Born in Urbana, Ohio, Eichelberger enrolled at Ohio State University, studying there from 1903 to 1905 until he received an appointment to West Point. After graduating from the military academy in 1909, he was commissioned in the infantry, gaining promotion to first lieutenant in 1915 and captain in 1917. After the United States entered World War I, Eichelberger was not sent to France but was instead posted in the South and Southwest, assigned to training and staff missions. He performed exceptionally and received a promotion to temporary major and an appointment as assistant chief of staff to General William Graves's Siberian Expeditionary Force in August 1918, an arduous assignment that earned him promotion to temporary lieutenant colonel in 1919.

Beginning in 1921, Eichelberger served in the Pacific and was posted to the Philippines and Tientsin (Tianjin), China. In 1921, he was also promoted to the regular rank of major and attached to the military intelligence division of the general staff. In 1924, he was reassigned to the Command and General Staff School, Fort Leavenworth. After graduating in 1926, Eichelberger remained at Fort Leavenworth as a staff officer. He enrolled in the Army War College in 1929, graduating in 1930, then transferred to West Point as adjutant and secretary, serving in these capacities from 1931 to 1935.

Promoted to lieutenant colonel in 1934, Eichelberger was appointed secretary to the general staff in 1936. He served until 1938, when he was promoted to full colonel, and assigned command of the 30th Infantry at San Francisco. Two years later, he was promoted to the temporary rank of brigadier general and appointed superintendent of West Point. In March 1942, after U.S. entry into World War II, Eichelberger was promoted to temporary major general and assigned to command 77th Infantry Division. He then briefly commanded XI Corps, then I Corps, which was assembling in Australia for action against the Japanese. By September, I Corps was ready for combat, and Eichelberger led his troops into New Guinea at the beginning of the Allies' "island hopping" campaign against the

forces of the Japanese empire. Promoted to temporary lieutenant general in October, he won a major and remarkable victory against a deeply fortified position at Buna after a hard-fought battle spanning November 20, 1942 to January 22, 1943. General MacArthur's orders to him had been to take Buna or "not come back alive." Eichelberger understood that MacArthur was in earnest.

After the victory at Buna, Eichelberger continued to command operations in the New Guinea campaign and the Battle of New Britain from January 1943 through July 1944. In September 1944, Eichelberger was made commander of the Eighth U.S. Army, which he led in its landing on Leyte Island in the Philippines, behind the Sixth U.S. Army. Eichelberger then directed operations on Luzon during January–April 1945, retaking Clark Field from the Japanese in February and, during February–March, liberating Manila. After this, he directed the liberation of the Visayas and the southern islands, including Mindanao (mission accomplished by August 15, 1945; *see* PHILIPPINES).

In July, MacArthur put Eichelberger in charge of LL Philippines operations, and on August 30, after the Japanese surrender, Eichelberger moved to Atsugi airfield, where he began preparations for the military occupation of Japan. By January 1946, he had completed the move to the Japanese mainland with his Eighth U.S. Army, which assumed responsibility for all ground forces in the nation of the defeated enemy.

Eichelberger returned to the United States in September 1948 and, in 1950, published a memoir entitled *Our Jungle Road to Tokyo.* He retired in July 1954 with the rank of general. That he never achieved the fame of many other major field commanders is something of a puzzle, since Eichelberger was a brilliant master of the tactics of jungle warfare in mountainous terrain, and the operations he led were certainly critical to the success of the island-hopping campaign.

See also LEYTE, BATTLE OF.

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Eichmann, Adolf (1906–1962) *SS officer instrumental in perpetrating the Holocaust*

A lieutenant colonel in the SCHUTZSTAFFEL (SS) and chief of the Jewish Office of the GESTAPO, Adolf Eichmann implemented the FINAL SOLUTION, the total extermination of European Jewry that was the HOLOCAUST. Eichmann was born in Solingen but grew up in Linz, Austria, to which his family moved. He aspired to the profession of engineering but failed in his course work toward that end. He then enlisted as a common laborer in his father's modest mining enterprise. He moved up to a sales position with an Austrian electrical contractor, then became a traveling salesman for the Vacuum Oil Company during 1927–33. He joined the Austrian Nazi Party on April 1, 1932, and when he lost his sales job in July 1933, he emigrated to Bavaria, where, like many other unemployed and disaffected young men, he became involved in a paramilitary political organization, joining the expatriate Austrian Legion. This gave Eichmann 14 months of military training, which stood him in good stead, in September 1934, when he applied for membership in the SICHERHEITSDIENST (SD), the security service headed by HEINRICH HIMMLER. Himmler assigned Eichmann to investigate "Jewish questions," and Eichmann responded by throwing himself zealously into his subject. He gained an elementary knowledge of Hebrew and Yiddish, and, to investigate the Zionist movement firsthand, visited Palestine in 1937. At this point, he may have been considering the possibility of encouraging or forcing German Jews to emigrate to Palestine.

On the eve of the *ANSCHLUSS* with Austria, Himmler appointed Eichmann assistant to the SD leader of the SS Main Region, Danube. Eichmann

was sent to Vienna as an agent of the Gestapo to help prepare the ground for the *Anschluss.* From August 1938, he headed the Office for Jewish Emigration in Vienna, the Nazi agency authorized to issue exit permits for Jews from Austria. Later, Eichmann also handled such exit permits for Czechoslovakia and Germany itself. Eichmann became an authority on and highly efficient agent of forced emigration, in the space of 18 months sending some 150,000 Jews out of Austria. Soon, Eichmann's duties made a transition from forced emigration to forced evacuation: deportation to concentration camps.

In December 1939, Eichmann was transferred to a Gestapo office dedicated to implementing "Referat IV B4," the regulations dealing with Jewish affairs and evacuation. For the next six years, this office, headed by Eichmann, was the center for the implementation of the Final Solution. By the summer of 1941, this came to mean the creation of death camps, the development of mass execution techniques, and the organization of mass convoys that took Jews to their deaths.

The Wannsee Conference of January 20, 1942 confirmed Eichmann's role as the Jewish specialist of the Gestapo, and the master architect of the Final Solution, Reinhard Heydrich, formally assigned Eichmann to implement the Holocaust on a universal scale. In contrast to many in the Nazi hierarchy, Eichmann had no particular hatred of Jews, nor even an ideological bias against them. He was a bureaucrat, and there was nothing personal or even emotional about the mass murders he orchestrated. His objective was to accomplish the mission assigned to him. He never railed against Jews but reserved his complaints for various logistical obstacles that threatened to interfere with his schedules and quotas. He was interested only in production, the production of death on a mass scale. And, toward the end of the war, when no less a figure than Heinrich Himmler issued a "no gassing" order, presumably hoping to ameliorate what he must have perceived as the prospect of postwar charges of war crimes, Eichmann, determined to maintain "production," ignored the order.

Yet, except briefly in Hungary, Eichmann kept a low profile, and he was not widely recognized after the war. The Allies arrested him, but he was not particularly notorious. He was kept under such loose guard that he escaped from a U.S. internment camp in 1946. He fled to Argentina, where he lived quietly until May 2, 1960, when Israeli secret agents tracked him down. He had been living under an assumed name in a Buenos Aires suburb. Bypassing official—and notoriously obstructionist—Argentine channels, the agents abducted Eichmann and spirited him off to Israel. There he was arraigned and publicly tried during April 2–August 14, 1961. Found guilty of crimes against the Jewish people and crimes against humanity, he was sentenced to death on December 2, 1961, and executed at Ramleh Prison on May 31, 1962.

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Einstein, Albert (1879–1955) *world famous and highly influential expatriate German scientist*

The most famous scientist of his time and the most important physicist since Isaac Newton, Albert Einstein created the simple equation, $E = mc^2$ that not only demonstrated the equivalence of matter and energy, but showed the tremendous quantity of energy inherent in the atomic nucleus. The insight, provided mainly by Leo Szilard, that such energy might be liberated was the theoretical basis for the atomic bomb. While Einstein did not participate directly in the war effort, the letter Szilard persuaded him to compose and send to President Franklin D. Roosevelt on August 2, 1939, prompted Roosevelt to authorize what quickly became the Manhattan Project, the all-out

American effort to create an atomic weapon before the Axis powers (especially Germany) could do the same.

Einstein was born in Ulm, Germany, in 1879 and moved with his family the following year to Munich. Young Einstein did not respond well to the strict and unimaginative German schools, but fared better in Swiss schools. He graduated in physics and mathematics from the Federal Polytechnic Academy in Zürich in 1900. He became a Swiss citizen, taught mathematics very briefly, then worked as a patents examiner in Bern. In 1905, Einstein published "A New Determination of Molecular Dimensions," which earned him a Ph.D. from the University of Zürich. This same year saw the publication of papers including "On a Heuristic Viewpoint Concerning the Production and Transformation of Light," which formed the basis for quantum theory; "On the Electrodynamics of Moving Bodies," which postulated the epoch-making special theory of relativity; and "Does the Inertia of a Body Depend Upon Its Energy Content?" which established the equivalence of mass and energy, expressing this in the equation $E = mc^2$.

Einstein was catapulted to prominence among physicists and became in 1912 a professor at the Polytechnic in Zürich. In 1914, Einstein became associated with the Prussian Academy of Sciences and lectured at the University of Berlin. He published "Foundation of the General Theory of Relativity" in 1916, arguing that gravitation is not a force, as Newton held, but a curved field in what Einstein called the space-time continuum.

While Einstein was revolutionizing the field of physics, he was also becoming a social and political activist, with an increasing commitment to pacifism, and he used his growing international fame as a scientist to publicize his social and political views. A Jew, Einstein toured the United States in spring 1921 to raise money for the Zionist Palestine Foundation Fund. He was treated as a great celebrity in the United States and conceived an affection for the country. This same year, he was awarded the Nobel Prize for Physics. Yet the heyday of Einstein's theoretical innovations was over. During the later 1920s and 1930s, he devoted as much time to the cause of pacifism as he did to science. In 1933, after Adolf Hitler became chancellor, Einstein left Germany and accepted appointment to the faculty of the Institute for Advanced Study in Princeton, New Jersey. He lived in Princeton for the next two decades.

In 1939, the great Danish physicist Niels Bohr told Einstein that the German physicist Lise Meitner had split the uranium atom, resulting in the conversion of its mass into energy. It was a practical demonstration of Einstein's 1905 theory. Bohr shared with Einstein his speculation that a controlled chain reaction splitting of uranium atoms could produce an explosion far greater than any conventional chemical explosive could create. The Hungarian expatriate physicist Leo Szilard, coming to this same conclusion and fearing that German scientists would produce a nuclear weapon for Hitler, persuaded Einstein to write a letter to President Franklin D. Roosevelt urging "watchfulness and, if necessary, quick action on the part of the Administration." Einstein wrote:

> In the course of the last four months it has been made probable—through the work of Joliot in France as well as Fermi and Szilard in America—that it may become possible to set up a nuclear chain reaction in a large mass of uranium, by which vast amounts of power and large quantities of new radium-like elements would be generated. Now it appears almost certain that this could be achieved in the immediate future.
>
> This new phenomena would also lead to the construction of bombs, and it is conceivable—though much less certain—that extremely powerful bombs of a new type may thus be constructed.

Einstein suggested that the president "may think it desirable to have some permanent contact maintained between the administration and the group of physicists working on chain reactions in America," and he concluded the letter on an ominous note: "I understand that Germany has actually stopped the sale of uranium from the Czechoslovakian mines which she has taken over. That she should have taken such an early action might perhaps be understood on the ground that the son of the German

Under-Secretary of State, von Weizsacker, is attached to the Kaiser-Wilhelm-Institute in Berlin where some of the American work on uranium is now being repeated." Such was Einstein's prestige that Roosevelt almost immediately authorized what soon became the Manhattan Project.

Einstein played no actual role in the creation of the atomic bomb, but his letter provided the impetus for the undertaking. After its use on Hiroshima and Nagasaki, Einstein became an eloquent voice in the quest for ways to prevent any future use of atomic weapons. He was listened to politely but largely ignored by statesmen and politicians.

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Eisenhower, Dwight D. (1890–1969)

Supreme Allied Commander, Europe

Dwight D. Eisenhower was a career U.S. Army officer who desperately wanted to lead men into combat but who was destined to become a staff officer, whose strategic, logistical, and managerial aptitude caused his rapid elevation, during World War II, to the position of Supreme Allied Commander, Europe. "Ike" Eisenhower was born in Denison, Texas, and raised in Abilene, Kansas. Enrolled in West Point, he graduated in 1915 roughly in the middle of his class. When the United States entered World War I in April 1917, Eisenhower was not sent to France but was given command of a variety of stateside training missions. He quickly proved himself an extraordinarily efficient administrator and staff officer who worked very well with others and who was especially skilled at managing diverse and discordant personalities. By 1920, Eisenhower had achieved promotion to major, a rapid rise unusual for an officer who had not seen combat duty and downright exceptional in the peacetime army.

In 1922, Eisenhower was posted to Panama, returning to the United States two years later to attend the Command and General Staff School, from which he graduated at the top of his class in 1926. Clearly being groomed for high command, he graduated two years later from the Army War College. From 1933 to 1935, Eisenhower served under General Douglas MacArthur as his chief of staff. Although Eisenhower admired MacArthur, he was disturbed by the overbearing personality and flamboyance of his boss, and it was with some degree of reluctance that he accompanied MacArthur to the Philippines, where MacArthur took charge of building—on a shoestring—an army for the defense of the islands. In 1939, Eisenhower secured MacArthur's approval to return to the United States and what he hoped would be at long last a field command. Indeed, Eisenhower's performance in massive prewar maneuvers during the summer of 1941 earned him widespread notice as well as a promotion to temporary brigadier general in September 1941. A field command was briefly

Dwight David Eisenhower *(Dwight D. Eisenhower Presidential Library)*

his, but when the United States entered World War II following the Battle of Pearl Harbor, he was recalled to Washington, D.C., as assistant chief of the Army War Plans Division under Army Chief of Staff George C. Marshall.

From December 1941 to June 1942, Eisenhower, who was junior to nearly 400 other U.S. Army officers, was a key figure in planning overall U.S. strategy in the war. He was promoted to major general in April 1942 and was named to command the European theater of operations (ETO) on June 25, a promotion not only extraordinary because it was, again, over the heads of more senior commanders, but also because Eisenhower had yet to see any combat in his career. What Marshall and others recognized in Eisenhower, however, was his mastery of "big picture" strategy combined with administrative talent and a high degree of leadership skill. Not least among Ike's qualities was the aura of confidence and openness he projected. This would prove invaluable not only in leading American troops, but in working with Allied commanders at the highest level. Eisenhower's genius for juggling jarring egos and inducing diverse commanders to work well together would become increasingly evident. He recognized, without prejudice, where individual strengths and weaknesses lay, and he integrated operations in ways that maximized strengths while compensating for weaknesses.

Eisenhower served as Allied commander for Operation Torch, the invasion of French North Africa, in November 1942, then directed the invasion and conquest of Tunisia from November 17, 1942, to May 13, 1943. Leading green American troops in the opening phases of the North African Campaigns proved heartbreakingly difficult, and Eisenhower made a number of missteps and at least one highly controversial decision, his agreement to allow the Vichy Government's admiral Jean-François Darlan to retain nominal control of French forces in North Africa. But he learned from his mistakes, and both Marshall and President Franklin D. Roosevelt backed him up on the Darlan decision. Ultimately, the North African Campaigns were successful, the American forces were forged into an effective army, and Eisenhower went on to lead the next phase of Allied operations in Europe, the invasion of Sicily during July 9–August 17, 1943, followed by the Italian Campaign, which got underway during September 3–October 8. In these operations, he had overall command of all Allied forces, American and British.

After the landings in Italy, Eisenhower transferred his headquarters to London, where he took charge of plans for the principal Allied invasion of Europe, Operation Overlord, the Normandy landings (D-day). For this, the climactic operation of the war in Europe, the largest, most ambitious amphibious operation ever attempted, and the operation on which the future freedom of much of the world quite literally depended, Eisenhower was appointed Supreme Commander of the Allied Expeditionary Force.

The Normandy landings took place on June 6, 1944, after which Eisenhower assumed overall command of the advance across France, which spanned July 25 through September 14. In December 1944, Eisenhower was promoted to general of the army, a five-star rank last held only by John J. Pershing, and continued to lead the masterly orchestration of titanic and disparate forces. He was a commander of commanders, his subordinates including such larger-than-life figures as Omar Bradley and George S. Patton as well as Britain's Bernard Law Montgomery and Free France's Charles de Gaulle. By continually reconciling the often differing agendas of the Allies, including the Soviet Union, Eisenhower maintained the greatest and perhaps the most difficult military alliance in history.

While Eisenhower directed a generally rapid progress through France and beyond, he responded with resourcefulness and flexibility to the stunning German counteroffensive in the Ardennes from December 16, 1944, to January 19, 1945, which threatened to drive a wedge between British and American advancing units. Although Bradley and some others protested that the offensive was merely a feint, Eisenhower ordered the vastly outnumbered 101st Airborne Division to hold the key Bel-

gian village of Bastogne while he directed Patton's Third Army to march to the relief of the 101st Airborne. Thanks in large part to Eisenhower's alert resolve and his refusal to succumb to what he called "victory fever," the final German offensive of the war was crushed, and the Allied advance resumed even more rapidly than before.

Eisenhower pushed his forces into Germany during March 28–May 8, then made the courageous but controversial political and strategic decision to relinquish occupation of eastern Germany and Berlin to the Soviet troops of the Red Army, while the Western allies shifted south to Bavaria to counter expected pockets of Nazi diehards. Eisenhower's decision was based partly on military considerations and partly on diplomatic ones. His objective was to destroy the German Army, not to capture German cities. He judged too high the cost of taking Berlin, and he did not want to risk letting any sizeable fraction of the German Army escape intact. Diplomatically, his decision reflected agreements made at the YALTA Conference, which included reserving Berlin for the Red Army.

After the unconditional surrender of Germany on May 7–8, 1945, Eisenhower continued to command Allied occupation forces until November, when he returned to the United States, received a hero's welcome, and replaced Marshall as army chief of staff, serving in this position from November 1945 to February 1948. Eisenhower retired from the army in February 1948 and accepted the office of president of Columbia University, serving for two years during a time in which the great university expanded and grew in prestige. In December 1950, as the cold war heated up, President HARRY S. TRUMAN recalled Eisenhower to active duty as Supreme Allied Commander Europe (SACEUR) and commander of NATO forces. Two years later, Eisenhower again retired from the army, this time to run for president on the Republican ticket. The enormously popular Ike was elected to two terms (1953–61), after which he retired to his home in Gettysburg, Pennsylvania.

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embargo, U.S., on Japan

Histories of World War II and the months leading up to the Japanese attack on PEARL HARBOR frequently mention the deterioration of Japanese-American relations exacerbated by the U.S. embargo on Japan. Trade pressure was indeed used by the administration of FRANKLIN D. ROOSEVELT as an economic alternative to war to compel Japan to cease its aggression against China. Economic sanctions were part of a larger American diplomatic offensive against Japan that had been under way since the early 1930s.

Throughout the decade, the U.S. government consistently protested against Japanese actions in China, which violated treaties and international law. Yet, in a climate dominated by isolationism, the Roosevelt administration was unwilling to provoke armed hostilities with Japan. Economic pressure was frequently considered an alternative to war. However, many in the government and the military believed that a policy of imposing embargoes upon strategic exports to Japan—the raw materials Japan needed to continue its war against China—was not so much an alternative to war as it was a provocation. As the decade drew to a close, the issue of Japanese aggression became increasingly critical and, with the outbreak in 1939 of war in Europe, the fall in June 1940 of France, and the conclusion in September 1940 of the AXIS (TRIPARTITE) PACT, Japan had clearly become a direct threat to the United States.

In view of America's relative unpreparedness for war, especially a two-front war, the government grew increasingly wary of applying frankly provocative economic sanctions, desirable as it might be to cut off essential materials to the aggressor. As an alternative to outright embargo,

there developed the policy of "moral embargo." On June 11, 1938, Secretary of State Cordell Hull condemned not only Japan's aggression against China, especially the bombing of civilian targets, but also what he called the "material encouragement" of Japanese aggression. On July 1, 1938, the Department of State notified U.S. aircraft manufacturers and exporters that the government was strongly opposed to the sale of airplanes and aeronautical equipment to countries whose armed forces were using airplanes to attack civilian populations. This communication did not carry the force of law but was a moral embargo, and in 1939 it was extended to raw materials essential to airplane manufacture as well as to plans, plants, and technical information for the production of aviation gasoline. Manufacturers and suppliers generally fell into line with the moral embargo, resulting in the effective suspension of the export to Japan of aircraft, aeronautical equipment, and other materials. In addition to the moral embargo on war materiel, the U.S. government began informally discouraging the extension of credit by U.S. banks to Japan.

By the end of 1938, interference with the rights and interests of the United States and its nationals by Japanese or Japanese-sponsored agents in China became increasingly frequent, prompting a formal protest from the United States on December 31, 1938. As evidence accumulated of endangerment of American lives, the destruction of American property, and the violation of American rights and interests by Japanese authorities or Japanese-sponsored agents in China, the Roosevelt administration reconsidered formal commercial retaliation against Japan. It was decided that the 1911 commercial treaty between the United States and Japan no longer afforded adequate protection to American commerce either in Japan or in Japanese-occupied portions of China, while at the same time the operation of the most-favored-nation clause of the treaty barred retaliatory measures against Japanese commerce. Therefore, in July 1939, the administration served notice on Japan of the termination of the treaty at the end of the six-month period prescribed by the treaty. This removed, under international law, the legal obstacle to an embargo by the United States.

During 1939 and 1940, Japan and the United States conducted high-level conferences in an effort to resolve the deterioration of relations between the nations without contributing to the further conquest of China or endangering the United States. On the eve of the fall of France, Japanese authorities began to exert pressure on French Indochina, demanding under threat of force the conclusion of an agreement to provide for Japan's use three airfields and for the transit, in case of operations against China, of Japanese troops. Although the agreement was duly concluded, Japanese forces attacked Indochina and occupied several strategic points. Secretary of State Hull protested. Shortly thereafter, however, on September 27, 1940, the announcement was made of the conclusion of the Axis Treaty among Germany, Italy, and Japan.

During this period of ever-increasing Japanese aggression, the tempo of U.S. rearmament had also accelerated and required more and more available strategic materials. As a result, U.S. exports were formally limited by measures either legislative or administrative. This resulted in a further and steady decline of export to Japan of strategic materials. The Export Control Act of July 2, 1940, authorized the president, in the interest of national defense, to prohibit or curtail the export of basic war materiel. Beginning in August 1940, pursuant to the act, licenses were refused for the export to Japan of aviation gasoline and most types of machine tools. In September, the government announced that the export of iron and steel scrap would be prohibited, provoking a formal Japanese protest on October 8, 1940, which categorized the prohibition as an "unfriendly act." In view of Japanese aggression, Secretary Hull rejected this interpretation, and, despite Japanese protest, a total embargo on the export of iron and steel scrap to destinations other than countries of the Western Hemisphere and Great Britain went into effect on October 16, 1940. By the winter of 1940–41, shipment to Japan of most strategic commodities, including arms, ammunition, implements of war, aviation gasoline

and many other petroleum products, machine tools, scrap iron, pig iron, iron and steel manufactures, copper, lead, zinc, aluminum, and other commodities important to any war effort, had completely ceased.

This was the U.S. embargo against Japan. It did not, of course, deter Japanese aggression but, rather, solidified the intention of Japanese militarists to seize raw materials and other resources in Asia and the Pacific and, by means of war, to force U.S. acquiescence in this policy. In the face of continued aggressive expansion in the East, President Roosevelt stepped beyond embargo by issuing an executive order on July 26, 1941, freezing Japanese assets in the United States. The order thus brought under government control all financial and import and export trade transactions in which Japanese interests were involved. With this, trade between the United States and Japan ended, and, although discussions continued at a fevered pitch, war became increasingly inevitable.

See also Sino-Japanese War.

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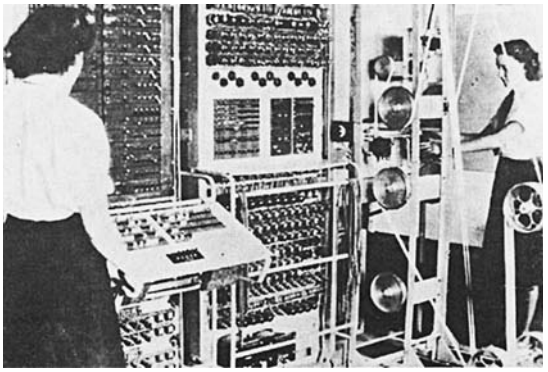
Enigma cipher and machine

Enigma was the name of an electromechanical cipher encryption and decryption machine used by the Wehrmacht, the Luftwaffe, the German Navy, the Abwehr (German secret service), and the Schutzstaffel (SS), as well as the German state railway system during World War II. The original basic design had been patented in 1919 by H. A. Koch, a Dutch inventor, and was modified and refined by a German engineer, Arthur Scherbius, in 1923. The German Army and Navy bought all rights to the machine from Scherbius in 1929, and by the outbreak of World War II, all the services mentioned were using various versions of it.



Workers at Bletchley Park, the British code-breaking laboratory outside of London, tend to one of the early computers used to decrypt Enigma intercepts. *(British War Museum)*

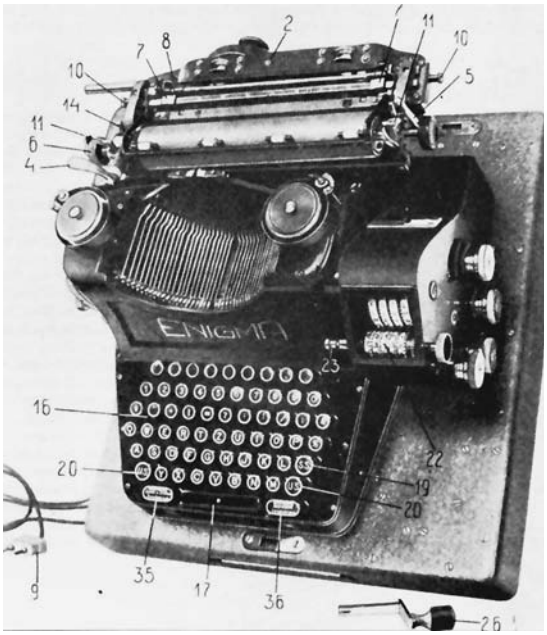
At the time of its invention, development, and use, the Enigma was the most complex encryption-decryption device in use by any nation. The basic Engima machine (and there were a number of more sophisticated variants) resembled a typewriter, but, in addition to a keyboard and type keys, it had a plug board, a light board, and a set of three rotors and half rotors (called "reflectors"). The rotors could be set independently to create a library of 16,900 (26 H 25 H 26) substitution alphabets, so that as long as the message was not longer than 16,900 characters, there would be no repeated use of a substitution alphabet within any given message. Since repetition is the traditional key by which codes are broken, it seemed to the Germans that the Enigma ciphers were inherently unbreakable. Moreover, the Enigma machine added additional complications. The sequence of alphabets used was different if the rotors were started in position ABC, as opposed to ACB; there was a rotating ring on each rotor that could be set in a different position. Additionally, the starting position of each rotor itself was variable. The military version of the Enigma added yet another device, a *Stecker,* or electric plugboard, by which some key assignments (depending on the model) could be changed. Thus,

even the most basic three-wheel Enigma with six plug connections generated 3,283,883,513,796,974, 198,700,882,069,882,752,878,379,955, 261, 095, 623, 685,444,055,315,226,006, 433,616,627,409,666,933, 182,371,154,802,769,920,000, 000,000 coding positions—a staggering number. Of course, complex encryption is useless if it cannot be readily decrypted by the intended recipient. The genius of the Enigma machine was that its complex combination key could be communicated to a recipient by supplying just a few values: what rotors to use, the rotor order, the ring positions (within the rotors), the starting positions of each rotor, and the plugboard settings. The Germans were so confident of the Engima that it was used by every military echelon, from high command to tactical units, including aircraft, tanks, surface ships, and submarines.

Impressed by numbers, what German cryptologists neglected to consider was that no matter how complex a coding system may be, the underlying alphabet is simple and consists of only 26 letters, some of which are used very rarely. Moreover, the fact that although the Enigma gave the impression of bewildering randomness, it was grounded in one absolute principle: No letter could stand for itself. This immediately provided a basic key for code breakers. Finally, another Achilles' heel was the absence of numbers. Engima ciphers were alphabetical, not alphanumeric. Numbers had to be spelled out. This provided yet another key, since the spelling of numbers was easily inferred from a few clues. Finally, the Germans had not counted on a final weakness of any machine-generated code: the possibility that it could be broken by another machine.

The fact was that as early as 1932, Polish cryptologists were reading some Enigma traffic, and on the eve of the war, in mid-1939, the Poles passed much of their knowledge to the French and the British. This became the basis of work done by Alan Turing and others at Bletchley Park, the British center of cryptanalysis, which yielded the Ultra intelligence, a great boon to the Allied war effort.

See also Espionage and counterespionage.



Photograph of a "Type B" Enigma machine *(U.S. Army Signal Corps)*

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Eniwetok Atoll, Battle of

Eniwetok Atoll is located in the Marshall Islands in the Pacific. Here, on February 17, 1944, five battalions of U.S. marines and army infantry landed as part of a mop-up mission following the main battles of the Marshall Islands Campaign. The three principal islands of the atoll, Engebi, Parry, and Eniwetok, were held by a garrison of some 3,500 Japanese. The marines and army infantry attacked and took each in succession while carrier-based aircraft made a diversionary raid on Truk Island to prevent the Japanese from launching aircraft against the landings.

Possession of Eniwetok gave the Americans a major naval anchorage and staging area for ongo-

ing amphibious operations. It also further isolated Japanese-held islands passed over in the American "island-hopping" campaign throughout the Pacific. Without a foothold in the atoll, there was no hope of reinforcing any of these islands, including WAKE ISLAND, which the Japanese had taken at the start of the war.

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espionage and counterespionage

In no previous war was intelligence, which is built in large part on espionage and defended by counterespionage, more important than in World War II. All the major combatants developed and operated significant espionage and counterespionage agencies, and the RESISTANCE MOVEMENTS within virtually all the nations occupied by the Axis had espionage as their principal activity.

ALLIED ESPIONAGE AND COUNTERESPIONAGE AGENCIES

Allied Intelligence Bureau (AIB). Established in the Southwest Pacific by Supreme Allied Commander, Pacific General DOUGLAS MACARTHUR, AIB united Australian and American intelligence officers, who coordinated the efforts not only of military intelligence and reconnaissance, but also of indigenous observers and spies. MacArthur took a hands-on approach to this bureau, preferring to rely on it rather than on intelligence supplied by Washington or even by the U.S. Navy assets in his area. AIB played a key role in the execution of MacArthur's "island-hopping" strategy, whereby Japanese-held islands were attacked selectively and others, cut off from reinforcement and resupply, left to languish. MacArthur used AIB to identify Japanese vulnerabilities and thinly held territories, against which he leveled attacks.

Bureau Central de Renseignements et d'Action (BCRA). Established by Free French leader CHARLES DE GAULLE in London (his headquarters in exile), BCRA operated as his liaison with the French resistance and to coordinate resistance activities with those of British agents. In addition, BCRA compiled dossiers on thousands of French citizens in an effort to identify those who could be counted on to support a Free French provisional government and those who would likely oppose it when de Gaulle returned to France. The objective was to enable the rapid creation of a new government with Charles de Gaulle as its leader.

Cambridge Spy Ring. While the focus of most World War II espionage was, naturally, conducted by the Allies against the Axis and vice versa, Soviet spymasters recruited Britons at Cambridge University to spy for the USSR. Ostensibly, the motive was to promote fuller understanding between the Western Allies and the Soviets, but, in fact, the espionage was part of JOSEPH STALIN's attempt to maneuver his nation to a more advantageous postwar situation. The Cambridge Spy Ring penetrated deeply into the British as well as U.S. intelligence communities, producing such spies as Harold "Kim" Philby, Donald Maclean, John Carincross, Guy Burgess, and Anthony Blunt, known as the "Magnificent Five." Only after the war was the ring uncovered. By that time, Philby, Maclean, and Burgess had defected to the Soviet Union. Blunt, who held the government position of keeper of the queen's art treasures, was not exposed until the 1980s.

Coastwatchers. MacArthur organized throughout the South Pacific an indigenous spy network made up of missionaries and planters as well as government workers who, at great peril to themselves, observed Japanese troop movements and sent regular radio reports to Allied headquarters in Australia. The coastwatchers were also vital in rescuing downed U.S. airmen and stranded U.S. sailors, including, most famously, John F. Kennedy and the survivors of his PT-109, which had been cut in two by a Japanese destroyer in 1943.

Detachment 101. Operated by the Office of Strategic Services (OSS), Detachment 101 worked deep behind Japanese lines in Burma and collaborated with Kachin tribespeople in Burma to sabotage bridges and railways and disrupt Japanese

lines of communication. The unit also rescued downed Allied aviators.

Federal Bureau of Investigation (FBI). In peacetime, the FBI had served primarily as a police agency for the enforcement of federal criminal statutes and the apprehension of federal felons. During World War II, the bureau became the central U.S. agency responsible for internal security and conducted surveillance of suspected spies and enemy aliens as well as operations to apprehend spies working in the United States.

GRU. The Glavnoye Razvedyvatelnoye Upravelenie was the primary intelligence organization of the Red Army. Early in the war, GRU agents obtained intelligence indicating that Adolf Hitler was planning to abrogate the German-Soviet Non-Aggression Pact by invading the Soviet Union, but Stalin refused to heed these warnings. Throughout the war, GRU agents were able to penetrate to the highest levels of the German military, including the general staff. Agents also spied on the Western Allies, most notably obtaining secrets relating to the Manhattan Project.

MI5. Military Intelligence, Division 5 was the principal British agency responsible for counterespionage and internal security. During World War II, under the leadership of Sir David Petrie, MI5 compiled a magnificent record not only for apprehending German agents operating in the U.K., but for "turning" many of them to create double agents, who fed their handlers a stream of highly destructive disinformation.

MI6. Military Intelligence, Division 6 was the principal British agency responsible for espionage. Under the leadership of Colonel Stewart Menzies, MI6 coordinated the efforts of spies in the Axis countries as well as in neutral nations, where agents infiltrated Axis diplomatic missions. It was under the auspices of MI6 that the riddle of the German Enigma cipher and machine was untangled, yielding the valuable crop of intelligence known as Ultra.

Navy Communications Intelligence (COMINT). This U.S. Navy unit was responsible for intercepting and decrypting Japanese coded information and maintained a series of covert listening posts throughout the Pacific for this purpose.

NKVD. The Narodny Komisariat Vnutrennikh Del combined internal security counterespionage functions with both domestic and foreign espionage. The most extensive of all Soviet intelligence agencies, NKVD was also the most feared and was ruled ruthlessly by Lavrenty Beria. NKVD was responsible for the Cambridge Spy Ring in England and for other espionage operations directed against the USSR's own allies. NKVD operated a subagency known as SMERSH to monitor internal security, especially signs of disloyalty within the ranks of the Soviet military.

Office of Naval Intelligence (ONI). Established in 1882, ONI grew into a large agency during World War II with responsibility for gathering intelligence as well as ensuring internal security. Virtually every U.S. Navy ship was staffed by at least one ONI officer, who provided reports on enemy harbors, fortifications, vessels, and so on. Before and during the war, ONI sent naval attachés to U.S. embassies to collect data of all kinds. The naval attachés inhabited a shadowy world between their capacity as official representatives of the United States and spies.

Office of Strategic Services (OSS). What became the best-known U.S. espionage agency of the World War II era and the direct predecessor of the Central Intelligence Agency (CIA), OSS was founded (June 1942) and led by William Donovan. The OSS operated extensively in Europe as well as in the China-Burma-India theater and not only provided spies and saboteurs, but conducted exhaustive systematic analyses of published materials issued by the Axis nations in an effort to gauge enemy morale and intentions. The OSS also operated its own propaganda unit, which generated propaganda and disinformation for covert and overt distribution behind enemy lines.

Signal Intelligence Service (SIS). This was the U.S. Army's principal code-breaking agency, which cracked the Purple (Japanese diplomatic cipher).

Twenty Committee. Established on January 2, 1941, under MI6, this British unit specialized in "turning" German spies operating in England, so

that they would become double agents who provided disinformation to Germany. As many as 120 such agents were eventually active, and they played a key role in giving German military planners the impression that the Normandy landings (D-day) would come not at Normandy, but at the Pas de Calais. Based on this disinformation (and other factors), the bulk of German defenses were transferred to the Pas de Calais sector.

ALLIED ESPIONAGE AND COUNTERESPIONAGE OPERATIONS

Bletchley Park. At this estate north of London, much of the British intelligence community was gathered. Chief among the activities here was decryption, especially of the Engima traffic.

Bodyguard. Operation Bodyguard was the codename for much of Britain's disinformation effort, especially relating to the planned invasion of France. Operation Fortitude, a suboperation of Bodyguard, was directed at deceiving the Germans into thinking that the invasion would come not at Normandy but at the Pas de Calais. Bodyguard and Fortitude created an array of decoys (including rubber tanks and plywood aircraft) to give the impression of the build-up of invasion forces opposite Pas de Calais, and it manufactured a stream of false news reports and radio broadcasts.

Bodyline. Operation Bodyline was an effort of British intelligence to monitor the progress of German rocket development. Bodyline intelligence directed bomber raids against Peenemünde, the principal site of V-1 buzz bomb and V-2 rocket development.

Jedburgh. Under Operation Jedburgh, three-man teams, consisting of U.S., British, and Free French agents, were infiltrated into France prior to the D-day invasion to gather information and to sabotage railroads and communications.

Lucy Spy Ring. The Soviets operated this highly effective espionage ring out of Switzerland, obtaining a wealth of military intelligence about German operations, including material that was indispensable in achieving the Soviet victory at the titanic tank Battle of Kursk.

Red Orchestra. This ring of Soviet spies was active in German-occupied western and central Europe and provided a steady stream of information, transmitted via radio, throughout the war.

Special Operations Executive (SOE). Established on July 22, 1940, this British operation functioned mainly as a unit of agents provocateurs, whose mission was to foment rebellion in occupied Europe, especially Poland and France. The object was not to overthrow the German occupation so much as it was to force a concentration of German troops behind the lines and away from the front.

AXIS ESPIONAGE AND COUNTERESPIONAGE AGENCIES

Abwehr. Under the leadership of Admiral Wilhelm Canaris, Abwehr was the German agency chiefly responsible for espionage against foreign military operations. Canaris was a brilliant spymaster, but his ambivalence concerning Nazi brutality often caused him to sabotage his own operations or even to provide disinformation to his superiors.

B-Dienst Observation Service. This German naval service overtly and covertly observed the movements of British merchant and military vessels, providing targeting information to U-boats.

Foreign Armies East. Under the leadership of Lieutenant Colonel Reinhard Gehlen, Foreign Armies East directed military espionage against the Soviet Union. It became infamous for blunders and contributed to the ultimate defeat of German invasion and occupation forces in the Soviet Union.

Foreign Armies West. This German organization was responsible for military intelligence in the west. It performed only marginally better than its eastern counterpart, Foreign Armies East, because its agents frequently fell prey to Allied disinformation efforts, especially regarding the intended landing area of the D-day invasion.

Gestapo. The Geheime Staatspolizei (Secret State Police) was established in 1933 by Adolf Hitler as the principal agency to provide internal security. Headed by Hermann Göring and later by Heinrich Müller, the Gestapo created a vast and shadowy network of internal spies and snitches aimed at ferreting out disloyalty. Often, the

Gestapo succeeded only in creating suspicion and undermining civilian morale.

Kempeitai. Roughly equivalent to the German Gestapo, the Kempeitai was the Japanese secret police, principally tasked with identifying and suppressing internal opposition and disloyalty. Secondarily, the agency was responsible for espionage and counterespionage.

RSHA. The Reichsicherheitshauptamt, the Reich Central Security Office, was established in 1939 under Reinhard Heydrich and coordinated the activities of the Gestapo and the Sicherheitsdienst (SD), which were the intelligence and espionage units directly controlled by the Schutzstaffel (SS). In effect, the RSHA was the central agency of German internal security.

Sicherheitsdienst (SD). The SD was created primarily to identify and suppress plots against Adolf Hitler personally and against the Nazi regime generally. Under Reinhard Heydrich, the SD often exceeded its brief and conducted espionage abroad. The SD operated as a rival agency to the Abwehr, much to the degradation of the quality of German intelligence.

SPIES AND SPYMASTERS

Many of the major spies and spymasters are treated in separate entries in this encyclopedia. *See* Beria, Lavrenty; Bidault, Georges; Canaris, Wilhelm; Dissard, Marie Louise; Donovan, William; Dulles, Allen; Fuchs, Klaus; Göring, Hermann; Heydrich, Reinhard; and Moulin, Jean. In addition to these individuals, important figures in World War II espionage include:

Cicero. Working under the code name Cicero, Elyesa Bazna was a valet to Britain's chief diplomat in Turkey and supplied a large volume of intelligence to the Germans.

Garbo. Working under the code name Garbo, Juan Pujol Garcia, a Spanish national, was a double agent who supplied disinformation to the Germans. Originally, he had been recruited by the Abwehr, but he freely volunteered to work for the Allies. His false information helped mislead German military planners into anticipating the D-day invasion not at Normandy but at the Pas de Calais. Garbo earned the distinction of being awarded the Iron Cross by Germany and the Order of the British Empire by Great Britain.

Josephine. This was a code name for a person whose identity is still unknown who supplied more—and more valuable—information to Germany than any other spy. It is believed that Josephine was a Swedish naval attaché based in London.

Layton, Edwin T. Layton served throughout the war as the U.S. Navy's chief intelligence officer in the Pacific. It was Layton who supplied warning indications of the impending attack on Pearl Harbor, a warning that, however, went largely unheeded.

Martin, William. This fictitious name was applied by the British to a corpse, which was used in an elaborate and effective (if grotesque) scheme to deceive the Germans into believing that the Allies intended to invade the Balkans rather than Sicily in 1943. A briefcase with "top secret" disinformation was handcuffed to the corpse, which was released by a British submarine near the coast of Spain. The body washed ashore, the documents were discovered by a German agent (who assumed it was the victim of a U-boat attack), and the disinformation was duly transmitted to Berlin. When the story was told after the war, William Martin was dubbed "the man who never was."

Menzies, Stewart Graham. A major in the British army, Menzies was director of MI6 during the war and through 1953. He was, in effect, Britain's chief spymaster.

Rosbaud, Paul. A German who worked under the code name Griffin, Rosbaud spied for Britain, reporting important information on Germany's rocket program and on its program to develop a nuclear weapon. Thanks to Rosbaud, the Allies learned that German nuclear weapon research was stalled and lagged far behind that of the Allies.

Schellenberg, Walter. Schellenberg was the chief of foreign intelligence in Germany's RSHA.

Stephenson, William. Operating under the code name Intrepid, Stephenson was a Canadian who directed British espionage in the United States before American entry into World War II.

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F

Falkenhausen, Alexander von (1878–1966) *German general and military governor of occupied Belgium*

Alexander von Falkenhausen began his military career before World War I as a military attaché in Japan. With the outbreak of that war, he was seconded to the Turkish Army and served with distinction in Palestine, earning the Pour le Mérite. He returned to the German Army and remained in it during the interwar years, gaining appointment in 1927 as head of the Dresden Infantry School. He retired from the regular army in 1930 and traveled to China, where CHIANG-KAI-SHEK employed him as his military adviser.

In May 1938, Falkenhausen was again recalled to the German Army. When World War II began, he was assigned as an infantry commander in the western offensive and the BATTLE OF FRANCE. With the successful occupation of Belgium, Falkenhausen was named military governor of the country and served from 1940 through 1944. He was no more brutal than most other German officials with responsibility for occupying a country, and, indeed, he was certainly less brutal than some. Nevertheless, in the course of his administration Falkenhausen committed war crimes, authorizing deportations, especially of Jews and, in reprisal for resistance activities, the arrest and execution of hostages.

Falkenhausen was not an admirer of ADOLF HITLER, and his two closest friends, Carl Goerdeler and Erwin von Witzleben, were conspirators in the JULY PLOT (to assassinate Hitler), masterminded by KLAUS VON STAUFFENBERG. Falkenhausen was removed as military governor of Belgium and arrested but was never brought to trial.

After the war, Falkenhausen was sent back to Belgium, where he was tried for war crimes. In March 1951, found guilty of having deported Jews and executed hostages, he was sentenced to 12 years of imprisonment. He was, however, released after having served a mere three weeks. He lived out the remainder of his life in obscure retirement.

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Falkenhorst, Nikolaus (1885–1968) *German supreme military commander of Norway*

Nikolaus Falkenhorst began the major phase of his military career as military attaché in Prague and Budapest during 1933–35. Recognized as a promising officer, he was named chief of staff of Third Army Group Command in 1935 and served until 1936, when he became commander of the 32nd Division. He served in this capacity until the outbreak of war, in 1939, when he was transferred to command of XXI Corps in Poland. With the conclusion of the Polish campaign in 1940, Falkenhorst, as Generaloberst (colonel general) was given

command of Commanding Group XXI, Denmark-Norway, then received command of Army Norwegen in Norway. To this was added in 1941 command of Army Lapland, and in 1942 Falkenhorst was named commander in chief, Norway. He served in this capacity until 1944, when he was effectively dismissed (officially retired). Even though he was no longer in active service, Falkenhorst became a prisoner of war in 1945 and was held by a British tribunal for trial as a war criminal. As a general, he had made himself notorious for harsh treatment of prisoners of war and had, in violation of the Geneva Conventions, ordered the summary execution of British commandos. Found guilty of war crimes in 1946, he was condemned to death, but his sentence was subsequently commuted to imprisonment for 20 years.

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fascism

In the narrowest sense, fascism was a political ideology and mass movement introduced in Italy by the National Fascist Party (Partito Nazionale Fascista) under the leadership of a former socialist radical journalist, Benito Mussolini (1883–1945). Mussolini took the name of his party from the Latin word *fasces,* a symbol of authority—specifically, penal authority—in ancient Rome. The Roman *fasces* was a bundle of elm or birch rods tied securely around an axe. The meaning conveyed by the symbol is one of unity (the bound individual rods) and the strength of unity (bound together, the rods are far stronger than any individual stick of wood) as well as punitive authority.

Mussolini rose meteorically in 1922, when he was elevated to the office of prime minister with virtually dictatorial powers. His ascension was the product of his own histrionically virile magnetism, the intimidation wrought by his legion of blackshirted followers, who used violent rhetoric and outright thuggery to suppress all opposition, and the intense ideological appeal of his message. All three components of the rise of Mussolini and the concomitant rise of fascism were equally important. Fascism was founded on a cult of personality, namely the strongman leader who offers himself as the hypermasculine savior of the nation. Intimidation and violence were also inseparable from fascism, which was rooted in an atavistic will to power and which fully sanctioned the forcible molding of public opinion, culture, and government. Like many other nations after World War I, Italy seemed afflicted by moral drift and economic malaise. The violence of fascism promised to sweep this away.

Finally, there was the ideology of fascism. In contrast to the political ideology most directly opposed to fascism, communism, which had an elaborately articulated theoretical structure initially established by Karl Marx and Friedrich Engels, fascism never developed a truly cohesive intellectual framework. It is most telling that during his long tenure as Italy's leader, Mussolini employed in vain a small army of historians, lawyers, political scientists, and other scholars who were charged with expressing the ideology of fascism in a great *Fascist Encyclopedia.* This work of many years was never completed. Indeed, it may be argued that fascism never had a genuine ideological core because it was nothing more or less than a means of acquiring and maintaining power. Beyond these two objectives, fascism simply melted as a political philosophy, dissolving into ad hoc assumptions, assertions, and actions all intended to preserve ruling authority. Nevertheless, fascism was characterized by certain ideological or at least quasi-ideological principles. These included:

> Opposition to all nonfascist political philosophies and forms of government, including communism, parliamentary democracy, and political or cultural liberalism
>
> An embrace of totalitarianism
>
> Corporatism: "Corporatism" proposed organizing industry, agriculture, the professions, and even the arts into trade unions controlled by a combination of the state and management;

these "corporations" would regulate all aspects of employment and would replace all other trade associations and unions; the "corporations" would, in turn, convene in a "corporatist parliament," which, ultimately, would replace conventional representative government. No fascist state, including Italy, ever fully instituted corporatism.

Equality of social status: An assertion only; in fact, fascism tended to produce oligarchy born of a more-or-less inarticulate belief in a natural social hierarchy ruled by an elite class of superior human beings.

Imperialism: Mussolini saw his destiny as the man who would resurrect the Roman Empire.

Hypernationalism and racism, and a tendency to blur any distinction between national and racial identity

Militarism and mass mobilization, including, concomitantly, the diminishment of the individual: In Germany, this was expressed in the concept of *Volksgemeinschaft* ("people's community"), the idea that individual interests must be subordinated to the good of the nation.

The idea of the fascist as the "new man," the "man of destiny"

A cult of youth and physical strength

Violence, including the scapegoating of individuals and groups

Founded in Italy, fascism or fascist-inspired movements and governments were influential in many parts of central, southern, and eastern Europe between 1919 and 1945. Fascism even had adherents in western Europe and the United States, as well as South Africa, Japan, Latin America, and the Middle East. Adolf Hitler was certainly inspired by the example of Mussolini, and his Nazi Party (NSDAP) embodied the basic principles of fascism. The chief European fascist parties were disbanded and even in many places outlawed after World War II, although so-called neofascist movements have periodically emerged since.

Mussolini did not fashion fascism out of whole cloth. Various features of fascism can be found in the work of such 19th-century political theorists as Theodor Fritsch, Paul Anton de Lagarde, Julius Langbehn, Jörg Lanz von Liebenfels, Joseph de Maistre, Charles Maurras, and Georges Sorel and such scientists and philosophers as Johann Gottlieb Fichte, Giovanni Gentile, Gustave Le Bon, Friedrich Nietzsche, Vilfredo Pareto, Karl Vogt, and Ernst Haeckel. Fascism is also implicit in the work of the German operatic composer Richard Wagner and the Italian novelist and poet Gabriele D'Annunzio, who was a contemporary of Mussolini. It was Mussolini, however, who, synthesizing the disparate strands of political and philosophical tradition, gave the movement a name.

Before and during World War II, the most important fascist and fascistlike national movements included, besides Italy's Fascist Party and Germany's Nazi Party, the Fatherland Front (Vaterländische Front) in Austria, led by Engelbert Dollfuss; the National Union (União Nacional) in Portugal, led by António de Oliveira Salazar; the Party of Free Believers (Elefterofronoi) in Greece, led by Ioannis Metaxas; the Insurgence (Ustaša) in Croatia, led by Ante Paveli; the National Union (Nasjonal Samling) in Norway, which spawned the turncoat dictatorship of Vidkun Quisling; the military dictatorship of Tojo Hideki in Japan; the Falange of Spain, founded in 1933 by José Antonio Primo de Rivera, which produced dictator Francisco Franco; the virulently anti-Semitic Falanga in Poland, led by Boleslaw Piasecki; the ultimately failed Lapua Movement in Finland, led by Vihtori Kosola; the influential Arrow Cross Party (Nyilaskeresztes Párt) in Hungary, led by Ferenc Szálasi; and the Iron Guard (Garda de Fier) of Romania, led by Corneliu Codreanu. In the west, the Cross of Fire (Croix de Feu), subsequently renamed the French Social Party (Parti Social Français), led by Colonel François de La Rocque, became the largest party on the French right between 1936 and 1938. Nor was it the only fascist movement in France between the wars. Others included Faisceau, led by Georges Valois; the Young Patriots (Jeunesses Patriotes), led by Pierre Taittinger; French Solidarity (Solidarité Française), founded by François Coty and led by Jean Renaud; the Franks (Francistes), led by Marcel

Bucard; the French Popular Party (Parti Populaire Français), led by Jacques Doriot; and French Action (Action Française), led by Charles Maurras. The Vichy Government of occupied France found many French fascists to serve in government and administrative roles.

In Britain, Oswald Mosley's British Union of Fascists was a significant political voice up to the very outbreak of war. In Belgium, the Rexist Party, led by Léon Degrelle, made for a significant presence in Parliament. Fascists were not active in the Soviet Union, but Russian fascist organizations were founded by expatriates in Manchuria and the United States, as well as elsewhere. Nor was fascism confined to Europe between the wars. A number of fascist movements sprang up in South Africa after 1932, including the Gentile National Socialist Movement, the South African Fascists, the South African National Democratic Party (the Blackshirts), and the Ox-Wagon Sentinel (Ossewabrandwag). In the Middle East, fascist organizations were very popular on the eve of the war. These included the Syrian People's Party (the Syrian National Socialist Party) , the Iraqi Futuwa movement, and the Young Egypt movement (called the Green Shirts after their uniforms).

Japan's militaristic government during World War II certainly partook of fascist philosophy, and a quasi-fascist tradition developed in Japan almost immediately after World War I. The Taisho Sincerity League (Taisho Nesshin'kai), the Imperial Way Faction (Kodo-ha), the Greater Japan National Essence Association (Dai Nippon Kokusui-kai), the Anti-Red Corps (Bokyo Gokoku-Dan), the Great Japan Political Justice Corps (Dai Nippon Seigi-Dan), the Blood Brotherhood League (Ketsumei-Dan), the Jimmu Association (Jimmu-Kai), the New Japan League (Shin-Nihon Domei), the Eastern Way Society (Towo Seishin-Kai), and the Great Japan Youth Party (Da-nihon Seinen-dan) were merely the best known of the many pre–World War II fascist or quasi-fascist parties active in Japan.

China was swept by fascism following the Japanese occupation of Manchuria in 1931. The most important Chinese fascist party was the Blue Shirts, who allied themselves with the Kuomintang (National People's Party) under Chiang-Kai-shek.

In the Americas, the Nacis were founded in Chile by Jorge González von Mareés; the Gold Shirts were active in Mexico, led by Nicolás Rodríguez; and the Revolutionary Union (Unión Revolucionaria) put into power dictator Luis Sánchez Cerro of Peru. In Brazil, the Integralist Action Party (Ação Integralista Brasileira) claimed more than 200,000 members by the mid-1930s and mounted a failed coup attempt in 1938. In the United States, the Ku Klux Klan may be seen as a fascist organization, and other pre–World War II extreme right-wing groups were also active, including the Social Justice movement founded by a vocally anti-Semitic Roman Catholic priest, Father Charles E. Coughlin. In 1942, Coughlin's publication, called *Social Justice,* was banned from the U.S. mails for violating the Espionage Act. The Catholic Church ordered Coughlin to stop making his distressingly popular radio broadcasts. A more overtly fascist organization was the German-American Bund, founded in 1933 and openly pro-Nazi and paramilitary in orientation. The organization evaporated after U.S. entry into the war in December 1941.

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fifth column

During World War II, *fifth column* referred to subversive activities within the Allied countries. Those who constituted the fifth column were, naturally enough, called fifth columnists.

The term *fifth column* was first used during the Spanish civil war about 1936 when a Nationalist

general about to attack Madrid warned Republican defenders that in addition to the four columns of troops outside the city, he had a "fifth column" inside, awaiting only the proper moment to rise up and join the fight. Thus *fifth column* came to describe any body of organized subversion harbored within a nation. Yet the fact is that the existence of a fifth column was largely the product of rumor. While it is true that some right-wing sympathizers and even outright fascists lived in most of the Allied countries, these individuals and groups never coalesced into active, let alone effective, subversive bodies. In an effort to undermine morale, German propaganda nevertheless continually played upon and sought to intensify rumors of fifth column conspiracies.

The only places in which fifth columnists may be said to have played actual and even significant roles were in Czechoslovakia's Sudentenland and in Yugoslavia and Poland. In all these instances, however, the fifth column was hardly secretly subversive but consisted of ethnic Germans who would certainly have been expected to have sympathies with the Third Reich.

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fighter aircraft

This article discusses the development and employment of fighter aircraft during World War II. For discussion of specific aircraft, *see* Aircraft, British; Aircraft, French; Aircraft, German; Aircraft, Italian; Aircraft, Japanese; Aircraft, Polish; Aircraft, Soviet; and Aircraft, United States.

In World War II, fighters were used in four major roles. They provided close-air support for ground forces and also targeted troops and equipment. (Some few fighters were specifically designed for this ground attack role and, in the U.S. Army Air Forces, were designated "attack" planes.) At sea, aircraft carrier–based as well as land-based fighters attacked surface ships. For the Allies, perhaps the most important fighter role was escorting large bombers on strategic bombing missions chiefly over France, Italy, Germany, and Japan. These fighter escorts defended the bombers against enemy fighters playing the fourth role of this aircraft type: interdicting bombers.

The Supermarine Spitfire was one of the legendary fighters of World War II. *(Royal Air Force Museum)*

For all four roles, fighters needed maneuverability. For all but the first role, they also needed speed. For the third and fourth roles, they needed maneuverability, speed, and a high service ceiling (so that they could either accompany or attack high-altitude bombers). For the third role, in addition to all of these qualities, fighters needed range. Without adequate range, they could not escort bombers all the way to their targets and back again. The progress of fighter development in World War II was directed at producing aircraft that excelled in all four areas of performance.

World War II began at the very end of the era of the biplane fighter. While all major combatant nations entered the war with a few biplane fighters still in service, most had already produced significant numbers of low-wing monoplanes. The typical monoplane fighter had a single engine, closed canopy, and retractable landing gear. Armament

included, at minimum, fixed forward-firing machine guns. Some fighters also mounted cannon (increasingly important as bombers became more thickly armored), had wing racks for rockets, and could carry a modest bomb load or a torpedo. The quest for speed produced bigger, more powerful engines, culminating in early production of JET AIRCRAFT, especially in Germany. Even Germany, however, did not produce jets in sufficient quantity to make a significant impact on the air war.

While most fighters were single-engine designs, a few significant twin-engine fighters were also produced. The first was Germany's Messerschmidt Me-110, followed by the British Beaufighter and the Mosquito (which was also used as a light bomber). The United States produced the remarkable P-38 Lighting, which not only had twin engines, but twin fuselage booms, giving it a distinctive shape that prompted German pilots to dub it the "Fork-Tailed Devil." All twin-engine designs were sometimes used as night fighters, because they were large enough to accommodate the unwieldy RADAR equipment of the World War II era. However, the United States produced a twin-engine fighter expressly designed for the night-fighter role, the P-61 Black Widow.

The middle of the war saw the introduction of the "second generation" of the era's fighters, which featured very large engines capable of producing speeds in excess of 400 miles per hour. These included Germany's Focke-Wulf FW-190, Britain's Typhoon and Tempest, and the U.S. P-47 Thunderbolt and P–51 Mustang. Japanese fighter design excelled early in the war, and for many months of the conflict the famed A6M Zero outclassed anything the United States could hurl against it. However, by the middle of the war, Allied fighter designs had pulled well ahead of Japanese aircraft, and by the time Japanese designers had created their own "second generation" aircraft, the beleaguered nation lacked the production capacity to turn these planes out in sufficient quantity to be used effectively. Indeed, as the Japanese military situation became increasingly desperate, aircraft designers became increasingly daring, turning out jet designs (building on German technology) and even rocket-propelled aircraft. None of these was produced in significant numbers. Equally critical was a shortage of pilots and an even more critical shortage of *well-trained* pilots. Beginning in October 1944, Japanese commanders were prodigally expending even this precious resource by sending pilots on one-way KAMIKAZE (suicide) attacks.

As important as fighter development was, the training of fighter pilots and the development of fighter doctrine and tactics were, if anything, even more critical to success. Early in the war, when it became clear that the Japanese Zero was easily superior to the first generation of American fighters, U.S. pilots quickly developed tactics and skills that exploited the Zero's few but significant weaknesses while playing to the strengths of such aircraft as the Curtiss P-40C. In the hands of a skilled pilot, even this obsolescent fighter could defeat the more advanced Zero.

The principal difference between the fighter tactics of World War I and those of World War II was the diminished emphasis on the dogfight, the one-on-one fighter duel. Instead, pilots, especially in Britain's Royal Air Force (RAF), were trained in tactics designed to be most effective against bombers. The object was to bring the greatest number of guns to bear on the enemy target. To facilitate this, the British adopted the Rotte, a two-aircraft formation in which one plane served as the principal attacker and the other (the "wingman") protected the attacker against counterattack. The German Luftwaffe took this a step further and developed the *Schwarme,* which used two *pairs* of fighters and was soon adopted by the RAF and, subsequently, by the U.S. Army Air Forces as the "finger four" formation (so called because, the positions of the fighters relative to one another resembled the tips of four outspread fingers). Early in the war, the Japanese favored a three-fighter formation known as the *shotai.* American pilots, beginning with the FLYING TIGERS in China, employed a "section and stinger" formation against these formations. A two-aircraft "section" would be used to lure the three-aircraft *shotai* to attack. As the two aircraft held the focus of the *shotai* pilots, the "stinger" fighter, lurking at a higher altitude, would suddenly

descend in a surprise attack. By the end of 1943, the Japanese discarded the *shotai* in favor of a version of the finger four.

From the middle years of the war onward, all sides concentrated on developing antibomber tactics. The German Luftwaffe, in particular, created an impressive repertoire, including a devastating approach from beneath and behind, which relied on a specially designed upward-firing cannon mounted in the roof of the fighter's cockpit. However, the development and extensive deployment of long-range American fighters, especially the P-51 Mustang, meant that bombers would benefit from fighter escort all the way to and from their targets. The Mustangs provided highly effective defensive coverage against German fighters, regardless of the tactics employed. In the end, it was U.S. production capacity that defeated the enemy fighters. Escorts far outnumbered the attackers. Had the Luftwaffe introduced jet fighters earlier in the war and in far greater numbers, the P-51s, magnificent as they were, would have been readily outclassed. The Me-262 jet fighter, for example, could simply outrun any opponent, and the only way to shoot it down was to attempt to catch it on takeoff or landing or to force it into a dogfight, in which its poor rate of turn would render it vulnerable. Fortunately for the Allies, the jets were deployed too late and in too small numbers to allow for the effective exploitation of their manifest superiority.

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Filipino Scouts

Filipino, or Philippine, Scouts were the closest the United States ever came to maintaining a colonial army in the manner of the British Empire. They were native Filipinos attached to the Philippine Department of the U.S. Army beginning in 1901 and up to and during World War II. Filipino Scouts were usually commanded by U.S. officers, although a very few received training and commissions from the United States Military Academy (West Point).

The first Filipino Scout units were raised in 1901 as reinforcing columns for the regular U.S. Army forces combating the Filipino insurgency in the wake of the Spanish-American War. During 1919–20, the Filipino Scout units were reorganized and given new designations as the 43rd, 45th, and 57th Infantry Regiments, the 24th and 25th Field Artillery Regiments, and the 26th Cavalry Regiment. In addition, the scouts were also formed into support units, which included coastal artillery, medical, and quartermaster formations. Though commanded chiefly by U.S. officers, the Filipino Scout units were otherwise segregated, except for the integrated Filipino-American 808th Military Police Company.

On July 26, 1941, U.S. Army Forces-Far East (USAFFE) was created and included the Philippine Department, Philippine Army (two regular and 10 reserve divisions), and the Far East Air Force (FEAF, formerly the Philippine Army Air Corps). USAFFE was headquartered at No.1, Calle Victoria, Manila, Luzon, the Philippines, under the command of Major General Douglas MacArthur. Under the Philippine Department at the time were 22,532 troops, of which 11,972 were Filipino Scouts.

In contrast to the Philippine Commonwealth Army, which was both poorly trained and poorly equipped, the scouts were quite well trained, well equipped, and as thoroughly experienced as the regular U.S. Army troops. American commanders

respected them. The Filipino Scouts fought side by side with U.S. forces during the Japanese invasion of the Philippines and suffered heavy casualties as well as shared the horrific abuses and hardships of the infamous Bataan Death March. Until recently, however, their contributions and sacrifices in World War II were very inadequately recognized by the U.S. military and the government. On December 16, 2003, President George W. Bush created Public Law 108–183 by signing the Veterans' Benefits Act of 2003, which extended full veterans' benefits to the Filipino Scouts if they or their beneficiaries reside in the United States as U.S. citizens or as aliens lawfully admitted for permanent residence.

See also Philippines, fall and reconquest of.

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Final Solution

Anti-Semitism and the scapegoating of Jews for economic and other European and German national problems were integral to the rise of Adolf Hitler and were made explicit in his autobiographical manifesto *Mein Kampf* (1924). Of course, these themes were hardly new or original with Hitler. Throughout Europe, anti-Semitism had a long tradition. Hitler, the Nazi Party (NSDAP), and the Third Reich, however, made anti-Semitism a central political and cultural crusade, which entered into virtually every law, government activity, and administrative policy. As developed by Hitler and the Nazis, anti-Semitism required, initially, purging Jews from "German" life and, ultimately, the murder, (genocide) of all Jews who fell under German control. This was the Holocaust, in which approximately 6 million Jews perished during World War II. It must be recognized that implementation of the Final Solution, the genocide of the Jews, was not merely an aspect, let alone side effect, of World War II, but was, for Germany, a cause and a war aim, for only in the context of world war and conquest could the Holocaust called for by the Final Solution be perpetrated.

The Final Solution to the "Jewish Question" grew out of Hitler's pledge to "free" Germany of Jews and Jewish influence (which Hitler deliberately confounded with Marxism and communism). Hitler conflated German nationalism with a doctrine of German "Aryanism," a heritage of superior racial purity, which the Jewish "race" threatened to pollute. He and other Nazis demonized Jews as alien, subversive, and generally dangerous. Hitler posed to the German people the Jewish Question (*Judenfrage*): What was to be done to make Germany "Jew-free" (*Judenrein*)? The initial "answer" was internal exile, the expulsion of Jews from rural Germany, from villages and small towns, and their concentration in the larger cities. The next "answer" was voluntary emigration abroad, which was encouraged (but not required) by the government. This constituted official reich policy from 1933 to the outbreak of war in 1939. While the emigration was voluntary, German law prevented Jewish émigrés from taking their property (including homes and businesses) and most of their monetary assets with them. These were confiscated by the government. Between 1933 and 1938, more than 50 percent of Germany's 500,000 Jewish citizens emigrated, despite the great material sacrifices involved. About 100,000 went to the United States, 63,000 to Argentina, 52,000 to Great Britain, and 33,000 to Palestine. What motivated this costly exodus were government-instituted programs of persecution, discrimination, economic restriction, and exclusion from professions, culminating in the government-orchestrated "spontaneous" nationwide violence and vandalism of *Kristallnacht* during November 9–10, 1938. Moreover, there was virtually nothing those identified by the govern-

ment as Jews could do to remove the onus of the ethnic and racial label. The Nuremberg Laws of 1935 defined a Jew essentially as anyone with one Jewish grandparent. Religious practice had nothing to do with this identity; it was, rather, a question of "blood," and even those who had converted to Christianity or who had been practicing Christians for years or generations were counted as Jews on the basis of a single grandparent. As defined by the Nazis, identity as a Jew trumped and voided any other national, ethnic, or religious identity.

The Final Solution to the Jewish Question, mass murder, was not openly or officially discussed before the outbreak of war. It is not known to what degree, if any, it was even contemplated prior to 1939. Between 1933 and 1938, some thousands of German citizens, chiefly opponents of the Nazi regime, were murdered in concentration camps. Of these, fewer than 100 were Jews, and their Jewishness was incidental to their execution; they were killed because they had somehow interfered with the regime, its plans, policies, and purposes.

Germany's annexation of Austria (*Anschluss*) in 1938 and its acquisition of the Czech Sudentenland and, the following year, of Bohemia and Moravia as well, brought another 250,000 Jews under reich control. They were not welcome additions, and the violence of *Kristallnacht* as well as the murder of perhaps 1,000 Jews in concentration camps by 1939 were symptoms of increased intolerance. Emigration (with the material sacrifices it entailed) continued to be pushed. Of Austria's 160,000 Jews, some 100,000 emigrated. By this time, however, many nations instituted policies restricting immigration. Fewer and fewer nations welcomed Jews as refugees. Moreover, emigration to nearby European countries hardly guaranteed safety. During World War II, the Jews who had sought new homes in the western democracies of continental Europe, primarily France, Belgium, and the Netherlands, would be deported to concentration camps and, for the most part, consigned to their doom when the Nazi forces occupied these countries.

In fall 1939, the invasion of Poland suddenly brought under reich control 1.5 million Jews. Of the 10,000 Polish civilians killed during the invasion, 3,000 were Jews, a number of them herded into synagogues and burned alive. By winter 1939, a third solution to the Jewish Question (after internal exile and emigration) was instituted: the concentration of Jews within urban ghettoes. The term *ghetto* is medieval in origin and was applied to urban neighborhoods in which Jews were traditionally concentrated and in which they practiced their trades and arts. Under the regime of the Nazi occupiers of Poland, Jews were legally restricted to very small neighborhoods within Warsaw, Łódź, and other cities, which were physically walled off from the "Gentile" quarters of the cities. Overcrowding was severe, and the food ration set at a starvation level. Those who attempted to leave the ghetto or smuggle food into it were, if caught, summarily executed. By April 1941, the ghetto system was in full operation throughout German-occupied Poland, and by early summer of that year, among the half million Jews penned into the Warsaw ghetto, the starvation rate had reached a monthly toll of 2,000. Clearly, the German occupiers were unconcerned and were probably even pleased that a means had been found to destroy a Jewish population by attrition. However, despite the horrific conditions within the ghetto, it was estimated that some 20 years would be required to complete the starvation of the population.

Hungarian Jews are unloaded at Auschwitz in 1944. *(National Holocaust Museum)*

In the meantime, the triumph of the armies of the reich over the western democracies and in the Balkans during 1940 brought more and more Jews under reich control. In Norway, Denmark, France, the Netherlands, Luxembourg, Belgium, and Greece, Jews were forced to distinguish themselves by wearing a yellow Star of David on their clothing. This badge ensured that they would be excluded from virtually all professions and, indeed, from most desirable jobs. Additionally, they were subjected to confiscation of property and assets. At this time, however, they were generally allowed to emigrate, and many sought refuge in the neutral nations, including Switzerland, Spain, Portugal, and Turkey.

If the ghettoes of Poland were an adumbration of the fourth and "Final" solution to the Jewish Question—mass murder—the INVASION OF THE SOVIET UNION in June 1941 ushered in precisely this on an even larger and more deliberate scale. Hard on the heels of the invasion forces came special troops, the *Einsatzgruppen,* assigned to locate and murder the Jews in each Russian community through which the German Army swept. Within six months of the beginning of the invasion, perhaps a million Jews had been killed. The work of the *Einsatzgruppen* extended to eastern Poland, Lithuania, Latvia, and Estonia, as well as western Russia. Nor did the *Einsatzgruppen* have to work alone. In Lithuania and Ukraine (and sometimes elsewhere), local pro-Nazi paramilitaries and police forces carried out the murders. Romanian auxiliaries also carried out slaughters in Bessarabia, Moldavia, and areas of southern Russia.

The course of these programs of mass murder is covered in the entry on the Holocaust, but even as genocide was well under way, German authorities continued to keep many Jews alive to use as slave labor, and in Czechoslovakia, many were confined to the so-called model ghetto of THERESIENSTADT, propaganda films of which portrayed inmates working productively and apparently prospering.

After the *Anschluss,* in March 1938, the reich established a Central Office for Jewish Emigration headed by an officer of the SCHUTZSTAFFEL (SS) named ADOLF EICHMANN. Eichmann was transferred to leadership of a new agency, the Race and Resettlement Office, which operated under the aegis of the SS. His new assignment was to create the mechanisms of the Final Solution. Indeed, it was Eichmann who coined the very term *Endlösung* in a reply to the German foreign office concerning the request of a Jew seeking to emigrate from Germany to unoccupied France. Eichmann wrote on October 28, 1941, that the application for emigration was to be denied because of the "approaching final solution of the European Jewry problem."

As Eichmann implemented it, the Final Solution mandated the location and arrest of Jews living in the occupied countries. They were to be held locally until they could be shipped, via rail, to remote CONCENTRATION AND EXTERMINATION CAMPS. Here they would be variously held, their labor exploited, and, ultimately, they would be killed; some were "selected" for murder immediately. The program was already well underway when, on January 20, 1942, under the authority of REINHARD HEYDRICH, the top-secret WANNSEE CONFERENCE was held to codify the ongoing procedures and scope of the Final Solution. By this time, the mechanics of mass murder had been largely settled on: death by asphyxiation, either using carbon monoxide generated by the redirected exhaust of prisoner transport vans or, increasingly, in specially designed mass gas chambers, which were typically disguised as shower or delousing facilities. Soon, an alternative to carbon monoxide was introduced, Zyklon-B, a prussic acid preparation originally intended as a pesticide, which produced deadly cyanide gas. Once the method of genocide had been settled on, the biggest problem remained the disposal of corpses, which was carried out mainly in large multioven crematoria located in the death camps. Run by special SS detachments, the death camps were operated far from the areas from which the Jews had been deported. After the war, Germans and others who lived near the camps improbably claimed ignorance of the operation of the gas chambers and crematoria.

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Finland campaign of 1944

As a result of Soviet aggression against Finland in the Russo-Finnish War during the winter of 1939–40, by which Finland was forced to cede territory to the Soviet Union, Finland subsequently allied itself with Germany and against the Soviets in what is sometimes called the Continuation War, and Finnish forces even joined in on the German invasion of the Soviet Union. After the Battle of Stalingrad, which turned the tide of the eastern front war against the seemingly unstoppable Nazis, Finland attempted to withdraw from the war. After Finnish negotiations with the Soviets broke down in February 1944, Joseph Stalin became determined to move against Finland once again and on June 9, 1944, commenced a major offensive across the Karelian Isthmus. At this stage, the Finns were in no condition to resist, in contrast to four years earlier. The Red Army rapidly achieved a breakthrough, driving the Finns back behind Viipuri. Finnish commander in chief Carl Gustaf Mannerheim reluctantly called on the Germans to provide assistance. This was obtained in return for a Finnish promise not to make a separate peace with the Soviets. The pledge given, Finland was bolstered by German troops and was able to stabilize the line of Soviet advance by August, at a position near the Finnish-Soviet frontier established at the end of the Russo-Finnish conflict in 1940. At this point, Stalin and his Red Army commanders decided that resources could be better employed elsewhere, especially since Finland had been effectively neutralized. Despite its pledge to Germany, Finland concluded an armistice with the Soviets on September 19, 1944, which formally reestablished the 1940 frontier and obligated Finland to pay heavy reparations. At that, it turned out to be a cheap forfeit. Whereas the other nations of the east that had allied themselves with Germany fell under Soviet domination after the war, Finland emerged with both its sovereignty and democratic government intact.

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flamethrower

During World War II, a flamethrower could be mounted on a vehicle, usually a tank, or carried by an individual soldier. In either of these forms, it was basically a very simple weapon that used pressurized gas, usually nitrogen, to eject a high-pressure stream of flammable liquid, usually thickened (gelled) gasoline, which was ignited either electrically or with a small explosive charge as it left the nozzle. The range of an American portable unit was about 40 yards, and flamethrowers mounted on tanks did not project a stream much farther, although the stream was both of much greater volume and of longer duration. The best portable American unit had a total duration of 10 seconds or somewhat less. Tank-mounted weapons could project 70 or 80 three-second bursts.

In their most basic form, projected-flame weapons are almost as old as warfare itself. The weapons were modernized and reintroduced in World War I, and they were adopted by the armies of all major combatant nations in World War II. They were, however, most extensively used by Japanese forces and the U.S. Marines in the Pacific. It was the British who pioneered the design of tank-mounted

flamethrowers, but they were soon widely used by the Germans as well.

Flamethrowers were terrifying weapons, but they were severely limited by fuel supply and, in the case of man-portable flamethrowers, by the vulnerability of the man carrying the weapon. As the burning stream readily marked his position, he made an easy target. Once hit, the fuel canisters he carried on his back could easily explode, killing not only him but any of his nearby comrades. It was also common for a flamethrower shooter, hit by an enemy, to spin about as he fell, projecting a stream of flame behind him against his comrades. For this reason, flamethrower shooters were generally well guarded by a party of riflemen.

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Fletcher, Frank (1885–1973) *U.S. admiral*

Born in Marshalltown, Iowa, Frank Jack Fletcher obtained an appointment to the U.S. Naval Academy and graduated in 1906. He served on numerous ships and in may postings and acquitted himself with such gallantry during the U.S. intervention in Vera Cruz in 1914 that he was awarded the Medal of Honor. He served as commander of five destroyers, a battleship, and three other vessels.

Promoted to rear admiral in the late 1930s, he was given command of the task force sent to relieve besieged Wake Island shortly after the Battle of Pearl Harbor. Fletcher made the decision to refuel en route, an action that delayed the task force. This in itself might not have proved fatal to the mission, but Admiral Husband E. Kimmel, who had dispatched the task force, was during this time relieved of command and replaced, temporarily, by Vice Admiral William Pye, a cautious caretaker commander who decided that the task force to rescue Wake Island was too risky. He ordered Fletcher to abort the relief. Despite a gallant stand by overwhelmingly outnumbered marines, Wake Island fell. Whether justly or not, a charge of overcautiousness was leveled at Fletcher.

Fletcher did perform with skill and distinction at the Battle of the Coral Sea in May 1942, a tactical victory for the Japanese but also a costly strategic defeat, since the Japanese invasion fleet that had been headed for Port Moresby, New Guinea, was forced to turn back. Fletcher also performed gallantly at the Battle of Midway but lost his flagship early in the battle, which meant that Admiral Raymond Spruance assumed tactical command and therefore earned credit for the victory in this hard-fought turning-point clash.

As commander of an invasion fleet, Fletcher drew considerable criticism for precipitously withdrawing his carrier forces at the Battle of Guadalcanal in August 1942, thereby isolating the marines who had been landed there. He took a similarly cautious and conservative approach in the Eastern Solomon Islands during the Solomon Islands Campaigns later in August.

In November 1942, Fletcher was named to command of the Thirteenth Naval District and the Northwestern Sea Frontier. At the end of 1943, he was given overall command of the Northern Pacific area, but he also participated in the Okinawa Campaign during April 1945.

After the war, Vice Admiral Fletcher was named chairman of the general board and, on his retirement in May 1947, was advanced to the rank of admiral. The destroyer USS *Fletcher* (DD-992) was named in his honor.

See also Wake Island, Battle of.

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flying boat

The World War II flying boat was a seaplane, often of twin-engine design, the fuselage of which resembled the hull of a ship. This enabled the flying boat

to land on the water with the entire fuselage as opposed to skimming the water on pontoons, as with smaller floatplanes. (Flying boats also had pontoons, or floats, on their wings for added stability in water landings, but the aircraft floated on its hull.) The flying boat was designed for long-range sea patrols, antisubmarine warfare, air-sea rescue, island transport, and limited resupply work.

All major combatant nations employed some flying boats, including France, Germany, Great Britain, Italy, Japan, the Soviet Union, and the United States. The most notable aircraft included the following:

GERMANY

Blohm und Voss Bv 138. First flown in 1937, this aircraft featured twin tail booms and three engines, two at the forward end of each of the booms and one mounted above the wing, just behind the cockpit area. The aircraft was used for long-range maritime reconnaissance and saw action in the North Atlantic and in and around Norway.

General specifications included:

Wingspan: 88 ft 4.25 in
Length: 65 ft 1.5 in
Height: 19 ft 4.25 in
Power plant: three Junkers Jumo 205 D six-cylinder vertical opposed-piston engines, each rated at 880 horsepower
Top speed: 177 mph
Service ceiling (at 31,967 lbs): 16,400 ft
Maximum range: 2,670 mi
Armament: one 20-mm MG 151 cannon in bow turret, one 20-mm MG 151 cannon mounted in turret in hull tail, and one 13-mm MG 131 machine gun on open position aft of central engine; optionally, one 7.9-mm MG 15 machine gun firing through hatch in starboard side of hull.
Bomb load: three 110-lb bombs on racks beneath the starboard wing center section, or six 110-lb bombs, or four 331-lb depth charges

Blohm und Voss Bv222 "Wiking." This aircraft had the distinction of being the largest *operational* flying boat in World War II. (Another Blohm und Voss design, the Bv238, was actually the largest prototype but failed to achieve operational status.) The aircraft was designed in 1937 for the German state-subsidized airline, Lufthansa, as a commercial transport for the Berlin-to-New York run. Like practically all interwar German aircraft designs, however, it was drawn up with an eventual military application in mind. A prototype flew on September 7, 1940, and its first military flight took place on July 10, 1941. The aircraft was used in Norway as well as in North Africa and the Mediterranean, where it served as a cargo transport. Soon, armament was added to the Wiking, which then assumed a long-range maritime reconnaissance role, operating mainly from bases in France. Among the innovations added to the craft was advanced FuG 200 "Hohentwiel" search radar equipment.

General specifications included:

Wingspan: 150 ft 11 in
Length: 121 ft 4 ¾ in
Height: 35 ft 9 in
Power plant: six 1,000-horsepower Junkers Jumo 207C inline diesel engines
Top speed: 242 mph
Service ceiling: 23,950 ft
Range: 3,787 mi
Armament (Bv 222C–09): three 20-mm MG 151 cannon, one each in forward dorsal and two over-wing turrets; and five 13-mm MG 131 machine guns, one each in bow position and four beam hatches

GREAT BRITAIN

British flying boats were far more conventional than the German models, but they were also more serviceable and capable of being produced in much more significant quantities. Three designs were most important early in the war, the Saro London, Saro Lerwick, and Supermarine Walrus.

Saro London. This biplane design dated to the 1920s and featured a metal frame and a metal-skinned fuselage, but with fabric-covered wings. Already obsolescent at the outbreak of the war, it flew on marine reconnaissance and patrol missions until June 1941.

General specifications included:

Wingspan: 80 ft
Length: 56 ft 9 ½ in
Height: 18 ft 9 in
Power plant: two 920-horsepower Bristol Pegasus X nine-cylinder radial engines
Top speed: 142 mph
Service ceiling: 19,900 ft
Range: 1,740 mi
Armament: hand-held 7.7-mm Lewis machine guns, one each in open bow, open midships, and open tail positions
Bomb load: 2,000 lbs bombs, mines, or depth charges

Saro Lerwick. This aircraft was first flown in 1938 and experienced difficult stability and handling problems, which were not corrected until 1940. The planes were used for marine reconnaissance and patrol but never fully replaced the earlier Saro London.

General specifications included:

Wingspan: 80 ft 10 in
Length: 63 ft 7 ½ in
Height: 20 ft
Power plant: two 1,375-horsepower Hercules II 14-cylinder radial engines
Top speed: 216 mph
Service ceiling: 14,000 ft
Armament: one 7.7-mm machine gun in nose turret, twin 7.7-mm machine guns in dorsal turret, and four 7.7-mm machine guns in tail turret
Bomb load: 2,000 lbs bombs, mines, or depth charges

Supermarine Walrus. Like the Saro London, the Supermarine Walrus was a 1920s design and a biplane. Unlike the London, however, the Walrus proved far more durable and successful in the role at which it excelled: air-sea rescue. The venerable design flew throughout the war.

General specifications included:

Wingspan: 45 ft 10 in
Length: 37 ft 7 in
Height: 15 ft 3 in
Power plant: one 775-horsepower Bristol Pegasus VI nine-cylinder radial engine mounted centrally above the fuselage and beneath the center of the upper wing
Top speed: 124 mph
Service ceiling: 18,500 ft
Armament: one 7.7-mm machine gun in open bow
Bomb load: 500 lbs bombs or depth charges

Short Sunderland. By far the most successful British flying boat of the war, the Sunderland was modified from a 1934 design ordered by Imperial Airways for commercial transport. The military version was first flown in 1937 and was used extensively throughout the war, mainly in long-range reconnaissance and antisubmarine service.

General specifications included:

Wingspan: 112 ft 9 ½ in
Length: 85 ft 3 ½ in
Height: 34 ft 6 in
Power plant: four 1,200-horsepower Pratt & Whitney R–1830–90 Twin Wasp 14-cylinder radial engines
Top speed: 213 mph
Service ceiling: 17,900 ft
Armament: two forward-firing 7.7-mm machine guns, two 7.7-mm machine guns in bow turret, 7.7-mm machine guns in dorsal turret, and four 7.7-mm machine guns in tail turret
Bomb load: 4,660 lbs bombs, mines, or depth charges in retractable racks mounted on hull sides

ITALY

The most notable of the Italian flying boats was the Cant Z.501 Gabbiano ("Gull"), which was designed in the 1930s and was first flown in 1934. It was used widely for maritime reconnaissance, primarily in the Mediterranean. The aircraft was powered by a single engine mounted at the front of a fuselagelike nacelle, which sat atop the high monoplane wing. Behind the engine was a machine gun turret.

General specifications included:

Wingspan: 73 ft 9 ¾ in
Length: 46 ft 11 in
Height: 14 ft 6 in
Power plant: one 900-horsepower Isotta Fraschini Asso XI R2C 15 12-cylinder inline engine
Top speed: 171 mph
Service ceiling: 22,965 ft
Armament: 7.7-mm machine guns mounted, one each, in bow, nacelle, and dorsal turrets
Bomb load: 1,441 lbs bombs, mines, or depth charges

JAPAN

The two most important Japanese flying boats were Kawanishi H6K and H8K.

Kawanishi H6K. First flown in 1936, the H6K was the only long-range flying boat in the Japanese inventory when that nation went to war on December 7, 1941. The planes were used for troop transport as well as maritime patrol. Early in the war, during the great Japanese offensives, the transport role was the more important. After the Battle of Midway, as the Japanese were forced to assume a defensive posture, the aircraft was increasingly used for antisubmarine patrol.

General specifications included:

Wingspan: 131 ft 2 ¾ in
Length: 84 ft ¾ in
Height: 20 ft 6 ¾ in
Power plant: four 1,300-horsepower Mitsubishi Kinsei 53 14-cylinder radial engines
Top speed: 239 mph
Service ceiling: 31,495 ft
Range: 4,210 mi
Armament: four 7.7-mm machine guns, distributed in front and midships, and in two beam blisters; and one 20-mm tail cannon
Bomb load: 4,409 lbs bombs or two torpedoes (1,764 lbs total)

Kawanishi H8K. This aircraft was designed in 1938 and first flew in January 1941, but, because of stability problems in the water, it did not enter into service until early 1942. In all, only 167 of this large craft were produced before the end of the war. Despite its small numbers, it was probably the best all-around flying boat of World War II. The most advanced model, H8K2, was remarkably fast, heavily armed, and a most formidable long-range maritime patrol craft.

General specifications included:

Wingspan: 114 ft 8 in
Length: 92 ft 3 ½ in
Height: 30 ft
Power plant: four 1,850-horsepower Mitsubishi Kasei 22 14-cylinder radial engines
Top speed: 290 mph
Service ceiling: 38,740 ft
Range: 4,460 mi
Armament: 20-mm cannon in bow, dorsal, and tail turrets and in two beam blisters; and four hand-held 7.7-mm machine guns in beam hatches
Bomb load: 4,409 lbs bombs or two torpedoes (1,764 lbs total)

SOVIET UNION

The most important of the Soviet flying boats was the Beriev Be-2 (originally designated the MBR-2), which was first flown in 1931. A small, single-engine craft, the Be-2 was used in the Baltic, the Black Sea, and the Arctic seaboard.

General specifications included:

Wingspan: 62 ft 4 in
Length: 44 ft 3 ¾ in
Power plant: one 860-horsepower AM-34NB 12-cylinder inline engine
Top speed: 154 mph
Service ceiling: 19,658 ft
Range: 870 mi
Armament: one hand-held 7.62-mm machine gun in the open bow position and one 7.62-mm machine gun in a dorsal turret
Bomb load: 661 lbs bombs, mines, or depth charges

UNITED STATES

The most important American flying boat and the preeminent flying boat of the war was the Consolidated PBY Catalina, which was built in a quantity

of 2,398 by Consolidated and 892 by other manufacturers under license. The aircraft was used by the U.S. Navy and by most of the Allies.

Although originally designed in 1933, the aircraft proved incredibly durable and was used in the Atlantic and the Pacific for reconnaissance, antisubmarine warfare, transport, and air-sea rescue. Painted flat black, the aircraft was also used for night raids and attacks and was, for this mission, affectionately referred to as the "Black Cat." The aircraft was tremendously stable and durable. Its engineering was so simple that it could be easily maintained in the field amid the primitive conditions prevailing on Pacific island bases.

General specifications for the PBY-5A model included:

Wingspan: 104 ft
Length: 63 ft 10 ½ in
Height: 20 ft 2 in
Power plant: two 1,200-horsepower Pratt & Whitney 14-cylinder radial engines
Top speed: 179 mph
Service ceiling: 14,700 ft
Range: 2,545 mi
Armament: two 12.7-mm machine guns in bow turret, one 12.7-mm machine gun in each beam blister, and one 7.62-mm machine gun in ventral tunnel
Bomb load: 4,000 lbs bombs, mines, or depth charges or two torpedoes

Two other important American flying boats were the Consolidated PB2Y Coronado and the Martin PBM Mariner.

Consolidated PB2Y Coronado. This four-engine aircraft first flew in 1937 but due to stability problems was not ordered by the U.S. Navy until 1940. Delivery began the following year. Configured as a transport, this large aircraft could carry 45 passengers or 16,000 pounds of freight. It also served as a medical evacuation air ambulance. Configured for long-distance patrol, it carried an impressive bomb load.

General specifications included:

Wingspan: 115 ft
Length: 79 ft 3 in
Height: 27 ft 6 in
Power plant: four 1,200-horsepower Pratt & Whitney R-1830-88 Twin Wasp 14-cylinder radial engines
Top speed: 223 mph
Service ceiling: 20,500 ft
Range: 2,370 mi
Armament: twin 12.7-mm machine guns in bow, dorsal, and tail turrets and two 12.7-mm guns in beam hatches
Bomb load: eight 1,000-pound bombs internally and four 1,000-pound bombs externally; could also carry two torpedoes externally

Martin PBM Mariner. Widely used in the Pacific theater, this twin-engine flying boat was used for patrol and for air-sea rescue; it could also be configured as a passenger transport. The prototype flew in 1937, and the aircraft entered service in 1941.

General specifications included:

Wingspan: 118 ft
Length: 79 ft 10 in
Height: 27 ft 6 in
Power plant: two 1,900-horsepower Wright R–2600–22 Cyclone 14-cylinder radial engines
Top speed: 211 mph
Service ceiling: 19,800 ft
Range: 2,240 mi
Armament: twin 12.7-mm machine guns in bow, dorsal, and tail turrets and two 12.7-mm guns in beam hatches
Bomb load: 8,000 lbs

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Flying Tigers

The *Flying Tigers* was the popular nickname of a unit of American civilian mercenary aviators in the service of China officially designated the American Volunteer Group (AVG) and led by a retired U.S. Army Air Corps captain, Claire L. Chennault. The AVG, or Flying Tigers, had its origin in the 1940–41 authorization by President Franklin D. Roosevelt of an unofficial and covert U.S. air force to fight on behalf of China in the Sino-Japanese War, which had begun in 1937. The American Volunteer Group was planned to consist of two fighter groups and one medium bomber group. By presidential directive, 100 Tomahawk II-B fighters, equivalent to the Curtiss P-40C pursuit craft, were diverted from a British order and sent to equip the two fighter groups. Also, 100 U.S. military pilots and 200 enlisted technicians, all eager to see combat action, resigned from the U.S. Army Air Corps to accept private employment as civilian mercenaries with the AVG. The first group was designated the First American Volunteer Group and put under Chennault's command. He trained his personnel in neutral Burma.

Events soon overtook the First AVG, which was not committed to combat until after the Battle of Pearl Harbor had thrust the United States into the war in December 1941. Entry into the conflict brought the cancellation of the planned second fighter group as well as the bomber group, but the First AVG continued to fly, under Chennault, as what the public came to call the "Flying Tigers." AVG pilots painted vivid rows of shark teeth on either side of the supercharged P–40's large, distinctive air scoop. Journalists saw this as a tiger's mouth, not a shark's, and christened the group accordingly. The name conveyed the aggressive spirit that was in critically short supply among the Allies during the early days of the Pacific war.

The Flying Tigers played an important role in defending Burma until the Japanese routed the Allies in May 1942. Later in the year, transferred to China, the AVG was instrumental in holding western China until reinforcements reached the Nationalist government. Always outnumbered and operating in isolation and on a shoestring, AVG fliers were nevertheless credited with shooting down 297 Japanese aircraft; 23 AVG pilots were killed or captured.

Formally disbanded on July 4, 1942, the AVG was instantly merged into the 23rd Pursuit Group of the U.S. Army Air Forces (USAAF). Only five AVG pilots immediately accepted induction into the new USAAF unit while they were in China, but many others subsequently rejoined the U.S. military.

The exploits of the Flying Tigers were so colorful, as was their irascible leader, that it is often difficult to separate mythology from fact, and, indeed, some recent historians have concluded that the record of Flying Tiger victories was inflated. Be this as it may, it is beyond dispute that the AVG was highly effective against Japanese air and ground forces during the winter of 1941–42, when the Allies could offer very little creditable opposition to the Japanese juggernaut. Their performance slowed the relentless Japanese advance and took a heavy toll in enemy aircraft and among ground forces while simultaneously doing much to lift the morale of all the Allies during a time when the news from Asia and the Pacific was unremittingly bleak.

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Foertsch, Hermann (1885–1961) *German general of infantry and military theorist*

Hermann Foertsch was born in Munich, joined the army, and rose rapidly through the ranks. He was best known as a military pedagogue and theorist, the author of a number of books on the special role of the interwar Wehrmacht and, most famously,

on modern warfare. *Kriegskunst Heute und Morgen,* published in 1939, was translated into English the following year as *The Art of Modern Warfare.* Appearing as these books did at the outbreak of World War II, they provided Allied military leaders with valuable insight into the German military mind.

From 1937 to 1939, Foertsch was an instructor at the War Academy, then was made chief of staff Military District VIII (1939) and chief of staff XXVI Corps. He was temporarily retired to reserve duty in 1940 but was recalled during 1940–41 as commander of the General Staff Course, serving in Berlin. Foertsch was assigned to a field staff post during 1941–42, as chief of staff of the Twelfth German Army in Greece. He became chief of staff to Siegmund List, commander in chief Southeast, in the Balkans, serving in this capacity from 1942 to 1944 while also serving (during 1942–43) as chief of staff Army Group E, in Greece, then as chief of staff Army Group F, in Yugoslavia (1943–44).

In 1944, Foertsch was again returned to reserve duty for a time but was soon elevated to commanding officer of the 21st Division, then acting commander and commander of X Corps, all before the end of 1944. After another period in reserve, he was named acting general officer commanding the Nineteenth German Army in 1945 and held the same post in the First German Army, from which he became a prisoner of war.

Foertsch was held by the Allies from 1945 to 1948, when he faced trial for war crimes committed mainly in the Balkans. Acquitted, Foertsch lived out the rest of his life in quiet retirement.

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Forrestal, James (1892–1949) *U.S. undersecretary and later secretary of the navy during World War II*

James Vincent Forrestal is best remembered for his postwar appointment as the first U.S. secretary of defense (1947–49), but during World War II, as under secretary and later as secretary of the navy, his formidable administrative genius enabled him to direct the massive wartime build-up of naval forces. Forrestal was a naval aviator during World War I, then returned to civilian life as a successful executive with a Wall Street investment firm, becoming its president in 1938. In June 1940, Forrestal was tapped by President Franklin D. Roosevelt as his administrative assistant, and in August he was named undersecretary of the navy. He was charged with overseeing and directing the huge peacetime expansion of the navy, which was gearing up for what increasingly seemed the inevitable entry of the United States into World War II. The task was a staggering one, which became even more intensive after the Battle of Pearl Harbor thrust the nation into the war.

In May 1944, with the death of navy secretary Frank Knox, Forrestal was named the new secretary of the navy and continued to direct the logistics of this mighty force. Following the war, after passage of the National Security Act of 1947, which terminated the Department of War and inaugurated the Department of Defense at the cabinet level, Forrestal was appointed to the new post. His task was nothing less than the total reorganization and coordination of the armed services. The U.S. Air Force, independent of the army, was created, and all the armed services were redesigned to function more cooperatively together, answering to a single civilian authority, the secretary of defense.

Forrestal's war work had been tireless and overwhelming, and peacetime brought no rest. On the contrary, it required the reinvention of the entire U.S. military. Exhausted and in a state of emotional collapse, Forrestal stepped down as secretary of defense in March 1949. Afflicted with severe depression, which his physicians subsequently compared to battle fatigue, the post-traumatic stress syndrome to which combat troops often fall prey, Forrestal entered Bethesda Naval Hospital. On May 22, 1949, he leaped to his death from a hospital window.

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Fortress Eben Emael

Fortress Eben Emael was actually a collection of hardened defensive emplacements made of concrete and steel and carefully sited on the Albert Canal north of Liège, Belgium. As the MAGINOT LINE was intended to be the impregnable fixed defense of France, so Eben Emael, which guarded the bridges at Briegen, Veldwezelt, and Vroenhoven, was meant to be the sovereign defense of Belgium, a means of controlling the key passages from Germany into the country.

Garrisoned by 700 men, the Eben Emael defenses were state of the art and very formidable—at least if attacked conventionally, by an army approaching on the ground and from the east. During the western European BLITZKRIEG, however, the Germans did not use conventional tactics to assault Eben Emael. Instead, on May 10, 1940, 78 engineers of the Koch Assault Detachment used gliders to land on top of the fortifications. Working with hollow charges shaped to ensure that the force of the blast was directed downward, the engineers blew up some of the emplacements of the fortress complex from the roof down. Such an assault had never been anticipated by the defenders, and the buildings were quite vulnerable when approached this way. The attack effectively neutralized Eben Emael as an AIRBORNE ASSAULT was staged to take the bridges that the fortress was supposed to defend. With these secured, the main German column, the 223rd Infantry Division, attacked the rest of the fortress complex on May 11. The garrison quickly capitulated, and Belgium was soon overrun. The cost to the Germans was six men killed and 20 wounded, all belonging to the Koch Assault Detachment.

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foxhole

In contrast to World War I, which, particularly on the western front, was a brutally static trench war, World War II was characterized by great mobility and rapid movement. When troops needed to hold a defensive position or to pause in an advance, they dug hasty defenses. A slit trench could be dug if time permitted. It held several soldiers and was often excavated in the shape of an L. More common, especially among American forces, was the foxhole. At its most basic, the foxhole was nothing more than a hastily dug pit meant to shelter one or at most two soldiers from enemy fire. Some foxholes were shallow and meant to be used by a soldier in a crouching or even prone position. If time permitted, the foxhole could be dug more deeply and became what the U.S. Marines called a "fighting hole." This type of foxhole resembled a small section of crude trench. Deep enough to accommodate one or two standing troops, it featured a rudimentary parapet on which a rifle could be rested, a dugout shelf running along the rim of the hole to serve as an elbow rest for the shooter, and a build up of earth at the bottom front of the hole to serve as a firing step. The soldier could mount the step in order to fire, then step back down for full defensive over-head-height cover. Well-constructed fighting holes also included a dug-out water sump to collect water and keep the floor and firing step reasonably dry.

The foxhole was essential to infantry tactics in World War II, but some commanders, most notably GEORGE S. PATTON JR., decried its use or, at least, its overuse, claiming that soldiers were safer (and far more effective) the faster they advanced. He pointed out that foxholes made soldiers easy targets for an artillery barrage, against which they offered little or no protection. By digging a foxhole, Patton believed, a soldier dug his own grave.

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France

With Great Britain, France was bound by treaties to come to the aid of Czechoslovakia and Poland if they were attacked. Like Great Britain, too, France was dominated by pacifist sentiment, a desire to avoid war at all cost. This was understandable, since no western European nation had suffered more destruction and loss of life in World War I than France, which, for four years, had been the principal battlefield of the western front. At the outbreak of war, France had a very large army of 5 million, believed by many (including Britain's Winston Churchill and the Soviet Union's Joseph Stalin) to be the finest army in the world. Its size, however, belied a prevailing ambivalence, absence of will, and fear of a new war. War plans, drawn up in cooperation with British military commanders, were entirely defensive in nature, and the French put a great deal of faith in a strong line of defensive fortifications along the German frontier, the Maginot Line. With all of its military resources, France seemed to suffer from the same malaise afflicting the other Western democracies, an attitude that in Great Britain, which spent all but the last two or three years of the decades after World War I disarming, had motivated Prime Minister Neville Chamberlain's Appeasement Policy with regard to the expansionist aggression of Germany's Adolf Hitler.

Despite the sentiment prevailing in France, French premier Edouard Daladier at first objected to his ally's Appeasement Policy and to the cession of the Sudetenland that followed it as a betrayal of Czechoslovakia. Yet he dared not oppose Germany alone. Instead, he appealed to U.S. President Franklin D. Roosevelt (FDR). Although FDR was sympathetic to Daladier's objection to appeasement, he knew that he would not be able to move the isolationist U.S. Congress to alter American neutrality. With Roosevelt's rebuff, hope vanished, and Daladier agreed to hand over the Sudetenland to Hitler. Yet whereas Chamberlain seemed sincerely to believe that appeasement had brought "peace for our time," Daladier understood that it made war all the more inevitable. He was, of course, correct. After the German invasion of Poland, France and Great Britain honored treaty obligations to Poland, as they had not honored those with Czechoslovakia. The two nations declared war against Germany on September 3, 1939.

It is doubtful that any nation not directly attacked ever went to war with greater reluctance than France. Despite its resources, the nation and the army were suffused with defeatism. During the first eight months of the war, Germany concentrated on the eastern front, and there was so little action in the west that the French referred to the war as the *drôle de guerre,* what the British called the Phony War. During this period, the majority of the French public was more concerned about communism and communist aggression than fighting Nazi Germany. The public followed the course of the Russo-Finnish War, but of action on the Franco-German front they heard nothing concrete, only Daladier's vague promise that France, with its powerful army, would inevitably prevail and that he would not spill French blood until absolutely necessary. British policy at the end of Chamberlain's term as prime minister and, even more, during all of Churchill's, was to rally public support by conveying full and honest information to them. In contrast, the French government communicated almost nothing to the public and made very little attempt to outline war aims. Worse, the call to general mobilization had resulted in the conscription of large numbers of factory laborers and skilled workers. This had been a politically motivated policy decision to avoid the World War I complaint that agricultural workers and peasants had borne the brunt of the sacrifice. However, it meant that production of war materiel fell at precisely the moment when it was most needed. For while France had a large army and, with a population of 41.18 million (1936), a large reserve of manpower on which to draw, it was severely short on equipment, artillery, armor, and especially aircraft. Some 2 million workers had to be withdrawn from the army in order to bring production back up to an acceptable level. This succeeded mainly in producing resentment among the rural population, which had to make up the army's shortfall

and contributed to the decline of the already-failing French morale.

The eight months of *drôle de guerre* could have been spent preparing the people as well as the army and mounting a massive war production drive. Instead, the government allowed policy and morale to drift and war production to flag. As a result, the Battle of France, when it finally came, beginning on May 10, 1940, was lost within six weeks. Confusion reigned in the French government. Daladier resigned as premier on March 20 and was replaced by Paul Reynaud the following day. More aggressive than Daladier, Reynaud concluded an agreement with Britain that neither nation would make a separate peace with Germany. As France crumbled around him following the German invasion, he declared to the National Assembly that only a miracle could save France, but that "I believe in miracles." This rather mystical pronouncement could have done little to build French confidence. Belatedly, Reynaud shuffled his cabinet, moving Daladier from his post as minister of defense to foreign minister while he himself assumed leadership of defense. During the battle, he also replaced General Maurice-Gustave Gamelin with General Maxime Weygand as commander in chief, but to no avail, as Weygand's grandiose plan to attack the German advance from two directions evaporated and yielded nothing more or less than the desperate retreat to Dunkirk and the even more desperate Dunkirk evacuation.

If public information and organization had been lacking during the *drôle de guerre,* these collapsed totally during the Battle of France. Rumor and panic assumed the ascendency, and some 8 to 10 million French citizens fled the cities and the east, creating a mass refugee crisis, which was exacerbated by severe thunderstorms and by the German policy of deliberately strafing and dive-bombing the fleeing civilian columns. This heightened the terror and the misery. Moreover, with the roads clogged by retreating refugees, military transportation to the front became a slow-motion nightmare.

The fall of France was both a military failure and a failure of government. A panic-stricken, demoralized population, never provided with adequate direction in the war or a vision of purpose, were, for the most part, eager to accept the salvation offered by Marshal Henri-Philippe Pétain and the collaborationist Vichy Government.

The cautious Daladier had been replaced by the more vocally bellicose Reynaud, who believed that the French Army and the military and economic power of the French Empire (including colonies in North Africa, West Africa, Indochina, the Pacific, and the West Indies) would ultimately prevail against Germany. The sheer speed and magnitude of the German Blitzkrieg through France revealed this confidence as a baseless illusion. Reynaud had brought out of retirement the aggressive Weygand and the gallant World War I hero of Verdun, Marshal Pétain, precisely to stiffen French resolve. As it turned out, both of these men were quickly transformed by the battle into outright defeatists. When Reynaud proposed a government in exile (in Brittany or North Africa), these men proposed armistice instead, believing that the war was already lost. Reynaud even proposed a Franco-British union, an idea that came to nothing.

In the meantime, the government itself joined the refugee exodus, withdrawing to Bordeaux. The German invaders exploited this with a propaganda campaign portraying the French as an "abandoned people." Pétain, in effect, agreed, and made a public broadcast on June 17, 1940, accusing the Third Republic, not the French military, of having failed the people. On June 22, in the very railroad car at Compiègne in which Germany had signed the armistice ending World War I, Pétain and others surrendered to Germany.

By the terms of the armistice, France was permitted to retain an army of 100,000 men, the same limit levied against Germany by the Treaty of Versailles. The country was divided into several zones of occupation, including the vast *Zone occupée,* which encompassed Paris and all of France to the English Channel and Bay of Biscay coast; a *Zone réservée,* in the east, which was reserved for future German colonization; a *Zone rattachée,* along the Belgian frontier, which was under direct German command from Brussels in occupied Belgium; and a *Zone interdite,* along the northern and

western coasts and east of the Somme River, in which the German military was to exercise absolute control. The Alsace and Lorraine regions, which had been annexed to France following World War I, were returned to Germany and became part of the reich. The rest of France constituted the *Zone libre* and was ostensibly unoccupied, although the government was hardly free of German authority. It was administered from the resort city of Vichy and, therefore, was referred to as Vichy France. The fiction of Vichy sovereignty evaporated on November 11, 1942, when Germany occupied the *Zone libre,* and Italy occupied a portion of it east of the Rhone River and also the island of Corsica. Small portions of the French-Italian frontier were annexed by Italy, and a corridor between the Italian-occupied zone and the annexed territory was demilitarized. During the occupation, France was assessed an inflated and quite ruinous charge to bear the costs of occupation.

Occupied France was administered by the *Militärbefehlshaber in Frankreich,* the German Military Administration, headquartered in Paris. German troop units were quartered throughout Paris and in every major city and town, each of which was presided over by a *Feldkommandantur* (field commander). In the annexed territory, Nazi gauleiters had absolute authority. From Alsace and Lorraine, those persons considered unalterably French were forced to leave, so that the region would be effectively Germanized. Men of military age were conscripted into the German military.

The line of demarcation separating occupied from unoccupied France was strictly patrolled, and the refugees who had fled to the south (now part of unoccupied France) were forced to remain there, which gave the German administrators of the occupied zone ample time to organize the government and administration. The result was that the Vichy south was overburdened, and its government appeared chronically disorganized, inept, and inadequate, whereas the government of occupied France appeared organized and disciplined. This appearance served to encourage French collaboration with the occupiers, suggesting that French governance was inept while German rule was efficient.

There also existed in France a very significant resistance to the occupation, and by the middle of 1942, any trace of benevolence among the German administration had vanished, as the occupied zone became a frank police state governed by repression, punishment, hostage-taking, institutionalized torture, frequent executions, and extravagant reprisals for acts of the resistance. Such reprisals increased in frequency and severity following the Normandy landings (D-day) in June 1944.

The most horrific and shameful aspect of collaboration is seen in connection with the Final Solution and the Holocaust, beginning in 1942, when the Nazi genocide of Europe's Jews was extended to France. French police and civil authorities readily, even eagerly, cooperated with the German occupiers in rounding up Jews, and French personnel staffed the intermediate concentration camps set up in France to hold Jews for deportation to the major concentration and extermination camps. French aid in the arrest of Jews was not confined to the occupied zone, but was common in Vichy France as well, except for those who lived in the zone occupied by Italy. Italy long resisted German demands for collaboration in the Final Solution, and in this area the Jews were protected, at least for a time.

Germany was determined to exploit France as an economic asset. Some French citizens collaborated fully in this, hoping to prosper personally and to maintain the French economy; others worked for the Germans resentfully, as a matter of survival; still others engaged in subversive activities, promoting strikes, work slow-downs, and acts of sabotage to cripple German war production as well as the general German economy. Some workers managed to divert resources and production to the resistance. While they exploited French factory production, German administrators gave even greater priority to agriculture. The administrators created a 10-year plan for the French economy and its contribution to the Third Reich. Because of labor and material shortages, as well as chronic noncooperation among many workers, the 10-year plan was largely a fantasy. Nevertheless, by 1943, 40 percent of French industrial output went directly

to Germany, including 80 percent of vehicle production. The Germans siphoned off some 55 percent of all French government revenue, ostensibly to cover the costs of occupation. France became the major outside source of German imports, including industrial goods, raw materials, and foodstuffs.

An important part of the German subjugation of the French economy was control over labor. Workers in occupied France were, of course, subject to direct German control. In June 1942, the Vichy regime of unoccupied France introduced "voluntary" worker service in Germany, but on February 16, 1943, the Service du Travail Obligatoire made worker service in Germany compulsory. The law triggered widespread revolt, which, however, did not prevent the forced labor of some 600,000 French workers in Germany and even more in French-based industries and mines necessary to the German war effort. French labor built the Atlantic Wall, the line of great coastal fortresses defending the French coasts against Allied invasion.

Under the occupation, shortages were universal and increasingly severe throughout France. Despite forced labor, production levels dropped far below their prewar levels, while the cost of living rose some 270 percent. A system of rationing was introduced, limiting adults to a food intake equivalent to 1,200 calories. Black markets flourished. Vichy France continually contended with food riots. All these hardships were greatly exacerbated by Allied air raids on French industrial plants and other installations.

Paris was liberated by the Allies on August 25, 1944, and Charles de Gaulle led the transition to a provisional government, building on the French Committee for National Liberation and representing, quite broadly, the interests of a number of resistance leaders. The United States and Great Britain recognized de Gaulle's provisional government on October 23, 1944.

The provisional government quickly instituted Special Courts of Justice to purge the collaborators. However, the courts were more a moderating force than instruments of vengeance. Many individuals were tried, but acquittals far exceeded convictions. The provisional government also took charge of the resistance and the Maquis, the important rural-based paramilitary arm of the resistance, and integrated them into the regular army. This preempted the resistance leaders from becoming a disruptive force in postoccupation France. It also provided much-needed veteran manpower for the new French Army, which was fighting side by side with the British and the Americans. The provisional government acted quickly to disarm the resistance police, or *milices patriotiques,* and replaced these individuals with a regular, official police force, the Compagnies républicaines de sécurité. Even the communists were cooperative and committed to seeing the war through to its end.

Municipal elections were held at the very end of the war, during April–May 1945, and were followed by national elections in October, soon after V-E day. Right-wing ideology was soundly repudiated by the French electorate, but communism was not embraced. The Third Republic was officially at an end, and there would be an often bitter postwar struggle to shape a new government. Political stability would eventually come, however, but the collective emotional scars would remain long afterward, including a sense of shame in defeat and a growing acknowledgment of the extent of collaboration with evil, especially with regard to the Holocaust.

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France, air force of

France had been a pioneering presence in the early years of aviation, and the French military had been in the forefront of aircraft development during World War I. During the interwar period, however, French military doctrine denigrated the role of the airplane, which was seen as a secondary weapon of far less importance than ships at sea and troops on the ground. At the outbreak of World War II, the French air force was nominally commanded by General Joseph Vuillemin, who had actual direct control over only the air reserve. Command of the principal air units had to be shared cooperatively with relevant ground commanders. The result was not a successful integration of land and air forces, but a paralytic confusion of command, as operational air officers were often subject to command from three or even more ground commanders in addition to Vuillemin. Moreover, because aircraft could not be deployed by a single overall commander, they were distributed thinly across the entire front during the Battle of France, which made it impossible to concentrate air power where needed to repulse an enemy thrust.

The French air force suffered not only from a lack of adequate doctrine and a disastrously ill-conceived and inadequate command structure, but also from outmoded aircraft. By the outbreak of the war, French fighter aircraft were obsolete or obsolescent. The most important, the Morane 445, was 50 miles per hour slower than the main German fighter, the Me-109. Even German medium bombers nearly outpaced it. On paper, the air force had a reasonably impressive 2,200 aircraft. Of these, however, only 610 fighters, 130 bombers, and 350 reconnaissance planes were sufficiently modern to stand any sort of chance against their German opponents. At that, many were destroyed on the ground. Those that flew fell easy prey to the Luftwaffe or to antiaircraft artillery.

To the credit of the French aircraft industry, new planes were rushed into production on the eve of war. In 1938, production stood at about 40 aircraft per month. In May 1940, 500 were turned out. But the production of aircraft outpaced the training and availability of pilots. When the Battle of France began in May 1940, Vuillemin had at his disposal only 700 fighter pilots to fly little more than 600 fighters.

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France, army of

At the outbreak of war, the French army consisted of about 5 million men grouped into three broad bodies:

- The Armée Métropolitaine, a conscript force, was raised to defend metropolitan France.
- The Armée d'Afrique, garrisoned in Algeria, Tunisia, and French Morocco, consisted of segregated white European units: the French Foreign Legion and the Zouaves. Additionally, it incorporated native conscripts serving in the Spahis and Tirailleurs. Finally, the Armée d'Afrique also had command control over irregular native units, including the Goums and the Compagnies Sahariennes (camel companies).
- The Troupes Coloniales, responsible for defending French colonies other than Algeria, Tunisia, and French Morocco, consisted of white-only colonial infantry and colonial artillery formations, mostly volunteer, as well as Tirailleurs, consisting mostly of conscripted natives.

Despite this tripartite division, units of the Armée Métropolitaine were sometimes used in Africa and the other colonies, and the colonial forces were sometimes brought to France. At the outbreak of World War II, in September 1939, 38 percent of the French infantry in France were Tirailleurs from North Africa. French Foreign Legion units fought in the Battle of France, and the Free French

Forces that fought in the North African Campaigns and in the Italian Campaign, as well as some of the fighting in France during 1944, included a large proportion of colonial troops.

Because of its impressive numbers, the French Army was widely regarded as the finest in the world. Despite the defeatism that prevailed in France at the outbreak of World War II, this belief was widespread in France itself, and it also bolstered the confidence of France's closest ally, Great Britain. What was not apparent in this optimistic assessment was the lack of modern armor and field artillery. Even worse, the French high command was afflicted with the same defeatism rampant in the general population and among many politicians. French war-fighting doctrine at the time relied almost exclusively on a defensive strategy, which was given literally concrete expression in the Maginot Line. French military planners had closed their eyes to the lessons of the Spanish civil war, which dramatically demonstrated both the efficacy and ascendency of mobile warfare. Instead, the prevailing doctrinal assumption remained rooted in the static trenches of World War I's western front. Charles de Gaulle, a mere colonel at the time, had written widely against this hidebound notion but was vigorously shunned for his efforts and criticized for his failure of military orthodoxy. Another problem was that between 1928 and 1935, the length of French conscripted military service was reduced to a single year. It was again raised to two years early in 1935, but most of the reserve that was mobilized at the outbreak of World War II belonged to the one-year group and so had little combat training, having served briefly and, at that, perhaps as much as a full decade earlier.

The French Army suffered not only from outmoded doctrine, poor morale, and inadequate training, but also from an ineffectual high command structure. At the commencement of the Battle of France on May 10, 1940, the chief of national defense and commander in chief of land forces was Maurice-Gustave Gamelin. His most important commander in the field was Alphonse Georges. Gamelin and Georges did not see eye to eye and, in fact, strongly disliked one another. Moreover, because of the army's unwieldy command structure, there was inadequate communication between Gamelin and Georges, yet it was Gamelin who drew up the war plans (such as they were), and it was he who had shaped the army. Many officers, therefore, perceived Gamelin as their true commander, a perception that greatly crippled Georges's effectiveness and created confusion at every level. Moreover, Georges was responsible for executing plans in which he had taken no part, in which he had little confidence, and that he understood poorly. In the face of a super-efficient German Blitzkrieg, this mode of organization was bound to falter and crumble. And so it did.

At the outbreak of the war, the army had 94 divisions at the front or held in reserve. Of these, 63 were conventional infantry (30 regular army, the rest reserve divisions formed around a cadre of regular infantry troops and officers), seven were motorized infantry, three were "light mechanized" infantry, five were cavalry, 13 were garrison troops manning the fortifications, and three were armor divisions. The armored divisions had some 3,000 tanks, including some of high quality and many too light to be effective against superior German armor. (Strictly in terms of numbers, the Germans fielded approximately as many tanks as the French.) French artillery outnumbered that of the Germans but was, by comparison, obsolescent. Of antitank artillery, the French Army was critically short. A rush to produce more during the opening months of the war, the ominously quiet Phony War, failed to make up the shortage.

Despite the grave shortage of antitank weapons, French armor and artillery should have enabled the army to acquit itself far more effectively than it did in the Battle of France. But French command deployed these resources, tanks included, in static patterns suited to the last war instead of the realities of the present conflict. This was tragically inadequate to stem the onrush of Blitzkrieg. As for the vaunted Maginot Line, the Germans merely bypassed it via Belgium. Without doubt formidable, this line of defenses nevertheless proved quite useless.

In less than six weeks, the army so many had thought the finest in Europe was crushingly defeated. After the fall of France, the armistice with the Germans reduced the French Armée Métropolitaine to 100,000 men (called the Armée de l'Armistice), the very same limit that had been imposed on Germany's forces by the Treaty of Versailles. Germany authorized the Vichy Government, now officially its ally, to expand the Armée d'Afrique, which quickly grew to 225,000, to participate in the Axis defense of North Africa. During the Battle of France, German forces made some 2 million French soldiers prisoners of war. Of this number, 1.6 million were transported to Germany or other parts of the expanding reich to serve as laborers. The Vichy Government created a Légion des Combattants to help care for the families of these absent men.

In November 1942, the success of Operation Torch and the North African Campaigns that followed made the Armée d'Afrique available to the Allies. On November 11, 1942, therefore, German forces occupied Vichy France (the Zone libre) and immediately disbanded the Armée de l'Armistice. This induced several commanders to break with Vichy and create the Free French Forces.

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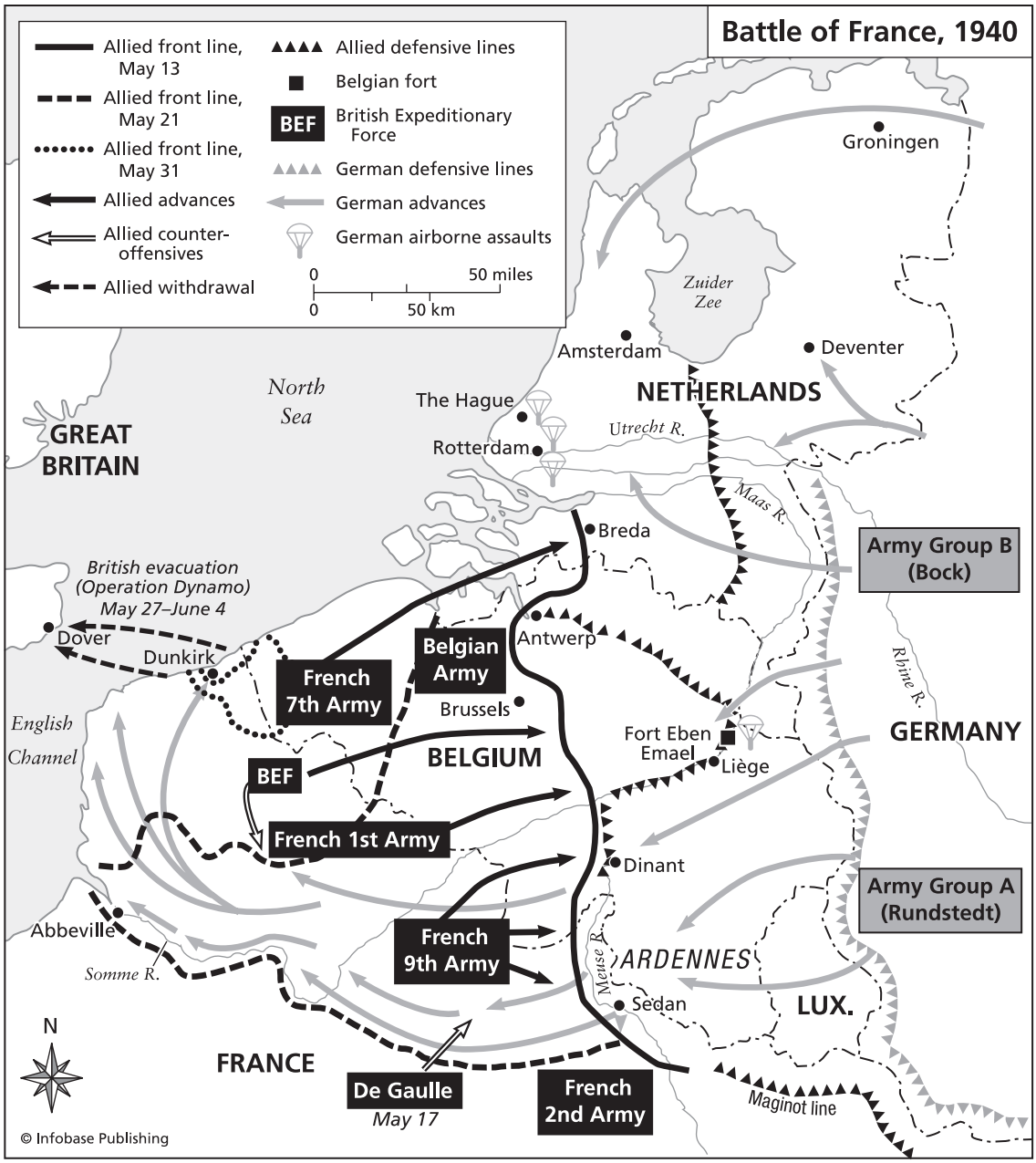
France, Battle of

The Battle of France, spanning May 10 to June 22, 1940, was the brilliant triumph of Germany's Fall Gelb ("Case Yellow") invasion plan, which brought about the ignominious defeat of the forces of France, Britain, Belgium, and the Netherlands. At the start of the battle, the Allied and German forces looked to be evenly matched. The French army had 104 divisions available (up from 94 at the very outbreak of war eight months earlier), the British Expeditionary Force (BEF, British forces transferred to the Continent) had 10, Belgium 22, and the Netherlands eight, for a total of 144 divisions. Germany invaded with 141 divisions. The Allies had nearly 14,000 guns against 7,378 for Germany, but much of the Allied firepower was obsolescent. Particularly lacking were antitank and antiaircraft artillery. France had 3,063 tanks, and the other Allies a few more, for a total of 3,384, many of them light tanks with inadequate firepower. Germany had 2,445 tanks, most of them more modern than the French vehicles. In terms of aircraft, the French air force had 637 operational fighters, all obsolescent, and 242 bombers. Britain had 262 very fine fighters and 135 bombers based in France, and it had another 540 fighters and 310 bombers based in England. Belgium and the Netherlands contributed a few more of each, so that the total of Allied fighters and bombers available was 1,590 and 708, respectively. Germany substantially outmatched these totals with 1,736 fighters (of which 1,220 were operational at the commencement of battle) and 2,224 bombers (of which 1,559 were operational). The German aircraft, especially the fighters, were of the most advanced type for their day and easily outclassed the French planes.

French military resources looked far better on paper than they were in reality. The army was substantial at some 5 million men, but it was poorly led by a high command that had a weak grasp of strategy, tactics, and execution and that communicated inadequately with commanders in the field. To compound these deficiencies, army commanders consistently failed to coordinate action with air commanders. Perhaps worse, the army was pervaded by an emotion of defeatism, and France's politicians had done nothing to furnish a cogent, let alone inspiring, vision of the nation's war aims. Doctrinally, the French army was also at a grave disadvantage. It had prepared for a static, defensive battle in the manner of World War I's western front. There was virtually no offensive component to this plan, and, even as defense, it was wholly inadequate to the kind of war Germany had already demonstrated in the invasion of Poland: highly violent, highly mobile Blitzkrieg.



At dawn on May 10, 1940, the German Wehrmacht invaded the three small neutral nations of Luxembourg, Belgium, and the Netherlands. This had the effect of drawing the BEF and the Flanders-based French forces to the northeast, thereby exposing the territory directly to the south, where the Maginot Line, France's elaborate subterranean and semisubterranean chain of frontier forts,

ended. French military planners and politicians had not wanted to offend neutral Belgium by extending the Maginot Line along its border. Besides, they believed that the thickly wooded and rugged terrain of the Ardennes was essentially impassable. This belief compounded the vulnerability of the Maginot Line. Not only was the northern end of the line left exposed so that it could be either flanked or merely bypassed by an invader, it was very thinly defended by few troops, because no one expected an invasion via the Ardennes. Yet it was precisely the Ardennes that Erich von Manstein, the German commander with primary responsibility for executing Fall Gelb, chose as the *Schwerpunkt,* the point of concentration, for his Blitzkrieg advance. He would execute a version of the famed Schlieffen Plan, by which Germany very nearly won World War I in its first month. Breaking through the Ardennes, he would use his tanks, the panzers, to race across the great plain of France all the way to the English Channel in a great scythe that would cleave the Allied armies in two. Of course, he first had to get through Belgium, which also had a formidable system of fortresses, the most important of which, Fortress Eben Emael, guarded the vital bridges at Briegen, Veldwezelt, and Vroenhoven, and was considered the impregnable, ultimate defense of Belgium. A daring German airborne assault quickly neutralized Eben Emael and allowed the advance into France, bypassing the Maginot Line.

Germany's Army Group B (under Fedor von Bock) was responsible for the decoy attack in the north, while Army Group A (Gerd von Rundstedt), with twice the divisions of Group B and most of the armor, was poised to attack through the Ardennes. South of this *Schwerpunkt,* Army Group C (Wilhelm Ritter von Leeb) would pin down French forces at the Maginot Line. Rundstedt's panzers were under the very capable field command of Heinz Guderian, the father of German tank development, doctrine, and tactics, and Erwin Rommel, who would soon emerge as one of Germany's legendary tank commanders.

While the German commanders were, for the most part, brilliant, their command network streamlined and highly efficient, and their troops among the most elite in the world, the French commanders were defeatists struggling with a poorly conceived network of command and command communication and leading demoralized, inadequately trained troops. The overall French commander, Maurice-Gustave Gamelin, was a victim of his own conventional military mind, which made his actions perfectly predictable. He readily fell for the German decoy attack in the north. He left the sector between Namur and Sedan, the very *Schwerpunkt,* in the hands of General André Corap's Ninth Army and the Second Army of General Charles Huntziger. Most of the troops in these two forces were inexperienced and suffering from a particularly acute form of the malaise that seemed to grip all of France. These inadequate soldiers, led by two inept commanders, would feel the brunt of the Blitzkrieg. Even more useless were the 30 divisions deployed along the Maginot Line. German Army Group C would keep them in check, effectively taking them out of the battle. Making a bad situation worse, Gamelin ordered the Seventh French Army, under the very capable Henri Giraud, to rush from its position as a mobile reserve force near Dunkirk, in northwestern France on the Belgian border, to Breda, Netherlands, to support the Dutch. This had the effect of putting the most important mobile reserve force out of position for timely action when it would be needed.

As bad as the Allied deployment was on the ground, the situation was even worse in the air. Not only were the French aircraft inferior to the German, they were poorly deployed and generally misused. While the French air force did have a nominal commander, General Joseph Vuillemin, he exercised direct control over the air reserve only. Command of the principal air units was shared with the relevant ground commanders. This resulted in paralysis because operational air officers found themselves subject to command from three or even more ground commanders in addition to Vuillemin. Worse, because the aircraft were distributed among the ground units, they could not be deployed at the discretion of a single overall commander, which meant that they could not be

concentrated where they were most needed. The French air asset was simply dissipated. In sharp contrast, German Blitzkrieg doctrine thoroughly integrated air assault with ground advance, and Luftwaffe pilots were keenly trained to function as part of the assault machinery. They flew precisely where they were needed, and they employed tactics that joined seamlessly with the ground assault.

Within 48 hours of breaching Eben Emael, the German invaders had overrun both Belgium and the Netherlands. At the same time, Rundstedt's tanks pushed through what had been thought to be the impassable forests of the Ardennes. Luftwaffe air cover prevented Allied air attacks against the slowly moving armored columns, and nobody among the Allies seems to have thought of mining the forest roads. Thus, by the night of May 12, seven panzer divisions had reached the east bank of the River Meuse along a front stretching from Dinant to Sedan. Astoundingly, the Allies continued to rely on intelligence estimates that were manifestly contradicted by the facts. They thought that five or six days would be required for the Germans to build up the strength necessary actually to cross the Meuse. As the Allies dithered, Guderian boldly decided to press ahead with the crossing of the Meuse on May 13, even though one of his three panzer divisions was still making its way through the Ardennes. This attack, with only three divisions, was made possible by strong air support, especially from the same Stuka dive bombers that had proved so effective in the invasion of Poland. They were true terror weapons, totally demoralizing the ground troops. Because Stukas are vulnerable to fighter attack when they dive, Me-109s kept the French fighters off. By nightfall, Guderian's troops had secured a three-mile-wide bridgehead across the Meuse. Rapid and vigorous response from the French 3rd Armored Division might have stemmed this advance, but, as usual, the unit was poorly deployed and proved ineffective. British bombers sent to destroy the pontoon bridges of the 1st Panzer Division were torn to shreds by German antiaircraft artillery. The net result was the loss of most of the British bombers, which had failed even to damage the German bridges. Allied air power had been defeated and crushed, and the French failed to mount a creditable counterattack.

Next, Guderian and Rommel rolled through the Sedan sector as Huntziger's Second Army and Corap's Ninth melted away. Prime Minister Churchill rushed to France on May 16, only to be told that no great reserves existed with which to make a counterattack, and French premier Paul Reynaud pronounced the Battle of France lost. The main German thrust was toward the coast, but the French could not decide whether the objective would be the English Channel, from which an invasion of England could be staged, or Paris. Colonel Charles de Gaulle led the 4th Armored Division in a spirited desperation attack near Montcornet but was repulsed.

At this point, the Germans nearly became victims of their own success: It all seemed too easy. Moreover, Guderian's panzers had moved so fast that they were far ahead of conventional infantry supporting units. On May 15 and again on May 17, they were ordered to halt so that the infantry could catch up. Both of these pauses presented the defenders with rich opportunities for counterattacks, but by this time, the Allies were so cut up and demoralized that coordinated action was impossible. Worse, the replacement of Gamelin with General Maxime Weygand on May 20 accomplished nothing but to induce further delay in mounting any possible counterthrust, especially on the narrower portions of the far-extended panzer advance.

Guderian's 2nd Panzer Division reached Abbeville, on the English Channel, on May 19. This thrust had accomplished what the Schlieffen Plan of World War I had failed to do: It split the Allied forces, trapping the best French units and most of the BEF in a cul de sac that backed up against the channel. The BEF counterattacked to the south from Arras on May 21 with considerable success, but when the French failed to follow up on this, the BEF had no choice but to retreat and contract its defensive perimeter yet further. The BEF made for the port town of Dunkirk on the English Channel, where there was a very slim hope of evacuation to England.

The tanks of General Paul Ludwig von Kleist were massed against the southern perimeter of the Dunkirk pocket on May 24. Eager to push forward and bag the BEF and French units trapped there, Kleist was instead ordered by no less a figure than Adolf Hitler to halt and await the arrival of the infantry. Like the earlier halts of May 15 and May 17, this was the product of an excess of caution. It was, in fact, among the most momentous errors of World War II. While it would be an exaggeration to declare that by his halt order Hitler lost the war on May 24, 1940, it is nevertheless true that he relinquished an early opportunity either to win it outright or to compel Britain to come to favorable peace terms. As it was, Allied Ultra intelligence intercepted and decrypted the halt order. This opened a narrow window of opportunity in which the Dunkirk evacuation was launched.

The Belgians surrendered on May 28, but by June 3 the evacuation from Dunkirk was complete. A total of 338,226 Allied troops, including 140,000 French soldiers, had been saved. The "miracle of Dunkirk" gave Britain a critically needed reprieve, but there was no saving France. The rest of the battle was essentially a broad-based mopping up operation. Paris, undefended, fell on June 14. At about this time, the Maginot Line, still garrisoned by French troops who could have been used elsewhere, was taken from the rear. Declaring war against Britain and France on June 10, Italy mounted an invasion of southern France but gained little.

On June 22, 1940, the Battle of France formally ended with French signatures on an armistice concluded, humiliatingly, at a railway siding in Compiègne in the very parlor car in which Germany had signed the hated Treaty of Versailles. The immediate cost of the battle was 90,000 French troops dead and 200,000 wounded. Nearly 2 million were either taken prisoner or reported missing. German dead numbered 29,640; wounded, 133,573. Total as this victory had been, the Germans failed to provide for the most obvious follow-up: the immediate invasion of Britain, which was now at its most vulnerable. Instead, they set about occupying and exploiting France.

See also France, air force of; and France, army of.

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France, navy of

Like the French Army, the French Navy at the outbreak of World War II looked highly impressive on paper. With more than 660,000 tons of shipping, it was, in 1939, the fourth largest fleet in the world. In contrast to the army, it was not merely a formidable paper force, but in actuality a force to be reckoned with. Many of its ships had been built within the five years preceding the war and were state of the art except for the conspicuous absence of sonar and radar. Most important, they were manned by officers and crews who were not only well trained, but largely unaffected by the defeatism so pervasive in the army. As the Battle of France was lost, the French Navy successfully evacuated its warships to safe harbors. *Richelieu,* a new battleship, sailed to Dakar. *Jean Bart, Richelieu's* twin ship, was still under construction but was nevertheless sailed to Casablanca. Two veteran battleships, eight destroyers, three submarines, and other minor ships were transferred to Portsmouth and Plymouth. The modern battle cruisers (heavy cruisers) *Strasbourg* and *Dunkerque* found refuge along with six destroyers, two battleships, and a seaplane carrier at Mers-el-Kébir, a French naval base in Algeria. Another six cruisers were dispatched to Algiers. Only the French submarine fleet had taken a bad hit in combat, with 24 of 80 having been sunk. The survivors fled to Bizerta. Except for small ships at Toulon and in the French West Indies, the balance of the fleet, including a battleship, four cruisers, and three destroyers, was at Alexandria, Egypt.

The magnificent French fleet was saved—but for what? The terms of the humiliating armistice France concluded with Germany on June 22, 1940, called for the deactivation of the navy. On July 7, 1940, British admiral James Somerville approached Mers-el-Kébir and gave the French commander there four choices: join the fight against Germany, be interned in the West Indies or the United States for the duration of the war, scuttle his ships in place, or suffer destruction. Admiral Marcel-Bruno Gensoul decided that French honor demanded his refusal of all options. The result was the one-sided Battle of Mers-El-Kebir, in which three of the four capital ships harbored there were sunk with the loss of 1,297 lives. This battle caused the partial suspension of the German order to decommission all French ships. In the meantime, those French vessels in British-controlled ports were taken over by the British. Their crews were temporarily interned, then given the choice of repatriation at Casablanca or joining (indeed, creating) the Free French Navy. Most elected repatriation, but some decided to fight alongside the British.

The rest of the ships of the French Navy remained under the control of the Vichy Government and saw little action. After the success of Operation Torch (the American landings in North Africa), in November 1942, Adolf Hitler ordered, on November 11, the occupation of Vichy (unoccupied) France. A few days later, on November 19, he ordered the seizure of the Vichy-controlled fleet anchored at Toulon, about 80 warships, including three capital ships, the battle cruisers *Strasbourg* and *Dunkerque* and the battleship *Provence.* The seizure order was resisted, and German forces attacked the docks on November 27. The French returned fire, and during the skirmish five French submarines slipped away. Crews scuttled the rest of the fleet before the Germans could lay hands on them. With this, and except for the few ships fighting on behalf of the Allies, the French Navy of World War II came to an end.

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Franco, Francisco (Francisco Paulino Hermenegildo Teódulo Franco Bahamonde) (1892–1975) *Spanish general, generalissimo, and fascist dictator*

Born in El Ferrol, Spain, Franco graduated from the Toledo Academia de Infantería in 1910 and was commissioned a second lieutenant. A dashing figure, his service in Spain's 1912 war in Morocco brought him quick recognition, and by 1920 he was deputy commander of the Spanish Foreign Legion in Morocco. He led the legion against Abd-el-Krim during the Riff Rebellion of 1921–26, and, in 1923, was promoted to full commander of the Foreign Legion. His 1925 assault on Alhucemas Bay led ultimately to Spanish victory in the long Riff conflict. In 1926, the triumphal Franco was jumped to the rank of brigadier general, Spain's youngest ever. Two years later, he attained the politically powerful post of director of the Academia General Militar at Saragossa during the fascist dictatorship of General Primo de Rivera. Franco was removed from leadership of the academy in 1931, when Republican forces, having overthrown the monarchy, accused him of retaining a monarchist loyalty.

Franco's removal coincided with the beginning of the turbulent years leading up to the cataclysmic Spanish civil war. Now serving in the Balearic Islands, his post from 1931 to 1934, Franco avoided involvement in the military's many conspiracies against the new republic. It was that government that recalled him in 1934 to suppress a miners' revolt in Asturias. His brutally efficient operations there earned him the respect of the conservative right wing and the hatred of the left. But it was the right that was in the ascendency, and, in 1935, Franco was named chief of the general staff, only to suffer exile the following year, when the leftist Popular Front gained a majority in the elections. Franco was assigned to a command in the remote Canary Islands.

Despite his distance from the mainland, Franco participated in the military and conservative

conspiracy that erupted, on July 18, 1936, into the Spanish civil war. Once the war began, Franco flew to Morocco, where he took over the Spanish Foreign Legion garrison and airlifted a large contingent of legionnaires to Spain later in the month. During July and August, he led an advance on Madrid but was repulsed by government forces during September and October. By this time, however, the country was divided between government and Nationalist territories, and on September 29, 1936, the Nationalists established their own government, with Franco as head of state. In April of the following year, he also became leader of the Falange Party and forged a cautious alliance with fascist Italy and Nazi Germany. These two powers contributed troops, equipment, and especially aircraft to the fascist cause, so that the Nationalists ultimately prevailed against the Loyalists. After Madrid fell on March 28, 1939, the Spanish civil war ended, and Franco emerged as de facto dictator of Spain.

Like Adolf Hitler and Benito Mussolini, Franco was ruthless in promoting his rise. Unlike them, however, he was cautious and methodical. Although he did not hesitate to outlaw all rival political parties and order the execution or imprisonment of many thousands of Loyalists, he proceeded slowly and cannily with regard to the Axis powers when World War II broke out. Both Hitler and Mussolini simply assumed that Franco would repay the support he had received during the civil war by allying with them. Instead, Franco declared Spain neutral yet, throughout the war, placated Germany by sending workers and creating the all-volunteer Blue Division (ostensibly a mercenary force) to fight for the Germans on the Russian front. Only after the tide of the war turned against Germany did Franco seriously enforce conditions of neutrality. Sensing political change in the wind, he also mildly liberalized his regime. In July 1945, after the defeat of Germany, he promulgated the Fuero de los Españoles, a bill of rights, and, in 1947, he agreed to reorganize the government as a monarchy, with himself as regent endowed with the power to choose the next king. Indeed, throughout the postwar period, Franco moderated the outright brutality of his extreme right-wing stance, presenting himself to the world not as a fascist, but as a staunch anticommunist. During the early 1950s cold war period, he consented to the establishment of U.S. bases in Spain and, in 1955, brought Spain into the United Nations. In 1956, he renounced the imperialism of the fascist era by pulling out of northern Morocco. However, as popular unrest grew in the 1960s, Franco again became more reactionary. Yet, by this time, liberalism was too well established to allow for a full reversal into the fascist mode of the 1930s and 1940s. Franco continued to hold power until his death in 1975.

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Franco-Soviet pacts

Between 1926 and 1937, the Soviet Union concluded a number of nonaggression treaties, including one with France on November 19, 1932. Three years later, on May 15, 1935, the two nations took the even bolder step of concluding a new pact, which did not merely guarantee mutual nonaggression, but gave a mutual pledge of military assistance in case of invasion by another country. For Soviet dictator Joseph Stalin, this was the first time he had promised to risk communist blood to aid a capitalist country. For the government of France, the pact was not only a bulwark against the expansionist aggression of Nazi Germany, it was also a means of placating left-leaning French workers. Moreover, the treaty put France's leaders in a position to rally these same workers to war not just to defend capitalist France, but the communist Soviet Union as well.

Stalin effectively abrogated both Franco-Soviet pacts by concluding the German-Soviet Non-Aggression Pact on August 23, 1939. When Germany invaded France in 1940, Stalin did not honor the 1935 Franco-Soviet pact.

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Frank, Anne (1929–1945) *young Holocaust victim whose published diary moved the world*

Annelies Marie Frank, better known as Anne Frank, was born in Frankfurt am Main, Germany, of Jewish parents. Her father, Otto Frank, a prosperous Frankfurt businessman, realized the gravity of Nazi anti-Semitism and, in 1933, left Germany with his wife and two daughters for what he assumed would be the safe haven of Amsterdam. The German INVASION OF THE NETHERLANDS came in May 1940, and the following year, as the German occupiers instituted anti-Semitic policies in the Netherlands, Anne Frank was forced to transfer from a public school to a Jewish one. As anti-Semitism escalated to the FINAL SOLUTION in the occupied countries, Otto Frank understood that he and his family would be deported to what he assumed was a forced-labor camp. To escape this fate, Frank took his family into hiding, with four other Jews, on July 9, 1942.

They found refuge in the back room office and warehouse of Frank's wholesale food business. Christian Dutch citizens, sympathetic to the plight of the Jews, smuggled in food and other supplies at great risk to themselves. However, not all Netherlanders were so noble. Informers tipped off the local GESTAPO, which raided the Franks' hiding place on August 4, 1944. The family was sent to a local transit camp at Westerbork and thence, on September 3, 1944, to AUSCHWITZ CONCENTRATION CAMP in Poland. From here, Anne and her sister Margot were transferred to BERGEN-BELSEN CONCENTRATION CAMP in October. Their transportation to the camps had been the last from the Netherlands. Anne's mother died in January, just days before Auschwitz was evacuated on January 18, 1945. Anne and her sister succumbed to typhus, epidemic in the camps, in March 1945, shortly before Bergen-Belsen was liberated by the Allies. Alone among his family, Otto Frank survived and was liberated from Auschwitz by Red Army troops on January 27, 1945.

Even after their deportation, the Franks had not been abandoned by their Dutch friends. They found in the Franks' hiding place numerous papers and personal effects the Gestapo had failed to confiscate. They saved these, and when Otto Frank returned to Amsterdam, they gave the material to him. He discovered a diary Anne had kept during their desperate confinement. Frank edited it (to some extent bowdlerizing it), and it was published in Dutch in 1947 as *Diary of a Young Girl.* An extraordinary document, it is an intimate view of THE HOLOCAUST through the eyes of an adolescent girl, a vision the more poignant because the diary records all that interested any girl of Anne's age, including her growth into young womanhood, in addition to the terror outside Otto Frank's back room. It is a profoundly human document and a monument to the durability of the human spirit

Anne Frank *(National Holocaust Museum)*

even in the greatest adversity. "In spite of everything," Anne wrote in a particularly memorable passage, "I still believe that people are really good at heart."

Diary of a Young Girl, often called "The Diary of Anne Frank," has appeared in more than 50 languages and is certainly the most widely read document to emerge from the Holocaust. In 1995, a new English translation was published, which restored extensive material Otto Frank had expunged from his original version. The government of the Netherlands and the city of Amsterdam preserve the Frank family's hiding place, on the Prinsengracht Canal, as a museum and memorial.

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Free French Forces

The Free French Forces (Forces Françaises Libres) was the name applied to French citizens who fought overtly, as a military formation, against Germany and the Vichy Government after France fell as a result of the Battle of France. The Free French Forces had its origin in a BBC broadcast of June 18, 1940, by Charles de Gaulle from London to the French people. Commemorated in French history as the "Appeal of June 18," it was a call to French men and women to continue to resist the Nazi occupation. Subsequent broadcasts repeated this call, and De Gaulle, keenly aware of the power of symbols, even fashioned a Free French flag featuring the red Cross of Lorraine superimposed on the white band of the nation's tricolor. As compelling a figure as de Gaulle was, his broadcasts initially drew only some 7,000 volunteers to the Free French Forces. In addition, about 3,600 sailors joined the Free French Navy, which consisted of 50 ships that had been in British-controlled ports or had sailed to such ports at the time of the fall of France. This force operated as an auxiliary to the British Royal Navy.

The Free French Forces received a significant influx of men in fall 1940, when the French colonies of Chad, Cameroon, Moyen-Congo, French Equatorial Africa, and Oubangi-Chari broke with the Vichy Government and joined the Free French. Somewhat later, colonies in New Caledonia, French Polynesia, Saint-Pierre and Miquelon, and the New Hebrides also joined. French Indochina and the French colonies of Guadeloupe and Martinique in the West Indies remained under Vichy control.

A blow to recruitment came as a result of the Battle of Mers-el-Kebir, a British attack on the French fleet harbored in this Algerian port, in which some 1,297 French sailors were killed. This turned many against the idea of joining the Free French Forces, which collaborated with the British. Nevertheless, de Gaulle carried on, and, in September 1941, he formally created the Comité National Français (French National Committee), the Free French government in exile. On November 24, 1941, U.S. president Franklin D. Roosevelt conferred considerable legitimacy on the Comité National Français by extending Lend-Lease Act policy to it. Free French troops fought in the North African Campaigns and also against Italians in Ethiopia and Eritrea. They also fought Vichy French troops in Syria and Lebanon.

The Free French Forces existed separately from the French resistance and underground movements until de Gaulle worked to unite them—and, indeed, all the disparate resistance movements—under his own leadership. Changing the name of Comité National Français to Forces Françaises Combattantes (Fighting French Forces), he sent resistance leader Jean Moulin back to France to unite the major resistance groups into one organization. This became the Conseil National de la Résistance, but complete union between the overt military (what the Allies continued to call the Free French Forces) and the covert and guerrilla-style resistance was never really achieved.

Operation Torch, the Allied invasion of North Africa, prompted various French units to surrender and join the Free French. At this point General Henri Giraud presented himself as a rival to de Gaulle's leadership of the forces, but de Gaulle

retained control. As the North African campaign progressed, the Free French forces grew, and in 1943, some 100,000 Free French troops participated in the Allies' Italian Campaign. By the time of the Normandy landings (D-day), the Free French mustered about 400,000 troops and featured a formal military organization. The Free French 2nd Armored Division, led by General Jacques-Philippe Leclerc, landed at Normandy and, subsequently, took the lead in the Allied drive toward Paris. It was the first unit to actually enter Paris on August 25, 1944. The Free French First Army, commanded by General Jean de Lattre de Tassigny, participated in the invasion of southern France. This unit retook Alsace from the Germans, an event of powerful symbolic significance.

See also France, army of and France, navy of.

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Freikorps

Freikorps ("Free Corps") was a name applied to a number of nongovernment paramilitary groups that sprang into existence throughout Germany beginning in December 1918, immediately after the nation's defeat in World War I. The Freikorps consisted of recently discharged veterans, both enlisted men and officers, as well as an admixture of unemployed and discontented civilian youths. By the 1920s, more than 65 corps were scattered throughout the country.

Freikorps members shared an intense nationalism and reactionary conservatism. They took it upon themselves, often with unofficial sanction from the Weimar government, to put down left-wing demonstrations and uprisings in Berlin, Bremen, Brunswick, Hamburg, Halle, Leipzig, Silesia, Thuringia, and the Ruhr. The Freikorps often operated as right-wing terrorist organizations, and they assassinated officials and politicians identified as leftist or communist. The highest-profile assassination ascribed to the Freikorps was that of Walther Rathenau, German foreign minister, in 1922.

In the wake of the chaotic despair fueled by the Treaty of Versailles, the Freikorps nurtured the right-wing sentiments that found their most significant expression in the Nazi Party (NSDAP). The Weimar Republic made use of the Freikorps however it could, but the movement was suppressed as official police forces and the regular army grew strong enough to suppress leftist and other antigovernment activity. Many Freikorps members were absorbed into the rising Nazi Party, and a portion of the Freikorps survived virtually intact as the basis of the Nazi Party's strongarm Sturmabteilung (SA) ("Storm Troopers") organization, which was led by a former Freikorps commander, Ernst Röhm.

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French foreign legion

The celebrated French foreign legion (Légion Étrangère) was created in 1831 by King Louis-Philippe for the purpose of patrolling and policing French colonial possessions in North Africa. Until the later 20th century, membership in the legion was restricted to foreign volunteers, who, after serving five years with good conduct, were granted French citizenship. Membership in the foreign legion has never required the swearing of an oath of allegiance to France but, rather, an oath to the legion itself, in keeping with the legion's unofficial motto, "Legio patria nostra" ("The legion is our fatherland").

Another feature of enlistment in the foreign legion is a high degree of anonymity. In most military forces, a soldier's past is a matter of detailed record; in the legion, however, it is a secret. For this reason, the foreign legion has acquired a mystique as a haven for criminals, the lovelorn, and others who seek refuge from their past. This image has been portrayed in many fictional depictions of the organization. Doubtless, some recruits have sought escape in the service, but the foreign legion is first and foremost an elite military organization, which, from the beginning, attracted chiefly professional men at arms looking for intense combat experience.

From its inception, the foreign legion was barred from serving in metropolitan France during peacetime. However, legion units were in France during World War I and World War II. In 1939, the foreign legion quickly expanded because of an influx of refugees into its ranks. Foreign legion regiments fought in the Battle of France in May–June 1940. After the fall of France resulting from this battle, all German nationals serving in the foreign legion were compelled to return to their homeland. Abroad, in Syria, foreign legion troops fought on both sides, some joining the Free French Forces and others fighting on behalf of the Vichy Government. On the Free French side, the most celebrated foreign legion unit was the 13th Demi-Brigade, which fought in the Battle of Narvik, against the Italians in Ethiopia (Abyssinia), in Syria, and in the North African Campaigns and the Italian Campaign. The unit landed in France in August 1944 and participated in the drive through that occupied country. Since 1962, with Algerian independence, French foreign legion headquarters have been maintained in France proper at Aubagne, near Marseille.

See also France, army of.

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French resistance and underground movements

The fall of France resulting from the Battle of France brought a humiliating armistice with Germany and the division of France into occupied zones and the nominally sovereign Vichy Government led by Henri-Philippe Pétain. During the fall of France, a French army officer, Charles de Gaulle, was in London, and he used his absence as an opportunity to rally the French with a broadcast appeal on June 18, 1940, repudiating Pétain, proclaiming that the war had not ended, and calling on all French men and women to resist the occupiers. De Gaulle emerged as de facto head of a Free French government in exile and leader of the Free French Forces, mainly consisting of French military personnel and a few ships that had evaded capture or that had not declared allegiance to Vichy. Also answering de Gaulle's appeal were French civilians still living in France who began organizing underground activities, including secret newspapers and networks for rescuing downed Allied airmen, and resistance cells, which engaged in various subversive activities, including sabotage and assassination. The terms *underground* and *resistance* are frequently used interchangeably. However, it is useful to distinguish between the essentially civilian resistance and the underground, on the one hand, and the more formally military Free French Forces on the other.

The earliest acts of resistance were mounted by secondary school students on July 14 (Bastille Day), and November 11 (the anniversary of World War I's armistice), 1940. Work-related sabotage and mass strikes began soon after in an effort to cripple production destined to serve Germany's war effort. Miners in Nord and Pas-de-Calais struck from May 27, 1941, to June 8, 1941. True armed resistance is usually said to have commenced on August 22, 1941, with the assassination of a German naval cadet, Alfons Moser. This resulted in the occupying army's promulgation of a hostage policy, whereby French citizens, randomly chosen, were subject to reprisal—that is, execution—for violence perpetrated against German or Vichy officials. Though widely posted and publicized, the

hostage and reprisal policy failed to stop additional attacks. On September 3, resistance members assassinated another German officer; three days later, the military government executed three hostages. Despite this, more assassinations took place, followed by more reprisals. On September 16, Adolf Hitler directed army chief of staff general Wilhelm Keitel to order commanders in France and the other occupied countries to regard human life of little value in these territories and to act with utmost violence against the resistance. Through Keitel, Hitler suggested that 50 or 100 hostages should be executed for each German soldier killed by resistance members.

The occupiers of France fought the resistance by means of the Abwehr, Gestapo, Schutzstaffel (SS), Sicherheitsdienst (SD), and the regular army, the Wehrmacht. Vichy authorities used the collaborationist police organization known as the Milice.

Despite the increasing severity of reprisals, resistance and underground movements proliferated in France, both in the occupied zones and in Vichy territory. Members came from all walks of life and included men as well as women. Many were students, and many others were former soldiers who had managed to escape from the Germans or even joined the resistance after gaining release from prisoner of war (POW) camps. Other members were left-wing activists, including socialists and communists, who had evaded capture by the Gestapo. Resistance cells were urban as well as rural. Indeed, many hid in the forested regions of the unoccupied zones and were informally called Maquis, a word that describes the dense growth of Mediterranean shrubs and trees, suggesting the undergrowth in which this shadow army hid.

Resistance and Maquis groups typically organized themselves into small units, or cells. The risks of resistance work were great and many, not only because of the hostage and reprisal policy, but because of the interrogation methods used by the Gestapo and other authorities, which employed extreme torture. By adopting a cell structure, in which each cell was linked to another yet was also autonomous, so that no one operative had direct knowledge of more than a few comrades, the resistance could control the damage that resulted from interrogation of members who were apprehended. Even under the worst torture, a captured resistance member would have relatively little information to give up.

One disadvantage of the cell approach to organization was that it reinforced the scattered nature of the resistance and underground. Resistance groups often failed to coordinate action, and rivalries even developed. The most important resistance groups included the following (and the list is far from complete):

Armée Secrète (AS). This group was loyal to Charles de Gaulle and was led by Charles Delestraint.

Bureau d'Opérations Aériennes (BOA). This resistance group organized clandestine air operations in northern France.

Chantiers de la Jeunesse. Ostensibly a set of youth camps, the organization actually ran assembly places for young members of the French Army who were homeless after the fall of France.

Combat. Formed in 1942 by Henri Frenay, *Combat* was one of the best known underground groups. Moderately left-wing in political orientation, it specialized in sabotage and, through its newspaper (*Combat*), in counterpropaganda. Its most famous members were the novelist Albert Camus and the philosopher Jean-Paul Sartre.

Comité d'Action Socialiste (CAS). The group was founded in January 1941 by Daniel Mayer, a member of the French Socialist Party.

Comité Départemental de Libération (CDL).

Comité Français de la Libération Nationale (CFLN).

Compagnons de la France (Companions of France). This resistance organization consisted of veterans operating in Vichy France.

Défense de la France. Sorbonne University students organized this group to publish an underground newspaper of the same name, to carry out espionage, and to operate an escape network. The group was known for

producing excellent counterfeit identification papers for resistance members.

Francs-Tireur. A leftist group formed in Lyon in 1941, it published *Le Franc-Tireur,* an underground newspaper. The group was also active in the Mediterranean area.

Francs-Tireurs et Partisans (Français) (FTP or FTPF). This was the military resistance organization of the French Communist Party's *Front National (FN).*

Francs-Tireurs et Partisans de la Main d'Oeuvre Immigrée (FTP-MOI). A mostly communist resistance group composed chiefly of immigrants, FTP-MOI specialized in urban guerrilla actions.

Front Libération-Sud. This socialist group was based in Paris and published the underground newspaper *Libération.*

Musée de l'Homme. Another Paris-based group, it published an underground newspaper, covertly transmitted political and military information to Britain, and created an Allied POW escape network. After a Vichy agent infiltrated the organization, most of its members were arrested and many executed.

Organisation de la Résistance de l'Armée (ORA). The ORA consisted of supporters of Henri Giraud, rival to de Gaulle. The most famous member was François Mitterrand, who became president of France in 1981 and served until 1995.

From the beginning, Britain's Special Operations Executive (SOE), created by Winston Churchill to foment uprising and resistance in occupied Europe, helped to supply the various resistance groups by sending weapons, radios, radio operators, and advisers. The British Special Air Service (SAS) and other British intelligence organizations also sent agents to France to work with the resistance. De Gaulle, who was reluctant to share control of the resistance with Britain (and, later, with the United States), created the Bureau Central de Renseignements et d'Action (BCRA), in effect a private intelligence organization over which he exercised direct control. On January 1, 1942, de Gaulle sent an already established resistance leader, Jean Moulin, into Arles by parachute drop with two other agents and radio equipment. Setting up in Marseilles, they began a gradual and partially successful effort to coordinate the activities of the disparate resistance groups. However, the biggest boon to the resistance movement was furnished by the Germans themselves. When the occupiers initiated a forced labor draft, conscripting workers for labor in Germany, early in 1943, thousands of young men evaded the call and rushed to join the Maquis. The SOE, now together with the U.S. Office of Strategic Services (OSS), fostered this expansion by sending supplies and agents. In June 1943, the SOE also at last began to coordinate activity with de Gaulle's BCRA. At about this time, too, Moulin had finally persuaded the Armée Secrète, Comité d'Action Socialiste, Francs-Tireur, Front National, and Libération to unite as the Conseil National de la Resistance (CNR) under the direction of Charles de Gaulle and with Moulin as chairman. The first meeting of this united organization took place in Paris on May 27, 1943.

At first, while the British supported de Gaulle, the Americans tended to favor his rival for leadership of the Free French movement, General Henri Giraud. Fortunately, however, the Casablanca Conference of June 1943 produced reconciliation between de Gaulle and Giraud, who assumed joint leadership of the CNR, until de Gaulle wrested sole direction of the organization from Giraud in October 1943.

As Operation Overlord—the Normandy landings (D-day)—approached, the British and Americans worked more closely with the resistance to focus efforts on intelligence collection and sabotage against transportation and communication lines. Maquis and other resistance members destroyed railway tracks, bridges, and even trains. General de Gaulle organized a new London headquarters for the Forces Françaises de l'Intérieur (FFI), which he put under the command of general Marie-Pierre Koenig. The FFI worked with the SOE and OSS on Operation Jedburgh, creating three-man teams that consisted of one French and one American or British agent, plus a radioman, which were infiltrated into France to work directly

with the resistance in order to intensify and direct sabotage efforts prior to D-day. In all, some 87 Jedburgh teams were infiltrated. Among the information communicated to the resistance groups was a set of code words that would be broadcast over the BBC to alert operatives to the commencement of the Normandy landings. Upon hearing these broadcasted code words, the resistance groups intensified their sabotage, derailing trains, blowing up ammunition dumps, and attacking isolated German garrisons. Other operatives observed German troop movements and defensive preparations, communicating these developments to the Allies as they happened.

The activities of the resistance were important to the success of the Allied invasion, and the resistance continued to work with the Allies as they advanced across France. Resistance cells were highly active as the Allied columns closed in to liberate Paris in August 1944. As the troops approached, resistance members disrupted German defenses with grenades, acts of sabotage, and sniper activity. Known collaborationist leaders were quickly rounded up and, often, summarily executed. The show of resistance force persuaded most of the Paris police force, hitherto at the mercy of the occupiers, to join the movement.

The liberation of Paris was the high-water mark of the French resistance. Paris was officially liberated on August 25. Three days later, Charles de Gaulle gave the order to stand down the Free French Forces as well as the resistance organizations. He invited those who still wished to fight to join the new regular French Army.

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Fritsch, Werner von (1880–1939) *German general and victim of Hitler's treachery*

Werner von Fritsch was born in Benrath, Germany. He served as a staff officer during World War I and remained in the interwar army, achieving promotion to lieutenant general and the post of commander in chief of the army in February 1934. Fritsch was highly respected by fellow officers, but he, in turn, was contemptuous of Adolf Hitler and was often heard to disparage him. He was especially outraged by Hitler's treacherous purge of Ernst Roehm and the Sturmabteilung (SA) in the "Night of the Long Knives" massacre in June 1934.

As he became aware of Fritsch's doubts about Nazism, his disparagement of himself, and the objections he raised to many of his military plans, Hitler became determined to gain personal control of the army. He assigned Heinrich Himmler to investigate Fritsch secretly. Himmler apparently persuaded Hans Schmidt, a male prostitute, to claim that he had had a sexual relationship with Fritsch. Himmler presented this "information" to Hitler, who, on January 24, 1938, confronted Fritsch with the claims. It quickly became apparent to Fritsch that no one in the senior command was willing to step forth to support him against the trumped-up charges. He therefore yielded, on February 3, 1938, to Hitler's demand that he resign. It was subsequently discovered that Schmidt had lied and, in a military trial, Fritsch was exonerated. Nevertheless, Hitler declined to reinstate him as commander in chief of the army. Fritsch was, however, recalled to the army at the outbreak of the war, and he returned to his former regiment as its honorary colonel. He was killed in the attack on Warsaw on September 22, 1939, during the invasion of Poland.

The Fritsch affair had a lasting effect on the army command's relationship with Hitler and the Nazi inner circle. Although his fellow officers had

not supported him, the failure of Fritsch's reinstatement turned a number of important commanders against Hitler and the Nazi regime. Most important among these was Admiral Wilhelm Canaris, head of the Abwehr intelligence organization, who deliberately sabotaged certain aspects of the German intelligence effort in order to embarrass Hitler. Others, including Colonel-General Hans Oster, Field Marshal Erwin von Witzleben, and General Karl Heinrich von Stuelpnagel, actively conspired to bring about Hitler's overthrow. Their alienation began with outrage over the framing and subsequent treatment of Fritsch.

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Fuchs, Klaus (1911–1988) *German-born British physicist and Soviet spy*

Born in Rüsselsheim, Germany, Klaus Fuchs was educated at the Universities of Leipzig and Kiel, where he studied physics and mathematics. An enthusiastic member of the German Communist Party beginning in 1930, he fled Germany after Adolf Hitler was named chancellor and the Nazis came to power in 1933. Immigrating to Great Britain, he earned a Ph.D. in physics from the University of Edinburgh. At the outbreak of World War II, he was briefly interned by the British government as an enemy alien, but his credentials as a physicist earned him a place on what became the joint Anglo-American project to create an atomic bomb. He carried out research at the University of Birmingham and in 1942 became a British citizen.

Despite his new citizenship, Fuchs remained a committed communist, and he began passing information on the top-secret atomic bomb project to the Soviet Union. In 1943, Fuchs was sent to the United States to work at Los Alamos, New Mexico, the central laboratory of the Manhattan Project and the very epicenter of World War II nuclear weapons development. His work here provided him with a comprehensive view of the atomic bomb project, so that he moved beyond the theoretical appreciation he had had in Birmingham to practical knowledge of actual design. This he passed on to the Soviets. It was information so valuable that most scientists and historians believe it gave the Soviets at least a year's head start on developing their own atomic bomb shortly after World War II.

During the war, Fuchs's espionage remained undiscovered. He returned to England at the conclusion of peace and rose to chair the physics department of the British nuclear research center at Harwell. In 1950, however, Fuchs's espionage activities were at last uncovered, and he was arrested. He soon confessed to having passed information to the Soviet Union since 1943. Found guilty, Fuchs was sentenced to 14 years in prison but was released in 1959 for good behavior. Immediately after his release, he traveled to communist East Germany, where he was granted citizenship and named deputy director of the Central Institute for Nuclear Research at Rossendorf. He expressed absolutely no regret for his espionage and was lavishly honored by the East German Communist Party as well as by its state-controlled scientific establishment.

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Funk, Walther (1890–1960) *economic minister of the Third Reich and president of the Reichsbank*

Walther Funk studied economics at the Universities of Berlin and Leipzig, worked for a time as a

journalist, then joined the German Army in 1914, at the beginning of World War I. Discharged in 1916 as unfit for service, he was hired in 1922 as editor of the *Berliner Boersen Zeitung,* the most influential financial and economic daily in Germany. He joined the Nazi Party (NSDAP) early in its existence and, in 1931, was chosen by Adolf Hitler as his economic adviser. Funk became Hitler's liaison with Germany's top industrialists, and he was instrumental in forging the economic partnership between the Nazi Party and the German financial-industrial sector.

In 1938, Funk was appointed minister of economic affairs in the Third Reich, but, in reality, he had almost no autonomy, answering directly to Hermann Göring, whose control of the reich's "four-year plan" was absolute. On January 20, 1939, while continuing to retain his ministerial post, Funk was appointed president of the Reichsbank, a position of considerably more importance. He was instrumental in the economic planning for the invasion of the Soviet Union and took part in planning the economic aspects of the ongoing persecution of the Jews. He also played roles in all other Nazi economic depredations throughout the war.

Funk was arrested by U.S. forces in May 1945 and was held for indictment by the Nuremberg War Crimes Tribunal. Indicted on August 29, 1945, he attempted to present himself as, in reality, a minor figure in the Nazi hierarchy, an assertion that was corroborated by fellow defendant Göring. This notwithstanding, the tribunal found him guilty of war crimes, crimes against the peace, and crimes against humanity. He was sentenced to life imprisonment on October 1 but was released on May 16, 1957. He lived out the rest of his life in retirement in West Germany.

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Gamelin, Maurice-Gustave (1872–1958)
general in command of all French forces at the outbreak of World War II

Paris-born Maurice-Gustave Gamelin graduated from Saint-Cyr, the French military academy, in 1893 and, at the outbreak of World War I, in August 1914, served as a staff officer, operations section, under French commander in chief Joseph Joffre. He remained a highly placed staff officer throughout most of the war but was given field command of a division before it ended.

After the armistice, Gamelin was appointed to head a military mission to Brazil, serving there from 1919 to 1925, when he was appointed chief of staff to General Maurice Sarrail, who commanded all French forces in the Levant. In 1926, Gamelin succeeded Sarrail, serving in the Levant through 1930. He was elevated to army chief of staff in 1931 and vice president of the Supreme War Council as well as army inspector general in 1935. In 1938, Gamelin was named chief of staff for national defense, effectively becoming the commander of all French forces.

As chief, Gamelin directed the French mobilization at the outbreak of World War II, in September 1939, and he was in command during the Battle of France, which began on May 10, 1940. Gamelin was neither better nor worse than most of the rest of the senior French command, which, unfortunately for France, meant that he was a mediocrity, dedicated to the status quo. He had done nothing to streamline and rationalize the complex, cumbersome, and counterproductive command structure of the French Army. He had done nothing to address deficiencies of training and the even graver deficiencies of morale. He had denigrated the value and the role of air power. He had done little to address shortages of adequate antiaircraft and antitank weapons. With the rest of the French high command, he had blindly assumed that a second world war would, of necessity, be a repetition of the first—fought as static combat from trenches—and he therefore operated only according to a defensive plan, which proved disastrously inadequate to stem the German invasion Blitzkrieg.

During the opening moves of the invasion, Gamelin blundered into the German trap, sending mobile forces into Belgium to meet the expected advance there. Instead, the main panzer thrust came through the Ardennes, which Gamelin (and others) had considered impassable. Stunned, Gamelin dithered in response and was dismissed by Premier Paul Reynaud, who replaced him with the more aggressive, albeit superannuated, Maxime Weygand on May 19.

On September 6, 1940, Gamelin was arrested on charges of having been responsible for the military defeat of France. Gamelin never accepted the charges and refused to testify at his trial. He was imprisoned in France, then deported to Buchenwald concentration camp by the German occu-

piers in the spring of 1942. He was held at Buchenwald and then at Itter, from which he was liberated by U.S. troops in May 1945. He returned to France and, between 1946 and 1947, published his three-volume memoir, *Servir.*

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Charles de Gaulle with Henri Giraud *(National Archives and Records Administration)*

Gaulle, Charles de (1890–1970) *most important leader of the Free French during the Nazi occupation*

De Gaulle was the military and political leader of the Free French Forces and the French government in exile during World War II. After the war, he was the moving force behind the creation of France's Fifth Republic.

De Gaulle was raised in an intensely nationalistic family and was educated at the Military Academy of Saint-Cyr. He joined an infantry regiment under Colonel Henri-Philippe Pétain in 1913 and quickly made an impression with his intelligence and initiative. With the outbreak of World War I, he also proved himself a courageous officer, participating in the defense of Verdun, in which he was wounded three times. De Gaulle was captured by the Germans and served two years and eight months in a prisoner of war camp, making five valiant, though unsuccessful, attempts to escape.

After World War I, De Gaulle served as a member of a military mission to Poland, then became an instructor at Saint-Cyr. He underwent two years of special training in strategy and tactics at the École Supérieure de Guerre, the French war college, and upon his graduation in 1925 was promoted by Pétain to the staff of the Conseil Supérieur de la Guerre, the Supreme War Council. It was a most prestigious appointment.

Now a major, De Gaulle served during 1927–29 in the army occupying the Rhineland. During this period, he became alarmed by the danger he believed Germany continued to pose. After his Rhineland assignment, he served for two years in the Middle East, then, as a lieutenant colonel, served for four years as a member of the secretariat of the Conseil Supérieur de la Défense Nationale, the National Defense Council. While serving in the field as well as in staff posts, De Gaulle also turned his attention to the formulation of military theory and doctrine. In 1924, he wrote a study of the relation of the civil and military powers in Germany, "Discord Among the Enemy." He also lectured on the subject of leadership, publishing these lectures in 1932 as *The Edge of the Sword.* Two years later, he published a study of military theory, *The Army of the Future,* developing in this work the idea of a small professional army based on a high degree of mechanization for maximum flexibility and mobility. This was, in fact, German policy between the wars, but it was directly opposed to the defensive, static strategy favored in France and embodied

most dramatically in the Maginot Line. Never content to allow his ideas to be taken as merely academic, de Gaulle appealed directly to political leaders in an attempt to persuade them to his point of view. This provoked great discord with de Gaulle's commanders and senior officers, including Marshal Pétain himself, who protested de Gaulle's right to publish a historical study titled *France and Her Army.* De Gaulle prevailed, and the work was published in 1938.

When World War II began, de Gaulle was put in command of a tank brigade of the Fifth French Army. He was quickly promoted to the temporary rank of brigadier general in the 4th Armored Division—it was the highest military rank he was to hold—and proved himself a very able tank commander. He was named undersecretary of state for defense and war on June 6 by French premier Paul Reynaud, who sent him on several missions to England to explore ways in which France might continue to prosecute the war against Germany. De Gaulle remained in England after the Reynaud government fell and was replaced by the collaborationist Vichy Government of Marshal Pétain, de Gaulle's former military mentor.

On June 18, 1940, de Gaulle broadcast from London his first appeal to the French people to resist Germany. As a result of this and subsequent broadcasts, a French military court tried de Gaulle in absentia, found him guilty of treason, and sentenced him on August 2, 1940, to death, loss of military rank, and confiscation of property. De Gaulle responded by throwing himself with even greater energy and determination into organizing the Free French Forces as well as a shadow Free French government in exile. It was an extraordinary, audacious undertaking; for de Gaulle was all but unknown outside French military circles. Even the people of France did not recognize him as a political figure. All that sustained him in this enterprise was his self-confidence, his strength of character, his natural ability to lead, and his conviction that the French nation must not be allowed to perish.

Throughout the war, until the liberation of France, de Gaulle continued to broadcast. From exile, he directed the action of the Free French Forces and other resistance groups in France. He worked closely, though not always smoothly, with the British secret services in this effort. Indeed, as his relations with the British government and military became increasingly strained, de Gaulle moved his headquarters to Algiers in 1943 and became president of the French Committee of National Liberation. He served at first under General Henri Giraud but skillfully engineered Giraud's ouster and emerged as sole leader of the committee. It was de Gaulle, not Giraud, who headed the government in exile and marched into Paris on September 9, 1944, after its liberation.

De Gaulle led two successive provisional governments as the war wound down and in the immediate postwar period. However, on January 20, 1946, he suddenly resigned over a dispute with the political parties forming the coalition government. He opposed the Fourth French Republic as too likely to repeat the errors of the Third Republic and, in 1947, formed the Rally of the French People (Rassemblement du Peuple Français, RPF), which won 120 seats in the national assembly in the 1951 elections. Soon growing dissatisfied with the RPF, de Gaulle severed his connection with it in 1953, and it disbanded in 1955. De Gaulle retired for a time and, during 1955–56, wrote three volumes of memoirs.

When insurrection broke out in Algiers in 1958 and threatened to bring civil war to France itself, de Gaulle was brought back to the national limelight as prime minister designate and, on December 21, 1958, was elected president of the republic. He served for the next 10 years amid much turbulence, controversy, and opposition from the nation's left-wing political leaders. After his retirement, he continued writing his memoirs but died of a heart attack the year after he left office.

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Gazala, Battle of

The Battle of Gazala (May 26–June 17, 1942) was a prelude to the disastrous British defeat at the Battles of Tobruk. Gazala did much to enhance and render virtually legendary the reputation of the German commander Erwin Rommel, and the battle foiled British hopes of driving Rommel out of Libya before the commencement of the Allies' North African Campaigns. Rommel's victory also demonstrated, yet again, the inadequacy of static tactics versus the tactics of mobility in World War II. The Eighth British Army, at the time commanded by Lieutenant General Neil Ritchie, was deployed in an elaborately conceived defensive line, the Gazala Line, west of Tobruk. Ritchie had grouped his assets in "boxes," tactical strong points, along the line, parceling out his armor accordingly. This manner of deployment meant that armor was treated as a static asset instead of a highly mobile one, an error that made it difficult to mass the tanks as needed and that therefore contributed greatly to the British defeat.

Thanks to Ultra decrypts, Ritchie was well apprised of Rommel's intention to attack, but he had no idea of where the attack would come. With his customary genius for rapid mobility, Rommel threw his Italian troops against the Gazala Line in a frontal assault while his main panzers swung rapidly around Bir Hakeim, the southern end of the Gazala Line. This put Rommel into position to flank and roll up the British line. The problem with mobile warfare, however, is always one of supply, and Rommel moved so far so fast that his supply lines were stretched very thin. Worse, his own intelligence had failed him, having grossly underestimated British strength. British armor was also more formidable than in the past, thanks to the addition of the new American Grant tank.

Thus, on May 29, 1942, after a pitched armor duel, Rommel's flanking attack was checked. He withdrew to an area soon dubbed "the Cauldron," a move Ritiche misinterpreted as a mere disengagement. This prompted Ritchie to hold off making a counterattack. It was a fatal excess of caution, for Rommel used the lull in the battle to regroup and to reestablish his lines of supply. This quickly accomplished, he launched a new assault at Bir Hakeim and, on June 10, forced a breach in the Gazala Line there. Now, belatedly, Ritchie did counterattack, forcing Rommel back to the Cauldron, which Ritchie started to encircle. Instead of assuming a defensive posture, however, the always aggressive Rommel counterattacked in turn, creating a bulge, or salient, in the Gazala Line at the defensive "box" code-named Knightsbridge. This brought about the dissolution of the Gazala Line and forced an opening to Tobruk.

The theater commander Claude John Ayre Auchinleck ordered Ritchie to set up a new defensive line, but it was to no avail, and Rommel pushed through to Tobruk, which fell on June 21. As a result of Gazala and Tobruk, both Ritchie and Auchinleck were subsequently relieved by British high command.

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Geheimschreiber

A German word meaning "secret writer," *Geheimschreiber* was the name of a cipher machine that produced an encrypted punched tape, which could be fed through a teleprinter for transmission via radio lines. The transmitting stations had first been detected by British intelligence in 1940, and by 1942 most had been identified. Interception and decryption operations began in mid-1942 and presented an even greater challenge than decrypting messages produced by the more famous Enigma cipher and machine because the Geheimschreiber used more encryption rotors: 10 as opposed to the three to five rotors of the Enigma. Indeed, it required the invention of some of the first practical computers—an experimental machine dubbed "Heath Robinson," followed by the more celebrated "Colossus I" and "Colossus II"—to perform the work. Colossus II is considered by some historians of computer science to be the first genuine fully electronic computer. It

came on line on June 6, 1944, the very day of the Normandy landings (D-day), and was invaluable in its yield of important intelligence through the end of the war in Europe. Geheimschreiber decrypts were code named "FISH" by the Allies.

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Geiger, Roy (1885–1947) *U.S. Marine Corps general*

A native of Middleburg, Florida, Geiger graduated from John B. Stetson University in 1907 and practiced law for less than a year before enlisting in the U.S. Marine Corps (USMC) in November 1907. In less than two years, he was commissioned a 2nd lieutenant, then was promoted to 1st lieutenant in 1915 after having served at sea and in the Caribbean, the Philippines, and China. In 1917, Geiger was promoted to captain and became the fifth USMC officer to complete aviator training. After the United States entered World War I, Geiger, now a major, commanded a squadron of the 1st Marine Aviation Force in France.

After World War I, Geiger served in Haiti as commanding officer of the 1st Aviation Group, 3rd Marine Brigade, from 1919 to 1921. He was transferred to Quantico, Virginia, in 1921 and graduated from the army's Command and General Staff School in 1925. In 1929, he graduated from the Army War College. From 1929 to 1931, he commanded Aircraft Squadrons, East Coast Expeditionary Force, stationed at Quantico, then was made officer in charge of aviation at Marine Corps headquarters in Washington, D.C., serving there from 1931 to 1935.

Promoted to lieutenant colonel in 1934, Geiger commanded Marine Air Group One, 1st Marine Brigade, from 1935 to 1939, when he was sent to the Navy War College. Following graduation in 1941, he was promoted to brigadier general and given command of the 1st Marine Air Wing, Fleet Marine Force, in September. After the Battle of Pearl Harbor and U.S. entry into World War II, Geiger assumed command of the air wing on Guadalcanal as soon as the island was captured from the Japanese (September 1942–February 1943). Promoted to major general, Geiger returned to Washington as director of the marine Division of Aviation. He served in this post from May to November 1943, when he succeeded Gen. Alexander Vandegrift as commander of I Amphibious Corps (later redesignated III Amphibious Corps). He led this corps in the retaking of Guam, in the Mariana Islands Campaign, from July 21 to August 10, 1944, then commanded at the Battle of Peleliu from September 15 to November 25.

Roy S. Geiger *(United States Marine Corps)*

Geiger next took part in the Okinawa Campaign (April 1–June 18, 1945), beginning with the landing. Geiger's corps was attached to the Tenth U.S. Army, commanded by General Simon B. Buckner. After Buckner was killed in battle, Geiger assumed command of the Tenth Army until the arrival of General Joseph A. Stilwell on June 23. Geiger's brief tenure was the only occasion on which a USMC officer commanded a U.S. field army.

In July 1945, Geiger was named to command Fleet Marine Force, Pacific. His next command came after the war, in November 1946, when he was assigned to a post in Washington. Geiger fell ill a few months after his arrival in Washington, however, and died the next year. A grateful Congress posthumously awarded him the honorary rank of general in July 1947.

Further reading: Willock, Roger. *Unaccustomed to Fear: A Biography of the Late General Roy S. Geiger, U.S.M.C.* Princeton, N.J.: Privately printed, 1968.

Geisler, Hans (1891–1966) *German Luftwaffe general*

Hans Geisler's military career began in the German Navy, which he entered on April 1, 1909. During World War I, he served mainly as an air observer in the naval aviation branch, transferring to the newly formed Luftwaffe on September 1, 1933. Geisler commanded X Fliegerkorps during the Invasion of Norway in 1940, the Luftwaffe element of the entire invasion. Air support was crucial to the success of German operations in Norway, and Lieutenant General Geisler was awarded the Knight's Cross for the part he played in the Norwegian Campaign. He continued to command X Fliegerkorps until August 23, 1942, then retired from active duty on October 31, 1942, with the rank of *general der flieger* (general of the air force).

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Geneva Conventions

The Geneva Conventions of 1929 were, at the time of World War II, the latest chapter in a long history of attempts to regulate wartime behavior by codifying the rules of appropriate and humane military conduct. Historians believe that the earliest recorded attempt along these lines is found in the writings of the sixth-century B.C.E. Chinese general, strategist, and military theorist Sun Tzu. As early as 200 B.C.E., in ancient India, the Hindu *Law Code of Manu* introduced the concept of war crimes. In 1625, the Dutch jurist and theologian Hugo Grotius (1583–1645) wrote *On the Law of War and Peace,* which concerns the treatment of civilians in time of war. During World War II, references to the "Geneva Convention" usually cited the convention dealing with the treatment of prisoners of war (POW). However, the first "Geneva Convention," concluded in 1864 under the sponsorship of the International Red Cross, was an international agreement on certain standards and procedures to protect the sick and wounded in wartime. Ever since this convention, the International Red Cross has taken a role in drafting conventions and in monitoring compliance.

In 1899, at the instigation of Czar Nicholas II of Russia, an international conference was convened at the Hague, Netherlands, to institute arms limitations as a first step toward eventual international disarmament. Ultimately, the Hague Conventions (1899) failed to address arms limitations, but they did include provisions for impartial arbitration as an alternative to war. And they provided declarations against the use of asphyxiating gases and expanding ("dum-dum") bullets as inhumane weapons. A second conference in 1907 produced the Hague Conventions (1907), which more fully defined the procedures, institutions, and apparatus for peaceful international arbitration and also produced a Convention on Prisoners of War, which codified rules of treatment already generally accepted and in practice. It was not until the 1925

Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare that a comprehensive international ban on poison gas and "germ warfare" was concluded.

In 1929, at Geneva, the most detailed conventions thus far were concluded concerning the treatment of prisoners of war and of the wounded: Convention Relative to the Treatment of Prisoners of War and Convention for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field. Both of these conventions would be renewed and expanded after World War II, in 1949.

That none of the belligerents used poison gas as a combat weapon in World War II may or may not be attributed to compliance with the 1925 Geneva Protocol for the Prohibition of the Use in War of Asphyxiating, Poisonous or Other Gases, and of Bacteriological Methods of Warfare. The fact is that the use of chemical warfare, marginally effective in the trenches of World War I, would have been even less effective on a mobile battlefield. Moreover, chemical warfare is notoriously difficult to control and can be as deadly to those who use it as to those it is used against. It is most likely these reasons, and not the Geneva Protocol, that discouraged its use in World War II. The Allies did fear that the Japanese, in particular, would employ BIOLOGICAL WARFARE (BW), as they already had in the SINO-JAPANESE WAR. However, BW was of negligible significance in World War II, again most likely because it was impractical and difficult to control, a danger to attacker as well as defender.

Japan was not a signatory to the 1929 Geneva Protocol prohibiting the use of poison gas and biological warfare; nor did it subscribe to the 1929 Convention Relative to the Treatment of Prisoners of War. All of the other major combatants in World War II, including the United States, Great Britain, and Germany, were signatories to the protocol and the convention.

The essence of the Geneva Convention on prisoners of war is set out in the preamble to the document: "in the extreme event of a war, it will be the duty of every Power to mitigate as far as possible the inevitable rigors thereof and to alleviate the condition of prisoners of war." Another key provisions is given in Article 2 of the convention:

> Prisoners of war are in the power of the hostile Government, but not of the individuals or formation which captured them. They shall at all times be humanely treated and protected, particularly against acts of violence, from insults and from public curiosity. Measures of reprisal against them are forbidden.

In addition, the convention lays down minimum requirements concerning conditions of capture; evacuation of POWs from combat zones; sanitation, food, shelter, and other requirements for POW camps; POW labor rules; the right of POWs to communicate with their families and certain other persons; rules regulating discipline, punishment, and prisoners' relations with authorities; rules regulating parole and release; and the application of POW status (and, therefore, POW rights) to certain civilians ("Persons who follow the armed forces without directly belonging thereto, such as correspondents, newspaper reporters, sutlers, or contractors, who fall into the hands of the enemy, and whom the latter think fit to detain, shall be entitled to be treated as prisoners of war, provided they are in possession of an authorization from the military authorities of the armed forces which they were following"). Prisoners were obligated to furnish their captors with no information other than their name and rank; Allied prisoners also volunteered their serial identification numbers as well. Interrogation was permitted, but torture or other punishment (including withholding food, medical attention, or other rights guaranteed by the convention) was prohibited. Prisoners were given the right to report abuses to prison camp authorities without fear of reprisal. They were also given the right to report abuses to representatives of the International Red Cross, who made periodic visits to inspect the camps. The convention itself was to be publicly posted inside the camp and available for examination by all prisoners.

The 1929 Convention for the Amelioration of the Condition of the Wounded and Sick in Armies in the Field, subscribed to by all major combatants except Japan, addressed provisions for the treat-

ment of wounded and sick prisoners of war. Each party to the convention agreed to provide care to all enemy wounded under its control on a par with the treatment provided to its own soldiers. Medical formations and establishments were to be accorded noncombatant status. Medical personnel, including medical corps troops and civilian volunteers, were to be considered immune from attack and were to be allowed to function as medical personnel in the event of their capture. Although military medical buildings and vehicles were subject to capture, they were also to be clearly marked and, therefore, immune from destructive attack. The familiar red cross marking was specifically prescribed as universal. Finally, signatories to the convention also agreed to provide for burial of enemy dead and to furnish lists of wounded and dead to officials on the opposite side.

In general, the Western Allies abided by the Geneva Conventions and Protocols. The Soviets often did not and were highly abusive of German POWs in particular, many of whom were mistreated during their captivity and were not released until months, even years, after the cessation of hostilities. German treatment of POWs varied widely. Prisoners from the Western nations were generally treated much better than Soviet POWs (who were often starved and even deliberately murdered). Western Allied air personnel, who were confined in camps administered by the Luftwaffe, generally received more humane treatment than ground troops, who were held in camps administered by the army. The Geneva Conventions provided a legal basis for prosecution of war crimes by the postwar Nuremberg War Crimes Tribunal and at the Tokyo War Crimes Trials.

See also Bataan Death March; and Malmédy Massacre.

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German-Japanese-Italian Pact

Germany, Japan, and Italy concluded the Axis (Tripartite) Pact in September 1940, among other things in the hope that it would intimidate the United States by the prospect of a two-front war and thereby discourage it from continuing its move away from neutrality and toward the Allies. Instead, the pact drove the administration of President Franklin D. Roosevelt even closer to partnership with Winston Churchill's Britain. When Japan ended the last pretense of U.S. neutrality at the Battle of Pearl Harbor on December 7, 1941, prompting a U.S. declaration of war the next day, Adolf Hitler and Benito Mussolini reaffirmed the Axis alliance by declaring war on the United States on December 11 and simultaneously concluding the German-Japanese-Italian Pact, an agreement for the joint prosecution of the war. The brief document stated common war goals, namely victory over Great Britain and the United States, to be followed by the "closest cooperation [among Germany, Japan, and Italy] with a view to establishing a new and just order along the lines of the Tripartite Agreement." Most important, the three Axis partners agreed to make no separate peace with the United States and Great Britain. Italy, of course, did just that on September 8, 1943, and Germany surrendered on May 7–8, 1945. Japan did not capitulate until August 15 of that year, formalizing the surrender on September 2.

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German resistance to Nazism

From the perspective of the Allies fighting Adolf Hitler, Nazi Germany seemed a nation gripped in

monolithic totalitarianism, a population of virtual robots. In fact, allegiance to Hitler and Nazism was by no means universal among Germans, and *Widerstand,* the collective name given to the resistance movements in Nazi Germany, was active throughout the war. The extent of this resistance may be gauged in part by recognizing that between 1938 and 1945, there were no fewer than 17 attempts to assassinate Adolf Hitler, all efforts of *Widerstand.* The July 20 Plot, the final assassination attempt masterminded by army officer Claus von Stauffenberg in 1944, was the product of a network of conspirators. Following the failure of the plot, nearly 5,000 suspects were captured and executed. Many historians have dismissed this mass judicial slaughter as a symptom of Hitler's paranoia. More likely, most of those apprehended were actually involved in anti-Hitler or anti-Nazi resistance, if not direct accessories to the July 20 Plot. Certainly, their deaths brought most resistance activities to an end within Germany.

Black Orchestra (*Schwarze Kapelle*) was the name the Gestapo gave to nearly all organized opposition to Adolf Hitler. The Black Orchestra included aristocrats, diplomats, and senior army officers. The American Office of Strategic Services (OSS) communicated with some elements of the Black Orchestra, principally General Ludwig Beck (former head of the *Truppenamt,* the clandestine prewar general staff) and Carl Goerdeler (former mayor of Leipzig) via Hans Bernd Gisevius, German vice consul in Zurich, Switzerland. Gisevius was in direct contact with Allen Dulles, OSS chief in Zurich. The most important groups and plots of the so-called Black Orchestra included:

The Halder Conspiracy: On the eve of war, Wehrmacht officer Fritz Halder plotted a coup d'état to overthrow the Hitler regime. It failed to materialize.

Operation Spark: General Henning von Treskow, one of Hitler's commanders in the ill-fated invasion of the Soviet Union, plotted to assassinate Hitler and then stage a coup to overthrow the Nazi regime.

The Kreisau Circle (Kreisauer Kreis): This group of anti-Nazi Germans consisted mainly of members of the German nobility who met at the Kreisau estate of Helmuth James Graf von Moltke for the purpose of formulating an alternative to Nazism. Formed before the outbreak of the war, the idea of the Kreisau Circle was to create a Christian society centered around small communities. Members reached out to other resistance groups and also attempted to alert people outside Germany to the threat of Nazism. During the war, beginning in 1943, the group worked more aggressively to foment an outright coup d'état. In January 1944, however, Gestapo agents arrested Moltke. His circle dissolved, although some associated with it participated in the July 20 Plot.

White Rose Society (Die Weisse Rose): This group of five Munich students published and distributed six inflammatory anti-Nazi leaflets from June 1942 to February 1943. Hans Scholl and his sister Sophie were the leaders of the group, which also included Christoph Probst, Alexander Schmorell, and Willi Graf. A professor, Kurt Huber, joined late and drafted the final two leaflets. All of the White Rose men were war veterans who had fought on the French and Russian fronts. They were revolted by German atrocities on the battlefield and as part of the Holocaust. They and the other White Rose members wanted to overthrow Hitler and steer Germany away from nationalism entirely. They advocated a federated Europe based on the Christian moral principles of tolerance and justice. Their leaflet campaign was intended to stir the German intelligentsia to oppose the Nazi regime. Early in 1943, the members of the White Rose were arrested and tried for treason. All five original members were executed, and others accused of having aided the White Rose were sentenced to prison terms ranging from six months to 10 years.

Edelweiss Pirates (Edelweisspiraten): This group emerged in western Germany during the late

1930s in rebellion against the regimentation of the Hitler Youth movement. Members, between the ages of 14 and 18, were, in effect, dropouts from Nazi society who left school to avoid membership in the Hitler Youth and who evaded reich labor service and military service. The Edelweiss Pirates were in large measure a social organization whose members hiked and camped together. Members were neither spies nor saboteurs, but they were social protesters nevertheless. The Gestapo dealt with them harshly, sometimes sending members to concentration camps or prison. On October 25, 1944, by order of Heinrich Himmler, 13 members were publicly hanged in Cologne. Yet the Edelweiss Pirate movement endured to the very end of the war. They have never been officially recognized as a resistance movement.

Red Orchestra (Rote Kapelle): Red Orchestra was the name given by German counterespionage authorities, mainly the Abwehr, to a Soviet-sponsored espionage and resistance ring in Nazi-occupied Europe and in Germany proper. The name was derived from the fact that Moscow-based intelligence agents referred to the radio transmitters of operatives as "music boxes" and called the operatives themselves "musicians."

Leopold Trepper, an agent of the Soviet NKVD, organized underground operations in Germany, France, the Netherlands, and Switzerland. Red Orchestra agents infiltrated the German government, military, and even the Abwehr itself. So dangerous was the Red Orchestra that German counterespionage agents created the Red Orchestra Special Detachment (Sonderkommando Rote Kapelle) specifically to target it. Trepper's agents were mostly procommunist Germans, many of them highly placed in the government and military: Harro Schulze-Boysen was an intelligence officer for the German Ministry of Air, Arvid Harnack held a position in the Ministry of Economics, Margarete Harnack worked in the Office for Race Policy, Horst Heilmann was an army cryptologist, Gunther Weisenborn was an executive with the German national radio system, Herbert Gollnow was a military counterintelligence agent, and Johann Graudens was an aircraft manufacturer. Red Orchestra agents reported on German troop concentrations and movements, aircraft and other armaments production, and fuel shipments.

In 1942, Abwehr agents were able to get a fix on radio transmissions from Johann Wenzel, a Red Orchestra agent in Belgium. Arrested, he turned double agent, and, through him, German counterintelligence arrested Schulze-Boysen and his wife on August 30, 1942. Harnack and his wife were rounded up in September. More followed, and the entire network was soon undone, its operations halted by spring of 1943.

See also Bonhoeffer, Dietrich.

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German-Soviet Non-Aggression Pact

On the eve of World War II, the Western democracies took considerable comfort in what they were confident was the implacable opposition of Soviet communism to German Nazism. Joseph Stalin was the polar opposite of Adolf Hitler, and as long as Hitler had reason to fear the Soviets in the east, he would never venture to begin a war with the west.

This optimistic view of European politics relied too heavily on Stalin's idealism, which, it turned out, was a nonexistent commodity. While Nazism was indeed the ideological antithesis of communism, Stalin, the pragmatist, decided that a guaran-

tee of nonaggression with his rival would put the Soviet Union in a powerful position with respect to the capitalist democracies while protecting the nation against German expansion. Finally, in the short run, a nonaggression pact would give the Soviet Union necessary leeway for some expansion of its own, at the expense of Poland and Finland. Stalin therefore approached Hitler with the proposal that they conclude a Nazi-Soviet nonaggression pact, guaranteeing that neither nation would act militarily against the other. For his part, Hitler, who had his own designs on the east, most immediately Poland, and who sought to neutralize the Franco-Soviet pacts, was eager to treat with his ideological adversary.

The German-Soviet Non-Aggression Pact, also known as the Hitler-Stalin Pact, was concluded on August 23, 1939, at Moscow. It stunned the world, especially Western politicians and the Western intelligentsia, many of whom were apologists for Stalin, excusing his many "excesses"—purges and the lethal programs of agricultural collectivization—on ideological grounds.

The treaty with Germany was one of several nonaggression pacts the Soviet Union had signed with other powers, but this one went beyond merely declaring nonaggression. It was linked to a trade agreement that had been concluded a few days earlier, on August 19, by which Germany exported manufactured goods to the USSR in return for raw materials essential to its war production. Unknown to the outside world, the nonaggression pact included a secret protocol providing for the German-Soviet partition of Poland. The secret protocol also cleared the way for the Soviet occupation of the Baltic states.

The pact gave Hitler leave for the invasion of Poland, which started World War II. Stalin also claimed a piece of Poland, and, thanks to the pact, was free to fight the Russo-Finnish War to annex portions of that country. For the USSR, the pact had much graver consequences as well. It lulled Stalin into trusting Adolf Hitler, a trust that proved disastrous when, on June 22, 1941, Hitler unilaterally abrogated the nonaggression pact with the invasion of the Soviet Union.

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Germany

Beginning in 1933, the identity and fate of Germany, as well as its role in creating World War II, were bound up with the leadership of a single man, Adolf Hitler. He brought to Germany a cult of personality and injected the nation with a myth of racial superiority that (according to the myth) destined the German people to dominate Europe and, indeed, the world. Hitler rose in a Germany that was desperately ready to receive such a myth. Defeated in World War I (for which it had been in large part, although by no means solely, responsible), Germany was subjected to the relentlessly punitive Treaty of Versailles, which eviscerated its military (limiting the army to 100,000 men, eliminating the air force, and greatly restricting the navy), imposed ruinous financial reparations, ended its monarchy, stripped away its modest colonial empire, and forced it to assume complete moral responsibility for the war. The terms of the treaty exacerbated the postwar instability of Germany, suddenly without an emperor and struggling to create a democracy amid the competing forces of communism, socialism, and fascism, the latter a form of government newly emerged in postwar Italy. Politically adrift, Germany fell (like much of Europe) on economic hard times, which were destined to grow worse as the 1920s became the 1930s and worldwide depression set it.

Yet Germany was, in some respects, more fortunate than its primary adversary in the Great War so recently ended. All the combatant nations had lost a great portion of the flower of their young man-

hood, but France, with Belgium, had the added misfortune of having been the major battlefield of the western front. Nominally victorious, France emerged from World War I deeply ravaged. Germany, in contrast, though defeated, was superficially unscathed. Whereas France looked like a beaten country, Germany appeared whole. Moreover, while the German conscript army had suffered horrific casualties, the army's professional, volunteer core was very much intact, whereas France and the other great European democracy, Britain, were intensely war weary, afflicted, as it were, by a kind of demoralizing malaise. Their joint victory notwithstanding, Britain and France were resolutely determined to avoid any more wars. In contrast, at its heart, Germany remained a military power.

The poverty and the chaos throughout much of postwar Germany were undeniable, of course, and the democratic government imposed on Germany

by the Treaty of Versailles seemed woefully incapable of bringing order, economic recovery, and an alternative to the encroachment of communism. Paramilitary groups, especially the Freikorps, had already formed, consisting mainly of discontented World War I veterans. These groups performed vigilante duty as well as the forcible suppression of socialist and communist activity. They and much of the general populace were ripe not just for strong leadership, but for the leadership of a fascist strongman. Hitler offered Germany its destiny, a destiny far superior to what the Allies had dealt to the nation in the Treaty of Versailles. Hitler also offered an enemy: an amalgam of democrats, socialists, communists, and Jews who had collectively betrayed Germany in World War I, depriving it of the military victory it had earned and that it deserved. The Jews were especially demonized, not merely as a political and economic threat, but as a threat to German racial purity and identity and, therefore, to the fulfillment of German destiny.

After he had assumed the post of chancellor of Germany, Hitler did introduce a significant measure of economic prosperity to the nation as he geared up industrial production for war. At first, he did this clandestinely, in covert defiance of the Treaty of Versailles, but, as it became apparent that the Western democracies lacked the will to oppose him, he became increasingly open, even brazen. War was the object of Hitler's political and cultural plan for Germany. He spoke of the necessity—again, in fulfilment of the national destiny—of acquiring Lebensraum (living space), which, of course, meant conquest, and that, in turn, required war. As plans for the Final Solution to the Jewish question evolved into the policy of genocide known to history as the Holocaust, the Nazis' dedication to anti-semitism also required war, for killing on the scale required by the Final Solution could hardly be carried out in time of peace.

By the end of the 1930s and the invasion of Poland, which began World War II on September 1, 1939, the German government, culture, and economy were driven by the monolithic machinery and mythology of Nazism. This does not mean that the Nazis lacked opposition, but the opposition was largely suppressed by the apparatus of what had become a police state, including extensive and sophisticated systems for generating propaganda (under the brilliant direction of Propaganda Minister Josef Goebbels) and military and civilian policing authorities (especially the Gestapo, Schutzstaffel [SS], and Sicherheitsdienst [SD]). Internal solidarity was achieved in large measure through a policy of racial mythology and racial purity, so that the distinction between national and racial identity was blurred. Jews, Slavs, and other "mongrel races" were to be purged from the reich. Also to be purged were those judged antithetical to Nazi society, including homosexuals, the mentally retarded, those with serious physical disabilities, and persons with hereditary diseases. "Purging" might mean involuntary relocation from one part of the reich to another (internal exile), ostensibly voluntary foreign emigration, or something even worse. Mandatory sterilization was instituted for those judged to have hereditary defects. Later, a large-scale euthanasia program for children as well as adults was instituted. As for the Jews and other proscribed political, ethnic, social, and racial groups, mass murder was the ultimate fate. The objective of the effort to achieve racial and national homogeneity was *Gleichshaltung* (regimented conformity) and *Volksgemeinschaft* (subjugation of the individual identity to the collective identity of "the people," and of individual well-being to collective well-being), The German economy was also tightly controlled, but this was achieved mainly through a mutually profitable partnership between the government and German industrialists and financiers, the most prosperous of whom were Nazi Party members.

As it was poised for war in 1939, Germany encompassed 226,288 square miles of territory and had a population of 79.5 million. During the war, at the height of its success, the so-called Greater German Reich included 344,080 square miles and encompassed a population of about 116 million. By the time it went to war, Germany, devoting its full economic effort to war-related production, had eliminated the unemployment of

the depression and had a workforce of 24.5 million men and 14.6 million women in addition to some 300,000 foreign workers. At the outbreak of war, the armed forces mobilized more than 4.5 million men. As demands for military manpower grew, labor shortages became critical, and, during the course of the war, German labor was increasingly performed by slaves, including PRISONERS OF WAR (POW) and the forced labor of civilians from the conquered and occupied countries. By 1944, Germany had 7.1 million foreign workers, including 5.3 million civilians subject to forced labor and 1.8 million POWs. All worked under the most appalling conditions. Yet another source of forced labor were the CONCENTRATION AND EXTERMINATION CAMPS. Originally built as part of the police state apparatus to confine political dissidents and social undesirables, the camps became during the war a vast network of confinement from which few emerged alive. Able-bodied inmates, even among those marked for eventual death, were often tapped for slave labor. By 1944, the inmate labor rolls had swelled to about 300,000, many of them assigned to work in subterranean aircraft factories. Inmate labor was regulated directly by the SS, which billed factory owners a profitable fee for each laborer supplied.

The government of Nazi Germany was a paradoxical combination of the absolute personal authority of Adolf Hitler (the "Führer," absolute leader) and a bewildering maze of administrative bureaucracies at the national as well as local levels. Hitler operated without any constitutional check, and loyalty to the German nation was intended to be synonymous with personal loyalty to Hitler. Officially, Hitler was head of state, leader of the Nazi Party, and supreme commander of the military. The principal bureaucratic structure was organized under five chancelleries, which administered policy as set down or personally approved by Hitler. Additionally, the Greater German Reich (at its height in 1941) was divided into 42 *Gaue,* or party districts, each headed by a gauleiter (regional party leader), and 39 state entities (consisting of *Reichsgaue, Länder,* and Prussian provinces), plus 18 military districts. The five chancelleries notwithstanding, regional leaders generally had direct access to Hitler if they required it on occasion.

Nazi Germany was, on its surface, a highly legalistic society. At the beginning of the war, there were 2,199 law courts, which were administered by 198 higher courts. There were also supreme civil courts, military courts, special courts, and the people's court, the last two with jurisdiction over political crimes. The courts did not dispense justice but, rather, aided the police and other authorities in serving state security as that was defined ultimately by HEINRICH HIMMLER, head of the SS and given by Hitler virtually unlimited police powers. The courts had no authority over the police. Among the most serious yet generalized offenses was *Wehrkraftzersetzung,* subversion of the war effort, a crime that could consist of just about anything police officials or the courts determined. Laws abounded in Nazi Germany, but the rule of law was nonexistent. All authority, all privileges (for there were no rights), all sanctions, and all policies flowed ultimately from the person and fiat of Adolf Hitler, who could justifiably have said, with France's Louis XIV, "I am the state."

See also GERMAN RESISTANCE TO NAZISM.

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Germany, air force of

The Luftwaffe, a branch of the German Wehrmacht, had been created by the Nazi regime prior to World War II in defiance of the Treaty of Versailles, which barred Germany from having an air force. Moreover, the air arm was headed by Hermann Göring, a World War I flying ace and a career military aviator, but also a member of Adolf Hitler's innermost circle. As a Nazi creation presided over by a high-ranking Nazi, the German air force enjoyed a kind of privileged status among the branches of the German military. This was a dramatic contrast with the Allied powers, in which the air force was typically regarded as a kind of military stepchild, second to the army and navy. Indeed, Hitler, who, throughout the war, placed great faith in "wonder weapons," saw the air force as just such a weapon, the sovereign means of achieving his territorial ambitions and one that was even more important than the army and far more important than the navy. Hitler intended to use the air force as an offensive weapon, which would reach out to intimidate his neighbors. For this reason, he allocated extensive resources to the Luftwaffe in an effort to build it up from post–World War I nonexistence to a force that would overmatch the air arms of France and Great Britain.

Hitler emphasized the production of large numbers of advanced aircraft, and he achieved just that. However, the production was devoted almost exclusively to single-engine fighters and twin-engine light or medium bombers. These were short-range aircraft designed for short wars, and they were incapable of the long-range strategic bombing that might have been of great use, possibly even decisive, in the campaigns against Great Britain and the Soviet Union. The almost complete absence of long-range strategic bombers in the Luftwaffe was another key contrast with the air forces of Great Britain and the United States, which put great emphasis on four-engine heavy bombers.

The absence of heavy bombers was not the Luftwaffe's only serious deficiency. Göring presided over an unnecessarily complex and redundant command structure, which was not rationalized until the creation of the Luftwaffe High Command late in the war, in the middle of 1944. By this time, the Luftwaffe had been hobbled by procurement problems, which a unified command would have done much to solve. Such a command would also have been able to shift the make-up of the Luftwaffe from the offensive force that had entered the war to the defensive force required in the war's endgame. Göring exercised personal and sometimes capricious control of the Luftwaffe, and because he was an intimate of Hitler, the führer did little or nothing to keep him in check. Göring proved to be a singularly poor personnel manager who interposed between himself and the airmen in the field a layer of staff officers combining inexperience with a desire to please their chief, often at the expense of the hard realities. The result was that Göring continually received the overly optimistic reports of yes men. As the Luftwaffe increasingly yielded air superiority and then air supremacy to the Allies, Göring seemed simply to give up on his leadership responsibilities, and, by late 1944, the air arm fell under the personal direction of Hitler, who was quite incapable of managing it.

In terms of operations, the Luftwaffe was organized into *Luftflotten,* or air fleets (the equivalent of U.S "air forces"), which, in turn, were divided into *Fliegerkorps* (flying corps), and, below this, *Fliegerdivisions.* Within each *Fliegerdivision* were *Geschwader,* or groups, including *Kampfgeschwader* (bomber groups), *Jagdgeschwader* (fighter groups), *Nachtjagdgeschwader* (night fighter groups), *Stukageschwader* (dive bomber groups), *Zerstoerergeschwader* ("destroyer" groups, mainly consisting of twin-engine Me-110 night fighters), and *Lehrgeschwader* (training formations). Each *Geschwader* consisted of three or four *Gruppen* (groups), divided into three or four *Staffeln* (squadrons), normally consisting of a dozen aircraft each. At the outbreak of the war, in September 1939, the Luftwaffe operated 302 *Staffeln* with 2,563 aircraft.

In addition to operating aircraft offensively, the Luftwaffe was also responsible for antiaircraft defense. This included dispatching fighters to meet incoming enemy bombers and manning ground-based antiaircraft artillery. The Luftwaffe also

maintained Germany's early warning network, including observers, RADAR installations, and radar operators. Under Luftwaffe command were some 100,000 women who served in air warning units and communication units and who operated home-based antiaircraft artillery. The Luftwaffe also had full responsibility for AIRBORNE ASSAULT through its *Fallschirmjäger,* or parachute division. Finally, in an effort to retain surplus Luftwaffe personnel, Göring created no fewer than 21 conventional ground-troop divisions. Despite his best efforts, however, Göring was compelled to relinquish control of these to the army in November 1943. Most of these troops were inferior to the regular army forces, but the famed Hermann Göring Panzer Division, an all-volunteer unit, was a notable elite exception.

To the great consternation and discouragement of the Allies, war production seemed little harmed by the costly STRATEGIC BOMBING OF GERMANY. Indeed, aircraft were turned out at a remarkable rate, even well into 1944, by which time many factories had been moved into hardened underground facilities manned by slave labor drawn from CONCENTRATION AND EXTERMINATION CAMPS. Increasingly scarce, however, were pilots, especially seasoned pilots, and even less readily available was fuel. That shortage compounded the trained pilot shortage, since the Luftwaffe could not afford to expend much fuel on "mere" training missions. Many Luftwaffe officers were eager to develop JET AIRCRAFT, which were operational late in the war. Jets so thoroughly outperformed the long-range Allied fighters (such as the P-51 Mustangs), which escorted B-17 and B-24 bombers on their incessant raids into the homeland, that it was believed they might be sufficient to turn the tide of the air war. However, the jets were introduced too late and in too small numbers to make a significant impact, and the Luftwaffe continued to disintegrate until the end of the war.

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Germany, army of

Germany's principal ground forces consisted of the army (which reached a peak strength of 6.55 million men in 1943), the WAFFEN-SS (which peaked in 1945 at 830,000 men), and several thousand men in the field (ground troop) divisions of the Luftwaffe. The term *WEHRMACHT* is often mistakenly used as a synonym for the German Army. *Wehrmacht,* which means "defense power," was actually the collective term for *all* the German armed forces, and, as an institution, the Wehrmacht took the place of a war ministry or war department. ADOLF HITLER exercised direct control over the Wehrmacht and, therefore, over all of the armed forces. By the time of World War II, soldiers, sailors, and airmen of all ranks swore an oath of personal loyalty to Hitler, not to Germany. (Officers had been required to swear the personal loyalty oath since 1934.)

At the outbreak of World War II in 1939, the army, called in German *das Heer,* had grown rapidly into a force of 3.74 million men, mostly conscripts, who were organized around a core of highly professional officers and veteran noncommissioned officers. The TREATY OF VERSAILLES that ended World War I permitted Germany a 100,000-man army. The German military used this severe limitation to its advantage, building a *Führerheer,* or leader army, of highly trained officers and enlisted

men as a cadre around which a much larger conscript army could, in very short order, be raised. Thus, at the outbreak of World War II and through most of the war, the German army was highly skilled, very disciplined, and quite well equipped. It was a most formidable force, with many extraordinary, even legendary, commanders. The traditions of the peerless Prussian Army endowed the modern German Army with an excellent staff-officer echelon, which greatly facilitated the execution of high command orders. Officers in the field were uniformly of a high level, and, contrary to the notion that the German Army was inflexible, field officers were given great latitude in operational decisions. Moreover, officers at every level were groomed for leadership and were taught never to regard themselves as mere functionaries. This autonomy and commitment to leadership was brought to bear in the execution of *Auftragstaktik,* or mission-oriented tactics, which produced a high degree of efficiency.

Army high command, the Oberkommando des Heeres (OKH), was, at the outbreak of war, headed by Field Marshal Walther von Brauchitsch, whom Hitler dismissed in December 1941 as the invasion of the Soviet Union faltered. From this point on, Hitler, who already had direct charge of the Wehrmacht, assumed personal command of the OKH as well. It was an act of supreme hubris, which, to the good fortune of the Allies, proved highly destructive to the army as well as to the overall war strategy. Indeed, as the war progressed, relations between Hitler and his top generals deteriorated. The OKH became a shell. Hitler's word was final, and by the middle of the war, he rarely listened to his generals, but simply gave commands.

The main fighting force of the army was Field Army, which, at its peak strength, was divided into 11 army group commands controlling 26 armies. These, in turn, were built of divisions. At its peak, Germany fielded 31 panzer ("armored") divisions, 13 motorized divisions (later called panzer grenadier divisions), 2 cavalry divisions, 176 infantry divisions, 11 Jäger (light infantry) divisions, 10 mountain divisions, 50 Volksgrenadier divisions (low-grade infantry divisions made up mostly of the remnants of shattered regular divisions), one air-landing division, four coastal defense divisions, and six security divisions (which provided security for military installations). The Field Army had no separate artillery divisions because artillery was integral to all divisions except for the security divisions, which needed no artillery component.

The German Army entered the war with equipment that was as good as, and often markedly superior to, that of the Allies. However, shortages became increasingly acute as the war progressed, and the army came to rely heavily on captured materiel and equipment, which was often of poor quality and mismatched with German ammunition and other equipment. Mobile warfare (the Blitzkrieg) was an essential feature of German war-fighting doctrine, but, even from the beginning, the army faced a chronic shortage of transport vehicles and relied extensively on horses to draw artillery and supply wagons. This increasingly impaired mobility.

For all its attention to efficient command structures internally, the army was hobbled by strained and awkward relations with the Luftwaffe and the Waffen-SS. At their best, the army and the Luftwaffe cooperated closely in executing Blitzkrieg tactics, but when it came to defense, there was often conflict, since the Luftwaffe was responsible for antiaircraft artillery and even fielded its own (generally mediocre) ground troops. With the Waffen-SS, relations were even more difficult. In the early phases of the war, Waffen-SS units were poorly disciplined yet better equipped than the army. This generated resentments and jealousies. As the war progressed, the Waffen-SS gradually earned a reputation as elite troops, and cooperation with the army was often much better. However, the SS *Einsatzgruppen* (police battalions) always remained problematical. These were the SS troops assigned to carry out missions of terror against civilian populations, especially on the eastern front, and including the execution of the infamous Commissar Order and some of the atrocities associated with the Final Solution and the Holocaust. Many in the regular army were

appalled by these activities, though few made complaints about them. Of greater concern was the army's lack of authority and control over the SS *Einsatzgruppen.*

Despite grave problems—the inept military leadership of Hitler, shortages of supply, friction with other services—the German Army was a fiercely effective force, and this was true even very late in the war, as the Battle of the Ardennes (Battle of the Bulge) and the Battle of Berlin attest. Casualties were staggering. Between September 1, 1939, and January 1945, 1,622,561 German Army personnel had been killed in action (another 160,237 died of other causes), 4,145,863 had been wounded, and 1,646,316 were missing.

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Germany, navy of

The German Navy, or Kriegsmarine, was a highly modern force in World War II, having been built up pursuant to the provisions of the Anglo-German Naval Treaty of 1935, which generally abrogated the naval restrictions that had been imposed by the Treaty of Versailles. The 1935 treaty allowed Germany a surface fleet 35 percent the size of the British surface fleet and 45 percent that of the British submarine fleet. Moreover, the treaty gave Germany the option of reducing surface tonnage to the point at which one-to-one parity was permitted between the British and German submarine forces. Adolf Hitler's assumption at the time of the treaty was that he would go to war with the Soviet Union and France, not Great Britain. Therefore, he embarked on a program of surface ship construction. By 1938, however, war with Great Britain seemed increasingly likely, and Hitler was well aware that the British surface fleet greatly outnumbered that of Germany. Grand Admiral Erich Raeder advocated the building of more surface ships, and while he had to admit that the German surface navy would never equal that of the British, he also believed that the bulk of the British fleet would have to be deployed in foreign waters, leaving only the Home Fleet for the Kriegsmarine to contend with, a plausible mission. Sharply differing from Raeder was Admiral Karl Dönitz, commander in chief of the Kriegsmarine's U-boat force. His advice was to develop the U-boat fleet as a weapon to be used against British shipping, thereby starving the island nation into submission. This, in fact, was destined to become the principal German naval strategy, but at the beginning of 1939, Raeder's point of view prevailed, largely because he had successfully argued that antisubmarine warfare had become so sophisticated that U-boats would not prove nearly as effective as they had in World War I.

Raeder's Plan Z, approved by Hitler in January 1939, called for the construction of a very large surface fleet, to be completed by 1944. At the outbreak of war, however, on September 1, 1939, the Kriegsmarine was far outnumbered by the British and the French fleets. It consisted of two battleships, three pocket battleships, one heavy cruiser, six light cruisers, 21 destroyers, 12 torpedo boats, and 57 U-boats. In contrast to the navies of the other World War II powers, the Kriegsmarine did not have its own air arm, in deference to Hermann Göring's edict that all aircraft were to be controlled by the Luftwaffe. While it is true that a single aircraft carrier, the *Zeppelin,* was laid down, it was never completed, and it is likely that any aircraft launched from it would have been operated by the Luftwaffe.

One indisputable advantage the Kriegsmarine enjoyed was a cadre of excellent commanders, from the top down, and the luxury of relative freedom from the meddling of Hitler, who saw himself as a

land-based warrior and tended to leave naval matters to the experts. Naval high command was the Oberkommando der Marine (OKM) headquartered in Berlin. Reporting to the OKM were Naval Group Command East, Naval Group Command West, Naval Station North Sea, and Naval Station Baltic. Two additional naval stations controlled coastal defense and training. The fleet was distributed as required among these commands. It was divided into the High Seas Fleet, the Security Forces, and the U-boat Fleet. The High Seas Fleet encompassed all major surface ships. The Security Forces controlled coastal defense, convoy escorts, antisubmarine forces, and minesweeping forces. The U-boat Fleet experienced explosive growth during the war and became the dominant arm of the Kriegsmarine.

On December 31, 1942, a British Arctic Convoy operations convoy reached the Soviet Union. Enraged that the Kriegsmarine had allowed this to happen, Hitler forced the resignation of Grand Admiral Raeder, who was immediately replaced as navy commander in chief by Admiral Dönitz. Once in charge, Dönitz began implementing his U-boat strategy, and by early 1944, the U-boat fleet reached peak strength at 445 vessels. (More than 1,100 U-boats were commissioned during the war, but, as effective as they were in sinking Allied tonnage, they experienced a terrible rate of attrition.) After the successful conclusion of the Battle of France, Dönitz moved U-boat headquarters to Paris and then to Lorient, on the French Atlantic coast, so that he could closely supervise U-boat bases. By the middle of the war, the German Navy was effectively a submarine force, its capital surface ships confined to home ports for fear of being lost to overwhelming Allied sea power.

For many months of the war, Dönitz's vision for the U-boat was amply vindicated, as the submarines took a terrible toll on Allied shipping. However, Dönitz had not—and could not have—envisioned the will and productivity of the United States, which rapidly turned out vast numbers of Liberty Ships faster than the U-boats could sink them. Even worse, improvements in the convoy system and the development of sonar and other increasingly sophisticated tools of antisubmarine warfare inexorably turned the tide against the U-boats. Their losses, always high, became overwhelming.

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Gestapo

An acronym for Geheime Staatspolizei ("Secret State Police"), *Gestapo* was the name of the political police of Nazi Germany. This agency operated within the country to root out and eliminate opposition to the government and the Nazi Party, and, outside the country, in the occupied territories, Gestapo agents were responsible for suppressing resistance and underground movements and for directing and to a large extent executing the mass arrest of Jews pursuant to the Final Solution.

The Gestapo had its origin on April 26, 1933, when Hermann Göring, at the time minister of the interior for Prussia, assumed personal control of the political and espionage units of the regular Prussian police, built them up with a large cadre of Nazis, then consolidated and reorganized the units as the Gestapo. At about the same time, Heinrich Himmler, chief of the Schutzstaffel (SS), and his principal lieutenant, Reinhard Heydrich, did the same with the Bavarian police and then with the police forces of the other German *Länder* ("states"). In April 1934, Adolf Hitler gave Himmler command over Göring's Gestapo, and, two years later, on June 17, 1936, Himmler was appointed *Reichsführer* in charge of the state police. Thus, Himmler came to control both the SS and

the Gestapo. He assigned command of the Gestapo to Gruppenführer Heinrich Müller and joined the Gestapo to the Kriminalpolizei ("Criminal Police") within a newly created organization, the Sicherheitspolizei (Sipo, or "Security Police"). In 1939, the SS was extensively reorganized, and Sipo was combined with the Sicherheitsdienst (SD) ("Security Service"), the SS intelligence department, to create the Reichssicherheitshauptamt ("Reich Security Central Office") commanded by Heydrich. The consolidation of these various forces did not submerge the Gestapo, which retained a high profile throughout the war years, but it did create confusion, competition, and duplication of effort among the agencies. Doubtless, this was less a bureaucratic misstep than a deliberate attempt to add a layer of security by causing one agency continually to look over the shoulder of another.

The Gestapo had virtually limitless power, including the authority of preventative arrest. Its actions were outside the conventional judicial system and could not be appealed through the courts or, indeed, to any authority. Gestapo agents swept up political dissidents, social undesirables, uncooperative clergy, "dangerous" intellectuals, homosexuals, and, of course, Jews. These individuals were customarily "deported" to concentration and extermination camps. Working in conjunction with the SS, the Gestapo was also responsible for the suppression of resistance and partisan activities in the occupied territories. Gestapo agents were charged with executing reprisal actions against civilians in the occupied territories as a means of suppressing the resistance. Gestapo agents were also attached to the SS Einsatzgruppen that followed closely behind the regular German Army in Poland and Russia, their mission to round up and summarily murder Jews as well as others deemed undesirable. Adolf Eichmann was a Gestapo officer, who headed Bureau IV B4, which was responsible for the mass deportation of Jews from occupied countries to the death camps of Poland.

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Gibraltar

A rocky projection from the coast of southern Spain, Gibraltar became a British colony in 1704 and, from the end of the Battle of France to 1943, was the only toehold left to the Allies on the European continent. Some 25 miles of tunnels and subterranean chambers were excavated into the rock, which furnished warehouse space, munitions storage, living quarters, and military headquarters for the Allies. It was from such a bunkerlike headquarters on Gibraltar that General Dwight David Eisenhower directed Operation Torch, the Allied landings at the commencement of the North African Campaigns. Some 600 aircraft operated from an airstrip at Gibraltar to provide close air support for Operation Torch.

Gibraltar functioned as the base for the Royal Navy's small fleet designated Force H and for the British Naval Contraband Control Service, which boarded and searched neutral shipping. Gibraltar was also vital to the convoy system as the point at which many convoys assembled and started their journeys. During the Siege of Malta, that island was sustained by supplies convoyed from Gibraltar. Gibraltar also functioned as a way station for Allied airmen who had been shot down and were either evading capture or had escaped from captivity.

Gibraltar was variously targeted by the Italians and the Vichy French. However, Spain's dictator, Francisco Franco, blocked a German attempt to capture the base because he saw such an operation as a threat to Spanish neutrality. Not wishing to alienate a friendly fascist "neutral," Adolf Hitler reluctantly withdrew plans for attack.

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Gideon Force

Formed by then Lieutenant Colonel Orde Wingate in January 1941, the Gideon Force operated under the direction of the British Special Operations Executive (SOE) to help restore emperor Haile Selassie to the throne of Ethiopia, which was occupied by Italy. Comprised of 50 British officers and 20 British noncommissioned officers in charge of 800 members of the Sudan Frontier Battalion and 800 Ethiopian (Abyssinian) troops, the Gideon Force fought a daring guerrilla campaign and succeeded not only in establishing Haile Selassie in a base at Gojjam, Ethiopia, but also in escorting him to the very capital of the country, Addis Ababa, and returning him to power. This small guerrilla force was instrumental in forcing the Italians to lose their grip on Ethiopia.

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gliders

In World War II, gliders, light, nonpowered aircraft, were used to transport airborne assault troops as well as limited supplies and equipment, including vehicles, tanks, and artillery. To reduce weight, gliders were constructed with wood or with fabric covering a wooden or tubular steel framework. They were designed to be towed by transport aircraft or, in some cases, by modified bombers, then released near their target area. Gliders could be towed singly or in pairs. They generally did not require improved runways for landing, but merely a flat, level landing area, and typically one much shorter than that required for powered aircraft. This flexibility, along with motorless silence, simplicity of construction, and low cost of production were great advantages of gliders for inserting troops and supplies behind enemy lines. Their disadvantages were, however, daunting. Unpowered flight time was limited, and gliders were far more subject to weather and wind hazards than were conventional aircraft. Gliders were fragile, and landings were often rough. Although nominally reusable, most glider flights in combat were one way because, typically, the craft was damaged on landing, especially on unimproved fields. Gliders were slow and incapable of evasive action; they were therefore vulnerable to ground fire, even from small arms.

The Soviet Union employed gliders in military operations during the 1930s, but only as a means of air-dropping supplies. Germany was the only Axis power to use them during World War II for airborne assault and troop insertion, and the aircraft was used with especially spectacular success in the assault on Fortress Eben Emael during the invasion of Belgium on May 10, 1940. Axis gliders were also used in the Balkans during the invasion of Greece and in the Action on Crete. The daring guerrilla tactician Otto Skorzeny made gilders a part of his remarkable rescue of Benito Mussolini after the dictator's downfall.

The most important German glider was the DFS 230, the first "assault glider" used by any air force in the war. It was capable of transporting 10 troops with a total of about 606 pounds of equipment and could be towed by light aircraft at 130 mph. Weighing just 1,896 pounds empty, it had a wingspan of 68 feet, 5.7 inches and a length of 36 feet, 10.5 inches. Instead of wheeled landing gear, the DFS 230 featured a skid mounted on spring shock absorbers, which enabled it to land without even a rudimentary runway.

The small size of the DFS 230 was both an advantage and a liability. It could insert small numbers of troops almost anywhere and with great stealth, but its carrying capacity was very limited. The Germans, therefore, designed the Messerschmidt Me-323 Giant, a 24-ton unpowered aircraft that could carry 200 troops fully equipped. It required three aircraft for towing, although the Germans also experimented with a specially designed towing aircraft, the Heinkel He 111Z, which consisted of two He 111H medium bombers

welded together at the wing, so that they combined the power of four engines. A pilot and flight crew were required in each fuselage. Two hundred of the Me-323 Giants were built but were never satisfactorily deployed.

On the Allied side, both the British and the Americans employed gliders for assault. They were used in Operation Husky and the subsequent Sicily Campaign as well as in the Normandy landings (D-day). Some 2,500 gliders were employed in the ill-fated Operation Market Garden (Battle of Arnhem). In the Pacific theater, the Chindits used them to land behind Japanese lines in the Burma Campaign.

The most important British glider was the Airspeed Horsa, a large aircraft capable of transporting 25 troops or about 7,500 pounds of cargo. Constructed of wood, the aircraft was designed to be built, at least in part, by the British furniture industry, and a total of 3,633 were turned out. Weighting 7,500 pounds empty and with a wingspan of 88 feet and length of 67 feet, the big Horsa had a maximum towed speed of barely 100 miles per hour. The wheeled landing gear could be jettisoned in flight if rough landing conditions required a belly skid. The Horsas were extensively used in the Normandy landings and other operations.

The only U.S. glider deployed in combat during World War II was the Waco CG-4A Hadrian, which was produced in a spectacular quantity of 12,393. With a wingspan of 83 feet 8 inches and a fuselage length of 48 feet 3.75 inches, the Hadrian could carry 15 soldiers or such equipment as a Jeep or a 75-mm field piece plus crew. The Hadrian, which weighed just 3,790 pounds empty and could carry more than 5,000 pounds, was typically towed by C-47 Skytrain transports. It was used extensively in the Normandy landings and in later European operations and was being prepared for use in the invasion of Japan, an operation made unnecessary by that country's surrender in August 1945.

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Goebbels, Joseph (1897–1945) *Nazi minister of propaganda*

Joseph Goebbels was the mastermind who crafted the ongoing propaganda campaign that was indispensable in selling Adolf Hitler, the Nazi Party (NSDAP), the Nazi regime, and Nazi war aims to the German people. He was born in the Rhenish town of Rheydt, the son of a factory clerk. Highly intelligent, Goebbels earned a doctorate in philology from Heidelberg University in 1922, having been exempted from World War I service because of a clubfoot. Goebbels had literary and journalistic aspirations, but, much as Hitler had been frustrated in his youthful aspiration to become an artist, Goebbels found no market for his works. After he befriended a group of early Nazis in 1924, Goebbels drifted into National Socialist politics,

Joseph Goebbels, Adolf Hitler's minister of propaganda *(Library of Congress)*

and when it was discovered that he was a talented public speaker, he was named gauleiter (district leader) of the Nazi Party in Elberfeld, where he was given the job of editing the biweekly *National Socialist* magazine.

The Nazi Party was, understandably, poorly supplied with intellectuals and writers of ability. Although the dark-featured, clubfooted Goebbels hardly fit the "Aryan" Nazi mold, he rose quickly within the party, and Hitler appointed him gauleiter of Berlin in 1926. This was an important assignment, since the party, having established itself in Bavaria, had no real presence in the capital. Goebbels rapidly built up the Nazi organization in Berlin while expanding his journalistic career on behalf of the party by editing a new magazine, *Der Angriff* ("the Assault"). In 1928, Hitler recognized his prodigious abilities as a communicator by appointing Goebbels propaganda director for the party. Goebbels set to work not merely to promote the Nazi political agenda, but to create around Hitler a powerful cult of personality, which imbued Hitler with the "Führer myth," transforming his image into that of a combination savior, messiah, and infallible leader. Goebbels's propaganda program went far beyond the printed page. He developed speeches and radio broadcasts, and he orchestrated and choreographed vast ritualistic party convocations, demonstrations, rallies, and celebrations. It was Goebbels who introduced the universal Nazi salute and salutation, *"Heil Hitler!"* No person other than Hitler himself was more responsible for the creation of the führer's public persona.

When Hitler rose to the office of chancellor in 1933, he created a Ministry for Public Enlightenment and Propaganda at the cabinet level, with Goebbels as its minister. Goebbels was also named president of the Reich Chamber of Culture, which gave him control not only of the print press and radio, but also the stage, cinema, literature, music, and the other fine arts. Goebbels also enlarged his brief to encompass education, especially at the high school level, which became an important institution for dissemination of propaganda. Goebbels was more than sufficiently intelligent to exercise his extraordinary authority sparingly, and, in fact, he regulated the various media and arts with a surprisingly liberal hand. He understood that he was, in effect, a salesman and that his wares consisted of Adolf Hitler and National Socialism, and he understood that nothing dulls the appeal of merchandise like enforced repetition. He therefore integrated propaganda into the stream of general culture and took care to avoid smothering the media and the arts. Moreover, he worked with creative writers, artists, and especially filmmakers to produce propaganda that was entertaining and even aesthetically appealing. He did not want to coerce, but to seduce.

Many within the party hierarchy were jealous of Goebbels's power, and by the late 1930s, his critics had made inroads into his domain that lessened his influence. Goebbels also allowed his personal life to compromise his political existence when a romantic affair with a Czech movie star became widely known and created a scandal in outwardly prudish Nazi society. He managed to salvage his career but was not highly influential in the lead up to World War II, a conflict he did not believe wise. Once the war began, however, he carved out a fresh niche for himself by developing propaganda directed toward Germany's enemies for the purpose of undermining their morale. He developed broadcasts to be beamed to Polish and French soldiers, and he planted rumors concerning FIFTH COLUMN (subversive) activities in the Allied nations. He also created for such generals as ERWIN ROMMEL myths of invincibility, much as he had done for Hitler during the dictator's rise. Among Goebbels's best-known creations were Axis Sally and Lord Haw Haw. Axis Sally was an American named Mildred Gillars who lived in Germany and whom Goebbels hired to broadcast propaganda to American troops. (After the war, Gillars was convicted of treason and sentenced to 12 years of imprisonment; she was paroled in 1951.) Lord Haw Haw was an American-born Englishman named William Joyce who joined the British Fascist Party in 1923 and, in 1933, the British Union of Fascists. In 1937, he founded the pro-Nazi British National Socialist League, then fled Britain in 1939 and went

to work in Germany for an English-language radio station. As Lord Haw Haw (a name he appropriated from an earlier German propaganda broadcaster, usually identified as Norman Baillie-Stewart), Joyce broadcast propaganda intended to erode the morale of British as well as American troops. (Although Joyce was naturalized as a German citizen in 1940, a postwar court ruled that his allegiance was still to the Crown because he held a British passport. Found guilty of high treason, he was hanged in 1946.)

Goebbels's efforts at subverting Allied morale had little effect, and he did not again come into his own as a master propagandist until the tides of the war turned against Germany. As bad news came out of North Africa and the Soviet Union, Goebbels launched his most elaborate and far-reaching campaigns. He was not merely a censor or a liar, but, rather, a shaper of popular interpretation. He continually presented himself before the German public to present a vision of inevitable, destined victory in spite of defeats and setbacks. If his earlier merchandise had been Hitler and the Nazi Party, his new product was hope, which he built up by references to historical example on the one hand and the imminence of future salvation on the other: Goebbels repeatedly invoked the emergence of a new "wonder weapon," which would surely reverse the fortunes of war yet again. In contrast to other highly placed Nazis, who retreated from the public as defeat was piled upon defeat, Goebbels continually thrust himself into the forefront.

As the perimeter of Nazi conquest shrank in the final months of the war, Goebbels turned his attention to rallying the homefront for a final stand, advocating what he called total war. When the attempted assassination of Hitler failed on July 20, 1944, Goebbels took charge of the situation in Berlin and suppressed the incipient coup d'état there. This earned from Hitler a grandiose appointment as Reich Plenipotentiary for Total War, making Goebbels the third most powerful figure in the Third Reich, behind Hitler and Heinrich Himmler. Yet, by this time, it was an empty appointment. Goebbels remained by Hitler's side to the bitterest of bitter ends. He served as witness to the marriage of Hitler and Eva Braun in the Führerbunker on April 29, 1945. On the next day, before taking his life and that of his bride, Hitler named Goebbels chancellor of the reich. It was an office in which Goebbels served barely a day. On May 1, 1945, in the bunker beneath the streets of besieged Berlin, Goebbels and his wife administered poison to each of their six children then took their own lives.

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Gomułka, Władysław (1905–1982) *leader of Communist underground in Poland*

Władysław Gomułka was born near Krosno, Poland, to a Socialist oil field worker and his wife. Gomułka joined the Socialist youth movement, then, in 1926, became a member of the clandestine Communist Party of Poland. He worked as a professional union organizer and, during the 1930s, organized strikes throughout Poland. Arrested in 1932, he was sentenced to four years of imprisonment but was released in 1934 because of his poor health. He left Poland for Moscow, where, during 1934–35, he studied at the International Lenin School. Returning to Poland, he resumed revolutionary agitation in Silesia. Arrested again in 1936, he was sentenced to seven years of imprisonment, a fortuitous incarceration that allowed him to escape execution when Joseph Stalin dissolved the Communist Party of Poland in 1938. Gomułka was released, however, during the invasion of Poland in September 1939 and participated in the defense of Warsaw. He then moved to the Soviet-occupied portion of the country and found work in a paper mill in Lvov.

With the invasion of the Soviet Union and outbreak of war between Germany and the USSR in 1941, Gomułka resumed his Communist political activities, organizing the Communist under-

ground in and around Krosno. He moved to Warsaw in July 1942 and became district secretary and a member of the Central Committee of the Polish Workers' Party. Working within this organization, he planned and executed attacks against the Nazi occupiers. When the party's secretary general was arrested in November 1943, Gomułka took over, wrote the party's ideological manifesto, and established the National Home Council, which became the basis for Communist domination of the provisional government after the liberation of Poland. In January 1945, Gomułka was appointed deputy premier of the provisional government, and in June, after the surrender of Germany, he was given responsibility for the administration of all Polish lands now recovered from Germany.

During the postwar years, Gomułka ruthlessly rose to dominate Polish politics, clashed bitterly with Stalin, was stripped of all power, and was imprisoned. In 1954, a year after Stalin's death, he was released, and began his rise anew. He served as first secretary of the Central Committee of the Polish Communist Party from 1956 until 1970, when he was forced into semiretirement.

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Gona, Battle of

Gona is located on the northern coast of Papua New Guinea, and, during the New Guinea Campaign, it was a Japanese stronghold. On November 16, 1942, a combined Australian and American force attacked Gona through a miserable tropical swamp in an effort to reduce this position. Gona was very well defended, the Japanese having established an 11-mile-long perimeter along the beachhead. Two regiments of the 32nd U.S. Division attacked the nearby village of Buna and Cape Endaiadere, while two brigades of the 7th Australian Division hit Gona village, then, in concert with another regiment from the 32nd U.S. Division, attacked Sanananda Point.

The defense of Gona was far fiercer and the defenders far more numerous than had been anticipated. The battle was protracted over two months and exacted a significant cost. The Japanese made their last stand at Sanananda Point on January 21, 1943. When the Allies took that, the Battle of Gona was at last ended.

See also Buna, Battle of.

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Göring, Hermann (1893–1946) *Nazi Reichsmarschall (imperial marshal) and head of the Luftwaffe*

Hermann Göring was born at Rosenheim, Bavaria, the son of a former cavalry officer who had also served as German consul-general in Haiti. Göring enrolled at the Karlsruhe Military Academy in 1905 then attended the main cadet school at Lichterfelde beginning in 1909. After graduating in 1912, he was commissioned a lieutenant in the 112th Infantry but soon transferred to the air service. When World War I began in 1914, Göring served with distinction as an officer-observer then trained and qualified as an officer-pilot in October 1915. Shot down before the end of the year, he was badly wounded and did not return to duty until 1916, when he resumed flying and compiled a superb record. He was promoted to squadron commander in May 1917, and, after the death of Germany's most celebrated air ace, Baron Manfred von Richthofen, he succeeded to command of Richthofen's squadron in July 1918 and led it with distinction, emerging himself as an air ace.

Hermann Göring, Luftwaffe chief *(San Diego State University)*

Göring was demobilized after the November 11, 1918, armistice with the rank of captain and found immediate employment as a test pilot for the Dutch Fokker aircraft manufacturing firm and the Swedish Svenska Luftraflik. He left these positions in 1920 and, the following year, enrolled at Munich University. While in this city, Göring met Adolf Hitler and joined the fledgling Nazi Party (NSDAP). He was appointed to command the party's paramilitary Sturmabteilung (SA) and was a participant in the abortive Munich (Beer Hall) Putsch of November 9, 1923. Göring was seriously wounded in the melée that resulted from the collapse of the Putsch. Although arrested, he escaped and found refuge in Austria. He did not return to Germany until 1927 and, the following year, won election to the Reichstag as a Nazi.

In 1932, with the Nazi Party dominant on the German political scene, Göring became Reichstag president. After Hitler was made chancellor of Germany in 1933, he appointed Göring Reichsminister, minister of the interior, Prussian prime minister, and air commissioner. Thus, Göring became the second most powerful man in German government. Göring quickly created a secret police force, the Gestapo, and ordered construction of the first concentration camps, intended to hold political dissidents and other political and social undesirables. The camps were turned over to Heinrich Himmler in April 1934, and, later that year, Göring was appointed master of the Reich Hunt and Forest Office. Remarkably, he proved to be an enlightened environmentalist, who created wildlife preserves and introduced game laws and forest-management reforms that are still in use in Germany today.

Göring's interest in natural resources did not interfere with the continuation of his ruthless program of eliminating enemies and dissidents. At Hitler's behest, he played a major role in the violent purge of the SA during the "Night of the Long Knives" (June 30, 1934). Nor did he neglect the renewal of Germany as a military power. As Reichsminister for Air and commander of the Luftwaffe, Göring directed, in contravention of the terms of the Treaty of Versailles, the covert creation and organization of what would become, in many respects, the world's most advanced and powerful air force. In 1936, he also assumed the office of director of the four-year plan, with absolute authority in matters of the German economy. He undertook the reorganization of state-owned industries under the umbrella of the Hermann Göring Works during 1937–41. In 1939, Hitler formalized Göring's status as the second most powerful man in the Third Reich by designating him his successor and conferring on him the title of Reichsmarschall.

The invasion of Poland elevated Göring to even greater stature, as his Luftwaffe proved itself to be a critically effective arm of Blitzkrieg. But Göring's reign as Hitler's favorite did not last long. Despite Germany's triumph in the Battle of France (May–June 1940), the Luftwaffe was unable to interdict the Dunkirk evacuation and prevent the salvation of Anglo-French forces (May 28–June 4, 1940). The fact is that Hitler's order halting the advance of Heinz Guderian's panzers was primarily responsible for the escape of the cornered British and French, but it is also true that if the air force had destroyed the Allied armies, the way would have been clear for Operation Sealion, the never-realized invasion of Britain. The next failure was

the Battle of Britain (August 1940–May 1941). Göring's original plan was to attack Royal Air Force (RAF) bases, destroying aircraft on the ground and thereby neutralizing the RAF as a fighting force. Instead, he acquiesced in Hitler's decision to bomb major cities. This strategy not only failed to break the British will to fight, it allowed the RAF an opportunity to mount a formidable defense against the Luftwaffe, which the RAF ultimately forced from British skies. This ended the threat of a German invasion, kept Britain in the war, and, in the long run, doomed Germany to defeat.

Toward the end of 1942, Göring made another serious strategic blunder. As the Sixth German Army was reeling under the twin forces of the Russian winter and the relentless hammering of the Red Army at Stalingrad, Göring vowed to resupply the troops by air. Lacking sufficient numbers of transports and long-range escorts, however, the Luftwaffe failed miserably during November–December 1942, and the decimated Sixth German Army surrendered to the Soviets. With that, the war on the Soviet front, which had begun in unalloyed triumph, turned irreversibly against Germany.

The failure on the eastern front destroyed Hitler's confidence in Göring, who then descended into outright corruption, embezzling government funds and looting the art treasures of conquered nations. He erected for himself a kind of palace, which he decorated with the spoils of war. As the military fortunes of Germany continued to disintegrate, Göring lived his life in increasing dissipation and became a morphine addict. (He had been introduced to the drug when it was used to treat the pain of the injuries suffered in the 1923 Putsch.) As Göring lost the faith of Hitler, so he lost that of the German people. Early in the war, Göring had joked that he would change his name to Meier (a common German name) if a single bomb ever fell on Germany. By 1944, with bombs raining upon German cities day and night, the people regularly referred to him by that most derisive epithet.

For all practical purposes, Göring's power had come to an end. This fact was driven home to him in April 1945, when he volunteered to succeed Hitler, who was holed up in the *Führerbunker* beneath the streets of Berlin. In response to the offer, Hitler summarily stripped Göring of all his offices, then charged him with high treason. On Hitler's orders, Göring was placed under arrest and confined at Berchtesgaden, Hitler's mountain retreat, on April 23. When Berchtesgaden was overrun by American troops, Göring surrendered to them. He was charged with war crimes at the Nuremberg Tribunal. Found guilty, he was sentenced on October 1, 1946, to be hanged. Before the sentence could be carried out, however, he committed suicide by swallowing a capsule of cyanide he had secreted in his rectum.

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Gothic Line

The Gothic Line was the name the Germans originally conferred on their strong series of defenses in the Apennines of Italy. Running from north of Lucca on the west coast of the Italian peninsula to south of Pesaro on the east coast, the Gothic Line was a formidable objective during the Italian Campaign. It was not breached until September 1944.

In June 1944, Adolf Hitler renamed the Gothic Line the Green Line, and the Allies generally referred to it as the Pisa-Rimini Line. However, these defenses continue to be known to history as the Gothic Line.

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Great Britain

As World War II approached, Britain was at the center of an empire that, although it was about to enter its twilight, covered a quarter of the globe. At the outbreak of the war, the United Kingdom, encompassing Great Britain and Northern Ireland (the six northeastern Irish counties that remained part of the United Kingdom after the creation of the Irish Free State in 1922), had a population of only 47,700,000, but the territory and peoples tied to Britain were vast. These included the dominions of Canada, Australia, New Zealand, and South Africa, since 1931 having the status in international law of independent nations that shared the same monarch with Britain (in the World War II era, King George VI). Also in Africa, Southern Rhodesia functioned as a self-governing British colony. India had been agitating for full independence since early in the century but was, at the outbreak of war and throughout the war, governed by a viceroy who worked closely with a secretary of state for India within the British cabinet. The viceroy directly governed about two-thirds of the Indian subcontinent, the rest being governed by Indian princes who were, in effect, political clients of the viceroy and of Britain. Beyond the dominions and India were the far-flung colonies, which were variously governed, some closely by the Crown, others more directly by their own legislatures. Added to these constituents of the British Empire, all of long standing, were the recent additions of the League of Nations mandates. These were territories entrusted to the governance of Britain under the Treaty of Versailles following World War I. They had formerly been parts of the German or Turkish Empires. In addition to British mandates, various Pacific territories were mandated to Australia and New Zealand, and Southwest Africa (formerly a German colony) was mandated to South Africa. Finally came the British protectorates, the most important of which at the outbreak of World War II was Egypt. Legally and nominally independent, Egypt was, in fact, a British client state, which meant that Britain had the right to garrison the country. With Egypt, Britain shared a protectorate over Sudan.

The British took comfort in their empire, believing that it gave them control over a vast portion of the world. In fact, it is unlikely that the nation would have prevailed in the conflict without its empire, whose troops and resources were invaluable in World War II. By the same token, the vastness of the British realm and of British interests was also a heavy burden of responsibility in the war. Nor did the Crown take into account the precarious political status of much of the empire. The king's declaration of war on September 3, 1939, was simply assumed to bind India and the colonies. In fact, while many Indian troops participated in the war, the high-handed assumption that India was bound by Britain's declaration brought the issue of Indian independence to a head, and, in 1947, shortly after the war ended, India became independent. As for the dominions, Canada, Australia, New Zealand, and South Africa, King George VI's declaration did not legally bind them, but their participation was taken for granted. All declared war within days after the British declaration. Ireland remained neutral.

Like its closest ally, France, Great Britain between the wars was suffused with a kind of national malaise compounded of economic depression and an urge to avoid a new war at all costs. Unlike France, it was the British government that took what it perceived as positive steps to avoid such a war. This amounted to sometimes unilateral disarmament as well as attempts to establish a parity of arms among nations. Under Prime Minster Stanley Baldwin, British pacifism produced a state of collective denial, as the government closed its eyes to German and Italian aggression, the rise of Nazism, and the build-up of German arms and the military. Under Baldwin's successor, Neville Chamberlain, Great Britain began to prepare for war by increasing its domestic arms production, but Chamberlain simultaneously adopted an active Appeasement Policy, hoping to satisfy Adolf Hitler's aggressive expansionism by not contesting his claim to the Czech Sudentenland. The policy, of course, turned out to be disastrous, effectively encouraging Hitler's greater and wider aggression. However, it was not as craven as it

appeared on the surface to be. Although a military build-up had begun in Britain, Chamberlain recognized that the nation was woefully unprepared for war, and he hoped that appeasement would buy time to build up a credible defense against the two nations generally believed to offer more menace than Germany: Italy and Japan. In the meantime, Hitler's aggression notwithstanding, Chamberlain regarded military action against Germany as preventive war, and he refused to engage in it.

The opposition, whose most eloquent and committed spokesman was Winston Churchill, saw appeasement for the disaster that it was and urged, first, preparedness and, later, military action. In the end, it was the German invasion of Poland on September 1, 1939, that brought a British declaration of war against Germany. By that time, Germany was fully mobilized, and both Britain and France were in far weaker positions than they had been at the time of the German *Anschluss* of Austria and the annexation of the Sudetenland. Moreover, as in France, widespread pacifism continued to pervade the civilian population of Britain, and the government was not unanimous on the necessity of war, with a sizable faction advocating a settlement with Hitler.

While war raged on the eastern front, the period from September 1939 to April 1940 was static in the west and so quiet that the British dubbed it the Phony War. Britain had hardly roused itself from the severe unemployment of the Great Depression, yet enlistment rates remained low and pacifism high. It was not until the failure of the Norwegian Campaign that the war began to hit home. That military disaster resulted in the removal of Chamberlain and the elevation of Churchill as prime minister. On the very day that Chamberlain resigned, May 10, 1940, Belgium and the Netherlands were invaded, and the Battle of France commenced. This quickly brought an end to the Phony War, and Churchill began to raise the collective war will of the nation with speeches and broadcasts of unparalleled eloquence and vigor. Britain suffered one major defeat after another and was under imminent peril of invasion, saved only by the slim Royal Air Force (RAF) victory in the Battle of Britain. U.S. entry into the war following the Battle of Pearl Harbor on December 7, 1941, brought new hope, as did Bernard Law Montgomery's success against Erwin Rommel in the North African Campaigns. Despite disastrous defeats at the hands of the Japanese, the defeatism of the Phony War and the anxiety that had followed the fall of France were replaced by a wildly overoptimistic confidence in an early victory, which soon gave way to a grim but resolute determination to prevail, no matter how long it took.

Britons endured serious food shortages and the Blitz, which killed some 43,000 civilians and injured another 139,000. Beginning in January 1942, they also endured the presence of thousands of American GIs. While the Anglo-American alliance was extremely effective, it was not always smooth, and despite a very real mutual affection between the American and British peoples, there was also significant friction between the American troops and the British population. Britishers said that there were just three things wrong with Americans: they were "overpaid, oversexed, and over here."

Whereas France had failed miserably to mobilize its people for war, Great Britain mobilized a greater percentage of its citizens than any other nation in World War II. At the peak of military service, 22 percent of the population were in the armed forces and another 33 percent were directly involved in civilian war work. In addition, many thousands more worked as civil defense volunteers. Ernest Bevin, head of the Ministry of Labor, exercised central control over civilian manpower resources, and citizens were required to register for mandatory assignment in the workforce. Men over 41 were liable for such service (younger men were liable for military service), as were women between the ages of 18 and 60. Unemployment vanished, and, as in the United States, women assumed a major role in war production, working in virtually every industry except coal mining. A Women's Land Army (WLA) was created, ultimately 80,000 strong, to organize women for agricultural work.

Although, early in the conflict, war production was criticized as inefficient, it soon rose to a very impressive height. For instance, whereas British

firms had turned out 3,000 military aircraft in 1938, they produced 15,000 in 1940, 24,000 in 1942, and 26,500 in 1944. Some 52 major combat vessels were launched in 1940, 114 in 1942, and 76 in 1944. While high employment brought prosperity, strict rationing severely limited what one could purchase, but many people made up for personal food shortages by planting vegetable gardens in whatever spaces they could find.

As much as any other factor, the failure of French morale had brought about the collapse of that country before the German onslaught. In Great Britain, the onset of war and the Phony War were likewise characterized by problems of public morale, but the ascension of Churchill and the imminence of invasion rapidly coalesced the public will. If Hitler had hoped to break the British war will by bombing London and other cities, he badly misread the British public. If anything, the Blitz served to unite Britons all the more and strengthen their resolve to see the war through to total victory.

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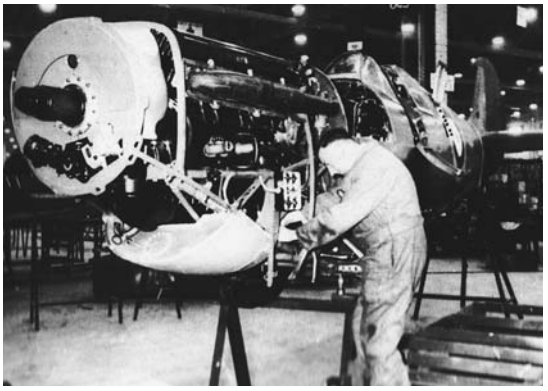
Great Britain, air force of

The Royal Air Force (RAF) came into being in 1918 and was an independent force on an equal footing with the Royal Navy and the army. Its civilian head was the secretary of state for air, who presided over the Air Council. The top uniformed officer was the chief of the air staff. Until May 1940, there was also, on the Air Council, an air member for development and production, but this position was obviated by the creation of a separate Ministry of Air Production. In 1941, this ministry was reintegrated into the Air Council and was headed by the controller of research and development.

Operationally, the wartime RAF was divided into Bomber Command, Fighter Command, Coastal Command, Reserve Command, and Training Command. Training Command subsequently absorbed Reserve Command but was itself divided into Flying Training Command and Technical Training Command. Before the war ended, more commands were added: Army Co-Operation Command, Balloon Command, Maintenance Command, and Ferry Command (responsible for delivering aircraft from factories to combat units). In practice, Coastal Command was under the control of the Admiralty, and Fighter Command assumed control of all homeland air defense, including antiaircraft artillery. Each RAF command was organized into groups, which were in turn divided into squadrons. Fighter groups also featured a "fighter wing," which was intermediated between the group and squadron level.

The RAF was supplemented by the Royal Auxiliary Air Force and the Royal Air Force Volunteer Reserve. Also, the air forces of the dominions, Australia, New Zealand, Canada, and South Africa, were incorporated into the RAF, as were elements of the air forces of nations that had been invaded



A Spitfire on the assembly line *(National Archives and Records Administration)*

and occupied by the Germans: Czechoslovakia, Belgium, Netherlands, France, Norway, and Poland. Although these elements were absorbed into the RAF, they were often permitted to retain their unique identity by forming into national legions or squadrons. Women also played a role in the RAF through the Women's Auxiliary Air Force (WAAF) and Princess Mary's RAF Nursing Service. The RAF drew many of its ground personnel, especially RADAR operators, plotters, and radio communications monitors, from the WAAF.

The British army, navy, and air force all drew on conscription for personnel. However, all RAF aircrews were volunteers, many of them trained through the British Empire Air Training Scheme, in which the dominions participated extensively. Indeed, the time-consuming training of aircrews, especially pilots, was the chief factor limiting the effectiveness of the RAF—a far more limiting factor than aircraft production.

The RAF numbered 193,000 men at the outbreak of war in September 1939 and peaked at 992,000 in September 1944. The WAAF had 17,400 women in September 1940 and peaked at 180,300 in September 1943. RAF losses included 69,606 killed, 6,736 missing, 22,839 wounded, and 13,115 taken as prisoners of war.

See also AIRCRAFT, BRITISH.

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Great Britain, army of

The British army was controlled by the secretary of state for war, presiding over the Army Council. Its highest uniformed officer, who sat on the Army Council, was the chief of the Imperial General Staff. The other uniformed council members included the adjutant-general (with responsibility for personnel matters), the quartermaster general (logistical head), the vice chief of the Imperial General Staff (who was responsible for operations, plans, intelligence, and training), the deputy chief of the Imperial General Staff (responsible for organizing for war), and the master general of ordnance.

Operationally, the army was divided into the Regular Army and the Territorial Army. The Territorial Army, primarily a conscript force, was originally conceived as a homeland force but in time of war was mobilized to fight alongside the much smaller Regular Army, originally a volunteer professional force. Like the other services, the army received the bulk of its personnel through conscription. At the outbreak of the war in September 1939, the total strength of the army was 897,000. It peaked in June 1945 at 2,920,000. The basic organizing element in the army was the regiment, many of which were organizations dating to the 17th century, and they typically reflected regional organization. The British army encouraged soldiers to identify closely with their regiments in order to acquire and maintain esprit de corps.

Functionally, the army was divided into teeth arms, supporting arms, and service arms. Teeth arms were combat units and included the Royal Armoured Corps (mechanized units largely formed from the traditional cavalry), the Royal Tank Corps, and the infantry. A Reconnaissance Corps was raised in June 1940 and was integrated into the Royal Armoured Corps in January 1944.

There were three supporting arms: The Royal Artillery manned all the army's artillery, including antiaircraft and coastal artillery. A special unit of this arm, the Royal Maritime Artillery, provided gun crews for merchant vessels. The Royal Engineers were historically referred to as sappers. They were responsible for mine laying and clearance, demolition, and building of all kinds, including bridges, camps, airstrips, and so on. Conduct of the military postal system also fell to the engineers.

The Royal Corps of Signals took charge of communications of all kinds.

The principal service arms included the Royal Army Service Corps, the Royal Army Ordnance Corps, and the Royal Army Medical Corps. The Royal Army Service Corps conveyed supplies to troops in the field, from food to ammunition. The Royal Army Ordnance Corps took charge of stores, from clothing to weapons. The Ordnance Corps also had charge of repair and maintenance of weapons and weapons systems until 1942, when this function was taken over by the newly created Royal Electrical and Mechanical Engineers. The Royal Medical Corps was, of course, responsible for all medical functions. Additionally, the service arm included the Royal Army Chaplains Department, the Corps of Military Police, the Royal Army Pay Corps, and so on.

Women played an important role in the army through the Auxiliary Territorial Service (ATS), which was formed in 1939. In addition to clerical and communications duties, ATS women also managed many antiaircraft installations. At its peak in 1943, the ATS numbered 212,500 women. In addition to the ATS, the army also relied heavily on Queen Alexandra's Imperial Nursing Service and the Territorial Army Nursing Service.

At its peak, the army had 11 armored divisions, 34 infantry divisions, and two airborne divisions. During the war, 144,079 lost their lives, 33,771 went missing, 239,575 were wounded, and 152,076 were made prisoners of war.

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Great Britain, navy of

The British standing army was always small in peacetime. In both world wars, a large conscript force was quickly raised around the core of the professional regular force. The Royal Air Force (RAF) was similarly expanded at the outbreak and in the course of World War II. The Royal Navy, however, was always large, a war-fighting force that was also intended to keep the peace. Above all other branches of arms, the navy was the instrument by which the Crown maintained its empire. At the outbreak of World War II, the Royal Navy (RN) was the most powerful force in the Atlantic.

The Admiralty was the war ministry with control over the navy. At its head was the Admiralty Board, consisting of the First Lord—a civilian cabinet member—and the First Sea Lord, a uniformed officer who also served as chief of naval staff. The Second Sea Lord had responsibility for manning and recruiting; the Third Sea Lord (Controller of the Navy) for ship building, repair, and dockyards; the Fourth Sea Lord for supplies and naval hospitals; and the Fifth Sea Lord for the Fleet Air Arm. The First Sea Lord had control of operations, which he exercised through the vice chief of the naval staff, who, in turn, was aided by three assistant chiefs. The Royal Navy was apportioned geographically into the North Atlantic Command, the South Atlantic Command, the China Station, the America and West Indies Station, and the East Indies Stations. In addition to these global commands were six home commands: Orkney and Shetlands, Rosyth, Nore, Dover, Portsmouth, and Western Approaches. Whereas the global commands had fleets that included great capital ships, the home commands were furnished with defensive forces, including destroyers, minesweepers, and torpedo boats. Western Approaches also controlled escort ships responsible for the escort of convoys. Deployable among these commands were

the resources of three fleets: the Home Fleet, the Mediterranean Fleet, and the Eastern Fleet (later expanded and called the British Pacific Fleet). These fleets were organized into numbered squadrons (in the case of cruisers and larger vessels) and flotillas (in the case of destroyers and smaller vessels). Submarines operated independently as needed. The Royal Navy also had a Combined Operations organization, which managed amphibious operations in conjunction with the army and the RAF, and which had at its disposal the Royal Navy's fleet of landing craft. During the war, the Admiralty assumed control of the warships of the navies of the Commonwealth nations and also of those belonging to several governments in exile.

The Royal Navy was staffed by the Royal Navy proper, the Royal Navy Reserve, and the Royal Naval Volunteer Reserve. Royal Navy personnel were the officers and men of the regular standing navy. The Royal Navy Reserve consisted of experienced sailors, officers and enlisted personnel who had either previously served in the Royal Navy or who were merchant navy officers. The Royal Naval Volunteer Reserve (RNVR) were officers who volunteered for service during the war or who were conscripted and commissioned during the war. Many of the officers who served aboard the escort fleets were RNVR personnel.

Functionally, the Royal Navy was divided into specialized branches, including the Seaman's Branch (Executive Branch), which encompassed general operational naval personnel, and an Engineering Branch, a Medical Branch, a Supply Branch, an Instructional Branch, a Paymasters Branch, and a Chaplains Branch. The most important of the specialized branches was the Fleet Air Arm, which had responsibility for aircraft operating from aircraft carriers.

As in the other services, women played an important role. The Women's Royal Naval Service (WRNS—called "Wrens") had been created late in World War I, was suspended at the end of that war, then reactivated in 1939. Wrens performed shore duties only, including communications, RADAR operations, plotting, and clerical work, thereby freeing men for shipboard and other combat-related duties. Women also staffed Queen Alexandra's Royal Naval Nursing Service.

The Royal Navy exercised direct control over the Royal Marines. Traditionally, the Royal Marines served aboard RN ships to enforce order and to assist in manning guns. Between the wars, their role was theoretically expanded to include amphibious strike operations and the defense of naval installations overseas. However, this expansion was not put into practice until World War II was under way. Royal Marines served in several special forces roles as COMMANDOS.

The strength of the Royal Navy stood at 180,000 men at the outbreak of war in September 1939 and peaked at 783,000 in June 1945. The Royal Navy lost 50,758 men killed, 820 missing, 14,663 wounded, and 7,401 taken as prisoners of war.

For Royal Navy ship types and approximate numbers, *see* SHIPS, BRITISH.

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Greece, invasion of

The invasion of ALBANIA, Greece, and YUGOSLAVIA instigated a Balkan campaign fought by Greek, British, and Yugoslav forces. Italy invaded Albania in April 1939, more than a year before BENITO MUSSOLINI took his country into World War II. Much as ADOLF HITLER had done with the SUDETENLAND, Mussolini gave assurances that the invasion would stop with Albania and that he had no intention of invading Greece. The Allies, France and Great Britain, did not take this disclaimer at face value but responded to it with pledges to

defend the sovereignty of Romania and Greece. It was a response that moved Italy squarely into the German camp as the two nations concluded the Pact of Steel. Yet even after Italy declared war against the Allies on June 10, 1940, Mussolini continued to assert his intention not to invade Greece. However, on October 28, 1940, claiming that Greece had in its relations with Great Britain forfeited its status as a neutral, Mussolini moved troops from Albania into Greece.

The Italian dictator did not anticipate much resistance. France had already lost the fight for its life, and, with British forces preoccupied with home defense and Mediterranean Sea naval operations, he had no reason to believe that Great Britain would be in any position to honor its earlier pledge of aid. Accordingly, the invasion force was understrength, and it was quickly brushed aside by Greek resistance, which was bolstered by five Royal Air Force (RAF) squadrons providing close air support. On November 14, the Greeks turned the tables on the Italians, staging a counteroffensive that drove them back into Albania. British bombers braved miserable weather to bomb Italian port facilities and communications as the Greeks advanced against Valona.

As Italy reeled under this humiliating counteroffensive, German planners, recognizing the need to secure the Romanian oilfields and also to protect the southernmost flank of the planned invasion of the Soviet Union, decided to stage their own invasion of Greece. In January 1941, Germany began a troop build-up in Romania, a nation now aligned with the Axis. Luftwaffe units were also dispatched to Bulgaria. In the meantime, German diplomats fruitlessly attempted to intervene in the ongoing combat between Greece and Italy. Despite success against the Italians, the Greek position was increasingly vulnerable as the Greek-British alliance faltered under mutual suspicions. Nevertheless, on March 9, 1941, when the Italians launched a new offensive against Greece, this time with 28 divisions, they were again repulsed. But a new problem developed as Yugoslavia officially joined the Axis on March 25, a move that provoked an antifascist coup against the Yugoslav government. This reinvigorated the Greek-British alliance, and Commonwealth troops were rushed to the Greek front from the Middle East, along with more RAF units. All of this would have been more than a match for the Italians, but, on April 6, 1941, the Luftwaffe attacked Belgrade, and, simultaneously, General Siegmund List led the Twelfth German Army from Bulgaria into Yugoslavia and Greece. On April 8 and 10, combined German, Italian, and Hungarian forces invaded Yugoslavia. Belgrade fell on April 12, and the nation surrendered on April 17.

The process of Yugoslavia's defeat freed up List's 40th Corps to advance from southern Yugoslavia into Greece, outflanking the troops holding the Aliakmon Line there. Simultaneously, List's 18th Corps plowed through the Metaxas Line and took Salonika on April 9. British general Maitland Wilson pulled his forces back to a new defensive line on April 10, then, on the 14th, withdrew all the way to Thermopylae. Greek general Alexandros Papagos, fearing a total collapse of Greek Army morale, delayed withdrawal from the Albanian front, and when he finally did order it, on April 12, List was sufficiently far advanced to isolate the Greek forces from their British and Commonwealth allies. New Zealand troops scored a small triumph against List's 18th Corps at Olympus Pass on April 14, but the situation was ultimately hopeless. On April 21, the British decided to cut their losses and withdraw from Greece altogether, whereupon the Greek Army surrendered.

The evacuation of British and Commonwealth forces was hard fought but successfully completed during the night of April 30–May 1. As for Greece, the Communist Party (KKE) there organized disparate guerrilla bands into a fairly well coordinated resistance, which, by September 1941, developed into the National Liberation Front (EAM), a left-leaning group, but by no means completely communist. In December, the EAM created the National People's Liberation Army (ELAS) as its military arm. ELAS forces organized themselves in the mountains and were joined there by members of the National Republican League (EDES) as well as a few smaller resistance groups. British Special

Operations Executive (SOE) operatives were parachuted into Greece to work with Greek guerrilla fighters in a program of sabotage, which, despite severe German reprisals, was highly effective. Especially hard hit were Greece's already tenuous rail lines, which the guerrillas effectively denied to the occupiers through incessant and often spectacular acts of sabotage. However, relations between the SOE and the guerrillas were often strained. When the Germans withdrew from Greece in October 1944, ending the occupation, Georgios Papandreou, the Greek prime minister, ordered the guerrillas to disband. ELAS refused, and the nation that had just been delivered from German occupation now tottered on the brink of civil war. The British brought in more troops, but a low-level war erupted between ELAS and Greek government forces in December 1944. It did not end until February 1945 with a truce. Outright civil war did erupt in the years following World War II, and it was only by means of British and then, even more important, American military and economic aid that a communist takeover was averted and the government secured by 1949.

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Groves, Leslie (1896–1970) *U.S. general who headed the Manhattan Project*

Born in Albany, New York, Leslie Richard Groves enrolled at the University of Washington for one year and then the Massachusetts Institute of Technology for two years before entering West Point, from which he graduated in 1918. Commissioned a second lieutenant in the Army Corps of Engineers, he was enrolled at the Engineer's School, Camp Humphreys (now Fort Belvoir), Virginia, from 1918 to 1920 and again in 1921, absenting himself from his studies while serving briefly in France during World War I. After graduation, Groves was assigned to engineering units in San Francisco, Hawaii, Delaware, and Nicaragua before he was transferred in 1931 to the Office of the Chief of Engineers in Washington, D.C. Promoted to captain in October 1934, he was sent to the Command and General Staff School, Fort Leavenworth, Kansas, from which he graduated in 1936. He graduated from the Army War College in 1939, then was assigned to the general staff in Washington.

Major General Leslie Groves confers with J. Robert Oppenheimer. *(U.S. Department of Energy)*

Promoted to major and temporary colonel in July and November of 1940, Groves was attached to the Office of the Quartermaster General and then to the Office of the Chief of Engineers. In this latter post, he was given responsibility for building a num-

ber of army construction projects, including, most notably, the Pentagon, which was completed under Groves's close supervision in a mere 18 months.

After finishing the Pentagon, and with World War II underway, Groves hoped to be given a combat assignment but was instead put in charge of a project code named Manhattan Engineer District: the Manhattan Project. Promoted to temporary brigadier general, Groves found himself in charge of a titanic undertaking, easily the biggest scientific, industrial, and engineering enterprise any nation, in peace or war, had attempted up to that time. His mission was to oversee research, design, and fabrication of an atomic bomb. Virtually limitless resources were put at his disposal, but the enormous enterprise had to be conducted in absolute secrecy. Moreover, because it was believed that German scientists were also working on an atomic bomb, the Manhattan Project was a race against time and the enemy. Should the Germans get to the bomb first, the consequences for the world would be disastrous.

Groves had to supervise a highly volatile combination of scientists, military personnel, and civilian industrialists. Most of the research was carried out at Columbia University in New York, the University of Chicago, and, finally, at Los Alamos, New Mexico. Plants for the manufacture of fissionable radioactive material—the bomb's explosive material—were established at Oak Ridge, Tennessee, and at the Hanford Engineer Works near Pasco, Washington. Groves administered some $2 billion in funds, mostly through blind appropriations that were totally in his control. Groves worked closely with the brilliant physicist J. Robert Oppenheimer, who served as scientific director of the project. While the two men were polar opposites in temperament, intellect, and cultural orientation, they developed a highly effective working relationship, and, on July 16, 1945, a nuclear fission bomb was successfully detonated in a test at Alamogordo, New Mexico. Two more devices were prepared for use in combat and were deployed at Hiroshima, Japan, on August 6, 1945, and at Nagasaki on August 9. Within days, the Japanese surrendered, and World War II came to an end.

Having been promoted to temporary major general in December 1944, Groves went on after the war to head the U.S. atomic establishment that he had been instrumental in creating. He left this post in January 1947 to become chief of the U.S. Army's Special Weapons Project and was promoted to temporary lieutenant general in January 1948. He left the army for civilian life in February and took a position as vice president of the Sperry Rand Corporation, which he held until his retirement in 1961.

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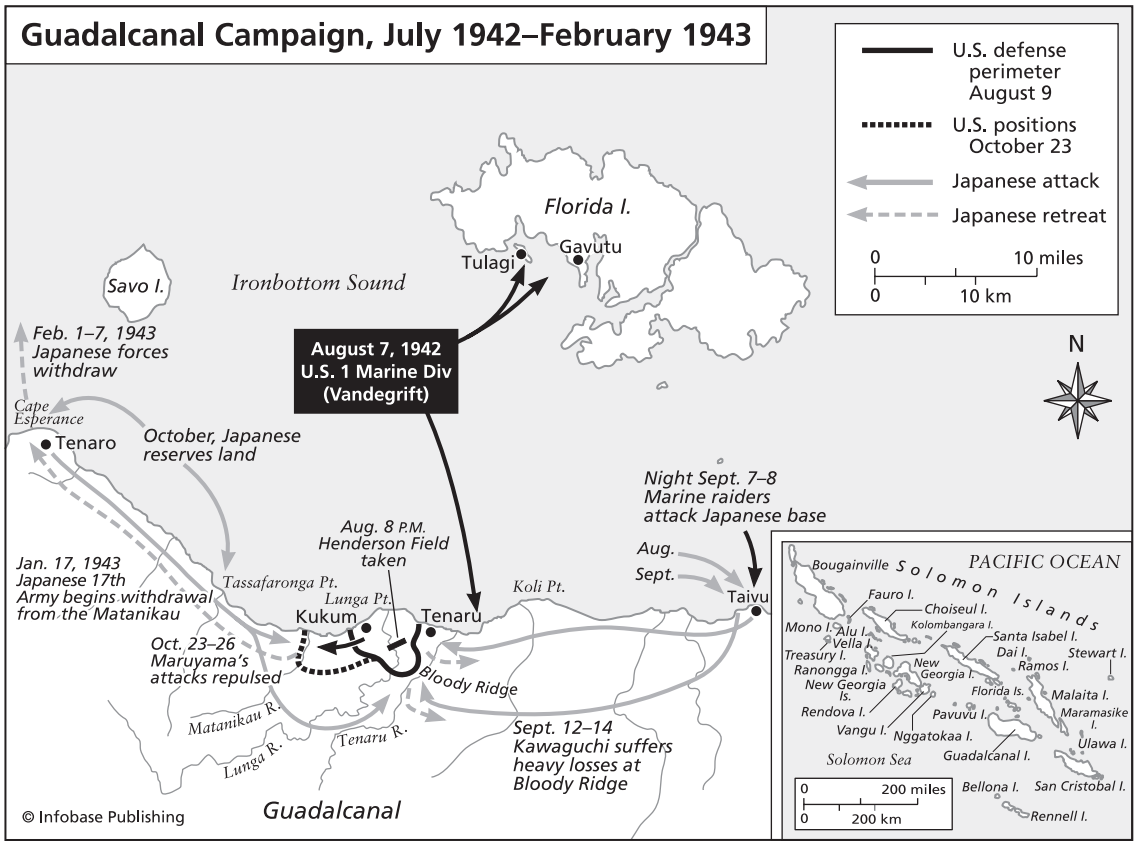
Guadalcanal Campaign (Battle of Guadalcanal)

The Guadalcanal Campaign was a six-month epic of violence played out on land, sea, and in the air, beginning in August 1942 and ending in January 1943. The next major campaign after the fall of the Philippines, the Guadalcanal Campaign was costly to both sides but, in conjunction with the Battle of Midway, constituted the turning point of the war in the Pacific. From the twin defeats at Midway and Guadalcanal, Japan would never recover.

The battle was joined because U.S. Admiral Ernest J. King targeted Guadalcanal as a means of

Destroyer Squadron 12 maneuvers off Savo Island during the Guadalcanal Campaign. *(U.S. Navy)*



checking a Japanese thrust intended to cut off Australia. Steamy and overgrown with tropical jungle, Guadalcanal is 90 miles long and 25 miles wide, one of the Solomon Islands in the South Pacific. Intercepted radio messages indicated that the Japanese were going to use the island as an air base from which to intercept U.S. convoys bound for Australia. On August 7, 1942, King landed the 1st Marine Division on Guadalcanal in a surprise assault that quickly seized the all-but-completed Japanese airstrip. This triumph was short lived, however, as a Japanese naval task force on August 9 surprised and defeated an Allied screening force off Savo Island. The attack so alarmed U.S. Admiral Frank Fletcher, who was in tactical command of the Guadalcanal operation, that he withdrew his aircraft carriers, forcing partially unloaded troop transports to withdraw as well. This left the marine contingent on Guadalcanal isolated, at least until August 20, when the so-called Cactus Air Force, a mixed group of mostly U.S. Marine aircraft (19 fighters and 12 torpedo bombers), arrived to operate from the captured airfield, now dubbed Henderson Field. Other air units would later join this small force and proved highly effective against Japanese naval forces. For the time being, however, the Japanese enjoyed superiority in the seas around Guadalcanal. The Cactus Air Force prevented daytime assaults against the island, but the Japanese were able to land troops, who were supplied and reinforced by destroyers operating at night, the so-called Tokyo Express.

Repeatedly over the next three months, Japanese land forces engaged the marines, who, thanks

to the growing presence of aircraft, were adequately furnished with resupply and reinforcement. Each side built up troop strength on the island. By November 12, there were 30,000 Japanese fighting 29,000 Americans. By the beginning of December, Japanese numbers had been reduced to 25,000, and American troop strength peaked at 40,000, including two marine divisions and two army divisions. The Japanese had erred early on by making conservative, piecemeal attacks, which the marine forces, isolated though they were, managed to repulse. Having thus lost the momentum, the Japanese were never able to regain it, although Henderson Field was repeatedly threatened over the entire course of the campaign.

Ultimately, decisive victory at Guadalcanal was won at sea. On August 24, the U.S. Navy blocked an attempted major landing while suffering a tactical defeat. Revenge for these losses came in the nighttime Battle of Cape Esperance during October 11–12, when a task force under Rear Admiral Norman Scott attacked a Japanese bombardment force under Rear Admiral Goto Aritomo, which was tasked with shelling the marines and landing more reinforcements. Thanks to advanced surface RADAR, Scott detected the Japanese force and was able to sink one Japanese heavy cruiser and a destroyer. Scott's task force also damaged another heavy cruiser and, in the course of the engagement, killed Goto. The next day, two more Japanese destroyers were sunk. American losses included one destroyer sunk and damage to three other ships.

Despite the victory at Cape Esperance, the first successful night action for the U.S. Navy in the Pacific war, and despite the salutary effect on the marines, Admiral CHESTER A. NIMITZ remained dissatisfied with the generally cautious approach of South Pacific theater commander Robert L. Ghormely. He relieved Ghormely and replaced him with the hyperaggressive Vice Admiral WILLIAM A. "BULL" HALSEY. At the Battle of Santa Cruz on October 26, Halsey lost the carrier *Hornet* and 74 aircraft but destroyed 100 Japanese planes. Next, during November 12–15, in the massively destructive sea engagement known as the Battle of Guadalcanal, the U.S. Navy prevailed, albeit at a heavy cost. On the night of November 12–13, six U.S. Navy ships were sunk versus three Japanese vessels, including, however, one battleship. On the next morning, the Japanese lost a cruiser and suffered severe damage to three others. On the night of November 13–14, the Japanese lost another battleship and a destroyer, while the Americans sacrificed six destroyers and incurred severe damage to one battleship. The Japanese troop transports had to be beached to disgorge their troops, and those ships were bombed and destroyed during the day.

The sea and air Battle of Guadalcanal was the culmination of the Guadalcanal Campaign and persuaded the Japanese (despite victory at another nighttime sea battle, Tasafaraonga, on November 30) to cut their losses and evacuate their troops from Guadalcanal. Fighting continued in a more desultory fashion, but, early in January, despite what was now Allied air and sea superiority, the Japanese managed to evacuate some 13,000 men, who were ferried by night in barges to waiting destroyers.

While the American victory at Guadalcanal was decisive, it was marred by the missed opportunity to destroy the Japanese ground forces completely. Nevertheless, Japanese casualties were devastating: about 30,000 men killed and 680 aircraft plus 24 warships lost. American losses included some 5,000 sailors and 2,500 marines, soldiers, and airmen killed, as well as 615 aircraft and 25 ships lost.

See also PHILIPPINES, FALL AND RECONQUEST OF.

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Guam, Battle of

This article discusses the fall of Guam to the Japanese on December 10, 1941. The battle to retake the island is discussed in MARIANA ISLANDS CAMPAIGN.

Guam, in the Pacific, is the largest of the Mariana Islands. It was ceded to the United States as a result of the Spanish-American War in 1898 and was put under the administration of the U.S. Navy. At the outbreak of the war in the Pacific, Guam was unfortified and was defended by no more than 430 U.S. Marines and 180 native Chamorro guards, all under the command of Captain George McMillan, U.S. Navy, the military governor of the island. The Japanese landed 5,400 troops on Guam on December 10, 1941, and engaged McMillan's vastly outnumbered command for three hours before the captain surrendered the island. The only reason that the small band of defenders held out even for three hours was the difficult terrain of the island, which greatly favored defenders over attackers. A total of 17 marines and Chamorros were killed in the battle. Only one of the Japanese invaders died.

The loss of Guam was a serious blow to the American presence in the Pacific. In 1941, Guam possessed the only adequate freshwater supply in all the Marianas, and it provided the best harbor. It would serve as an important advance base for whoever held it, and the Japanese, recognizing its value, garrisoned it with some 19,000 troops.

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Guderian, Heinz (1888–1953) *German panzer general*

Heinz Guderian was born at Kulm (Chelmno) into the family of a Prussian army officer and was sent to the cadet school in Karlsruhe, which he attended from September 1900 to April 1903. Guderian moved on to the main cadet school at Gross Lichteffelde, from which he graduated in December 1907. The following year, on January 27, Guderian entered the 10th Hannoverian Jäger as a second lieutenant. During 1913–14, he attended the Kriegsakademie (War College), and, at the beginning of World War I, in August 1914, Guderian was assigned command of a radio station. By April 1915, he had been advanced to assistant signals officer for the Fourth German Army. He served in this post through April 1917, when he moved through a variety of staff posts, culminating in an appointment to the Great General Staff in February 1918, the assignment he held until the armistice.

Following the war, Guderian participated in Freikorps operations in Latvia during March–July 1919 as chief of staff of the Iron Division. He then was chosen for retention as one of a small cadre of 4,000 officers of the 100,000-man Reichswehr, the diminutive army permitted Germany by the Treaty of Versailles. In January 1922, Guderian was assigned to the Inspectorate of Transport Troops in the so-called Truppenamt, code name for the German General Staff, a body that had been proscribed by the Versailles treaty. During 1922–24, Guderian served in a transport battalion in Munich, then became an instructor in tactics and military history on the staff of 2nd Division during 1924–27. He returned to the Truppenamt during October 1927–February 1930 and, during this time, was briefly seconded to a Swedish tank battalion. Later, during 1930–31, given command of a motor transport battalion, he reorganized it as a provisional armored reconnaissance battalion. This was the first fruit of work he had begun in 1921, planning for the creation of tank (panzer) forces.

In October 1935, Guderian left the staff post to assume command of the 2nd Panzer Division at Würzburg. The following year, he was promoted from colonel to major general and, in 1937, gained international attention in military circles with his *Achtung! Panzer* (*Attention! Armor*), a compact book into which he had distilled his highly advanced theories of mechanized warfare.

During 1937–38, Guderian commanded XVI Corps, comprising three panzer divisions. During *Anschluss,* he led the 2nd Panzer Division through Linz to Vienna (March 12–13, 1938). At the outbreak of World War II, he led XIX Panzer Corps in the invasion of Poland (September 1–October 5, 1939), providing a devastating demonstration of

the role of armor in Blitzkrieg by advancing with great speed from Pomerania across the Polish Corridor, on September 4, to capture Brest-Litovsk during September 16–17. Reinforced, the XIX Corps was next placed under Panzer Group Kleist for the campaign in France. Guderian and his unit were in the vanguard of the Battle of France on May 10, 1940, crossing the Meuse River at Sedan and reaching the English Channel coast on May 19. Guderian had led the panzers through the forest of the Ardennes, which the French considered impassable and, therefore, had failed to defend adequately.

Guderian and his panzers raced across France and outran the conventional infantry units participating in the invasion. The panzers were closing in on British and French troops at Dunkirk, forcing them back against the English Channel, when Guderian was ordered to halt on authority of Adolf Hitler. Hitler and his top advisers feared that Guderian would be counterattacked, and they wanted him to wait for an infantry build up. The delay allowed the British and French to be evacuated, thereby saving the British Expeditionary Force from annihilation. By stopping Guderian, Hitler had sacrificed a probable opportunity to force Britain into a negotiated peace.

With the fall of France, Guderian's XIX Corps was on the Swiss frontier near Basel, and, by November 1940, was expanded into 2nd Panzer Group. It became part of Field Marshal Fedor von Bock's Army Group Center during the invasion of the Soviet Union, which stepped off on June 22, 1941. During the invasion, Guderian's 2nd Panzers, along with the 3rd Panzer Group, encircled Soviet forces at Minsk on July 10. They went on to surround Smolensk and to capture Roslavl during July 12–August 8, 1941. From these victories, Guderian was sent south to coordinate operations with the 4th Panzer Group of Field Marshal Gerd von Rundstedt's Army Group South in a massive maneuver to encircle 600,000 Red Army troops in the "Kiev pocket," which was accomplished during August 21–September 6.

Guderian's next offensive push, on the Soviet capital of Moscow, was stalled by a combination of early winter weather and increasingly formidable Soviet resistance during October 23–November 7, 1941. Deeming his situation desperate, Guderian sought permission from higher command to withdraw from exposed positions around Tula during December 5–26. By way of response, he was summarily relieved of command and replaced by General Gunther von Kluge on December 26, 1941. Following this, Guderian fell ill and was out of action until February 1943, when he was recalled to duty as inspector general of panzer troops. By this time, however, the magnificent panzers had been badly mauled at the Battle of Stalingrad, and Guderian set about the task of rebuilding German armor. In this effort, he worked closely with Reich Armaments Minister Albert Speer to increase and accelerate tank production.

On July 21, 1943, Guderian replaced General Kurt Zeitzler as army chief of staff, but, as the war was coming to an end, Hitler dismissed Guderian on March 28, 1945. He was held under arrest by the Allies for several months after the German surrender but, unlike many other top generals, was not charged with war crimes. Today, he is recognized as one of the pioneers in the doctrine of armored warfare.

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Gustav Line

The Gustav Line was a chain of German defensive positions northwest of Naples during the Italian Campaign. It was set up originally as a fallback defense behind the much lighter Bernhardt Line, which ran from a position near Minturno, northwest of Naples, along the Garigliano River, through the mountains, and to the east coast at Fossacesia. The Gustav Line also served to cover the gap between the western end of the Bernhardt Line near Minturno. The most prominent strong point along the Gustav Line was Monte Cassino, scene of

the extremely destructive and bloody Battles of Cassino.

The completion of the Gustav Line effectively incorporated the Bernhardt Line, so that the entire series of fortified positions was referred to as the Gustav Line. With the Hitler Line, running from Terracina on Italy's west coast, to Monte Cairo, the Gustav Line was often called the Winter Line by the Allies who battered long and hard against it.

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H

Hahn, Otto (1879–1968) *German scientist credited with the discovery of nuclear fission*

Born into the family of a Frankfurt glazier, Hahn studied chemistry at the University of Marburg, earning his doctorate in 1901. He served briefly in the military, then taught at Marburg before moving to London in 1904. Here he worked at University College with the British scientist Sir William Ramsay. The two men studied phenomena associated with radioactivity, and, in the course of this work, Hahn discovered the existence of a new radioactive substance, radiothorium, a breakthrough that, with Ramsay's help, earned Hahn a post on the faculty of the University of Berlin. Before beginning his duties there, Hahn worked briefly with the British physicist Ernest Rutherford in Montreal, then, once in Germany again, collaborated with the brilliant Austrian physicist Lise Meitner. In 1911, Hahn and Meitner took their work to the newly opened Kaiser Wilhelm Institute for Chemistry at Berlin-Dahlen, where Hahn headed the department of radiochemistry. This would become the nexus of German research on radioactivity and, ultimately, on nuclear fission, the basis (among many other things) of atomic weaponry.

During World War I, Hahn was attached to a military regiment and served his country as a specialist in chemical warfare, including the production and use of poison gases. Following the armistice, he and Meitner returned to atomic research. In 1934, Hahn began studying the recent work of the Italian physicist Enrico Fermi, who had observed that bombarding uranium with neutrons produced a number of radioactive substances, which Fermi theorized were artificial elements similar to uranium. Hahn and Meitner, assisted by the chemist Fritz Strassmann, reached a different conclusion. In the midst of this work, however, in 1938, Meitner, a Jew, fled Germany to escape Nazi persecution, and Hahn carried on with Strassmann. At length, the two concluded that bombarding uranium with neutrons produced (among other products) the element barium. The only possible interpretation of this phenomenon was that the uranium atom had split into two lighter atoms. Conventional chemical theory held that atoms were irreducible and that one element could not, therefore, be converted to another. Hahn and Strassmann had demonstrated that atoms can be "split" (made to undergo fission) and that the result was the creation of atoms of a different, lighter element. After Hahn sent a report of the work to Meitner, she and her nephew Otto Frisch proposed an explanation of the process they called nuclear fission.

Even before World War II began, Hahn and other scientists (most notably Werner Heisenberg) were assembled under authority of the German government to study military applications of the discovery. During the war, Heisenberg led scientists in a more focused effort to develop a fission weapon. Vague but menacing reports of Hahn and

Heisenberg's work in this direction alarmed scientists outside Germany, including the Hungarian expatriate Leo Szilard, who prevailed upon the most famous physicist of the era, Albert Einstein, to endorse a letter to President Franklin D. Roosevelt apprising him of German work on a fission weapon and advising that the government sanction a nuclear research effort in the United States. As it turned out, German progress toward an atomic bomb was hampered by inadequate government support and, possibly, scientific errors (or even Heisenberg's deliberate misdirection), so that there was relatively little danger that Adolf Hitler would have obtained a weapon before the end of the war. As for Hahn, who had shown willingness during World War I to work on poison gas weapons, he seems to have been motivated by nothing more than a desire to be allowed to continue his work.

After the war ended, Hahn and other German nuclear scientists were taken to England. While there, Hahn learned that he had been awarded the Nobel Prize for 1944. The news that the United States had actually developed and used atomic weapons against Japan came to him as a profound shock. Hahn returned to Germany and was elected president of the Max Planck Society for the Advancement of Science (formerly the Kaiser Wilhelm Society). He also became an outspoken public advocate of banning both the further development and testing of nuclear weapons.

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Halsey, William "Bull" (1882–1959) *U.S. admiral in the Pacific theater*

William "Bull" Halsey was born in Elizabeth, New Jersey, the son of a naval officer. He graduated from the U.S. Naval Academy at Annapolis in 1904 and was commissioned an ensign in 1906. Halsey sailed with Admiral George Dewey on the world-circling cruise of the Great White Fleet from August 1907 to February 1909. He subsequently attended torpedo school at Charleston, South Carolina, and was assigned duty aboard destroyers and torpedo boats before being given command of the destroyers *Flusser* in 1912 and *Jervis* in 1913. The latter vessel he commanded during the occupation of Veracruz (April–October 1914) and left it in 1915, when he was attached to the executive department at the Naval Academy. Halsey was promoted to lieutenant commander in August 1916, and, with American entry into World War I, was assigned command of two destroyers, the *Duncan* and *Benham,* performing convoy escort duty from a base in Queenstown, Ireland. After the armistice, Halsey commanded destroyers in the Atlantic as well as the Pacific through 1921, when he was transferred from sea duty to the Office of Naval Intelligence.

In 1922, Halsey was named naval attaché in Berlin and, subsequently, became attaché in Norway, Denmark, and Sweden. He returned to sea duty in 1924 aboard destroyers in the Atlantic, then transferred to the battleship *Wyoming* as executive officer during 1926–27. Promoted to captain in February 1927, he was given command of the

Admiral "Bull" Halsey (center) attends a party for officers aboard the USS *Saratoga,* 1943. *(National Archives and Records Administration)*

Reina Mercedes (IX-25), the post ship at Annapolis, which had been captured from the Spaniards in 1898. In 1930, Halsey assumed command of Destroyer Squadron 14, serving until 1932, when he enrolled in the Naval War College (graduated 1933) and the Army War College (graduated 1934).

Seeing the future of naval warfare in carrier-based aviation, Halsey, at the age of 52, completed flight training at Pensacola, Florida, in May 1935 and assumed command of the aircraft carrier *Saratoga* that July. Two years later, he returned to Pensacola as commander of the Pensacola Naval Air Station. After promotion to rear admiral in March 1938, he took command of Carrier Division 2, followed by command of Carrier Division 1 in 1939. Halsey was promoted to vice admiral in June 1940 and was assigned to command Aircraft Battle Force as well as returning to command of Carrier Division 2. He was at sea with the carriers *Enterprise* and *Yorktown* during the Battle of Pearl Harbor on December 7, 1941. This fortuitously saved the carriers from destruction, and he used them in the months that followed to raid outlying Japanese islands in the Central Pacific (January–May 1942). He also worked with U.S. Army Air Corps colonel James H. Doolittle in carrying out the Doolittle Tokyo Raid, launching 16 B-25 bombers from the carrier *Hornet.*

Late in May 1942, Halsey fell seriously ill and was compelled to turn command over to Raymond Ames Spruance. His illness caused him to miss the turning-point Battle of Midway on June 4, 1942. However, by October, Halsey was returned to active duty and was tapped by Admiral Chester A. Nimitz to replace Robert L. Ghormley as commander of South Pacific Force and Area. Suffering a tactical defeat in his first engagement, at Santa Cruz (October 26–28) during the Guadalcanal Campaign, he nevertheless scored a critical strategic victory by maintaining station off Guadalcanal, thereby preventing Japanese reinforcement of its invasion force on the island. During November 12–15, Halsey defeated the Japanese at sea off the island, then commanded naval support efforts for the capture of the rest of the Solomon Islands. During the Bougainville Campaign, he commanded sea operations that isolated the key Japanese base at Rabaul, rendering it vulnerable during the ensuing Battles of Rabaul.

Named commander of Third Fleet in June 1944, Halsey directed landings at Leyte in the Philippines (October 17–20, 1944) from his flagship, the battleship *New Jersey.* He faltered here by allowing himself to be decoyed into pursuit of the remnant of the Japanese carrier force off Luzon on October 25, 1944. Although he sank four Japanese vessels in this action, he left San Bernardino Strait covered only by a weak force of escort carriers and destroyers, which were attacked by Admiral Takeo Kurita's significantly superior Central Force. Despite being both outnumbered and outclassed, the Americans managed to repulse the attack in the Battle of Samar (October 25). In the meantime, Halsey dashed back to San Bernardino Strait to reinforce the beleaguered detachment in an operation that became known as "Bull's Run." This incident, however, stained Halsey's reputation, and he suffered an additional reverse when his Third Fleet, supporting amphibious operations in the Philippines, was stuck by a typhoon that sank three destroyer escorts in December. Despite this, Halsey went on to sweep through the South China Sea, destroying massive amounts of Japanese tonnage during January 10–20, 1945.

Halsey turned over command to Spruance, then returned to sea-going command during the last stages of the Okinawa Campaign (May–June 22, 1945) and the raids against the Japanese home islands during July and August. Japan's formal surrender took place aboard Halsey's new flagship, the battleship *Missouri,* in Tokyo Bay on September 2.

In November, Halsey turned over command of Third Fleet to Admiral Howard Kingman, was promoted to fleet admiral the following month, and was assigned to special duty in the office of the secretary of the navy until he retired in April 1947. In civilian life, Halsey held a number of executive and advisory positions in business, but he also was repeatedly compelled to defend his actions during the Philippines campaign. Despite this, "Bull" Halsey was greatly loved by the public

and is remembered as one of the U.S. Navy's heroic commanders.

See also PHILIPPINES, FALL AND RECONQUEST OF.

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Harris, Sir Arthur Travers "Bomber" (1892–1984) *British air marshal*

Sir Arthur Travers, first Baronet Harris, was born at Cheltenham, Gloucestershire, and was educated at Sittingbourne. His first military service was with a Rhodesian regiment in Africa from 1914 to 1915, when he transferred to the Royal Flying Corps and served in Europe on the western front. After World War I, Harris briefly flew with the Home Defense Command of the Royal Air Force (RAF), then transferred to service in India and the Middle East in 1919. He served in foreign posts until about 1936, when he became a member of the RAF planning staff in England.

At the outbreak of World War II, in September 1939, Harris was commanding officer of Bomber Group 5. Within less than a year, he was named deputy chief of the Air Staff, serving in this capacity from 1940 to 1941. In February 1942, Harris was appointed chief of Bomber Command and set about reevaluating British bomber performance. In contrast to U.S. Army Air Forces doctrine, which espoused precision daylight bombing, Harris advocated area bombing, targeting large industrial areas with incendiary and high-explosive bombs in an effort to disrupt German industry. Working closely with Prime Minister WINSTON CHURCHILL, Harris also departed from American doctrine by advocating nighttime raids beginning in summer 1943. Harris argued that area bombing did not require daylight and that the night sky offered more protection from fighters and antiaircraft fire. The nighttime strategy also allowed for better coordination with the American effort, achieving round-the-clock bombardment. While the Americans continued a regime of precision bombing by day, Harris employed area bombing by night.

Although his aggressiveness was widely admired, Harris was also criticized for two of his policies. First, area bombing caused excessive collateral damage, to the point that many considered it deliberate terrorism against civilian populations. Second, neither area bombing—nor, for that matter, precision bombing, nor the combination of the two—succeeded in greatly crippling German industry. Much manufacturing, especially aircraft production, was moved underground and remained fairly immune to the bombing, despite its unrelenting intensity. Harris was especially criticized for the DRESDEN AIR RAID of February 13–14, 1945, which created a tragically devastating firestorm that killed tens of thousands of civilians, destroyed a showplace medieval city, and yet served little military purpose. Harris retired after the war and was created baronet in 1953.

See also STRATEGIC BOMBING OF GERMANY.

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Heisenberg, Werner (1901–1976) *physicist who led German atomic bomb research in World War II*

Born in Wurzburg, Germany, Werner Karl Heisenberg was awarded the Nobel Prize in Physics in 1932 for his pioneering work in quantum mechanics. He may be even better known for his 1927 "uncertainty principle," which has implications not only for physics but for the broader field of philosophy as a definition of the absolute limit of knowledge of the physical world. In addition, Heisenberg worked in the areas of the hydrodynamics of tur-

bulence, the nature of the atomic nucleus, the nature of ferromagnetism, cosmic rays, and elementary particles. During World War II, he was the leader of German scientists at work on transforming the principle of nuclear fission into a nuclear reactor and, ultimately, a nuclear weapon.

Heisenberg was at the forefront of 20th-century physics and was an original thinker as well as a great synthesizer of the work of Niels Bohr and Albert Einstein. He studied physics at the University of Munich in company with the remarkable Wolfgang Pauli and under the tutelage of Arnold Sommerfeld. Receiving his doctorate in 1923, Heisenberg followed Pauli to the University of Göttingen, where he studied under Max Born. In 1924, he continued advanced studies with Niels Bohr at the Institute for Theoretical Physics in Copenhagen. Heisenberg reinterpreted Bohr's atomic model to produce a new model that involved a radical revision of quantum theory and created an entire new discipline: the quantum mechanics of atomic systems. This, in turn, gave rise to what Heisenberg termed matrix mechanics, a field of inquiry that led to a new understanding of mechanics on the subatomic level and, in 1927, to the formulation of the uncertainty principle, an elegant mathematical statement of the theoretical limitations of observation, measurement, and knowledge. Heisenberg demonstrated that, at the subatomic level, the measurement of the position and the momentum of an atomic particle could not be determined precisely because the measurement of one necessarily affects the measurement of the other. In effect, Heisenberg had described the ultimate "graininess" of the universe, the level beyond which knowing was simply and absolutely impossible.

From 1927 to 1941, Heisenberg taught at the University of Leipzig. During most of World War II, he served as director of the government-funded Kaiser Wilhelm Institute for Physics (today known as the Max Planck Institute of Physics) in Berlin. Heisenberg was not an overt or vocal opponent of Nazism. Although he was privately opposed to Nazi ideology and policies, he was nevertheless publicly silent concerning them. During the war, he worked with Otto Hahn to develop a nuclear reactor, which was a project preparatory to the development of nuclear weapons. Heisenberg's role in this work has long been problematical for historians as well as scientists. Some believe that Heisenberg, the leader of the Nazi atomic bomb effort, earnestly tried to produce a weapon, but failed. Others believe that he deliberately misled government overseers, effectively sabotaging the work, and that he never intended to give Adolf Hitler an atomic bomb. These individuals further suggest that, as director of the Kaiser Wilhelm Institute, Heisenberg operated to save the lives of Jewish scientists and others who had fallen afoul of the Nazi regime. They further suggest that Heisenberg remained in Germany and at least apparently served the Third Reich in an effort to preserve German science from total destruction during the war. The most recent evidence suggests that Heisenberg did, in fact, work in earnest on a nuclear reactor and even on a nuclear weapon but failed because of a combination of theoretical errors and lack of technical resources. The full truth may never be known, however, and, as was the case during and immediately after the war, Heisenberg will probably always have his detractors and defenders.

After the war, Heisenberg created and became director of the Max Planck Institute for Physics and Astrophysics at Göttingen, then moved with the institute to Munich in 1958. He continued pursuing highly advanced work in theoretical physics and mathematics, and he became a vocal international advocate for the peaceful use of atomic energy.

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Hess, Rudolf W. (1894–1987) *deputy Nazi Party leader*

A merchant's son, Hess was born in Alexandria, Egypt, and saw service in the German Army during World War I. After the armistice, he attended the University of Munich and there became involved in

the beginnings of the Nazi Party (NSDAP) in 1920. Working closely with Adolf Hitler, he became a member of his inner circle and was part of Hitler's failed 1923 "Beer Hall Putsch." Although Hess made his way to Austria after this coup attempt, he turned himself in and was incarcerated at Landsberg Prison, where he collaborated with Hitler, also held there, on the latter's autobiographical manifesto, *Mein Kampf*. This earned Hess the post of Hitler's private secretary.

In 1932, following the defection of certain left-leaning party members, Hitler assigned Hess to reorganize the party leadership. This he did with great effectiveness and, in April 1933, was appointed deputy party leader. With the ascension of Hitler as chancellor of Germany, Hess entered the cabinet, and, in 1939, Hitler formally proclaimed Hess to be second to Hermann Göring in the line of succession as party leader and führer.

Hess's rise in the Nazi Party and Nazi governing regime was the result of his intense, even doglike, loyalty to Hitler rather than to his own intelligence or political talent, both of which were manifestly limited. Indeed, Hess garnered little respect from others in the party, and by the late 1930s and beginning of World War II, his influence in both the party and the government rapidly diminished as others, more sophisticated politically and diplomatically, gained power. In a rare flash of initiative but with little forethought and with neither the knowledge nor approval of Hitler, Hess embarked on a one-man mission to Britain for the purpose of negotiating peace between the two countries. His hope, apparently, was that in a single stroke, he might restore his place within the Nazi hierarchy.

On May 10, 1941, Hess flew from Augsburg and parachuted into Scotland bearing a proposal, of his own invention, that Britain give Germany leave to pursue its war aims on the continent and that it return all former German colonies to the reich in exchange for Germany's pledge to keep hands off the British Empire. It was, of course, an absurdly Quixotic mission, and no British government official dignified the proposal with a response. Instead, Hess was taken into immediate custody as a prisoner of war. Even Hitler disavowed the act as that of a person suffering from "pacifist delusions."

Held through the duration of World War II, Hess was remanded to the Nuremberg War Crimes Tribunal after the war and tried for war crimes. Found guilty, he was sentenced to life imprisonment, a sentence he served in Berlin's Spandau Prison. From 1966 until his death in 1987, the hapless Hess was the only inmate there.

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Heydrich, Reinhard (1904–1942) *SS deputy who was a key perpetrator of the Holocaust*

Reinhard Tristan Eugen Heydrich was born in Halle, Germany, into a highly cultivated musical family. Heydrich's father was the headmaster of a musical conservatory and a prominent Wagnerian tenor. From his father, Heydrich received both a musical education (he played the violin at a professional level) and indoctrination into the cult of Richard Wagner, whose music informed the philosophy of Adolf Hitler and the racial mythology of Nazism. Despite his ideological pedigree, Reinhard Heydrich would be dogged throughout his career by shadowy rumors, apparently unfounded, of Jewish ancestry.

In 1919, Heydrich joined the Freikorps, then entered the German Navy in 1922 with a commission as an officer. In 1931, he was discharged for misconduct after he refused to marry a shipyard official's daughter with whom he was conducting a sexual liaison. Once out of the navy, Heydrich joined the Schutzstaffel (SS) and met SS chief Heinrich Himmler. Greatly impressed with young Heydrich, Himmler assigned him to organize the Sicherheitsdienst (SD), the SS "Security Service," which Heydrich helped to fashion into a ruthlessly efficient intelligence and surveillance organization. With Hitler's elevation as chancellor of Germany in 1933, Heydrich was named chief of

the political department of the Munich police. He used this position to bring the political departments of all German police forces under the control of the SS and Heinrich Himmler. This catapulted Heydrich into the top levels of the SD. However, Heydrich also recognized that he was unlikely to advance beyond Himmler. Appointed SS chief for Berlin in 1934, Heydrich took full operational charge of the SD as well as the criminal police and the GESTAPO in 1936, after Himmler was appointed chief of all German police forces.

Heydrich used his new positions so aggressively that he earned the sobriquet *Der Henker,* "the Hangman." He not only played a key role in the 1938 purge of the German Army high command, but also masterminded a program of disinformation that helped to incite JOSEPH STALIN to purge the Red Army, an action that greatly weakened the Soviet officer corps on the eve of World War II. Heydrich's position as chief of the Gestapo gave him virtually unlimited powers of arrest. He was one of the architects of *KRISTALLNACHT* in November 1938, and he saw to it that this government-sanctioned outburst of anti-Semitic violence occasioned the round-up and imprisonment of thousands of Jews. This marked the beginning of THE HOLOCAUST.

In 1939, Heydrich was appointed head of the Reichssicherheitshauptamt ("Reich Security Central Office"), which expanded his police administrative authority to encompass all security and secret police in the Third Reich. It was Heydrich who set up the faked Polish attack on a German radio transmitter at the frontier town of Gleiwitz, which served as the pretext for the INVASION OF POLAND that started World War II on September 1, 1939. Early in the war, Heydrich collaborated with ADOLF EICHMANN in organizing the FINAL SOLUTION, the systematic genocide of all European Jewry. This process began with deportation of Jews from Germany and Austria to Polish ghettos, then continued with the killing of Soviet and Polish Jews by SS Einsatzgruppen, "deployment groups," Heydrich organized to follow the conquering Nazi armies, round up the Jews in occupied territories, and kill them.

Despite the Einsatzgruppen, Heydrich apparently did not initially conceive a plan to kill all European Jews. His object was to remove them completely from German life, which, he believed, would soon encompass the life of all Europe. He first planned to accomplish this removal by confining Jews to reservations established to contain them, and he next proposed the deportation of all European Jews to Madagascar. When these plans appeared manifestly unfeasible, the only choice left, he believed, was genocide, and, on July 31, 1941, HERMANN GÖRING personally authorized Heydrich to carry out the Final Solution. This led to the WANNSEE CONFERENCE of January 20, 1942, chaired by Heydrich, at which top regime authorities were charged with creating the logistics of genocide.

In addition to a leadership role in the German secret police agencies and as architect of the Final Solution, Heydrich, as of September 1941, served as Reichsprotektor (governor) of Bohemia and Moravia, the former Czechoslovakia. He ruled with an iron hand, making extensive use of terror, torture, and mass executions to "pacify" the Czech population and suppress RESISTANCE MOVEMENTS. On May 27, 1942, two resistance operatives, members of the Free Czech movement, hurled a bomb at Heydrich's car and fired shots at him as he was driven through the streets of Prague. The supremely arrogant Heydrich assumed that his measures of extreme repression had extinguished any and all resistance, and thus he was not accompanied by armed escorts. Severely wounded in the assault, Heydrich died on June 4. This triggered horrific SS reprisals throughout the former Czechoslovakia, including the infamous massacre of Lidice.

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Higashikuni Naruhiko (1887–1990) *Japan's general commander of defense*

Born in Kyoto, the ninth son of Prince Kuni Asahiko and the court lady Terao Utako, Higashikuni Naruhiko was likewise a prince who secured permission from Emperor Meiji to start a new branch of the imperial family. Higashikuni graduated from the Imperial Military Academy in 1908 and the Army War College in 1914. Like other high-ranking members of the Japanese military, Higashikuni also received schooling in the West, at the École Supérieure de Guerre in Paris from 1920 to 1922. He then returned to Japan and rose rapidly through the ranks. As a general officer, he commanded the 5th Infantry Brigade (1930–34) and the 4th Army Division (1934–37). At the outbreak of the Sino-Japanese War, he took command of the Military Aviation Department (1937–38) and then of the Second Army in China (1938–39).

In 1939, Higashikuni was elevated to the Supreme War Council and, upon Japan's entry into World War II, became commander of the Home Defense Command. In 1944, after the U.S. victory in the Battle of Saipan, Higashikuni conspired with a group of fellow nobles and members of the imperial family to remove General Tojo Hideki, who had been effectively the military dictator of Japan, from the office of prime minister. This did not, however, alter the course of the war.

Even before Japan formally surrendered, Higashikuni was named the nation's 43rd prime minister on August 17, 1945. He served only to October 9, 1945, at just 54 days, the briefest tenure of any Japanese prime minister. In October 1947, Higashikuni Naruhiko forfeited his title as well as his membership in the imperial family during the U.S. occupation with its many attendant reforms. He turned to a series of merchant enterprises, all of which failed, then became the chief priest of a new religious order, which was quickly banned by U.S. occupation authorities. After this, he became a Buddhist monk and lived in religious retirement to the remarkable age of 102.

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Himmler, Heinrich (1900–1945) *Adolf Hitler's chief lieutenant in the Third Reich*

Heinrich Himmler was born in Munich, the son of a Roman Catholic schoolmaster. Himmler was trained in cadet officer school toward the end of World War I but never saw service. After the armistice, he enrolled in a technical school, from which he received a diploma in agriculture, then went on to work as a fertilizer salesman and as a chicken farmer while also becoming increasingly active politically. He joined several right-wing paramilitary organizations loosely affiliated with the Freikorps. As a member of Ernst Röhm's Reichskriegsflagge ("Imperial War Flag"), he was a participant in the "Beer Hall Putsch" of November 1923 and joined the Nazi Party (NSDAP) two years later. An early favorite of Adolf Hitler, Himmler quickly ascended through the party ranks, gaining election as a deputy to the Reichstag in 1930. Even more important, Hitler appointed him Reichsführer (leader) of the Schutzstaffel (SS) in 1927, which was at the time Hitler's personal corps of bodyguards. At its inception, the SS was under the control of the Sturmabteilung (SA), but Himmler seized the opportunity to expand this elite corps so that it soon rivaled its nominal parent organization. By 1933, SS membership reached 53,000.

By the time Hitler became chancellor of Germany on January 30, 1933, Heinrich Himmler was a very powerful man. The new chancellor named him chief of the Munich police and shortly afterward commander of all German police units outside Prussia. This, combined with his SS leadership, gave Himmler almost absolute police powers throughout Germany. He established Dachau concentration camp in March 1933, the first such camp created in the Third Reich.

In April 1934, Himmler further consolidated his control of Germany's policing structure with

his appointment as assistant chief of the Gestapo (Secret State Police) in Prussia. Two years later, he assumed total command of all Germany's police agencies. Before this, however, he saw to the elimination of the only real threat to his power, the SA. It was Himmler who persuaded Hitler that Ernst Röhm and his followers were a danger to the party, and it was Himmler who planned and saw to the execution of the "Night of the Long Knives," the June 30, 1934, purge in which the SA was eliminated. The purge not only gave Hitler final and complete control of the Nazi Party, it left the SS as the only armed branch of the party. Under Himmler, it became second only to the German Army as the most powerful armed force in Germany. Himmler saw to it that the SS obtained absolute police powers, not only in Germany but with the commencement of the war within all the occupied territories as well. The SS also oversaw security, espionage, and counterespionage activities, although in these areas it often conflicted with such agencies as the Abwehr under Admiral Wilhelm Canaris.

Himmler built up the SS in three significant ways. In 1931, he created the SS Race and Settlement Office (SS-Rasse und Siedlungsamt), in which Nazi anti-Semitism was thoroughly institutionalized and most policies of the Final Solution initially formulated, as well as other aspects of the racial basis of Nazism. In 1939, Himmler established the Waffen SS, a complete army existing parallel to and outside the control of the Wehrmacht. By the end of World War II, the Waffen SS was 800,000 strong and included troops from occupied countries. An elite force, the Waffen SS was highly effective and fanatically loyal to Himmler and Hitler. Finally, during the invasion of the Soviet Union, Hitler delegated Himmler to administer all conquered Soviet territory and to do so with the goal of totally eliminating the Soviet system. To accomplish this, Himmler created the SS Einsatzgruppen ("deployment groups"), which followed close behind the advancing army and saw to the murder of local Soviet political leaders pursuant to Hitler's Commissar Order and to the mass murder of Jews.

Heinrich Himmler *(Library of Congress)*

In addition to organizing the SS Einsatzgruppen, Himmler was responsible for perpetrating much of the Holocaust by establishing concentration and extermination camps in German-occupied Poland. These camps were not only the site of genocide, they also were the source of slave labor for the German war machine. The SS charged German war industries a fee for each worker it provided and thus became a profit center for the Third Reich even as it supplied labor for war production.

In 1943, Himmler added the title of minister of the interior and plenipotentiary for reich administration to his other duties. In addition to his continued expansion of the Waffen SS, he consolidated his absolute control of all German intelligence as

well as oversight of the armaments industry. Having created a massive slave labor operation, Himmler sought to establish a war industries empire solely controlled by his SS. This brought him into direct conflict with Albert Speer, Hitler's appointed minister for armaments and war production. Himmler plotted, abortively, the assassination of his rival in February 1944.

As the German war effort became increasingly desperate in 1944, Himmler also created and controlled the Volkssturm ("People's Storm Troop"), a conscript home guard army of overage men and underage boys. At the very end of the war, Himmler created the secret Werewolf force, a guerrilla army that would (he hoped) carry on the fight even after the conventional forces had been defeated. Additionally, Himmler assumed personal command of two conventional army groups with disastrous results.

Like Hitler, Himmler descended into profound mental instability as the war became hopeless. During the closing months of the conflict, he was in a state of nervous collapse, and Hitler marginalized him within what little order was left of the Nazi regime. In April 1945, Himmler secretly made overtures through Count Folke Bernadotte of neutral Sweden to offer surrender terms to the Allies, and he also approached the Allies more directly with a proposal that he be permitted to succeed Hitler as head of state and join the western Allies in turning the war *against* the Soviet Union. Himmler also ordered a halt to the mass slaughter in the death camps, apparently as a gesture to appease the Allies. (The order went unheeded.)

Himmler's overtures were rebuffed, but word of them reached Hitler, who summarily stripped Himmler of all his offices and ordered his arrest. This Himmler evaded by disguising himself as a private, and he also hoped in this way to escape capture by the advancing Allies. He was, however, taken prisoner by the western Allies after the German surrender. While in captivity in Lüneburg, Heinrich Himmler killed himself by swallowing a cyanide capsule on May 23, 1945.

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Hiranuma Kiichiro (1865–1952) *Japanese statesman and militarist*

Baron Hiranuma Kiichiro was one of Japan's leading right-wing militarists who, in 1924, founded Kokuhonsha, which became a hotbed of the Japanese militarism that would lead first to aggression against China and the Sino-Japanese War, then, ultimately, to Japan's involvement in World War II. Hiranuma's official government post was minister of justice (1923), but he exerted his greatest influence as head of the Kokuhonsha, which attracted the most powerful military, business, and political figures in the country. This resulted in Hiranuma's elevation in 1926 to the vice presidency of the privy council, the inner circle of Japanese government. It was Hiranuma who drove Japan's withdrawal from the League of Nations as well as its abrogation of the Washington Naval Treaty, which had limited the expansion of the Japanese Imperial Fleet. Hiranuma also encouraged the signing of the Anti-Comintern Pact, immediate precursor to the Axis (Tripartite) Pact.

In February 1936, an abortive military coup d'état catapulted Hiranuma to the presidency of the privy council, and in 1939, he became prime minister, resigning later that year to protest the German-Soviet Non-Aggression Pact. However, he continued to serve as president of the privy council and was named home minister in 1940. In these posts, Hiranuma was unflagging in his advocacy of all-out war, and even after Japan had clearly

suffered military defeat, he supported the call of Tojo Hideki to fight to the last Japanese man and woman.

After the surrender of Japan, Hiranuma was arrested and tried in 1946 in the Tokyo War Crimes Trials. Found guilty, he was sentenced to life imprisonment but was released in 1951.

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Hirohito (1901–1989) *emperor of Japan*

Hirohito Michinomiya was born at the Aoyama Palace in Tokyo and received an education befitting a future emperor at the Peers' School and at the Crown Prince's Institute. A scholarly young man, Hirohito developed an intense interest in marine biology, a subject on which he became an internationally recognized authority and the author of a number of books in the field. Despite his sheltered upbringing, Hirohito was an urbane figure who became the first Japanese crown prince to travel abroad when he toured Europe in 1921. When he returned to Japan, he was named prince regent because his father, the emperor Taisho, suffering from mental illness, had stepped down from the throne. Hirohito married the princess Nagako Kuni in 1924 and, upon the death of his father, ascended the Chrysanthemum Throne of Imperial Japan on December 25, 1926.

The honorific name conferred on the reign of Hirohito was Shxwa, or "Enlightened Peace." This designation would prove supremely ironic, as Hirohito, head of the Japanese state, would bear personal responsibility for his nation's aggressive actions first against China and then, in World War II, against other subject peoples as well as the Allied nations. His ultimate responsibility notwithstanding, it is by no means certain just how to gauge Hirohito's actual role in the war. Most historians believe that Hirohito personally opposed going to war with the Allies and the United States in particular, but that his paradoxical position as an emperor of modern Japan, in principle absolute and supreme in his authority but in practice subject to the will of ministers, advisers, and the military, gave him little latitude in preventing the war. Yet even while conceding the precarious position Hirohito occupied, a significant number of historians suggest that Hirohito did, in fact, actively participate in planning for the expansion of the Japanese empire

Emperor Hirohito *(Library of Congress)*

beginning as early as 1931. At the very least, he never acted to oppose the rise of right-wing militarists in the Japanese government, and his silence may (the historians argue) be taken as a token of his tacit approval.

While Hirohito *reigned* before and during World War II, he did not *rule.* Subject to the Meiji Constitution of 1889, his political and administrative prerogatives were limited, and most actual power was delegated to a variety of ministers. This notwithstanding, Hirohito was revered as a god on Earth, and he might well have brought moral pressure to bear in preventing the war. As it was, during the conflict, he made appearances among the troops astride a white horse and exhorted them to render the supreme effort in battle. Perhaps all that can be said for certain about Hirohito and World War II is that he could do little to counter the will of the militarists in the government, but he did not do even what little was available to him, and in his appearances before the troops, he was unambiguously martial.

Hirohito did finally assert himself in August 1945, after the atomic bombings of Hiroshima and Nagasaki. Whereas a substantial contingent of diehard militarists, both in the military and in the government, advocated fighting the war to the finish—that is, to the death of the last Japanese man and woman—Hirohito risked provoking a coup d'état by siding with the ministerial faction that advocated surrender, and he recorded a radio broadcast to the Japanese people announcing Japan's acceptance of the Allied terms. Broadcast on August 15, 1945, it was the first time the emperor's subjects had heard his voice. Whatever role Hirohito had played in bringing about the war, whether by acts of commission or omission, it is indisputable that he was instrumental in ending the war.

In the immediate postwar weeks and months, Hirohito neither sought nor received any guarantee of immunity from prosecution for war crimes. Many in the Allied nations, especially Australia and the United States, believed that he should stand trial. However, the administration of Harry S. Truman favored permitting Hirohito to remain on the throne, albeit subject to the authority of Supreme Allied Commander General Douglas MacArthur, who was head of the government of military occupation. Hirohito, apparently anxious only to see to the welfare of his people, closely cooperated with MacArthur and thereby promoted the generally harmonious and highly effective administration of the occupation government. In a radio broadcast on January 1, 1946, Hirohito sought to pave the way for the institution of true democracy in Japan by explicitly repudiating the traditional divine status of Japan's emperors. This made it possible for the government and the people to accept a new constitution, drafted chiefly by MacArthur and other U.S. occupation officials, which made Japan a constitutional monarchy on the Western model.

If Hirohito had had great titular power but little actual power before and during the war, he now relinquished even the appearance of absolute authority by acknowledging that sovereignty lay not with the emperor but with the democratic will of the people. Nor did Hirohito acknowledge this merely in the letter of the new law. He sought to promote a genuinely democratic spirit by making himself publicly accessible to an unprecedented degree and was frequently seen and heard in public. Even more astoundingly, his oldest son, Crown Prince Akihito, married a commoner, Shoda Michiko, in 1959, ending a 1,500-year tradition of the insular imperial family. In 1971, Hirohito became the first reigning Japanese emperor to travel abroad when he made a tour of Europe. Four years later, he made a state visit to the United States. The imperial succession was preserved, however, as Akihito ascended the throne upon the death of his father in 1989.

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Hiroshima, atomic bombing of

Hiroshima, a Japanese city and manufacturing center of some 350,000 people about 500 miles from Tokyo, was the target of the first militarily operational atomic bomb. A product of the vast MANHATTAN PROJECT, the bomb, dubbed Little Boy, had been delivered to an airfield on the captured Pacific island of Tinian by the cruiser *Indianapolis.* The bomb was loaded aboard a B-29 that had been specially modified to accommodate the nearly 8,000-ton, 9-foot-9-inch device. Its explosive yield, derived from the implosion of a uranium-235 core, was 12.5 kilotons, that is, the equivalent of 12.5 kilotons of conventional TNT. Of course, the explosion is only one aspect of the lethality of an atomic weapon. The bomb yielded tremendous heat and radioactivity, including lethal radioactive contamination in the form of fallout.

Hiroshima had been selected by a U.S. target committee because it had not yet been bombed by U.S. Army Air Forces. The city's pristine condition would not only allow the Allies to assess the effect of the bomb, it would also vividly demonstrate that effect to the Japanese. The bomb was dropped from the *Enola Gay,* the B-29 piloted by Colonel PAUL TIBBETS, at 8:15 (local time) on the morning of August 6, 1945. Deployed by parachute, it was detonated (by design) at 1,885 feet above ground level in order to achieve the maximum effect of the blast. All wooden buildings within a 1.2-mile radius of the point of detonation (the hypocenter) were destroyed. Reinforced concrete structures were destroyed within 1,625 feet of the hypocenter. A total area of 5 square miles was largely incinerated, and 62.9 percent of the city's 76,000 buildings were entirely destroyed by blast or fire. A mere 8 percent escaped substantial damage. The immediate death toll among those located within three-quarters of a mile of the hypocenter was 50 percent. The one-year death rate, through August 10, 1946, from the Hiroshima blast was 118,661. Another 30,524 persons were considered severely injured, and 48,606 were considered slightly injured. Nearly 4,000 citizens of Hiroshima went missing and have never been accounted for. Of the approximately 350,000 persons believed to have been in Hiroshima at the time, 118,613 were confirmed uninjured through August 10, 1946. In addition to the civilian deaths, it is believed that about 20,000 military personnel died as a direct result of the bombing.

The longer-term effects of radiation exposure included elevated rates of genetic and chromosome damage and birth defects (including especially stunted growth and mental retardation) of some children born to parents who survived the blast. Surprisingly, greatly increased rates of cancer, anticipated as a result of the attack, did not materialize.

The bombing of Hiroshima did not elicit an immediate offer of surrender from the Japanese, and, on August 9, 1945, a second B-29, *Bock's Car,* dropped a second bomb, "Fat Man," against NAGASAKI.

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Hitler, Adolf (1889–1945) *founder of Nazism and dictator of Germany*

Adolf Hitler's biographers typically remark on the utterly undistinguished background of this most infamous of modern dictators. He was born on April 20, 1889, in Braunau am Inn, Austria, but was raised mainly in Linz, the son of a minor customs official. Alois Hitler, his father, was of illegitimate birth and used his mother's maiden name, Schickelgruber, until 1876, when he took the name Hitler. During World War II, the Allied mass media

Adolf Hitler *(Library of Congress)*

frequently made derisive use of *Schickelgruber* in place of the name *Hitler*. Alois Hitler was, by all accounts, a dense and brutal father who criticized what he considered his son's dreamy and effeminate nature. An indifferent student, young Adolf Hitler left secondary school in 1905 without obtaining a graduation certificate. His ambition was to become an artist, but his drawings and watercolors, while competent, were passionless and unoriginal. They twice failed to gain him admission to the Academy of Fine Arts in Vienna, and his being thwarted in this way seems deeply to have hurt him. Nevertheless, after the death of his mother, who, in contrast to his father, had doted on him and whom he both idolized and idealized, Hitler went to Vienna, hoping, even without an academy education, to make a name for himself as an artist. He managed from 1907 to 1913 to eke out a living by painting advertisements, postcards, and the like, but his existence was marked by drift, its only hint of direction provided by a growing racial hatred focused primarily on Jews. Drawing on a long-standing central European heritage of anti-Semitism and on his own understanding of German-Nordic mythology (heightened by a passion for the powerfully mythologizing music of Richard Wagner), Hitler formulated a world view in which Jews were seen as a political and even genetic threat to the Germanic—or "Aryan"—race.

In 1913, Hitler moved from Vienna, Austria, to Munich, Germany, apparently to avoid conscription into the Austrian Army. Despite this effort, he was recalled to Austria in February 1914 for examination for military service, only to be rejected as unfit, his years of financial struggle having rendered him underweight and physically frail. Nevertheless, the outbreak of World War I in August 1914 suddenly rejuvenated Hitler, who rushed to enlist in the 16th Bavarian Reserve Infantry (List) Regiment. Service in the war transformed the drifter into a rigid and militaristic nationalist. Although he never advanced beyond the rank of corporal, his service in combat was distinguished. He volunteered for the particularly hazardous duty of front-lines runner (messenger) and was decorated four times, receiving the Iron Cross 1st Class on August 4, 1918, a rare honor for an enlisted man. Hitler was seriously wounded in October 1916, and he was gassed toward the end of the war. Although he did not advance into the officer corps, Hitler decided to remain with his regiment after the armistice, through April 1920. In the postwar army, he served as a uniformed political agent and joined the German Workers' Party in Munich in September 1919. Soon, his political ambitions eclipsed his military interests, and, beginning in April 1920, he went to work full time in the propaganda section of the German Workers' Party. It was a desperate and heady time for German politics. The Treaty of Versailles, which ended World War I, brought economic ruin and collective national humiliation. The chaos and hard times of postwar Germany made the nation ripe for a Communist revolution, which proved abortive. Hitler seized on the unrest around him and, by August 1920, was

instrumental in transforming the German Workers' Party into the Nazionalsozialistische Deutsche Arbeiterpartei, or Nazi Party (NSDAP). Hitler forged an alliance with a former army staff officer and Freikorps activist, Ernst Röhm, which gained him sufficient support to be elected president of the Nazi Party in July 1921.

Hitler proved to be a dynamic political agitator and accomplished street-corner orator. He identified Germany's problem as the Treaty of Versailles and Germany's enemies as the Allied nations that had forced the unjust and disgraceful treaty on Germany, the German democratic leaders who had accepted the treaty, the Communists, and, most of all, the Jews (whom he often identified with the Communists). With an inflated sense of his own influence, Hitler, on November 8–9, 1923, mistakenly decided that Bavaria (and, ultimately, all of Germany) was ripe for his revolution. He instigated and led the Munich "Beer Hall Putsch," an attempt at a coup d'état against the Bavarian government. Premature, the uprising was quickly quashed, and Hitler was arrested, tried, and convicted of treason. Unwilling to make a martyr of Hitler, authorities handed down a light sentence of five years in quite comfortable accommodations at Landesberg Prison, near Munich. Here he wrote his political memoir-manifesto, *Mein Kampf* (*My Struggle*), a crude and long-winded but effective work in which he expressed the political philosophy of Nazism and proclaimed his eternal opposition to Jews, Communists, liberals, and exploitive capitalists the world over. In *Mein Kampf,* Hitler sought to bring about the rebirth of German racial purity and exulted in the unstoppable national will. Hitler envisioned a Germany risen, phoenixlike, to become the dominant power in the world, a Germany that would successfully claim Lebensraum—"living space"—in central Europe and Russia. Adolf Hitler was released from prison, having completed *Mein Kampf* and having served only nine months of his sentence. He set about consolidating his grip on the party and increasing its numbers. It was during this period that he was joined by the men who would lead Germany into a policy of atrocity and total war: World War I air ace Hermann Göring, propaganda master Joseph Goebbels, political terrorist Heinrich Himmler, and anti-Semitic journalist Julius Streicher. With the onset of a worldwide economic depression in 1929, the political climate ripened further for the growth of the Nazi Party, and Hitler forged an alliance with the Nationalist Party headed by industrialist Alfred Hugenberg. The Nazis now increased their number of Reichstag seats from 12 to 107, thereby becoming the second largest party in Germany. To promote and ensure the rise of his party, Hitler and Röhm developed the Sturmabeteilung (SA), or Brownshirts, the party's thuggish paramilitary arm, which quite literally beat down the opposition in the streets of Germany.

In 1932, Hitler ran against World War I hero Paul von Hindenburg for the presidency of the German republic. Although Hitler came in second, his party polled 37 percent of the vote and gained a total of 230 Reichstag seats, making it the largest single party represented. Hindenburg clearly detested Hitler, but he could hardly ignore him, and on January 30, 1933, he appointed him Reichskanzler (reich chancellor), effectively Germany's prime minister. At last, Hitler had a position of great legitimate power, and he rapidly overshadowed the old and ailing Hindenburg. When fire destroyed the Reichstag on February 27, 1933, an arson the Nazis had covertly arranged, Hitler gained a pretext for legally abolishing the Communist Party and rounding up for imprisonment its principal leaders. This was followed, on March 23, 1933, by the Enabling Act, which granted him four years of unalloyed dictatorial powers as Hindenburg receded into the status of figurehead.

Pursuant to the Enabling Act, Hitler set about dismantling all German parties, save for the Nazis. He purged Jews from all government institutions and brought all government offices under the direct control of the party. Then he turned to the ranks of his own party. On June 30, 1934, during the Night of the Long Knives, Hitler directed the round-up and, ultimately, the murder of Ernst Röhm and hundreds of other SA members and Nazis who posed a threat to his absolute domination of the party. In August, Hindenburg died, leav-

ing Hitler not merely to assume the functions of the presidency, but to replace the title and concept of *president* with that of *Führer,* supreme leader, of the new government, the Third Reich.

Hitler replaced the SA with the SCHUTZSTAFFEL (SS), the Blackshirts, under the leadership of Himmler, who was subordinate to no one but Hitler alone. The SS and the new secret police, the GESTAPO, created a system of concentration camps to which, at first, political enemies were consigned. Soon, this system developed into a vast complex of CONCENTRATION AND EXTERMINATION CAMPS, which would become the places of confinement and murder of some of the 6 million Jews killed in THE HOLOCAUST. Racial persecution, purging, and, ultimately, genocide were key aspects of Hitler's vision for Germany, and, at his behest, in 1935, Nazi-affiliated German jurists created the NUREMBERG LAWS, which deprived Jews of citizenship and authorized the policy of persecution that eventuated in the FINAL SOLUTION.

Throughout his rise and the process of consolidating his power, Hitler combined outright terror and police state tactics with a highly sophisticated program of propaganda orchestrated by minister of propaganda Joseph Goebbels. Hitler also presided over the general economic recovery of depression-era Germany by ramping up industrial production in order to rearm the nation in defiance of the Treaty of Versailles. Hitler created a Luftwaffe (air force) under Göring, remilitarized the Rhineland (in 1936), and built up the army as well as the navy. He gambled that the western democracies, Britain and France, war weary and pacifistic, would do nothing to oppose his violation of the Versailles terms. His gamble paid off even beyond his expectations.

During the period of his earliest rise to power within the fledgling Nazi Party and through his rise in German government, Hitler turned an admiring eye on BENITO MUSSOLINI, since 1922 the fascist dictator of Italy. In 1936, Hitler concluded with Italy and with militaristic Japan the ANTI-COMINTERN PACT, which foreshadowed the 1939 PACT OF STEEL between Hitler and Mussolini and the 1940 AXIS (TRIPARTITE) PACT among Germany, Italy, and Japan. Having met no resistance from the democracies after remilitarizing the Rhineland, Hitler took the next step in his aggressive expansion of Germany in March 1938 when he invaded and annexed Austria in the *ANSCHLUSS.* After this, he persuaded Great Britain's prime minister, NEVILLE CHAMBERLAIN, to acquiesce in German annexation of the Czech SUDETENLAND, followed by the takeover of virtually all Czechoslovakia.

Chamberlain persuaded his French counterparts that allowing Hitler to gobble up Czechoslovakia, a nation both Britain and France were bound by treaty to defend, would "appease" German expansionism. Of course, appeasement only whetted the führer's appetite for more. With an eye on Poland, he shocked the world by concluding the GERMAN-SOVIET NON-AGGRESSION PACT with his ideological antithesis, Soviet dictator JOSEPH STALIN, on August 23, 1939. The very next month, on September 1, taking as pretext a trumped-up Polish "attack" orchestrated by propaganda minister Goebbels, Hitler invaded Poland and started World War II.

The INVASION OF POLAND and the BATTLE OF FRANCE put Hitler in control of most of the European continent. Of the western democracies, only Great Britain held out against him, and, at this point, Hitler, always eager to assert what he considered his military genius, blundered. First, he issued orders that allowed the British Expeditionary Force to escape destruction in France (DUNKIRK EVACUATION), then, instead of preparing for an invasion of Great Britain, Hitler misdirected the Luftwaffe in attacks on English cities, sparing the British Royal Air Force, which, during July–October 1940, prevailed in the BATTLE OF BRITAIN, thereby denying Hitler air supremacy in British skies and forcing him to abandon OPERATION SEALION, his plan to invade the British Isles. Nevertheless, during the rest of 1940 and into 1941, Hitler's armies came to control territory from North Africa to the Arctic and from France to central Europe. In April 1941, Hitler's armies invaded the Balkans, occupying Yugoslavia and Greece, and on June 22, 1941, Hitler summarily abrogated his nonaggression pact with Stalin with the INVASION OF THE SOVIET UNION. As in the west, BLITZKRIEG tactics made rapid and dev-

astating gains that were accompanied by barbarities and atrocities on a massive scale, including those pursuant to the Final Solution and the Commissar Order, whereby local Soviet leaders were massacred as they were encountered. However, the Russian winter and the resistance of the Russian people and the Red Army, dogged and heroic, slowed and then stopped Hitler's forces, first at the Battle of Moscow in December 1941, then, during the winter of 1942–43, at the Battle of Stalingrad. It was at Stalingrad that the tide of war on the eastern front turned, devastatingly, against the Germans.

In the meantime, the Battle of Pearl Harbor on December 7, 1941, brought the United States into World War II. This was a contingency for which Hitler had never really planned, although, with characteristic arrogance, he did not hesitate to declare war against the United States on December 11, 1941. It would take some time for the military forces of the United States to have an effect on Germany, but by 1943, the tide had turned not only in Russia, but elsewhere. Germany had lost North Africa, and Mussolini had been deposed after the Allied invasion of Italy. American and British bombers were pummeling German cities by day and by night. The situation reached its crisis for Germany with the Normandy landings (D-day) on June 6, 1944. Now Hitler was menaced from the east, south, and west.

The Allied invasion of France drove Hitler to make increasingly desperate and irrational demands of his military, and a significant cadre in the German officer corps turned against the führer. In the best known of no fewer than 17 attempts on Hitler's life, Klaus von Stauffenberg, a highly decorated officer who had suffered grievous wounds, masterminded a plot to assassinate Hitler at his military headquarters known as Wolf's Lair. On July 20, 1944, a bomb planted in the building exploded as scheduled, but Hitler, remarkably, survived, although slightly injured and more seriously affected emotionally. The July 20 Plot moved Hitler to make a general purge, and some 5,000 officers and others were arrested, many of them executed.

The war, in any real military sense, had been lost, but from December 16, 1944, to January 1945, Hitler committed his last reserves to a final offensive, the Battle of the Ardennes (Battle of the Bulge). His hope was to divide the advancing Allied forces and retake what was now a key Allied port and supply depot at Amsterdam. The Ardennes offensive caught the Allies completely by surprise and precipitated a harrowing struggle, which nevertheless ended in a crushing defeat for the Germans. With the last credible German resistance destroyed, the Allies advanced on the German heartland. As the Soviet Red Army began the Battle of Berlin, Hitler retreated to the Fürherbunker, a hardened underground command shelter beneath the streets of the German capital. From here, he attempted to direct a suicidal resistance to the last German man and woman. His intention, it seemed clear, was to see Germany destroyed with him.

On April 29, 1945, as the Battle of Berlin drew rapidly to an end, Hitler married his mistress, Eva Braun, who occupied the bunker with him. In his last will and testament, Hitler appointed Admiral Karl Dönitz to succeed him as head of state, and, on April 30, Hitler and his bride committed suicide, Eva Braun by taking cyanide, Hitler, apparently, by a combination of cyanide and gunshot. Dönitz hastily concluded the surrender of Germany and what Adolf Hitler had frequently called the "Thousand-Year Reich."

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Hitler Youth

The Hitlerjugend, Hitler Youth, was founded in 1922 as part of the Nazi Party (NSDAP) movement, a kind of party auxiliary for youths aged 14 to 18. Beginning in 1929, the Hitler Youth also

came to include an organization for girls, aged 14 to 18, called the League of German Maidens (Bund deutscher Mädel). In 1931, the age range of the Hitler Youth movement was extended, downward through the German Young People (Deutsches Jungvolk), for boys between 10 and 14, and the Young Maidens (Jungmädelbund) for girls of the same ages. For young women, 18 to 21, the range was extended upward through an organization called Faith and Beauty (Glaube und Schönheit). At 18, young men customarily left the Hitler Youth for six months with the State Labor Service, followed by service in the German military. By the time of World War II, the Hitler Youth had become closely associated with the SCHUTZSTAFFEL (SS), whose combat arm, the WAFFEN-SS, had a special Hitler Youth (Hitlerjugend) Division.

Hitler Youth was a means of indoctrinating German youths into the Nazi German way of life generally and, more particularly, to prepare them for military service. The organization was regarded as central to the Nazi program and to German patriotism. It was seen as so indispensable to the continuation of the Nazi regime that branches of the Hitler Youth were quickly established in all countries occupied by Germany during World War II. Additionally, Hitler Youth served as a means of toughening up boys and young men for military service. The organization came under the directorship of Baldur von Schirach (1907–74) in 1931 and grew during this period to a membership of 7.7 million by 1939. Hitler Youth became an official organization of the state in 1933, and membership became compulsory in 1940. In that year, ARTUR AXMANN (1913–1996) was appointed to replace Schirach, who became governor of Vienna.

Under Axmann, the Hitler Youth became the dominant force in German schools. Children were made members of a Hitler Youth Patrol Service (*Streifendienst*), a junior version of the security police. They were encouraged to spy on adults, including their parents, and to report any apparent subversive or unorthodox activity they might detect. At the age of 12, boys were trained in the use of military rifles and even machine guns. At 14, they attended a month of military training camp. Beginning in 1943, 15- to 17-year-old Hitler Youths were pressed into service manning antiaircraft artillery defenses throughout Germany. They also participated in CIVIL DEFENSE work, including fire fighting and even some police functions. They were encouraged to capture or kill shot-down Allied airmen who parachuted into Germany.

As World War II in Europe drew to a close and ADOLF HITLER inducted overage men and underage boys into service in the Volkssturm (home guard), Hitler Youth members were committed to front-line combat, especially in the BATTLE OF BERLIN. Very few survived. In the most desperate action of all, HEINRICH HIMMLER recruited Hitler Youth for membership in the Werewolves, a proposed (but never activated) guerrilla organization that was to carry on the fight even after the surrender of Germany.

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Hoare, Samuel (1880–1959) *British foreign secretary who proposed an ignominious settlement of Italian claims in Ethiopia*

The elder son of Sir Samuel Hoare, Hoare was educated at Harrow and Oxford and entered Parliament for Chelsea in 1910. He served as an officer during World War I and, after the war, from 1922 to 1929 (except for a brief interval of Labour Party rule), was minister of air. Hoare was instrumental in building the Royal Air Force (RAF).

In 1931, Hoare became secretary of state for India, serving until 1935, when on June 7, he became foreign secretary. In response to BENITO MUSSOLINI's invasion of Ethiopia, Hoare developed with Pierre Laval of France the Hoare-Laval Plan for the partition of Ethiopian territory

between Italy and Ethiopia. Widely seen as an ignominious surrender both to aggression and to fascism, the Hoare-Laval proposal drew such criticism that Samuel Hoare stepped down as foreign secretary on December 18, 1935.

Hoare returned to government in June of the following year as first lord of the admiralty. With the ascension of Neville Chamberlain as prime minister, Hoare was appointed home secretary in May 1937. Typifying the faction of Chamberlain's government that favored an Appeasement Policy toward Adolf Hitler's Germany, Hoare was both instrumental in formulating the Munich Conference and Pact and in defending it. When Winston Churchill replaced Chamberlain as prime minister in 1940, Hoare's role in the inner circle of government as well as in Parliament ended. He was appointed wartime ambassador to Spain and served until 1944, when, as viscount Templewood, he retired from public life and turned to writing.

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Ho Chi Minh (1890–1969) *leader of Vietnamese anti-Japanese guerrilla resistance in World War II*

Most Americans know Ho Chi Minh as the first president of the Democratic Republic of Vietnam (North Vietnam) and America's opponent during the Vietnam War. However, during World War II, this popular Vietnamese political figure collaborated with the U.S. Office of Strategic Services (OSS) in guerrilla operations against the Japanese occupiers of Vietnam.

Ho Chi Minh was born Nguyen That Thanh (and was also called Nguyen Al Quoc) in the village of Kim Lien, where his father was an impoverished scholar. Raised in poverty, Ho was educated at the grammar school in the ancient city of Hue and went to work for a time as a schoolmaster before he enrolled at a technical institute in Saigon. He left Vietnam (then called French Indochina) in 1911 to work as a cook, first on a French ocean liner and then at a London hotel. With the end of World War I, he moved to France, where he became a socialist and a Vietnamese nationalist. During the 1919 Paris Peace Conference ending World War I, he petitioned for civil rights in French Indochina, and when he was rebuffed, he became sufficiently radicalized to found the French Communist Party. He traveled to the Soviet Union to study revolutionary methods and joined the Comintern, the Moscow-based organization dedicated to the dissemination of communism worldwide. Ho was assigned to do no less than bring communism to East Asia. In 1930, he founded the Indochinese Communist Party and lived for the rest of the decade in the Soviet Union and China.

With the outbreak of World War II, Ho Chi Minh returned to Vietnam, where, in 1941, he organized the Communist-controlled League for the Independence of Vietnam, or Viet Minh, which became the focus of the resistance movement against Japanese occupation. During the war, despite a period of imprisonment by the anti-Communist Nationalist Chinese in 1942–43 (during which he adopted "Ho Chi Minh"—He Who Enlightens—as his name), Ho formed a relationship with the OSS, which helped him to develop a Vietnamese guerilla movement to fight the Japanese. After the war, this very network would become the core of Communist resistance, first to the return of French colonial domination and then to American efforts to overthrow the North Vietnamese regime during the Vietnam War.

On September 2, 1945, after the Japanese surrender in World War II, Ho Chi Minh proclaimed the independence of the Democratic Republic of Vietnam and became its first president. For the next quarter century, he served as president of a divided, embattled people. Ho led the Viet Minh in eight years of guerrilla warfare against French colonial forces from 1946 to 1954. With his top general, Vo Nguyen Giap, he decisively defeated the French at Dien Bien Phu in 1954, then turned to 15 years of battle against the anti-Communist South Vietnamese regime. Beginning about 1959, the United States became involved in this struggle, first in a

military advisory capacity and, eventually, as a major combatant. By 1969, about 500,000 U.S. troops were fighting in Southeast Asia.

Ho Chi Minh did not live to see the withdrawal of American forces from Vietnam and the nation's unification under a Communist government. Indeed, his active role in the war against the south decreased beginning in 1959 as his health declined.

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Hodge, John (1893–1963) *U.S. general*

John Hodge was instrumental in the Guadalcanal Campaign, the New Georgia Campaign, the Bougainville Campaign, the Battle of Leyte, and the Okinawa Campaign. Hodge was born in Golconda, Illinois, and was educated at Southern Illinois Teachers College (now Southern Illinois University) and the University of Illinois before U.S. entry into World War I prompted him to enroll in a reserve officer's training program at Fort Sheridan, Illinois, in 1917. He emerged from the program by the end of the year with a commission as a second lieutenant and served in France during the war and in Luxembourg during the occupation. Promoted to captain in 1920, Hodge was an instructor in military science at Mississippi State University from 1921 to 1925. He graduated from the Infantry School at Fort Benning, Georgia, in 1926 and spent the next three years in Hawaii. In 1934, Hodge graduated from the Command and General Staff School, then went on to the Army War College, from which he graduated in 1935. Next, he took the entire course offered by the Air Corps Tactical School and, on graduation in 1936, was attached to the general staff as a major.

Hodge was promoted to lieutenant colonel in 1940 and joined the staff of VII Corps at the beginning of 1941. In December, he was promoted to temporary colonel and became chief of staff of VII Corps. Promoted to brigadier general, he was made deputy commander of the 25th Infantry Division in June 1942 and first saw combat in the closing phases of the Guadalcanal Campaign.

In April 1943, Hodge was promoted to major general and, the next month, was assigned to command the Americal Division. After a brief interval reorganizing U.S. forces on New Georgia during July and August 1943, Hodge returned to the Americal Division, which he led in amphibious operations on Bougainville during December.

Transferred to the Southwest Pacific in April 1944, Hodge commanded XXIV Corps of Sixth Army, which he led in a landing on Leyte at Dulag on December 10. Hodge captured Ormoc and Limon on Leyte and saw the fighting through to the end. He was then sent to Okinawa, fighting there from April 1945 to June 21, the culmination of the campaign. As the Okinawa Campaign closed, Hodge was promoted to lieutenant general and, with the Japanese surrender, was dispatched to Korea to command U.S. occupying forces. Hodge left Korea in 1948, after the republic was formed. He returned to the United States to command V Corps at Fort Bragg, North Carolina, then, in June 1950, was named to command Third Army at Fort McPherson, Georgia. In May 1952, Hodge was named chief of Army Field Forces and, in July, promoted to general. He retired the following year.

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Hodges, Courtney (1887–1966) *U.S. general*

Courtney Hodges commanded First Army in Europe and earned a reputation as a solid, if conservative and conventional, field commander. He

was born in Perry, Georgia, and gained admission to West Point in 1904. He fared poorly in academics and decided to withdraw in 1905. Determined to serve in the U.S. Army, he enlisted in 1906 as a private and earned his commission three years later. Hodges served on several stateside posts and in the Philippines. He was part of the punitive expedition General John J. Pershing led against the Mexican social bandit Pancho Villa in 1916–17, then, as a major, was sent to France during World War I. Hodges fought with the 6th Infantry Regiment at Saint-Mihiel and at the Meuse-Argonne, then served with the occupation forces after the armistice.

In 1920, Hodges returned to the United States and taught at the institution from which he had dropped out, West Point, until 1924. After graduating from Command and General Staff School in 1925, Hodges taught at the Infantry School during 1925–26 and at the Air Corps Tactical School from 1926 to 1929. From 1929 to 1933, he was a member of the Infantry Board at Fort Benning, then graduated from the Army War College in 1934.

Hodges was posted to Washington state and the Philippines during 1934–38 and was promoted to brigadier general in April 1940. In October of that year, he was named to command the Infantry School at Fort Benning. In May 1941, he was promoted to major general and assigned as chief of infantry in Washington, D.C. When that post was abolished in the reorganization of the army on March 9, 1942, Hodges was assigned to create the Training and School Command at Birmingham, Alabama. In May, he was assigned command of X Corps, and, after promotion to lieutenant general in February 1943, he was named commander of the Southern Defense Command, which encompassed Third Army.

Hodges led Third Army to England in January 1944, then, relinquishing the Third Army to Lieutenant General George S. Patton, Jr., became deputy commander of First Army, serving under Omar Bradley. With Bradley's subsequent assignment to command Twelfth Army Group, Hodges assumed command of First Army, which he led across northern France during August and September 1944. His troops were the first U.S. troops to enter Paris and, in September, the first to cross the Siegfried Line. In November, Hodges was in command during the Battle of Hürtgen Forest. After this bitter struggle, he found himself the chief target of the German offensive in the Battle of the Ardennes (Battle of the Bulge) during December 1944–January 1945. After the Ardennes offensive was crushed, Hodges led his First Army across the Rhine at Remagen Bridge on March 7, 1945, and his soldiers were the first to link up with Soviet Red Army units that had advanced from the east.

In April, Hodges was promoted to general and began preparations to lead First Army to the Pacific theater, where it was to form part of the force that would invade the Japanese home islands. The surrender of Japan obviated this, and Hodges returned to the United States, where he commanded First Army at Fort Bragg, North Carolina, then at Governor's Island, New York. He retired from the army in March 1949.

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Hoepner, Erich (1886–1944) *German general who plotted against Adolf Hitler*

Born in Frankfurt, Germany, Erich Hoepner joined the German Army, fought in World War I, then joined the Freikorps after the war. He subsequently rejoined the regular army, attaining the rank of major general by 1938. As commander of the 1st Light Division, he participated in the invasion of Czechoslovakia and the invasion of Poland, having succeeded Heinz Guderian as

head of the 16th Army Corps in March 1939. In 1940, Hoepner participated in the Battle of France, then took part in the invasion of the Soviet Union as commander of the Fourth Panzer Army. He led his troops against Leningrad (St. Petersburg) before being transferred to Army Group Center, where he fought under Gunther von Kluge in the Battle of Moscow.

Hoepner advanced to within 20 miles north of Moscow by December 5, 1941, but met with a fierce counterattack by the Red Army. Under this onslaught, he retreated to preserve his army, despite Adolf Hitler's standing order forbidding retreat. The führer relieved Hoepner of command, eliciting an unusual series of protests from senior commanders throughout the army. While this did not persuade Hitler to reinstate Hoepner, he was permitted to retire with full pension rights. Not mollified by this gesture, Hoepner conspired in 1944 with Klaus von Stauffenberg in the "July 20 Plot" to assassinate Hitler. When the plot miscarried, Hoepner was among some 5,000 conspirators who were arrested. Subjected like many others to a public show trial, he was convicted of treason and hanged at Ploetzwnsee Prison on August 8, 1944.

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Hollandia, Battle of

Hollandia was the colonial administrative center of Dutch New Guinea's northern coast. The Japanese took possession of it in April 1942 and set up a naval and air base. General Douglas MacArthur saw Hollandia as the first obstacle to be overcome in his campaign to retake the Philippines. He deployed elements of the "Alamo Force," the U.S. 24th, 32nd, and 41st Infantry Divisions under Lieutenant General Robert Lawrence Eichelberger to retake Hollandia. Acting on Ultra intelligence, MacArthur was able to prepare the way for Eichelberger's landings at Hollandia and Aitape (125 miles to the southeast) on April 22, 1944, by thoroughly destroying Japanese air power in the region. By the time the Fifth U.S. Air Force under Lieutenant General George Kenny had completed its mission, only 25 undamaged aircraft were left to the Japanese. Eichelberger's landings were virtually unopposed.

Eichelberger brought to bear combined forces of 80,000 ground troops and 217 ships, all fighting about 500 miles from the closest Allied base. The operation was a perfect example of MacArthur's "island-hopping" strategy, for it bypassed Wewak and Hansa Bay, which were defended by the Eighteenth Japanese Army. Because commanders on these isolated islands did not know whether they would be attacked, they were forced to maintain forces there. Their response to the Hollandia landings was, therefore, delayed.

Eichelberger's troops seized all Japanese airstrips in and near Hollandia within three days of the landings, and, on June 6, the entire area had been secured. It was July 10, 1944, before the Eighteenth Japanese Army finally arrived to counterattack. They did so at Aitape but were completely deprived of the element of surprise because further Ultra decrypts had given Eichelberger plenty of time to deploy the 11th U.S. Corps under Major General Charles Hall to defend the area of the landing at the Driniumor River. This battle was especially hard fought and dragged on until August 25. Although the Japanese did punch through Hall's lines at one point, they spent their army against his corps, and the Japanese Eighteenth lost 9,000 men killed out of the 20,000 who had landed at Aitape. The entire Hollandia action is an example of the successful exploitation of intelligence based on intercepted and decrypted coded communications and must be considered one of the most successful U.S. operations in the Pacific war.

See also Philippines, fall and reconquest of.

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Hollywood and World War II

At the time of World War II, Hollywood was recognized as the world's cinematic dream factory and the international center of film production. The U.S. government was eager to harness the power of Hollywood to win hearts and minds, to lift public morale, and to help build the public war effort. Overwhelmingly, the people of Hollywood, from the executives to the directors, writers, and actors, were enthusiastic about "doing their part" to win the war. A highly active and influential government agency, the Office of War Information (OWI), was created, which monitored and advised producers in all the mass media but nowhere more vigorously than in the film industry. Even in the exigencies of war, the OWI lacked censorship authority, but it wielded, often with a heavy hand, its strong moral authority, reviewing scripts as well as finished films and always putting to them a single overriding question: How will this help win the war? (It must be noted that while the OWI did not have *direct* censorship authority, it communicated with another agency, the Office of Censorship, which could prevent the release of a movie to the foreign markets, which were vital to Hollywood's bottom line.)

Hollywood movies generally aimed at conveying three principal messages. First, that Allied leaders, military brass, and field commanders were highly skilled and courageous and were moved by the most selfless of motives. Second, that the American fighting man was an ordinary Joe, an individual, who, when duty called, invariably proved capable of extraordinary heroism. Third, that the Allied nations, despite differences with Americans, were populated by decent, courageous people who wanted the same freedoms Americans enjoy. Particularly important was transforming the popular American image of the British from a stuffy, somewhat effete people into effective, courageous, and friendly brothers in arms. Even more difficult was converting the Soviets from an image of godless communists and enemies of capitalism into gallant, freedom-loving, life-loving allies. Hollywood also sought to overcome long-standing American racial prejudice against the Chinese, although efforts to do so (as in the 1944 *Dragon Seed*) typically seem condescending and patronizing by today's standards. The most popularly successful portrayals of the Allied nations were films focusing on Great Britain, most notably *Mrs. Miniver* (1942), which celebrated the spirit of the British people even under the worst hardship and which is still capable of moving audiences today.

Neither the government nor the film industry wanted to produce war films exclusively, and, during the war, films were made on all the usual subjects. However, movies focusing on the American homefront were especially popular, as were combat action films. Interestingly, directors were often at pains to portray a degree of economic, ethnic, and racial harmony on screen that did not exist on the real-life homefront or in the military. *Bataan* (1943), for example, portrayed racially integrated combat units, whereas the U.S. military was actually segregated. Despite such manipulation of the truth, most Hollywood depictions of combat strived for some semblance of realism. Heroes were plentiful, but hollow, pompous patriotism was out. The message was that in the armed forces of a democratic people, anyone could be, and *had* to be, a hero.

Throughout the war, depictions of the enemy were typically superficial and without humanity. Nazis were evil and treacherous, as were the Japanese, who were also often portrayed as physically grotesque. While Hollywood often painted the Japanese in broad racist strokes, more care was taken to separate the German people from the Nazis. The former were capable of decency and were, in fact, as much victims of the Nazis as other conquered peoples throughout Europe.

By 1944, production of war films began to wane significantly. Those war films that continued to be produced were often more sophisticated and complex than the earlier fare. Especially notable late in

the war was *The Story of G.I. Joe* (1945), based on the hard-bitten, intensely human front-line journalism of Ernie Pyle. Here was a glimpse of war that was short on idealism and optimism but suffused with fear, pain, hardship, and decidedly grim determination. The early postwar years saw a resurgence of light escapist films but also movies that tackled the problems of postwar society and the difficulties many soldiers had in readjusting to civilian life. The enduring classic among these is *The Best Years of Our Lives* (1946), which follows the return of an infantry sergeant, an Army Air Forces captain, and a sailor. All are emotionally scarred, and the young sailor returned home having suffered the loss of both hands. (He was played by Harold Russell, a veteran who had actually lost both hands.)

In addition to producing war-related commercial entertainment films, Hollywood also pitched in for the war effort by providing facilities and expertise to produce military training films for the armed forces and what must be described as propaganda films for military personnel and civilians, the most famous of which was the distinguished *Why We Fight* series directed by Frank Capra. Hollywood experts were also tapped as consultants for various combat photography assignments and for the design and operation of movie equipment for reconnaissance applications. Hollywood set designers were even consulted in matters of camouflage and decoy design. Many high-profile film stars volunteered for combat service, including, most notably, Clark Gable and James Stewart, both of whom joined the Army Air Forces.

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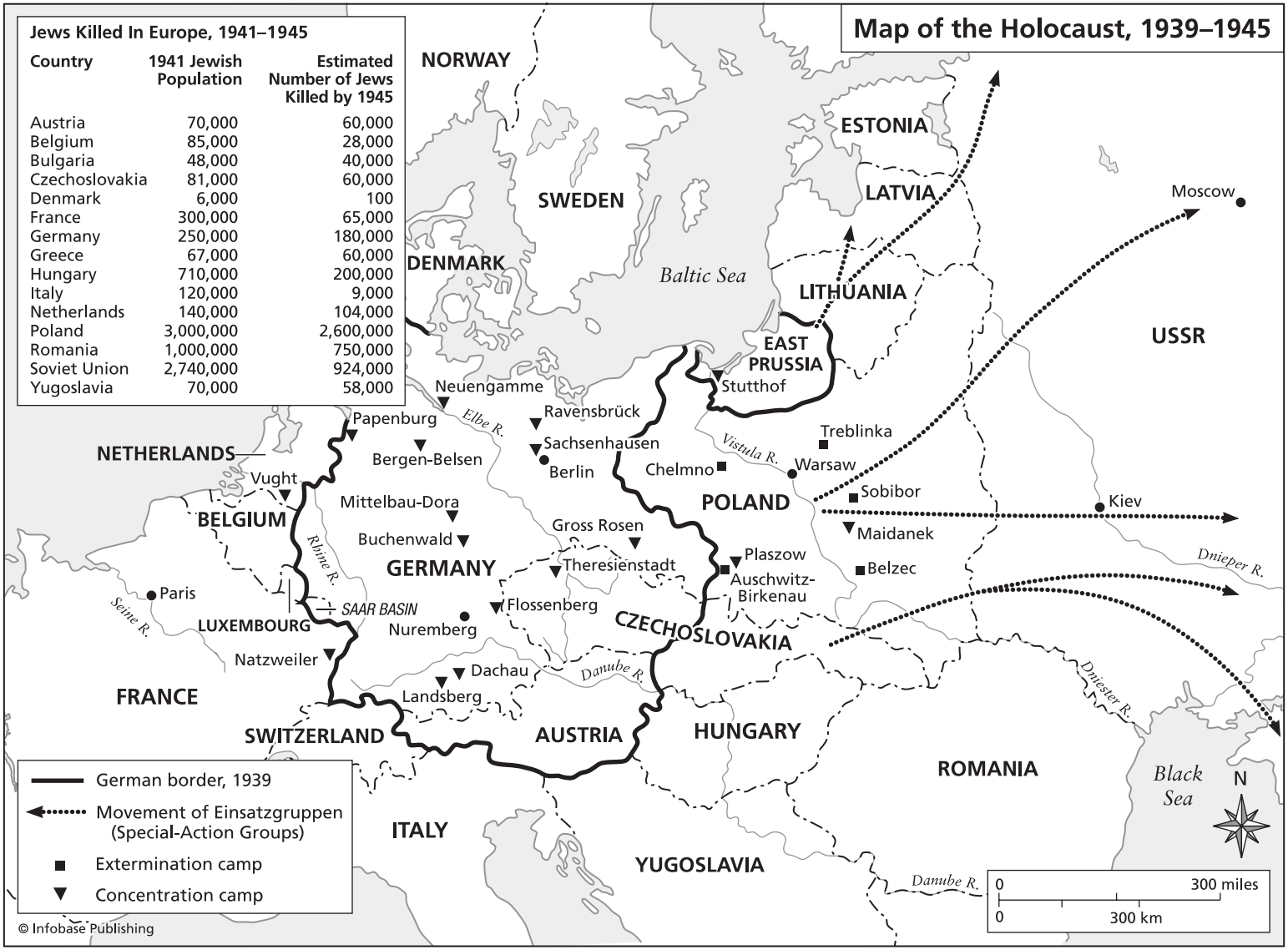
Holocaust, the

Holocaust is a derivation of the Greek word *holokauston,* which, in turn, is a translation from Hebrew *'olah,* or burnt sacrifice. The word reflects the ultimate fate of those killed in German concentration and extermination camps, cremation. In modern usage, the Holocaust is sometimes referred to by the Hebrew word *Shoah.*

As discussed in the Final Solution, the Holocaust was the product of Adolf Hitler's extreme anti-Semitism as it was manifested in the policies of the Nazi Party (NSDAP). For Hitler and the Nazis, purging the Jews from German life, and, ultimately, from Europe and the rest of the world, was necessary to the advancement of the German people. Jews were deemed *Untermenschen* ("subhumans"), and, therefore, a menace to the German, or Aryan, "race," which aspired to the status of *Ubermenschen* ("supermen"). Hitler became chancellor of Germany on January 30, 1933. On April 1, he instituted a nationwide boycott of Jewish businesses, which was followed, days later, by the removal of Jews from the civil service, and, days after this, by restrictions on Jewish attendance at schools and universities. More restrictions and persecutions were forthcoming, as were legal racial definitions of Jews and Aryans in the Nuremberg Laws of 1935. These laws became the basis of a multiplying series of anti-Jewish regulations and legislation. The first major instance of state-sanctioned mass violence against Germany's Jews came on the night of November 9, 1938, *Kristallnacht,* a national riot that burned or damaged more than a thousand synagogues and more than 7,500 Jewish businesses and that resulted in the arrest of about 30,000 Jewish men, who were sent to concentration camps.

Throughout the 1930s, the German government encouraged the emigration of Jews, albeit at the cost of confiscation of all real property and most other wealth. The volume of Jews leaving Germany was so great that many countries set limits on Jewish immigration. Moreover, German aggressive expansion, including the *Anschluss* with Austria and the annexation of the Sudetenland and most of the rest of Czechoslovakia,


Map of the Holocaust, 1939–1945
Jews Killed In Europe, 1941–1945
Country | 1941 Jewish Population | Estimated Number of Jews Killed by 1945
Austria 70,000 60,000
Belgium 85,000 28,000
Bulgaria 48,000 40,000
Czechoslovakia 81,000 60,000
Denmark 6,000 100
France 300,000 65,000
Germany 250,000 180,000
Greece 67,000 60,000
Hungary 710,000 200,000
Italy 120,000 9,000
Netherlands 140,000 104,000
Poland 3,000,000 2,600,000
Romania 1,000,000 750,000
Soviet Union 2,740,000 924,000
Yugoslavia 70,000 58,000
NORWAY
SWEDEN
ESTONIA
LATVIA
LITHUANIA
Moscow
USSR
Baltic Sea
DENMARK
EAST PRUSSIA
Stutthof
Neuengamme
Elbe R.
Papenburg
Ravensbrück
Sachsenhausen
Berlin
Bergen-Belsen
NETHERLANDS
Vught
BELGIUM
Mittelbau-Dora
Buchenwald
Gross Rosen
Theresienstadt
GERMANY
Rhine R.
SAAR BASIN
Paris
Seine R.
LUXEMBOURG
Nuremberg
Flossenberg
Natzweiler
Dachau
Landsberg
Danube R.
FRANCE
SWITZERLAND
AUSTRIA
HUNGARY
CZECHOSLOVAKIA
Vistula R.
Treblinka
Warsaw
Chelmno
POLAND
Sobibor
Maidanek
Kiev
Plaszow
Auschwitz-Birkenau
Belzec
Dnieper R.
Dniester R.
ROMANIA
Black Sea
ITALY
YUGOSLAVIA
German border, 1939
Movement of Einsatzgruppen (Special-Action Groups)
Extermination camp
Concentration camp
N
0 300 miles
0 300 km
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brought even more Jews under the control of the Third Reich. The INVASION OF POLAND, which started World War II on September 1, 1939, brought in many more. Mass emigration was no longer a viable means of purging Germany and its conquered lands, and while the Nazi officers charged with dealing with the "Jewish question," most notably REINHARD HEYDRICH and ADOLF EICHMANN, went so far as to suggest a mass shipment of Jews to Madagascar, the only "practical" solution came to seem mass murder: genocide.

The first major intermediate step toward this genocide was the creation of some 400 ghettos throughout occupied Poland, to which all of nation's Jews were confined. Overcrowding (the largest ghetto, in Warsaw, occupied a mere 2.4 percent of the city's area but held 30 percent of the city's population) and starvation rations ensured that malnutrition and disease would begin the process of mass murder. The ghetto system also consolidated the Jewish population in Poland so that the people could be readily controlled, policed, and, ultimately, prepared for "deportation" to the concentration and extermination camps. Before this began, however, the systematic killing of Jews was first implemented as part of the INVASION OF THE SOVIET UNION, beginning in June 1941. Some 3,000 men of special SCHUTZSTAFFEL (SS) units known as Einsatzgruppen ("deployment groups") followed close behind the vanguard of the German invading forces. Their assignment was to round up and summarily execute Jews, Gypsies, and, pursuant to Hitler's COMMISSAR ORDER, Soviet commissars (local political leaders). Often, the Einsatzgruppen personnel worked closely with local police as well as anti-Semitic local civilians to accomplish their mission. The most infamous atrocities occurred at Babi Yar, near Kiev, Ukraine, where 33,771 Jews were killed on September 28–29, 1941; in the Rumbula Forest near Riga, Latvia, where some 28,000 Jews were murdered on November 30 and December 8–9; at Ponary, outside Vilna (now Vilnius), Lithuania, during the summer of 1941, where more than 70,000 Jews were killed; and at Ninth Fort, near Kovno (now Kaunas), Lithuania, on October 28, where 9,000 Jews were killed, including some 5,000 children. Historians believe that Einsatzgruppen killed more than 1 million people, the vast majority Jews, all by shooting.

Despite the staggering numbers killed in the Soviet Union, it was decided that shootings on such a massive scale were both impractical and too public. (Indeed, when the Red Army counterattacked in the Ukraine, the Germans hastily attempted to dig up the mass graves of those slaughtered, so that the bodies could be burned and the evidence of the atrocity thereby destroyed.) Therefore, on January 20, 1942, Reinhard Heydrich convened the WANNSEE CONFERENCE to begin the implementation of an efficient and more secretive mechanism for genocide. What followed was the construction of death camps in Poland, to which Jews and others were transported, usually by rail, in box cars or cattle cars, for mass execution. The first camp dedicated to extermination was at Chelmno, Poland, which used mobile gas vans to kill victims. The condemned were packed into the vehicles, which had their exhaust rerouted into the cargo area, so that the victims were asphyxiated by the time they reached crematoria or other places of disposal. Later, in other camps, permanent gas chambers were built. They were connected directly to crematoria, so that the dead could be efficiently moved from the gas chambers to the ovens. In effect, the Nazis had created factories for the production and disposal of corpses. The process was made even more efficient when carbon monoxide was replaced by Zyklon-B, a cyanide gas agent intended for use as a powerful pesticide.

The most notorious of the death camps was AUSCHWITZ EXTERMINATION CAMP, in Poland. A complex of three camps, Auschwitz represented the ultimate in the German system of high-volume death. Prisoners were received at Auschwitz I, the prison camp, and were "selected" (underwent *Selektion*). Some, including pregnant women, young children, the old, the disabled, and the sick, were selected for immediate murder and were sent directly to Auschwitz II—Birkenau, the death camp. Others were held at Auschwitz I, and still others sent to the slave-labor camp, Auschwitz

III—Buna-Monowitz. The *Selektion* was administered by SS physicians.

Slave labor was an important resource for German war production as well as an important source of income for the SS. However, the slave laborers, like those held in the prison camp proper, were underfed, poorly clothed, inadequately sheltered, and deprived of medical care. Most succumbed to privation or were simply worked to death. The sick and infirm among them were periodically culled through an ongoing program of *Selektion.*

Camps such as Auschwitz and Majdanek combined the slave labor function with extermination. Other camps, including Belzec, Treblinka, and Sobibor, were dedicated exclusively to mass murder. There were six specialized extermination camps, all in German-occupied Poland.

A total of 21 German-occupied countries were affected by the Holocaust. Most were helpless to defend their Jewish populations. In some countries, locals actively collaborated with German authorities in rounding up Jewish victims. In Hungary, which entered the war as a German ally, Jews were variously persecuted, but, as a matter of national sovereignty, the Hungarian government refused to allow their deportation to camps. When Germany invaded Hungary on March 19, 1944, Nazi authorities acted vigorously to confine Jews to ghettos and then, beginning on May 15, 1944, to deport them to Auschwitz: 438,000 in 55 days. Romania, another German ally, assumed responsibility for murdering its own Jews during most of the war, whereas Bulgaria, yet another ally, willingly allowed Macedonian and Thracian Jews to be deported to camps, but the government met with popular resistance when it attempted to deport Jews living in Bulgaria proper. The Vichy government of France was notoriously cooperative in extending the Holocaust to French soil, as were officials in occupied France.

Other occupied countries resisted collaborating in the Holocaust. Although it was an early key German ally, Italy refused to persecute, arrest, or deport its Jewish population until Germany occupied northern Italy after Benito Mussolini was overthrown. The people of Denmark, which was occupied early in the war, actively resisted the Holocaust and managed to save most of their nation's Jewish population first by harboring Jews and then by covertly sending them to neutral Sweden by sea during October 1943.

While much of the story of the Holocaust presents a horrifying picture of collaboration in mass murder, or apathy in the face of it, there were heroes. The Swedish diplomat Raoul Wallenberg worked successfully in Hungary to prevent the deportation of the last of that nation's Jews. Even in Poland, which had a long history of popular anti-Semitism and where, under German occupation, aiding Jews was a capital offense, the Zegota (Council for Aid to Jews), financed by the London-based Polish government in exile, hid Jews and provided them with sustenance and forged documents. France, overwhelmingly shameful in its treatment of Jews during the Holocaust, also had its protectors of Jews. The Huguenots (French Protestants) of Le Chambon-sur-Lignon turned their village into a refuge and safe haven for some 5,000 Jews. By no means did all Germans, even some members of the Nazi Party, support the Final Solution. The most famous and effective protector of German Jews was Oskar Schindler, a party member who sheltered large numbers of Jews under the guise of employing them as slave labor.

While the question of why so many became accomplices in mass murder is profoundly troubling, many historians and others have also asked why the Jews themselves failed to mount effective resistance against the Holocaust. In fact, there *was* widespread resistance in the ghettos (most notably manifested in the Warsaw Rising), in the countryside, and even in some of the death camps. But large-scale resistance was probably impossible. Jews had no access to arms, they typically lived among anti-Semitic populations and were forsaken by their own governments, and they were slow to recognize, comprehend, or even believe the enormity of the Nazi policy against them. Moreover, the German system of collective reprisal, whereby an act of resistance by one or two individuals would be met with the random killing of perhaps hundreds unin-

volved in the act of resistance, discouraged a general uprising in most cases.

The closing months of the war brought some hope to the Jews, especially those in the camps. However, in an effort to conceal Nazi crimes against humanity, German camp officials increased the pace of the killing. They also evacuated prisoners from the Polish camps and marched them, under deplorable conditions, into Germany. Prisoners who faltered along the way were summarily shot.

By the start of 1945, Allied armies were beginning to liberate the concentration camps, both in the east and in Germany itself. Liberation did not necessarily bring salvation, since many prisoners were so malnourished and ill that they were beyond saving. At Bergen-Belsen concentration camp, for example, 28,000 prisoners died *after* the camp was liberated.

In all, some 6 million Jews perished in the Holocaust. For those who survived, there was very little, if anything, to return to. Their wealth and property had been confiscated and their communities razed. Many lived for an extended period in displaced-persons camps. However, the horrors of the Holocaust did provide strong impetus to the Zionist movement, which received both British and American support for a Jewish homeland in British-administered Palestine. The end result was the creation of the state of Israel in May 1948. Additionally, liberalized postwar immigration laws in the United States opened this country to many Jews and other refugees. As the full truth of the horrors of the Holocaust became widely known, the Nuremberg War Crimes Tribunal received widespread support, and many SS members and other Nazi officials were indicted and tried not simply for war crimes, but, for the first time in history, for "crimes against humanity." Some of the most notorious criminals associated with the Holocaust, however, either escaped prosecution or evaded it for a long time. Adolf Eichmann was not apprehended, tried, and executed until 1961. Klaus Barbie, the "butcher of Lyon," was not brought to justice until 1987.

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Home Guard

On May 14, 1940, the British government announced the creation of the Local Defence Volunteers, a military organization consisting of volunteer men overage for regular military service. Immediately dubbed "Dad's Army," it was subsequently officially renamed the Home Guard and, at its peak in 1943, consisted of 1,784,000 men. A smaller number of women joined as well, with female enlistment reaching 31,000 in 1944. Early on, the Home Guard was haphazardly uniformed, equipped, and trained, its personnel serving mainly as lookouts along coasts and over such facilities as war plants and airfields. Beginning early in 1940, Home Guard service was made compulsory, and late in 1942, the Home Guard was manned not only by the overage, but by the underage as well. Boys, ages 17 and 18, served in the Home Guard as a means of preparing for service in the regular army. By the middle of 1943, the average age of a Home Guard battalion had dropped to 30. Before the Home Guard "stood down" in December 1944, it was performing a wide variety of duties, including manning antiaircraft installations.

See also civil defense.

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tary and Political History. Oxford and New York: Oxford University Press, 1995.

Homma Masaharu (1887–1946) *Japanese general who commanded the Philippine invasion*

Born in Sado, Japan, into the family of a wealthy landowner, Homma graduated in 1907 at the top of the Army Academy and was sent to the prestigious Army War College in 1915. He served during World War I as an observer with the British forces in France and, in 1925, was appointed Japanese resident officer in India. He left this assignment in 1930 when he was named military attaché in London. Homma's education and experience Westernized him to a greater degree than his fellow officers. Homma commanded Japanese forces at Tientsin, China, in 1939, then, in December 1941, just days after the Battle of Pearl Harbor began World War II in the Pacific, Lieutenant General Homma led the invasion of the Philippine Islands. His assignment was to take the islands within 50 days, but the heroic resistance of the Filipino and American forces on the Philippines made the campaign much longer and far more costly. Although he was ultimately successful, Homma was recalled to Japan in August 1942 and was not given another command assignment.

Homma surrendered to American forces in Tokyo on September 14, 1945, and was indicted as a war criminal, charged with responsibility for the Bataan Death March, along with other atrocities in the Philippines. Homma's defense was based on his claim that, far from ordering the Bataan Death March, he had never even heard of it. This availed not at all with a U.S. military commission that tried him. Convicted, Homma was executed by firing squad at Los Baños, Luzon, Philippines, on April 3, 1946.

General Homma in prison and awaiting trial in Tokyo *(Harry S. Truman Presidential Library)*

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Honda Masaki (1889–1964) *Japanese general*

After graduating from the Japanese Imperial military academy, Honda Masaki was commissioned in the Japanese army and, by 1940, held command of the 8th Division. At the outbreak of World War II, he was appointed head of the Military Education Branch Armored Department, serving in this post until 1943, when he was named to command of the Twentieth Army. In April 1944, Honda was assigned to command the Thirty-third Army in Burma, his chief mission to hold at bay Chinese forces in north Burma. In January 1945, Honda was commanded to hold a north-south line from Lashio to Mandalay to check the advance of U.S. general Joseph Stilwell and his combined U.S.-Chinese troops,

who were about to reopen the Burma Road, China's major supply artery. As Honda moved against Stillwell, British generals William Slim and Frank Messervy attacked him. Honda retreated through southern Burma, leaving Rangoon vulnerable. British forces recaptured the Burmese capital on May 3, 1945.

Honda Masaki survived the war and died in Japan in 1964.

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Hong Kong, fall of

At the outbreak of World War II in the Pacific, Hong Kong was a British Crown colony, densely populated over about 400 square miles by 1.4 million persons, virtually all of them Chinese. British military planners understood well that Hong Kong was vulnerable to attack and invasion from the Japanese-occupied Chinese mainland. The 12,000-man British garrison was instructed to hold out as long as possible in the event of an attack, pending the arrival of Chinese forces under Chiang Kai-shek (Jiang Jieshi). Inasmuch as Japanese spies had been active in Hong Kong for many years and had provided Japanese military command with highly detailed information concerning the island's defenses and its troop dispositions, the standing order was little more than wishful thinking. A small garrison could not hold out for any significant length of time against an invasion of any substance.

The British deployed their main defensive line three miles north of Kowloon in the so-called Leased Territories on the Chinese mainland. Three battalions of Scots and Indian troops were deployed much too thinly along the line. Three battalions, including two Canadian battalions, were deployed on the island of Hong Kong itself. A kind of home guard was also present on the island, consisting of poorly equipped locals who manned artillery and antiaircraft defenses. Sea support included nothing more than a destroyer, eight motor torpedo boats (the Royal Navy equivalent of the American PT boat), and four obsolescent gunboats. A mere seven outmoded aircraft constituted the available air forces. All of this small, motley, and inadequate garrison force was under the command of Major General Christopher Maltby.

The attack on Hong Kong came with terrible swiftness on the day after the Battle of Pearl Harbor opened the Pacific theater of World War II. The assault began with an air attack that quickly destroyed, on the ground, all seven British aircraft. This was quickly followed by an overland invasion: The 38th Division of the Twenty-third Japanese Army under Lieutenant General Sano Tadayoshi crossed the Sham Chun River and poured into the Leased Territories. By nightfall, Maltby had been forced to withdraw entirely from the Kowloon mainland and consolidate his position on Hong Kong island.

Sano kept the pressure on Maltby, who completed his withdrawal by December 13. Once this operation had been accomplished, Sano launched relentless air attacks against the business district of Victoria and against the British naval assets in port. Sano ordered his men across to the island on December 15, but, to his chagrin, they were initially repulsed. On December 18, however, Japanese forces landed in strength along a line between North Point and Aldrich Bay. Moving inland, they drove a wedge between the forces of the defenders. The motor torpedo boats that had survived the initial air attacks turned their attention to the Japanese troop transports, but were suppressed by overwhelming Japanese air superiority.

Despite heavy British losses, Sano's progress was much slower than either he or the Japanese high command had anticipated. Indeed, on December 20, Sano was compelled to halt his general advance to regroup, and it was not until Christmas Eve that the preponderance of Japanese numbers finally prevailed. With supplies and

ammunition exhausted, Maltby asked for a cease-fire on Christmas day. That evening, the British governor of Hong Kong formally turned the colony over to Sano's superior, Lieutenant General Sakai Takashi, commander of the Twenty-third Japanese Army.

British military losses were about 4,400 killed or wounded, among them 800 Canadian dead. The Japanese took much heavier-than-expected casualties: 2,754 killed or wounded. Except for a handful of British and Commonwealth troops who managed to escape, the rest of the garrison became prisoners of war for the duration, and all Western residents of Hong Kong were interned.

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Hopkins, Harry (1890–1946) *Franklin Delano Roosevelt's emissary and adviser*

Born in Sioux City, Iowa, Harry Hopkins traveled far from his background as the son of a rural harness maker when he became an innovative and influential social worker in New York City during the 1920s. In 1931, during the Depression, then-governor of New York Franklin Delano Roosevelt appointed Hopkins executive director (later chairman) of the New York State Temporary Emergency Relief Administration, a relief agency Governor Roosevelt had created. Greatly impressed by Hopkins, FDR established a close working relationship with him, and when Roosevelt was elected to the presidency, he took Hopkins with him as the first director of the Federal Emergency Relief Administration.

A crusading liberal, Hopkins encouraged FDR to introduce a wide range of relief and reform programs, including, most important, the Works Progress (later renamed Work Projects) Administration (WPA), of which he became director. Under Hopkins's leadership, the WPA quickly evolved into a massive and massively ambitious program. In the meantime, Hopkins himself became an increasingly influential adviser to the president, who appointed him secretary of commerce in 1938. Afflicted by poor health, including stomach cancer, Hopkins tempered his personal political ambitions and threw himself even more vigorously into the role of adviser and confidant.

After FDR was elected to his third term in 1940, Hopkins resigned as secretary of commerce but continued in his advisory role. With the commencement of World War II, while the United States maintained its official neutrality, FDR called on Hopkins to be his eyes and ears in London and Moscow. It was to a significant degree Hopkins's strong personal impression of the character and resolve of British prime minister Winston Churchill that moved him to recommend to Roosevelt that the British be given every support possible (short of an outright declaration of war). Hopkins was instrumental in fostering the close personal and political relationship between FDR and Churchill and was thus instrumental in creating the Anglo-American alliance essential to victory in the war.

In 1941, the president appointed Hopkins director of the Lend-Lease program, and he also served on the powerful War Production Board and the Pacific War Council. These official appointments notwithstanding, Hopkins's most important role remained as FDR's confidant and adviser. Hopkins was on call 24 hours a day, seven days a week. He even took up full-time residence in the White House.

Hopkins's labors on behalf of the war effort were truly heroic, especially given his deteriorating health and increasingly frail condition. He survived the president to arrange, on behalf of Harry S. Truman, the Potsdam Conference, traveling for the purpose—and for the last time in his career—to

Moscow in April 1945. It is a testament to Hopkins's straight-talking, frank skills as a communicator that he was highly esteemed by the diverse likes of Roosevelt, Churchill, and even Joseph Stalin. In 1946, Hopkins finally succumbed to the cancer that had long afflicted him.

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Horii Tomitaro (1890–1942) *Japanese general*

Lieutenant General Horii Tomitaro was one of the Imperial Army's most highly regarded field commanders. He fought in the Sino-Japanese War beginning in 1938 as commander of the 12th Independent Regiment then, from 1940 to 1941, as the general officer in command of the 55th Division. After the outbreak of World War II in the Pacific, Horii essentially created the elite South Seas Detachment, made up of six of his own handpicked battalions, mountain artillery, and engineers. He led this unit in the New Guinea Campaign, including a planned attack on Port Moresby by way of Buna and Gona. His plan was to storm through Buna and Gona while follow-up forces established a well-fortified beachhead between the two villages.

The assault on Port Moresby failed, and among the Japanese casualties was Horii Tomitaro. It was a major command loss for the Imperial Army.

See also Buna, Battle of; Gona, Battle of; and Port Moresby, Defense of.

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Horthy de Nagybánya, Miklós (1868–1957) *fascist dictator of Hungary*

Born into an aristocratic family, Miklós Horthy enrolled in the Austro-Hungarian naval academy at Fiume when he was 14. He served as aide-de-camp to the Austrian archduke Francis Ferdinand from 1909 until the archduke was assassinated at Sarajevo in 1914, the event that precipitated World War I. During that conflict, Horthy proved himself an able and courageous naval commander, successfully running the Allies' blockade of the Adriatic. He rose quickly during the war, achieving the rank of admiral in time to assume responsibility for the transfer of the Austro-Hungarian fleet to Yugoslavia in October 1918.

Postwar Hungary writhed under the brutal oppression of the Communist regime of Béla Kun. Counterrevolutionary forces based at Szeged, Hungary, called on Horthy, who enjoyed the status of a national hero, to organize an army to march on Budapest and overthrow Kun. Horthy led the advance in November 1919, and it proved sufficient to intimidate Kun into fleeing. In January 1920, a conservative, right-wing Hungarian parliament voted to restore the monarchy and, on March 1, named Horthy regent. To the astonishment of the parliament, Horthy blocked King Charles IV's bid to regain the throne and, instead, continued to serve as de facto head of government. Horthy governed in this manner from 1921 to 1931, when Hungary, hit hard by the worldwide Depression, found itself assailed by Bolshevism once again. In this climate of crisis, Horthy assumed increasingly personal control of the Hungarian government and prevailed on parliament to vote him the power of absolute dictator in 1937.

Horthy both distrusted and personally despised Adolf Hitler, but he saw an alliance with this most powerful of right-wing leaders as an essential defense against the encroachment of a Communist takeover. For this reason, at the outbreak of World War II, Hungary entered the hostilities on the side of Germany. It was an alliance Horthy instantly regretted, and he set to work in an effort to extricate his nation from actual involvement in the war. This increased the friction between his regime and

Hitler, and Horty was forced to step down. Abducted by German agents in 1944, Horthy was not liberated until the German surrender in May 1945.

With Hungary now dominated by the Communists, Horthy sought refuge in Portugal, which had been a neutral power in World War II. He lived the rest of his life in the town of Estoril.

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Hoth, Hermann (1891–1971) *German general*

Born in Neuruppen, Germany, to the family of an army medical officer, Hoth joined the German army as a youth and saw service throughout World War I. He remained in service during the interwar years, steadily advancing in rank, and in 1935 assumed command of the 18th Division at Liegnitz. In November 1938, he was promoted to lieutenant general and assigned command of 15th Motorized Corps. He led this corps in the INVASION OF POLAND on September 1, 1939.

After the conclusion of Polish operations, Hoth was transferred to the West and participated in the BATTLE OF FRANCE, leading his forces through the Ardennes all the way to the English Channel, then sweeping around into Normandy and Brittany. The success of this spectacular drive earned him promotion to general on July 19, 1940.

Transferred again to the east, Hoth was given top command of Panzer Group 3 during the INVASION OF THE SOVIET UNION. His forces took Minsk and Vitebsk, then headed toward Moscow. He was transferred again, in October 1941, to command the Seventeenth German Army in action in the Ukraine. In January 1942, however, his army absorbed the brunt of a massive Red Army counterattack, and he pulled back his forces. Despite this, Hoth was advanced in June 1942 to succeed ERICH HOEPNER as commander of the Fourth Panzer Army. In this capacity, he participated in the ill-fated siege of Stalingrad as well as in the titanic contest of armor at the BATTLE OF KURSK in July 1943.

Beaten back at Kursk, Hoth withdrew in good order to advantageous defensive positions, but this retreat, at last, earned the wrath of ADOLF HITLER, who recalled Hoth to Germany in November 1943. From this time on, he was relegated to service with the reserve.

At the NUREMBERG WAR CRIMES TRIBUNAL, Hoth was found guilty of having committed war crimes in the Ukraine. Sentenced on October 27, 1948, to 15 years in prison, he was released after serving six, and he devoted the rest of his life to writing military history.

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Hoxha, Enver (1908–1985) *leader of the Albanian Communist Party*

Enver Hoxha was born in Gjirokastër, Albania, the son of a cloth merchant. He had an excellent education at a French lycée and at the American Technical School in Tiranë, the Albanian capital. A superb student, he earned a state scholarship in 1930 to the University of Montpellier, France, and served from 1934 to 1936 as a secretary at the Albanian consulate general in Brussels. While there, he studied law before returning to Albania in 1936 as a teacher. He was removed from this position in 1939 after Italy invaded Albania because he would not join the newly created Albanian Fascist Party. After leaving teaching, he opened a tobacco shop in Tiranë, which he transformed into the headquarters of the local communist cell. Following the German invasion of Yugoslavia in 1941, exiled Yugoslav communists supported Hoxha in founding the Albanian Communist Party (later called the Party of Labor). During the war, Hoxha served as the first secretary of the party's Central Committee and was political commissar of the Army of National Lib-

eration. Hoxha held the office of prime minister of Albania after the country was liberated in 1944. He served until 1954, but remained first secretary of the Central Committee of the Party of Labor for life. In effect, this made him dictator of Albania for life.

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Hull, Cordell (1871–1955) *U.S. secretary of state during most of World War II*

Born and raised in rural Overton county, Tennessee, Hull studied law and became interested in Democratic politics. He gained election to the House of Representatives in 1907 and served for 22 years, from 1907 to 1921 and from 1923 to 1931. He was elected to the U.S. Senate in 1931 but left in 1933, when he was appointed secretary of state by President Franklin D. Roosevelt. In keeping with the spirit of FDR's New Deal, Hull called for the lowering of high protectionist tariff barriers, arguing that they put the brakes on the development of badly needed foreign trade. His advocacy of this policy earned him national as well as international acclaim. Hull was also instrumental, during the 1930s, in improving relations between the United States and Latin America, promoting and implementing FDR's "Good Neighbor Policy." This created a sentiment of hemispherical solidarity, which was especially gratifying after the outbreak of World War II, when the entire hemisphere stood together against Nazi German aggression.

Hull was an opponent of the so-called Japanese Monroe Doctrine, a policy that would have given Japan leave to dominate China. Hull's foreign policy increasingly aligned the United States with China and against Japanese imperialism. Although this was undoubtedly the just and morally correct policy, it led to an ultimately cataclysmic deterioration of relations between Japan and the United States.

Even during the war, Hull began planning for the postwar world by laying the foundation for what would become the United Nations. At the Moscow Conference of Foreign Ministers in 1943, Hull secured a pledge from all the major Allied nations to continue a key aspect of the alliance after the war to create a world organization for the maintenance of international peace and security. Not only did this achievement earn from FDR the epithet of "father of the United Nations," it earned Cordell Hull the Nobel Prize in 1945.

In failing health, Hull resigned as secretary of state after Roosevelt was elected to his fourth term in 1944. He published his extraordinarily illuminating autobiography, *Memoirs of Cordell Hull,* in 1950.

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Hump, the

The Hump was an air supply route flown by the U.S. Air Transport Command from Dinjan, India, to Kunming, China, a distance of 500 miles over treacherous mountain ridges as high as 15,000 feet. The Hump route began operation in July 1942 after the fall of Burma and the consequent closure of the Burma Road. For most of the war, it was the only military means by which the Allies supplied China.

Transport aircraft flew over the Patkai, Kumon, and Santsung Mountains, near the maximum ceiling of the fully loaded aircraft and usually in very poor weather characterized by icing and turbulence. During part of the year, the monsoon was also a major hazard. "Flying the Hump" was some of the most hazardous air duty in the war. Typical of the losses were those suffered in the single

month of January 1945, when 44,000 tons of supplies were lifted at the cost of 23 major mishaps, which claimed 36 lives. In total, airlift operations transported 650,00 tons of supplies into China using the services of 22,000 military personnel and about 47,000 civilians, mostly laborers. About 300 transport aircraft were active in operations.

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Hungary

It is a commonplace that the Treaty of Versailles created the conditions that made Germany ripe for the rise of Adolf Hitler. Less well recognized is that the Treaty of Trianon, a document related to the Treaty of Versailles, dismembered Hungary (which was split off from Austria) and created a sense of deep injustice that threw that country into the Axis embrace at the outbreak of World War II. Pre–World War I Hungary had a population of some 21 million. After the war, it was reduced to under 8 million. Worst of all, some 3 million Magyars, ethnic Hungarians, were cut off from their homeland as a result of the Treaty of Trianon. Thus, Hungary was highly receptive to Hitler, who promised an alliance that would regain what Hungary had lost. Moreover, for most Hungarians, fascism seemed preferable to communism. Better to risk domination by Germany than to be swallowed up by the Soviets. Finally, Hungary experienced a surge of anti-Semitism in the years preceding World War II, which took the form of resentment against the perceived growing influence of the Jewish community. Among everything else Hitler seemed to offer, his anti-Semitism was very much in harmony with the prevailing Hungarian sentiment.

Hungary gravitated toward the Nazi regime from the beginning, as early as 1933. Hitler rewarded this growing allegiance in 1938, when, following the annexation of the Sudetenland, he forced the cession of southern Slovakia to Hungary. After all of Czechoslovakia had been partitioned, Hitler additionally parceled out to Hungary Carpathian Ruthenia in 1939. The next year, Germany pressured another ally, Romania, to deliver northern Transylvania to Hungary. As a result of these cessions, many Hungarian leaders were eager to join the Axis formally as a full military ally; but even those who had their doubts were willing to press forward with the alliance because they feared that failure to do so would result in Romania's reclaiming what it had ceded. When Hungary gave the armies of Hitler free passage through its territory for the invasion of Yugoslavia in April 1941, it was rewarded with yet more Magyar-occupied territory. The acquisition of so much territory, combined with the continuing fear of communism, prompted Hungary to seize on a provocation—the bombing of the northern Hungarian town of Kassa, which may well have been the work of German provocateurs rather than Soviets—to declare war, on June 27, 1941, against the Soviet Union, which had been invaded by Germany days before.

Hungary was valuable to the Axis for its strategic geographic location, as well as for its resources, including livestock, wheat, corn, and for textile manufacture, flax. The country was also rich in bauxite, manganese, and oil, all highly prized wartime commodities. Indeed, oil would become increasingly important in the course of the war and motivated Germany's occupation of Hungary beginning in March 1944. Although Hungary was primarily an agricultural nation, important industries developed rapidly during the war, and Hungary became an important producer of ammunition and aircraft.

In some ways, this most attractive prize was waiting to be seized. In 1920, the Hungarian parliament restored the monarchy, yet the king was not welcomed back to the throne, and Admiral Miklós Horthy de Nagybánya was installed instead as regent. Horthy was strongly right wing and an enemy to communism; however, an even more radically right-wing group, known as the Arrow

Cross movement, gained great power in parliament and was instrumental in propelling the nation into the Nazi sphere. The alliance took Hungary to war with all of Germany's enemies, including, ultimately, Great Britain and the United States, in addition to the Soviet Union. Hungary's valuable agricultural and mineral wealth, as well as its crossroads geographical position, made it a target for aerial bombardment and for ground battle. With the nation now in the thick of the fighting, even the right wing began to see that Hungary's involvement in the war was a disaster. Government support for the German war effort faltered as officials desperately searched for an exit strategy. Hitler would have none of this, however, and on March 19, 1944, he sent German forces to occupy an increasingly reluctant Hungary. A puppet government was set up, through Horthy, under General Döme Sztójay, who suppressed anti-Nazi agitation in the country and contributed a new army to the war effort. Up to this time, Hungarian authorities, while zealous in their persecution of Hungarian Jews, stoutly resisted their deportation beyond Hungary's borders. Now the Schutzstaffel (SS) was given free rein to round up the Jews and send them to the concentration and extermination camps. Between March and July 1944, about 438,000 were deported, almost all to their deaths.

Despite Hungary's anti-Semitism, it was in part the fate of the Jews—and Romania's decision to leave the Axis for the Allied cause—that prompted Horthy to defy the Nazis. He ordered an immediate halt to the deportations and on August 29, 1944, appointed a new government under General Géza Lakatos. Even more boldly, he made a separate peace with the Soviet Union, concluding a preliminary armistice on October 11. This triggered the Arrow Cross to rise up and remove Horthy in a coup d'état. A new government under Arrow Cross leader Ferenc Szálasi assumed power, but by this time Nazi domination of Hungary was rapidly coming to an end. The Soviets backed a new provisional government, which was created at Debrecen on December 21–22, 1944.

Hungary was more important to the Germans for its agricultural and mineral goods, as well as for its strategic location, than for its military. The nation entered the war with about 216,000 ill-equipped infantry troops, two brigades of cavalry, and another two motorized brigades. Armor was obsolescent and motor transport in critically short supply. German pressure resulted in the raising of a "Second Army," which consisted of about 250,000 men, including some 50,000 slave laborers, most of them Jews. This force was used in the Ukraine, where, vastly outclassed by the Red Army, it suffered severe casualties and disintegrated entirely soon after it was attacked south of Voronezh on January 12, 1943. This disaster convinced the Hungarian government to avoid fighting as much as possible. The German occupation of the country was largely in response to this reluctance. During the occupation, a newly reorganized Hungarian force was fielded between April and October 1944, but proved predictably ineffective and was increasingly riddled with mass defections to the Soviet side. After the fall of Budapest in mid February 1945, a few diehard Hungarian units retreated with the Germans into Austria.

The Hungarian resistance movement was late to develop, sparse when it did, and, ultimately, ineffective. The British Special Operations Executive (SOE) sent no fewer than six missions into the country after March 1944, but none was productive. When a Committee of Liberation was formed in November 1944, armed resistance began, but was soon crushed after the committee's key members were betrayed to the Gestapo.

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I

Iida Shojiro (1888–1980) *Japanese general*

Iida Shojiro was a skilled commander who proved highly effective during the Burma Campaign. He commanded the 4th Imperial Guards Regiment during 1934–35 and was appointed 4th Division chief of staff in 1935, then head of the Military Administration Bureau in the Ministry of War. Named chief of staff of First Army in 1938, he was sent to Taiwan as commanding officer of the Formosa Mixed Brigade during 1938–39. From 1939 to 1941, Iida was in command of the 2nd Imperial Guards Division, then, later in the year, became commanding general of the Twenty-fifth Army in Indochina.

From 1941 to 1943, Iida was general officer commanding Fifteenth Army in Thailand and Burma. He planned and executed the invasion of Burma by his Fifteenth Army and the Southern Army in 1942. On March 10, Rangoon fell to his forces, and the Burma Road was closed, sealing off China from Allied communication, reinforcement, and supply.

During 1943–44, Iida was recalled to Japan and put in charge of the General Defense Command. He retired in 1944 but was recalled to active duty the following year to command the Thirtieth Army in Manchuria. It was his final assignment before the surrender of Japan.

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Imamura Hitoshi (1886–1968) *Japanese general*

Before the war, during 1931–32, Imamura Hitoshi was chief of the Army General Staff Operations Section, then served as liaison to 9th Division in China. Promoted to regimental command after 1932, he became a major general and was named to command a brigade in 1935. The following year, Imamura was appointed deputy chief of staff of the Kwantung Army in occupied Manchuria, then was named commandant of the Infantry School in 1937.

Promoted to the rank of lieutenant general, Imamura was assigned to command the 5th Division in China, remaining in this position from 1938 to 1940, when he was named inspector general of military education. He held this very powerful post during 1940–41, his office exercising approval over all officer postings, up to and including the choice of army minister. This made him one of the most influential officers in the Imperial

Army. Imamura returned to a field command in November 1941, when he was named commanding general of the Sixteenth Japanese Army, which he led in the conquest of the Dutch East Indies during 1941–42. He personally landed with his troops on the island of Java. In November 1942, Imamura assumed command of the Eighth Area Army, a post that included responsibility for the Seventeenth Japanese Army in the Solomons and the Eighteenth Japanese Army in New Guinea. In 1943, he was promoted to full general.

After the war, Imamura Hitoshi was tried at the Tokyo War Crimes Tribunal for a variety of war crimes. Found guilty, he was imprisoned at Sugamo from 1946 to 1954.

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Imphal Offensive

This was the key turning point in the Burma Campaign. Lieutenant General Mutaguchi Renya led his Fifteenth Japanese Army in a high-stakes attack from Burma into India, targeting the Allied supply bases at Imphal in Manipur. His immediate objective in this action was to preempt an offensive by William Slim's Fourteenth British Army, but his longer-term goal was to gain a purchase for the Japanese-controlled Indian National Army and thereby incite a revolt against the British raj (colonial government) in India. Had the Imphal Offensive succeeded, the British might well have lost control of India, and with India lost, China would have been doomed. Mutaguchi knew that he was outnumbered and lacked air superiority. His only hope, he decided, was to achieve complete tactical surprise and to move with great speed. To even the odds as best he could, Mutaguchi preceded the offensive by ordering Lieutenant General Kawabe Masakazu to attack Arakan in February, thereby drawing off some of Slim's reserves.

Mutaguchi formulated a plan intended to divide and dilute Slim's forces. On March 7, his 33rd Division attacked from the south, pushing Slim's 17th Division from its position at Tiddim and into a fighting retreat. Simultaneously, Mutaguchi's Yamamoto Force attacked the 20th Division near Tamu but was checked at Shenam Saddle. The following week, Mutaguchi sent his 15th and 31st Divisions across the Chindwin River in an attempt to catch Slim in a pincers action and create a decisive double envelopment of his forces. This might well have worked, had it not been for the defeat of the earlier Japanese Arakan offensive. With this attack neutralized, Slim airlifted his 5th and 7th Divisions to Imphal beginning on March 19.

By this time, the main body of the Japanese advance was a mere 30 miles away. But this was not the only cliff-hanger of the campaign. Although Slim had anticipated that Kohima, just northwest of Imphal, would be attacked, he relied on the rugged terrain here to impede such an action. He calculated that the Japanese would be unable to deploy more than a single regiment in the attack. This proved to be a nearly catastrophic assessment as, astoundingly, Lieutenant General Sato Kotuku was able to field his entire 31st Division, which engaged the vastly outnumbered 50th Indian Parachute Brigade at Sangshak and took Kohima on April 3. On April 12, Mutaguchi's 15th Division severed the road between Kohima and Imphal and positioned itself above Slim's 4th Corps.

The achievements of both Sato and Mutaguchi were extraordinary and certainly exploited the element of surprise to the utmost; however, travel and battle over the hostile terrain took a terrible toll on the attackers, victorious though they were, and Mutaguchi's men were simply too exhausted to press their hard-won advantages. In a counterattack that relied heavily on armor (against which the Japanese, lacking armor themselves, were powerless), Slim pushed back Mutaguchi but could not recover use of the Kohima-Imphal road. Therefore, Slim relied wholly on airlift to maintain supply of his now isolated forces. Desperate as this situation was, Slim knew that Mutaguchi was in an even tougher spot. Starved for supplies, Mutaguchi over-

extended his forces in an attack on Dimapur. Slim checked this effort and forced Mutaguchi into a contest of attrition, which favored Slim. As the miserable monsoon encroached in May, Mutaguchi's men, starving and assailed by tropical diseases, melted away. At last, on July 18, Mutaguchi withdrew back across the Chindwin River. Although Slim's forces were subject to many of the same miseries, they were not in nearly as dire straits. Slim pursued the withdrawing Japanese and transformed the Japanese retreat into a rout. The result was disaster for the Japanese in Burma. Of 85,000 Japanese troops committed there, 53,000 became casualties. Some 30,000 were killed in combat, and thousands more died of disease and privation. Precious weapons and heavy equipment had to be abandoned. As for the Indian National Army, the reversal of the Imphal Offensive permanently removed it as a threat. Mutaguchi had gambled boldly and lost decisively.

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incendiary bombs

Incendiary bombs, aerial bombs intended to ignite fires, were used extensively for the first time in World War II, especially by the Americans against Japanese cities, which, because of their flammable building materials, were extremely vulnerable to incendiary attack. The most widely used incendiary bomb in the European theater was a 4-pound weapon filled with thermate, a mixture of thermite (iron oxide combined with powdered aluminum) and an oxidizing agent. Four-pound thermate bombs were dropped in a total quantity of 80 million units called "clusters." Against Japan, the Americans used another type of incendiary bomb, the six-pound M-69 "oil bomb," which was filled with napalm (jellied gasoline) and was designed to eject this flaming substance over many yards after being dropped in clusters. As it burned, the thick napalm, thus projected, tended to adhere to structures and people, thereby increasing damage and injury.

Napalm incendiaries proved highly effective, whereas the thermate incendiaries favored by the British tended to produce heat that dissipated too quickly for maximum effectiveness. German incendiaries improved on the thermite-only bombs by adding magnesium to the blend. The thermite ignited the magnesium, which provided a much longer-lasting source of ignition heat. Worse for those targeted, a magnesium fire cannot be extinguished with water. Instead of quenching a magnesium-fueled blaze, water both intensifies and spreads it.

The Japanese produced incendiary bombs of an entirely different design from those of the other combatants. The Japanese bomb was packed with some 700 open-ended iron cylinders filled with thermite. The bomb was fused so that it would detonate at 200 feet above the ground, broadcasting the flaming cylinders over a 500-foot radius. This made for a highly effective antipersonnel weapon.

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India

At the outbreak of World War II, India, the "jewel in the crown" of the British Empire, had a population of some 318.7 million and represented for Great Britain an enormous military responsibility as well as resource. India was rich in a variety of strategic raw materials and was a potentially huge source of military manpower. Its location fronting both Africa and the Middle East was key in global warfare. Unfortunately for Great Britain, India was also in the throes of a long-standing independence

movement and could not be counted on—as so much of the rest of the empire and commonwealth could be—to contribute to the war effort or, for that matter, to remain loyal.

The politically sensitive, even precarious, situation did not stop Lord Linlithgow, the British viceroy in India, from unilaterally declaring India to be at war with Germany. That he did not consult such rising Indian leaders as Mohandas Gandhi and Jawaharlal Nehru, let alone the Indian public, caused great outrage, resentment, and defiance. Most Indians and most Indian leaders were inclined to support the Allies and certainly abhorred the Nazis and fascists (although Gandhi and his followers advocated a policy of total nonviolence), but Linlithgow's high-handedness inextricably linked support for the war effort with support for continued imperial rule. Feeling betrayed and unwilling to be identified as puppets of the British, India's leaders withheld support from the British Raj (as the ruling government was called) and demanded that Britain plead its case for Indian support by stating its postwar "goals and ideals;" that is, the Indian leaders were looking for a pledge that Britain would progressively lead India toward full independence after the war. When Linlithgow refused to oblige the Indian Congress with such a declaration, Congress called on its provincial ministries to resign. This gave Muhammad Ali Jinnah, the most prominent leader of India's Muslims (and, later, founder of Pakistan), an opening to gain ground with the British. Jinnah pledged Linlithgow the support of India's Muslims, many of whom were members of the Anglo-Indian armed forces. Thus the course of the war saw a split between the Hindu-dominated Indian Congress, which drifted further and further from the British (espousing a doctrine of "active noncooperation"), and the Muslim League, which supported the British war effort.

Gandhi and Nehru both campaigned against the war on pacifist principles and were jailed for their protests. By June 1941, more than 20,000 protesters were in Indian prisons. Whereas Gandhi, Nehru, and their followers opposed war itself, Subbas Chandra Bose actively seized on the war as a means of hastening Indian independence. He worked with the Germans and Japanese to create the Indian National Army in 1943, which collaborated with the Japanese.

In March 1942, some four months after Japan had entered World War II, British prime minister Winston Churchill sent Sir Stafford Cripps, a British Socialist and personal friend of Nehru, to India with a postwar proposal. Churchill's hope was to secure India as a bulwark against the rapid expansion of Japanese control in the East. Through Cripps, the government proposed to grant full dominion status to India after the war, with the proviso that any province could vote itself out of the dominion. Gandhi and Nehru rejected the proposal, and Gandhi repeated the demand of the movement he led, that the British summarily "quit India," leaving it to the Indians to deal with the Japanese through nonviolent means. In response, by August 1942, British authorities put another 60,000 Indians behind bars, and a major military effort was mounted to crush Indian resistance. By the middle of 1943, Field Marshal Archibald Wavell replaced Linlithgow as viceroy and immediately put Indian under martial law for the rest of the war.

Despite resistance, India produced massive amounts of agricultural goods and other raw materials for the war effort. Manufacturing exploded in India during the war years, and the nation contributed guns, ammunition, machine tools, aircraft supplies, vehicles, and other goods. Airfields sprung up all across the subcontinent, and India's coastal cities became major ports as well as centers of ship repair. To some, the enormous surge in production brought substantial profit, but the war economy also created nearly ruinous inflation throughout India. Economic problems were compounded by the devastating Bengal famine of 1943, which brought severe food shortages. Another unanticipated consequence of the war economy was the transformation of India from a debtor nation to a creditor. By the end of the war, Great Britain alone owed India some £1.3 billion.

India's contribution to the Allied war effort also included its professional volunteer army, a service with a very long, distinguished record. At the out-

break of the war in 1939, the Indian army consisted of 205,000 Indian troops and 63,269 British troops, plus 83,706 troops from the "princely states"—Indian states not under direct British control but governed as British client states (representing about one-third of the subcontinent). Despite the preponderance of Indian soldiers in the Indian army, the officer corps was overwhelmingly British. At the outbreak of war, only 396 out of 4,424 officers were Indian. By the end of the war, the strength of the Indian army had risen to 2.5 million men, all volunteers and the largest all-volunteer army in history. This force was commanded by 34,500 British officers and 8,300 Indian officers. Casualties by war's end included 24,338 killed and more than 64,000 wounded. Some 12,000 went missing, and another 80,000 were taken prisoner.

While the Indian army was very large by the end of the war, the Royal Indian Navy, which had been established as recently as 1934, remained modest, although it did significantly expand during the war. In September 1939, its strength stood at 1,700 men. By the end of the war, its ranks numbered 30,478 men, furnishing the crews for 10 sloops, three frigates, four corvettes, 17 minesweepers, and various smaller vessels. The mission of the Royal Indian Navy was exclusively to patrol the coasts and see to all matters relating to coastal defense.

The Royal Indian Air Force came into being one year before the Royal Indian Navy and had 1,628 men in 1939 and 26,900 enlisted personnel, plus 1,638 officers, by 1945. At war's end, these personnel manned three fighter-reconnaissance squadrons, two ground-attack squadrons, two light bomber squadrons, and two fighter squadrons.

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Indian National Army (INA)

The INA came into existence in February 1942, created from the Indian Independence League, which was led by a Bangkok-based Sikh missionary named Giani Pritam Singh and F. Kikan, an Indian independence organization founded by Japanese army intelligence officer Fujiwara Iwaichi. The ranks of the INA were filled by Indian Army POWs captured after the FALL OF MALAYA and the FALL OF SINGAPORE. A women's auxiliary of the INA, the Rani of Jhansi Regiment, was also later created.

Mohan Singh, one of the Singapore POWs, was named commander of the INA and, with Fujiwara, set about recruiting members by advocating the organization as the quickest means of achieving independence for India. Some 20,000 of 60,000 POWs at Singapore joined, but by December 1942, Singh began to believe that the Japanese had little interest in actually allowing the creation of an independent India. When he began to voice his suspicions, he was arrested and the INA was temporarily disbanded. It was reconstituted in June 1943 under the nationalist leader SUBHAS CHANDRA BOSE, who planned to use the INA as the vanguard of a Japanese invasion of India, which, he believed, would trigger a massive popular rebellion against the British. The Japanese were not persuaded that such a rebellion would take place and instead wanted to use INA troops in piecemeal fashion as adjuncts to Japanese units for purposes of sabotage and propaganda. Bose continued to insist, however, and the Japanese agreed to use about 7,000 INA troops in their ill-fated IMPHAL OFFENSIVE, an abortive invasion of India.

The Imphal Offensive was a disaster, and the INA performed especially poorly in it. Large numbers deserted or surrendered. Subsequently, even more surrendered in Burma, and the 5,000-man INA garrison at Rangoon surrendered without offering resistance when that city was retaken by the British.

Although the INA was a total military failure, the British administration in India made the colossal error of putting many INA members on trial following the war. For independence-minded Indians, this cast them in a heroic light, and the INA thus became a political focal point of the postwar independence movement.

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internment, Japanese-American

At the time of the Battle of Pearl Harbor, December 7, 1941, approximately 120,000 persons of immediate Japanese descent were resident in the continental United States, most of them living on the West Coast. Of these, some 80,000 had been born in this country and were citizens. Within four days after Pearl Harbor, the Federal Bureau of Investigation (FBI) arrested and detained 1,370 Japanese Americans as "dangerous enemy aliens," despite their American citizenship. On December 22, the Agriculture Committee of the Los Angeles Chamber of Commerce issued a public call to put Japanese Americans "under federal control." The source of this call was significant; for many years, Japanese-American farmers had been successfully farming in California, Oregon, and Washington, offering stiff competition to Caucasian farmers, who controlled the Agriculture Committee. The committee's probable special agenda notwithstanding, there can be no doubt that, following the "sneak attack" on U.S. territory, many Americans genuinely feared that Japanese Americans would align themselves with their country of origin or ancestry and would commit acts of sabotage or worse.

On January 5, 1942, all U.S. draft boards automatically classified Japanese-American selective service registrants as enemy aliens, and many Japanese-Americans who were already serving were discharged or restricted to menial labor duties. On January 6, Leland Ford, congressman from the district encompassing Los Angeles, sent a telegram to Secretary of State Cordell Hull, asking that all Japanese Americans be physically relocated from the West Coast. Before the end of the month, the California State Personnel Board voted to bar from civil service positions all "descendants of natives with whom the United States [is] at war." As worded, the ban included descendants of Germans and Italians, but it was put into practice only against Japanese Americans.

On January 29, U.S. Attorney General Francis Biddle established "prohibited zones," areas forbidden to all enemy aliens. Accordingly, German and Italian as well as Japanese aliens were ordered to leave San Francisco waterfront areas. The next day, California attorney general Earl Warren (who would in the 1950s become nationally known as the civil libertarian chief justice of the U.S. Supreme Court) issued an urgent statement calling for preemptive action to prevent a repetition of Pearl Harbor. Early the next month, the U.S. Army designated 12 "restricted areas," in which enemy aliens were to be subject to a curfew from 9 p.m. to 6 a.m. and in which they were permitted to travel only to and from work, never going more than five miles from their homes.

On February 6, 1942, a Portland, Oregon, American Legion post published an appeal for the removal of Japanese Americans from the West Coast. This was followed a week later by an appeal from the entire West Coast congressional delegation to President Franklin D. Roosevelt asking for an executive order for the removal. On February 16, the California Joint Immigration Committee urged that all Japanese Americans be removed from the Pacific Coast and other vital areas.

By February 19, the FBI held 2,192 Japanese Americans, and on that day, President Roosevelt signed Executive Order 9066, authorizing the secretary of war to define military areas "from which any or all persons may be excluded as deemed necessary or desirable." As interpreted and executed by Secretary of War Henry Stimson and the officer he put in charge of the operation, Lieutenant General John DeWitt, this meant that Japanese Americans, citizens (Nisei) and noncitizens (Issei), living within 200 miles of the Pacific Coast were ordered to be "evacuated." Pursuant to this order, more than 100,000 persons were moved to internment camps in California, Idaho, Utah, Arizona, Wyoming, Colorado, and Arkansas.

Conditions at the camps were neither inhuman nor inhumane and in no way merit comparison with Nazi CONCENTRATION AND EXTERMINATION CAMPS. Nevertheless, the camps were undeniably spartan, and it is true that many internees suffered significant to catastrophic financial loss as a result of their compulsory internment. The emotional trauma of forced dislocation is far more difficult to assess. In any case, the only significant opposition to the removal came from Quaker activists and the American Civil Liberties Union (ACLU). The ACLU funded lawsuits brought before the U.S. Supreme Court—most notably *Hirabayashi v. United States* and *Korematsu v. United States*—but in all cases, the high court upheld the constitutionality of the executive order in time of war.

During their internment, some 1,200 young Japanese men secured release from the camps by enlisting in the U.S. Army. They were segregated in the 442nd Regimental Combat Team, which also consisted of about 10,000 Japanese-Hawaiian volunteers. (Japanese-Hawaiians had not been subject to the removal order.) The 442nd was shipped out to Europe, where it compiled an extraordinary combat record in Italy, France, and Germany, emerging from the war as the most highly decorated unit of its size and length of service in American military history.

On December 17, 1944, Major General Henry C. Pratt issued Public Proclamation No. 21, which, effective January 2, 1945, permitted the "evacuees" to return to their homes. Congress passed a Japanese American Evacuation Claims Act of 1948, which paid out approximately $31 million in compensation, a tiny fraction of the actual financial losses incurred. All subsequent individual suits seeking compensation from the government failed until 1968, when a new act of Congress reimbursed some who had lost property because of their relocation. Twenty years after this, in 1988, Congress appropriated more funds to pay a lump sum of $20,000 to each of the 60,000 surviving Japanese-American internees.

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Iran

At the outbreak of World War II, Iran, which up to 1935 had been called Persia, was officially neutral; however, under its ruler, Reza Shah Pahlavi, the nation maintained warm relations with Germany, which was an important trading partner and source of foreign investment. The cordiality of this relationship was highly alarming to the Allies, particularly Great Britain, which saw Iran's tremendous oil reserves and oil production as vital to the war effort and a prize of inestimable value. Moreover, Iran, with its well-developed trans-Iranian rail system, was an important overland link to the Soviet Union, a means of conveying much-needed supplies to that ally.

On August 21, 1941, Britain and the Soviet Union jointly requested that Iran expel the 2,000–3,000 German nationals resident in the country. When the shah refused, Soviet and British forces invaded Iran on August 25, 1941. Two Indian divisions, the 8th and the 10th, invaded from the south and west, respectively, while the 47th Soviet Army and 44th Soviet Army invaded from the north, and the 53rd Soviet Army entered from the east. The multipoint invasion quickly overwhelmed Iranian

resistance, which was scattered and uncoordinated, and Reza Shah Pahlavi, abdicating in favor of his son, Mohammad Reza Shah Pahlavi, fled to South Africa, where he died in exile in July 1944. In the meantime, the 22-year-old Mohammad Reza Shah quickly reversed the course set by his father. In return for a guarantee of territorial integrity and independence, he concluded a tripartite treaty of alliance with Great Britain and the USSR at Tehran on January 29, 1942. Soon after, he severed diplomatic relations with Germany, expelled all German nationals, and, on April 12, 1942, severed diplomatic relations with Japan as well.

The Allies pledged to leave Iran within six months after the end of hostilities with Germany, but later extended this to six months after the end of hostilities with Japan. At the Tehran Conference in November 1943, the United States affirmed its adherence to these terms as well. The Allies also pledged a strict policy of noninterference with the internal affairs of Iran during the war, but, in fact, they were very active within the country and exercised extensive control over roads, railways, waterways, ports, communications, and even food supplies and labor allotment, all to ensure a steady flow of oil to the Allies and the maintenance of a supply lifeline to the Soviet Union. About 4,159,117 tons of Lend Lease goods were delivered to the USSR via Iran, representing 23.8 percent of the total wartime aid to that country. The Allies dubbed Iran "the bridge to victory."

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Iraq

Iraq was part of the Ottoman Empire until after World War I, when the League of Nations made it a British mandate. In 1932, Iraq achieved full legal independence, except for certain provisions of the Anglo-Iraqi Treaty of 1930, which (among other things) gave Great Britain a special commercial interest in the oilfields of Mosul and Kirkuk, allowed free passage of British troops, and reserved land near Basra and Habbaniya for the maintenance of British air bases. The treaty never sat well with many factions in Iraq and, by the outbreak of World War II, generated sufficient anti-British sentiment to drive some in the government toward friendly relations with Germany. Emir Abdullah, as regent, was the titular head of the Iraqi state, but the government was actually led by Prime Minister Nuri es-Sa'id, who was pro-British. He favored a declaration of war against Germany but was blocked by strongly nationalist factions and, in the end, Nuri had to content himself with severing diplomatic relations with the Germans.

In March 1940, Nuri was replaced as prime minister by Rashid Ali, who was openly pro-Nazi and had ties to the Golden Square, an Iraqi military junta that favored the Axis. Under Rashid, the Iraqi government intrigued against British interests; however, British military successes in the Middle East turned Iraqi popular opinion against both Rashid and the Golden Square. He resigned in January 1941. A military coup soon followed the resignation, and Rashid Ali was returned to office as prime minister on April 3, 1941. The Axis governments dangled offers of aid to Rashid, who responded by refusing to honor the Anglo-Iraqi Treaty. British troops were barred from traversing Iraqi territory, and Iraqi troops were sent to surround the air base at Habbaniya. The Germans sent aircraft to assist the Iraqi army in resisting the British, and in May there were armed exchanges. The Vichy government in Syria likewise furnished Iraqi forces with supplies and materiel.

Axis and Vichy support was insufficient to counter an invasion consisting of Indian, British, and Arab Legion (from Transjordan) troops. The Iraqi army dispersed before the invaders, the Iraqi air force, consisting of just 56 obsolescent aircraft, was destroyed, and Habbaniya was relieved in less than a month. The Anglo-Indian-Arab force surrounded Baghdad, forcing the conclusion of an armistice. The regent returned, and Nuri was reinstated as prime minister and head of an openly

pro-British government. Iraq declared war on the Axis in January 1943.

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Iron Guard uprising in Romania

The *Garda de Fier,* or Iron Guard, grew out of the fascist Legion of the Archangel Michael, founded in 1927 by Corneliu Zelea Codreanu, a virulent anticommunist and anti-Semite. Codreanu created the Iron Guard in 1930 as the paramilitary arm of the legion, which was dedicated to the "Christian and racial" renewal of Romania. Perceiving a threat from the Iron Guard, the Romanian government dissolved it in December 1933, but it quickly reappeared under the guise of the Everything for the Fatherland Party and even received some support from King Carol II. He suppressed the party once again in 1938, however, after proclaiming a personal dictatorship. By this time, Everything for the Fatherland was Romania's third-largest political party. Hoping to curb the party's influence, Carol imprisoned Codreanu in April 1938, and on November 30, 1938, while Codreanu was being transferred from one prison to another, he and 13 followers were garroted and shot. The government claimed they had tried to escape. Considering the manner of their deaths, this explanation is quite impossible to believe.

The Iron Guard was revived in 1940 after Carol abdicated, and Guardists were installed in the cabinets of General Ion Antonescu during 1940–41. In January 1941, the Iron Guard mounted a revolt against Antonescu because they believed he was insufficiently pro-German. The government of Adolf Hitler, however, disavowed the uprising, and the Iron Guard was again suppressed, this time permanently. The Guardists were purged from the government.

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island-hopping strategy

Early in the Pacific war, U.S. admiral Chester Nimitz proposed what was generally called the "island hopping strategy." It was an overall plan for the conduct of the amphibious war in the Pacific theater and consisted of developing a series of amphibious assaults on selected Japanese island fortresses while either entirely skipping over others or subjecting some islands to air attack only. What Nimitz recognized, with Douglas MacArthur's concurrence, was that isolating some Japanese forces was as effective as attacking and destroying them—and, of course, far less costly. While the Japanese had control of many islands early in the war, the far-flung deployment of occupying forces rendered each of those forces vulnerable if communication with other occupied islands was severed.

As developed, the island-hopping campaign consisted of two prongs, a northern and a southern. The northern prong was projected from Midway into the central Pacific, reaching Iwo Jima in February 1945. The southern prong originated from Guadalcanal and moved out to the Solomon Islands and, finally, the Philippines in early 1945.

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Italian Campaign

Costly and heartbreaking, the Allies' Italian Campaign had been conceived as an opportunity to make what seemed relatively easy inroads into the Nazi-held European mainland while also drawing off German military resources that would other-

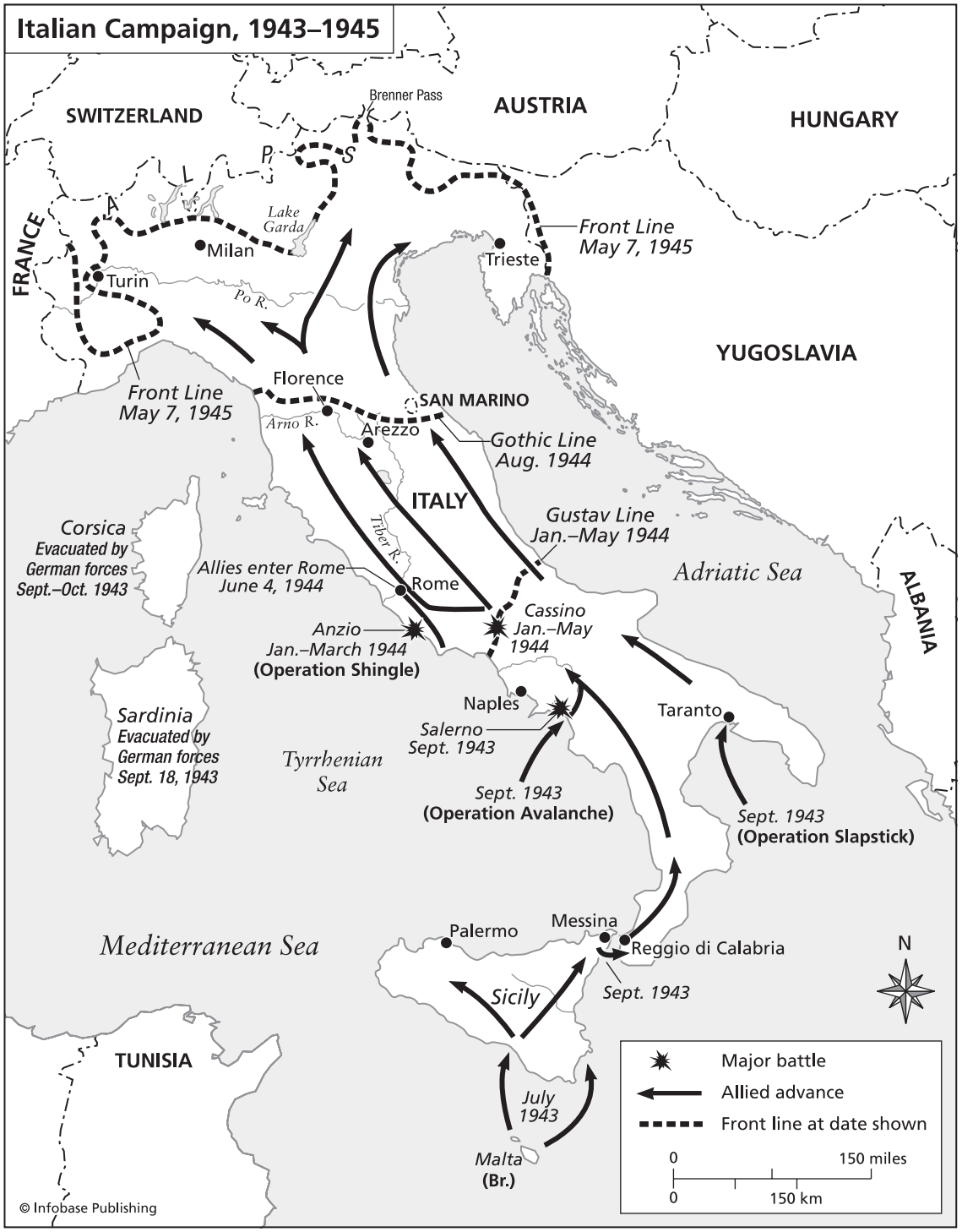
wise be committed to the Soviet front. British prime minister Winston Churchill saw the invasion of Italy as a means of attacking "the soft underbelly of Europe," and following the successful completion of the North African Campaign, it certainly seemed like the next logical step. From North Africa, the Allies proceeded with the Sicily Campaign and, that completed, jumped off for Italy.

Opportunistic and logical, the Italian Campaign nevertheless did not receive unanimous Allied backing. In general, Churchill favored it, as he favored a concentration of force throughout the Mediterranean, but American military planners, including George C. Marshall and Dwight David Eisenhower, believed that devoting major forces to this theater unnecessarily diluted efforts that should be allocated to Operation Overlord, the Normandy landings (D-day). Soviet premier Joseph Stalin also objected to the concentration on the Italian Campaign, believing that it was an excuse to avoid a major invasion of Europe. Churchill and the British Imperial General Staff countered that the action in Italy would not only draw German strength away from the Soviet front, but also away from France, thereby facilitating the planned invasion. Ultimately, this logic carried the day. What none of the Allies had anticipated, however, was the fierceness of German resistance in Italy. The belief was that Allied forces would advance quickly up the Italian peninsula and would soon be positioned north of Florence, posing a grave menace to the highly vulnerable southern flank of the German army. In fact, progress up the peninsula was a deadly slog, and the southern flank of the German army was not reached until very nearly the end of the war.

One thing both the British and the Americans did agree on was the necessity for speed and surprise. Both of these elements were sacrificed, however, as the Allies held off invading the mainland while they debated whether the surrender terms offered by the provisional Italian government under Marshal Pietro Badoglio were consistent with the agreement, reached at the Casablanca Conference, to accept nothing less than unconditional surrender. By the time this issue had been settled, the Germans had deployed 16 new divisions in Italy. On September 3 and 4, the Eighth British Army crossed the Strait of Messina from Sicily and landed on the toe of the Italian boot, at Reggio di Calabria. They were almost unopposed. The Italian surrender was announced on September 8, 1943, and, on the next day, the Fifth U.S. Army landed at Salerno and, in stark contrast to the British experience, were met by fierce German resistance in the very hard-fought Battle of Salerno, which nearly drove the invaders back into the sea. Although the Americans managed to hold the beachhead, Adolf Hitler was highly impressed by the conduct of his principal commander in Italy, Albert Kesselring, and he resolved with Kesselring to make the Allies pay dearly for every inch of an Italian advance.

The Allies had anticipated making a Blitzkrieg-like advance up the peninsula. Instead, the entire Italian Campaign was a grinding war of attrition against extremely well-prepared and tenacious German defenses. If the German army had proved terrifying when it was on the attack early in the war, it showed itself to be equally formidable in the defensive role.

The Battles of Cassino, fought from January 12 to May 18, 1944, were all too typical of the Italian Campaign. The Germans were deployed expertly in the rugged terrain of central Italy, a defensive ground they exploited to full advantage. British general Harold Alexander, in overall command of the Eighth British Army and the Fifth U.S. Army, consistently underestimated the Germans' ability to defend against the advance, and combat here came to resemble the deadly futility of World War I trench warfare far more than the mobile fighting typical of World War II elsewhere. The frustrating circumstances seemed to bring out the worst in Fifth U.S. Army commander Mark W. Clark, who continually pounded the German line with frontal attacks that were doomed to fail. He was driven, in large part, by the need to break through the line in order to link up with and relieve the U.S. VI Corps, which was pinned down at Anzio. The Anzio Campaign


Italian Campaign, 1943–1945
SWITZERLAND
AUSTRIA
HUNGARY
Brenner Pass
FRANCE
Alps
Lake Garda
Milan
Turin
Po R.
Trieste
Front Line May 7, 1945
YUGOSLAVIA
Florence
SAN MARINO
Arno R.
Arezzo
Gothic Line Aug. 1944
ITALY
Tiber R.
Gustav Line Jan.–May 1944
Corsica
Evacuated by German forces Sept.–Oct. 1943
Allies enter Rome June 4, 1944
Rome
Adriatic Sea
ALBANIA
Anzio Jan.–March 1944 (Operation Shingle)
Cassino Jan.–May 1944
Naples
Salerno Sept. 1943
Taranto
Sardinia
Evacuated by German forces Sept. 18, 1943
Tyrrhenian Sea
Sept. 1943 (Operation Avalanche)
Sept. 1943 (Operation Slapstick)
Palermo
Messina
Reggio di Calabria
Mediterranean Sea
Sicily
Sept. 1943
N
TUNISIA
July 1943
Malta (Br.)
Major battle
Allied advance
Front line at date shown
0
150 miles
0
150 km
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had begun in January 1944 with an amphibious landing that depended on a rapid drive from the beach into the Alban hills. This would have relieved pressure on the Fifth U.S. Army. Sixth Corps commander John Lucas, however, frittered away much valuable time consolidating his position after the landing instead of moving on to an immediate advance, and thereby lost the initiative. The result was that his corps was cut off, isolated, and now in no position to offer relief. On the contrary, it was in desperate need of aid itself.

After the failure of the first Battle of Cassino, Alexander sent the Eighth British Army to make a new attempt to break through the so-called Gustav Line. In the process, the ancient Benedictine monastery at Monte Cassino was reduced to rubble by artillery barrages and aerial bombardment. This tragic action was to no avail, as the Germans continued to fight, even more effectively, from the rubble. A third battle was launched, with equal futility. In the meantime, however, the U.S. Army Air Forces and the RAF had achieved air superiority over Italy, yet heartbreakingly, a campaign of bombing and close air support did little to aid the Allied advance on the ground.

Only with the fourth Battle of Cassino did Alexander and Clark achieve the level of coordination necessary to breach, at long last, the Gustav Line. This resulted in a general breakthrough and a massive offensive beginning on May 11, 1944. Monte Cassino fell, and the forces at Anzio could now commence their breakout as well. All elements were positioned for an attack on Kesselring's forces at Valmontine. Here was an opportunity to destroy the principal part of the German army in Italy. But on the very verge of victory, Clark decided instead to capture Rome rather than concentrate on destroying the enemy army. It was an all too familiar temptation, especially given the historical and even mythic significance of the Eternal City and the fact that here was an opportunity to retake the first of the Axis capitals. Rome fell on June 4 (ironically, the landings at Normandy on June 6 stole Clark's headlines as well as his thunder), but by diverting his forces to take Rome, Clark opened up a gap between the Allied armies and took the pressure off the rear of Kesselring's forces. The Germans were therefore able to withdraw intact, their army preserved. Rome had been gained, but the chance to end the Italian Campaign swiftly had been lost.

There was little doubt now among the Allies that the Germans would be defeated in Italy, but by succumbing to the seduction of Rome, Clark had relinquished the momentum of the campaign. As far as the Allies were concerned, Italy was now very much a secondary front and six entire divisions were withdrawn from the country to participate in landings in the south of France. A plan to supplement the remaining U.S. and British forces with Italian troops enjoyed little success, and the continued Allied advance was greatly impeded by the many rivers that cross the Italian peninsula, especially after abnormally heavy autumn rains caused extensive flooding. Progress continued, to be sure, but very slowly. The next great German defensive position, the Gothic Line, was breached, but the British Eighth Army soon bogged down in mud during a very rainy September. Intending to press on into Austria, the army was delayed in the Romagna. At this point, Alexander was ordered by the Combined Chiefs, Allied high command, not to press the offensive, but to concentrate instead on merely pinning down in Italy as many German divisions as possible. This he did, and to substantial effect. As a culmination of the Italian Campaign, however, it was hardly the glorious blitzkrieg-style breakthrough originally anticipated.

The cost of the entire campaign was staggering: 188,746 killed or wounded in the Fifth U.S. Army, 123,254 killed or wounded in the Eighth British Army. German casualties were very high, some 434,646 killed, wounded, or missing. As a process of attrition, the Italian Campaign was punishingly hard on both sides—though, on balance, much harder on the Germans. The extent to which this contributed to the Allied victory in Europe is debatable. Certainly, the Germans could not afford the losses they sustained, but if the Italian Campaign drew off German forces from the Soviet and French fronts, it also drew off Allied forces from France. The best that can be concluded about the

Italian Campaign was that it produced mixed results, and while that assessment is true enough in a strategic sense, it in no way conveys the degree of destruction and misery the campaign also produced—on both sides.

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Italy

Italy fought on the side of the Allies during World War I and incurred heavy losses even as it failed to reap the territorial benefits it had anticipated from participation in the war. The nation emerged from the conflict in economic disarray and with a great deal of political instability as socialists, communists, anarchists, right-wing monarchists, and democrats competed for power. In this climate of chaos and malaise, Benito Mussolini rapidly rose to power with his seductive political philosophy of fascism. Although Italy remained, putatively, a constitutional monarchy under King Victor Emmanuel III, Mussolini, from 1922 to 1943, became absolute dictator.

Through a combination of personal charisma, national mythologizing, an oligarchical partnership with industrialists and financiers, police state tactics, and outright thuggery, Mussolini compelled his compatriots to trade liberty for a measure of prosperity and at least the appearance of efficiency of government. Mussolini and fascism were widely admired throughout Europe and even in the United States. Adolf Hitler looked to Mussolini as a role model for effective dictatorship. For many, however, the image of fascism was tarnished by Mussolini's aggression, naked and brutal, against Ethiopia (Abyssinia), which Italy invaded, conquered, and annexed in 1936, and by Italy's support for the fascist Falange during the Spanish civil war. But among those committed to fascism, this aggressive expansionism was looked upon as a positive development, and Mussolini promised Italians that he would, in effect, restore Italy to the glory it had enjoyed in ancient times as the center of the Roman Empire.

As Hitler's Germany became increasingly powerful, the roles of Mussolini and Hitler were reversed. Mussolini, whom Hitler had admired in the 1920s and early 1930s, now increasingly came into the orbit of Hitler. Mussolini created an alliance with Germany (and, subsequently, with Japan as well) by concluding the Pact of Steel in 1939 and the Axis (Tripartite) Pact in 1940. Mussolini, however, failed to be an enthusiastic ally. After the outbreak of war, he hesitated to commit Italy to a full military alliance with Germany until the sweeping German victories of 1940 persuaded him that the alliance would bring Italy easy territorial expansion and profit, which would also greatly enhance his personal image as a leader and conqueror. But in the heat of combat the inadequacy of the Italian military quickly became apparent. As a military ally, Italy proved more of a liability than an asset to Germany, and Hitler made increasingly stringent demands on Italian forces and on the Italian economy. Mussolini not only became Hitler's puppet, but was widely perceived as such.

Mussolini promised the Italian people great things in return for the nation's participation in the war. Instead, even before Italy was invaded by the Allies, the war exacted great economic sacrifices, including shortages of everything from soap, to electric power, to gasoline, to clothing and food. The black market flourished. Corruption and inflation became serious problems, and national deficits skyrocketed.

German reversals in the Soviet Union by the end of 1941, coupled with the entry of the United States into the war following the Battle of Pearl Harbor, began to turn Italian public opinion sharply against Mussolini and the fascists, who were increasingly seen as leading Italy to ruin. Beginning in August 1942, Marshal Pietro Bado-

GLIO secretly schemed with Princess Maria José of Savoy, the daughter-in-law of King Victor Emmanuel III, to make overtures of a separate peace with the British and Americans. After the Germans, along with Italian forces, were defeated at the BATTLE OF STALINGRAD in 1942–43, Mussolini's tenure was clearly doomed. Life in Italy was made increasingly miserable by RAF bombing missions in the north. Finally, with the commencement of the SICILY CAMPAIGN, the Allied landings on Sicily on July 9, 1943, the Fascist Grand Council met and, on July 24, dismissed Mussolini from office. He was arrested the next day. Badoglio formed a new provisional government and immediately faced the problem of secretly negotiating with the Allies without provoking German retaliation. His plan was to coordinate an armistice with the landing of a large Anglo-American force. The armistice was announced on September 8, 1943, while the Allies landed at Salerno and commenced the bloody BATTLE OF SALERNO.

The ITALIAN CAMPAIGN proved to be prohibitively costly for the Allies, because German resistance was far more fierce and effective than they had anticipated. Italy became a battleground as the Allies gradually gained control of the south and slowly advanced northward. Mussolini, rescued from captivity by a German guerrilla operation under OTTO SKORZENY, was set up in far northern Italy as Hitler's marionette. The Italian army proved mainly ineffective in aiding the Allies, but Italian partisan activity was often most helpful. However, fighting in Italy did not end until the German surrender in May 1945.

See also ITALY, AIR FORCE OF; ITALY, ARMY OF; and ITALY, NAVY OF.

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Italy, air force of

BENITO MUSSOLINI promoted FASCISM as a political philosophy for the future, wedded to new technologies, especially those involving power and speed. Developing the Italian air force became a signature project for fascism, and Mussolini's air marshal, ITALO BALBO, a dashing figure and a daring aviator, made the perfect front man for the new air force. In the years before the outbreak of World War II, many foreign diplomats, politicians, and even some military figures were inordinately impressed by Italy's air arm. However, the facts were at odds with the image. At the outbreak of the war, Italy had 1,753 combat aircraft, of which approximately half, some 900 machines, were modern. The rest were obsolete or obsolescent. At that, even the modern aircraft were outclassed by the best Allied planes, and many airplanes lacked radios or the instrumentation to enable night flying. None of the Italian aircraft was radar equipped. Equally deficient were the Italian pilots; without question, they were brave but also poorly trained.

In early action, the Italian air force proved highly ineffective, especially against British warships in the Mediterranean during the summer of 1940. Performance significantly improved by the end of 1941, but by that time the heavy losses incurred by the service were not made up, and the strength of the air force rapidly dwindled. By the time Marshal PIETRO BADOGLIO concluded an armistice with the Allies in September 1943, Italy had only about 100 operational warplanes.

See also AIRCRAFT, ITALIAN.

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Italy, army of

During World War II, the Italian army, like the nation's other armed forces, was under the direct command of Benito Mussolini, who had appointed himself minister for war. He was assisted by Marshal Pietro Badoglio, who exercised no direct command authority but functioned as a personal military adviser to Mussolini. Below this top level, command of the army and the other armed forces was poorly defined. More often than not, Mussolini intervened directly in command decisions that should have been made on the staff or even field level. Like Adolf Hitler, Mussolini fancied himself a military genius, but, in fact, like Hitler, he had no experience in higher command and was an inept, even disastrous, military chief.

At the outbreak of World War II, the Italian army consisted of about 1.6 million men. The peak number of troops ultimately deployed approached 4 million. Throughout Italy's participation in the war, Mussolini frustrated and angered Hitler by insisting that a disproportionate number of these men—about 1 million—be retained within Italy. On the other hand, Mussolini also insisted on contributing forces to the Soviet front, even though the German commanders did not particularly want them to participate in the Soviet campaign, because they considered the Italian troops inferior.

The army consisted of 73 divisions at the outbreak of the war. There were 43 marching infantry divisions, five alpine divisions, three light divisions, two motorized divisions (consisting of 3 motorized regiments), three armored divisions, and 14 self-transportable divisions (capable of moving troops and one artillery regiment by truck). By 1942, one air-transportable division and one parachute division were added, along with 12 coastal divisions for defense. There were also militia and Libyan divisions. In addition, a Fascist Militia (Blackshirts) consisted of 177 legions, of which 39 were attached to the army. The Italian national police, or Carabinieri, functioned as military police but also sometimes fought in combat. This force numbered about 156,000 men.

Besides defending Italy, the Italian army fought in the Balkans, France, North Africa, Italian East Africa, and, at the insistence of Mussolini, the Soviet Union. Leadership, equipment, training, and commitment to the mission were all uniformly poor throughout the army, and the Germans soon learned to look upon their ally as a military liability rather than an asset. After the Italian armistice with the Allies in September 1943, some army units actively opposed the German occupation. The commanders of the Anglo-American forces fighting in Italy, unimpressed with the quality of the Italian military, were not enthusiastic about allowing the Italians to participate in the Italian Campaign; however, a motorized group (the equivalent of single reinforced regiment) fought at the Battles of Monte Cassino, and the so-called Italian Corps of Liberation (with the strength of a conventional division) fought along the Adriatic. In August 1944, after significant numbers of Allied troops were transferred from Italy to the landings along the French Riviera, General Harold Alexander armed six Italian divisions and deployed four in combat. These men fought with a skill and passion not seen among Italian forces earlier in the war.

Fighting against the Allies, the Italian army suffered 380,000 military deaths (including 110,823 killed in combat) and 225,000 wounded in action. Many more were taken prisoner. In combat for the Allies, losses were 1,868 killed and 5,187 wounded.

See also armor, Italian; artillery, Italian; and small arms, Italian.

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Italy, navy of

At the outbreak of World War II, Italy had a formidable navy that included two modern battleships,

four rebuilt older battleships, and 19 cruisers in addition to 100 smaller surface craft and 113 submarines. These vessels were manned by 168,614 officers and sailors at the beginning of the war, growing to 259,000 at peak strength in August 1943. Italian naval personnel were much better trained than either their army or air force counterparts, but while the roster of ships looked impressive on paper, the fleet was outclassed by the navies of the Allies. Italian vessels lacked RADAR, their guns were generally inferior to those of Allied vessels (of significantly shorter range), and, perhaps most serious of all, the navy suffered from a shortage of fuel oil. Another major shortcoming was the complete lack of aircraft carriers. Finally, there was a problem with command philosophy. Italian naval officers were extremely conservative and saw their principal objective as preserving the navy intact; they were, therefore, reluctant to put ships at risk and never deployed their naval assets aggressively or effectively.

Despite the conservative philosophy, the Italian navy suffered a severe blow early in the war at the BATTLE OF TARANTO on November 12, 1940, when British aircraft badly damaged one new battleship and two older ones, along with a cruiser and dock facilities. This disaster was followed on March 28, 1941, by the BATTLE OF MATAPAN, in which three cruisers and their escort vessels were sunk, and the battleship *Vittorio Veneto,* pride of the fleet, was badly damaged. More successful were Italian submarine operations against British convoys. Italian supply operations to troops in Libya were also quite successful, despite British efforts at interdiction.

At the time of Italy's armistice with the Allies in September 1943, the navy had six battleships and nine cruisers. Its fleet of smaller vessels and submarines had been decimated. In all, losses were a battleship, 12 cruisers, 44 destroyers, 41 torpedo boats, 75 submarines, and 171 smaller vessels.

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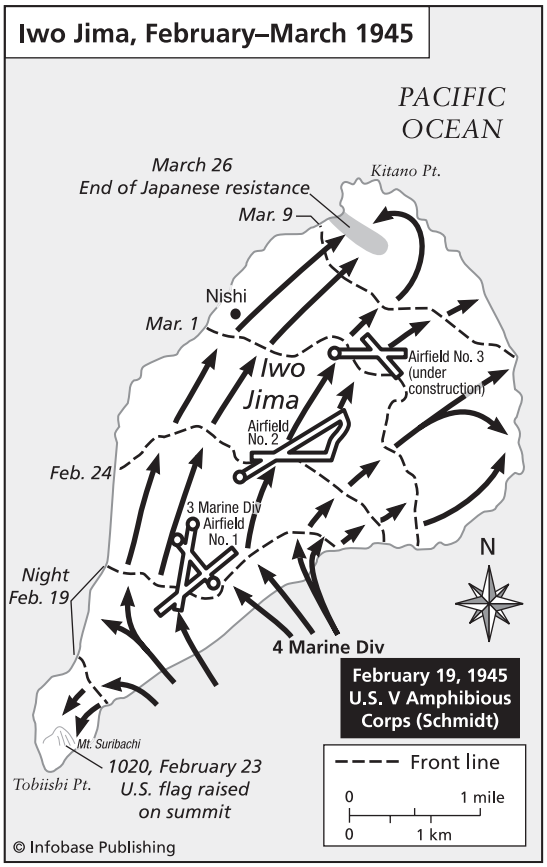
Iwo Jima, Battle of

Certainly the most celebrated battle of the war in the Pacific, the assault on Iwo Jima commenced on February 19, 1945, after 72 days of aerial and naval bombardment in which 12,600 tons of bombs had been dropped. In the three days immediately preceding the landings, a total of 6,800 tons of bombs were delivered, along with 21,926 naval artillery shells. On March 16, 36 days after the first landings, Iwo Jima was finally declared secure.

At stake in the Iwo Jima fight was a miserable volcanic island—"Iwo Jima" means sulfur island—just 4.5 miles long by 2.5 miles wide at its widest. The Japanese, however, had built three airstrips on the island and had fortified it by taking advantage of the island's natural network of caves and ravines, reinforcing these with concrete and steel. In all, there were some 1,500 fortified caves and 16 miles of tunnels. Perhaps no place on earth had ever been so formidably fortified. The Japanese regarded Iwo Jima as vital to the defense of their homeland. The Americans not only wanted to neutralize it, but to use the airstrips as an advance base for the emergency landing of B-29s raiding Japan.

U.S. Navy and marine planners knew that Iwo Jima would be an extremely difficult objective. However, they believed that, after the island had been softened up by extensive naval and aerial

U.S. Marines on Iwo Jima *(National Archives and Records Administration)*



bombardment, a two-week ground battle would be required to take the objective. As it turned out, the ground phase of the battle consumed more than twice that time.

During the almost two and a half months of continual bombardment, the defenders of Iwo Jima dug deeper bunkers. The result was that the intensive preparation only hardened resistance by the Japanese garrison of 22,000 soldiers and Imperial naval troops, all under the command of Lieutenant General Kuribayashi Tadamichi. Against this force, on February 19, 1945, the 4th and 5th Marine Divisions were landed, with the 3rd Marine Division held in reserve. In all, 75,144 marines were initially committed to battle and 30,000 landed on the very first day. Before it ended, 110,000 men would be landed and some 220,000 would remain afloat offshore, manning some 800 warships.

The initial landing was met with little resistance. The marines advanced behind a rolling barrage supplied by the navy. The first wave progressed inland some 350 yards before it met with enemy fire, intense flanking fire from defenders thoroughly under cover. Despite this punishment, the marines took the first of three airstrips on the second day of the invasion. On the fifth day, the second airstrip was captured, along with the highest point on the island, Mount Suribachi. This was the scene of the flag raising, which, thanks to a very widely published Pulitzer Prize–winning photograph, became the single most famous image of World War II and seemed to symbolize the marines' indomitable will to gain victory.

The taking of Mount Suribachi was a severe blow to the Japanese defenders of the island, but the hardest, most costly fighting was yet to come. The Japanese still had two defensive lines intact, and they concentrated fire from a rise known as Hill 382. This objective was so formidable that it was dubbed "the Meat Grinder," and taking it resulted in heavy marine casualties as well as the

This photograph of marines and a navy corpsman raising the Stars and Stripes on Mt. Suribachi became an emblem of the Marine Corps and of all U.S. service personnel in the Pacific. *(National Archives and Records Administration)*

award of five Medals of Honor in a single day of action.

The Japanese defended Iwo Jima with what might justly be described as fanatical heroism. Suicidal Japanese resistance was typical of the Pacific campaign, but Iwo Jima's status as a bastion protecting Japan itself motivated an even more exceptionally determined defense. At "Bloody Gorge," a 700-yard-long canyon, the defenders made their final stand, holding off the vastly superior force of marines for 10 days.

Marine casualties were 5,931 killed and 17,372 wounded, a 30 percent casualty rate. Japanese battle deaths numbered 20,703 out of the 22,000-man garrison. Among the dead was the commanding general, Kuribayashi, who almost certainly took his own life.

The taking of Iwo Jima deprived the Japanese of a key defensive base. It was also a tremendous blow to Japanese morale. Most important of all, however, it provided a landing strip for crippled B-29s. A total of 2,251 made emergency landings here before the war was over, and it is estimated that taking Iwo Jima saved the lives of as many as 24,761 U.S. Army Air Forces aircrew members.

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J

Japan

At the outbreak of the war, Japan was a prosperous industrialized nation of about 70 million. Although Japan was a major manufacturer of consumer goods, by the early 1930s, the economy was increasingly militarized, and a strong central government set about replacing the market economy with such aspects of a totalitarian command economy as strict control and prescriptive planning. The electricity and oil industries were nationalized during 1934–36, and rice rationing was introduced in 1939. Heavy industries, suitable for war production, were emphasized, and by the end of the 1930s, Japan was effectively on a war footing with a wartime economy.

Japan was strategically located between Asia and the Pacific. This put the nation in an excellent position for launching a war of imperial conquest. Conversely, it also made the country vulnerable to attack and forced it to plan a prospective war on two fronts. The Japanese militarists who effectively controlled the country's government by the 1930s planned to conduct a rapid offensive war. The motives for conquest arose partly from a collective sense of racial superiority and national destiny, but also from a very real need to have access to large amounts of raw materials and foodstuffs not available on the overcrowded home islands.

Japan's offensive orientation created profound discontent in naval circles with the London Naval Treaty of 1930 (which had placed limits on the signatories' naval strength) and resulted in Japan's withdrawal from the treaty in 1936. The Imperial Navy embarked on an ambitious program of shipbuilding and developed what it called the "southern strategy," whereby Japan would aggressively expand into Southeast Asia.

As the Imperial Navy was gaining strength and political influence, so was the army. Concerned over Soviet threats to Japanese-held Manchukuo (Manchuria), junior officers attempted a coup d'état following the elections of 1936, assassinated the home secretary and the finance minister, and occupied government offices in Tokyo. In April the navy and the army agreed on the need for the southern strategy and secured from Emperor Hirohito approval of an offensively based "defense" policy. This evolved into a strategic policy calling for expansion on the continent as well as toward the south.

The attempted coup of 1936 and the competitive ascendancy of the Imperial Japanese Navy and Imperial Japanese Army reveal much about the nature of Japanese government in the years leading up to World War II. During the war, Japan's enemies portrayed the Japanese government simply as a totalitarian military dictatorship virtually identical to that of Nazi Germany. The reality, however, was more complex.

The Meiji Restoration and Constitution of 1889 created for Japan a constitutional monarchy

in which sovereignty resided with the emperor, who enjoyed extensive executive, legislative, and military power and who, furthermore, was revered as a semidivinity. Yet the monarchy was far from absolute. The 1889 constitution also assigned the actual exercise of royal prerogatives variously to the emperor's cabinet, to the Diet (a bicameral parliament), and to the military. Emperor Hirohito was no mere figurehead—as was, for example, the British king—but he was no unambiguous head of state either. He reigned, but did not rule. His true function, politically, was to ratify and sanction policy decisions created by the cabinet, Diet, and military. His most immediate advisers, the lord keeper of the privy seal and the grand chamberlain, both guided and insulated him. Their chief concern was to keep him elevated above quotidian politics, so that he was preserved as a national symbol of authority and collective destiny.

The ambiguity of Japanese government promoted a climate of cliques, cabals, secret dealings, personality clashes, and power struggles, all outside of the reach of law. Factions and individuals vied with one another to obtain the emperor's ratification of whatever policy they advocated. The result was often the imperial ratification of contradictory policies. Nevertheless, the broad contours of government were these: national policy was made by the cabinet, which reported to the emperor (who appointed a prime minister) rather than to the Diet. Yet the power of the cabinet was, in practice, inferior to that of the military. The power of the Diet was largely limited to budgetary review, and it was further vitiated by a division into a lower and upper house, the lower house consisting of popularly elected representatives and the upper house of hereditary nobles and appointed officials, who could (and did) check the actions of the lower house.

Japanese government was also strongly influenced by a welter of special civilian and military institutions, including business and labor interest groups, military organizations, and the Supreme War Council, to name only a few. The army's coup attempt of 1936 was an effort to replace the many ambiguous layers of government with a streamlined right-wing military dictatorship. Although the coup was suppressed, it did give the military more leverage in government, enabling it to fashion Japan into what government leaders termed a "national defense state." This gave the military a high degree of control over foreign as well as domestic policy, which was ratified by the National Mobilization Law of March 1938. This legislation equipped the government (and the military especially) with an arsenal of wartime controls over labor power, resources, production, transportation, wages, and prices. Parallel with this legislation, Prime Minister Prince Fumimaro Konoe created a campaign of "spiritual mobilization," which was aimed at shaping mass public opinion in favor, first, of the Sino-Japanese War and then of the full-scale prosecution of World War II.

On October 12, 1940, army leaders, together with their civilian allies in government (the so-called revisionist bureaucrats) created the Imperial Rule Assistance Association (IRAA), with Prince Konoe as president. The IRAA was in some ways analogous to the Nazi Party in Germany in that it successfully exerted pressure on Japan's other political parties to dissolve themselves and join the IRAA. Moreover, the IRAA absorbed various labor unions and management organizations to merge into an IRAA-controlled Industrial Patriotic League.

Although the IRAA centralized government and gave the military more control over that government, it did not end the many personal rivalries and power contests. The result was that the central government continued to be a Byzantine structure. A Liaison Conference was created in an effort to coordinate military and civilian branches of government in decision making, but it soon developed into an extraconstitutional, military-dominated entity that usurped the role of the cabinet. Prince Konoe increasingly clashed with the military over basic questions of war or peace. He resigned as prime minister in October 1941 and was replaced by Tojo Hideki, a militarist and military officer whose task was to make final preparations for war with the British and Americans in the likely event

that ongoing negotiations between Japan and the United States should break down.

Although he was by no means head of state, Tojo assumed virtually dictatorial powers within the narrow constraints of his mandate to prepare for war and, once war began, to prosecute war. He served not only as prime minister, but as army minister and home secretary, so that he had control over all the major bureaucracies. Even after the outbreak of war, Tojo did not abrogate the Diet but used it to enact needed wartime legislation. Tojo even called a general election in 1942, ensuring, however, that the majority slate of candidates all met with his approval. In contrast to the political situation in Nazi Germany, however, a minority of independent representatives—not members of the IRAA—were also elected. This minority occasionally criticized Tojo publicly, who sometimes suppressed such criticism with arrests and imprisonments.

Tojo saw the elected minority as less of a problem in Japanese government than other activist agitators, who were deemed "thought criminals." A secret police force, the Kempei, was dispatched to deal with these individuals under the Special Emergency Act of December 1942. While it is easy to find parallels between the Kempei and the Nazi Gestapo, the Kempei never operated on the scale of its Nazi counterpart. Relatively few arrests were made.

While Japan's wartime enemies demonized Tojo as the equivalent of Adolf Hitler, he was, in the final analysis, a master bureaucrat rather than a visionary political terrorist. With so much of the government under his direct command, he could rapidly rationalize the Japanese bureaucracies and regiment the Japanese civilian population to an unprecedented degree. What he failed to do successfully was end the rivalry between the army and the navy, a shortcoming that ultimately rendered him vulnerable, especially as the tide of war turned decisively against Japan in 1944. Tojo was forced out of office on July 18, 1944, and was replaced by another military officer, General Koiso Kuniaki. In an effort to reconcile the army and navy, Koiso created a Supreme Council for the Direction of the War in August 1944 to replace the former Liaison Conference as the principal decision-making body. This step was to no avail, however, and the two services continued a dispute that contributed significantly to the ultimate defeat of Japan.

In contrast to Germany and Italy, Japan was not motivated by anything truly equivalent to Nazi or fascist ideology. It was motivated instead by a hunger for imperial expansion and a desire to control and possess territories offering resources unavailable in the homeland. Japanese government was also motivated by a strong anti-Communist sentiment. The Anti-Comintern Pact of 1936 was the basis of the first formal relationship between Germany (and in 1937, Italy) and Japan.

As for Japan's program of expansion, by the summer of 1941 the Japanese Empire consisted of Sakhalin island south of the 50th parallel; Korea (a colony since 1910); Formosa (acquired in 1895); and effective possession of Manchukuo, a Japanese puppet state created in 1932. In February 1939, Japan occupied the Chinese-owned island of Hainan and, as of March, the Spratly Islands. Japan established key air bases and naval stations in Thailand. In the summer of 1941, Japanese diplomats were negotiating with the U.S. government, which had insisted that Japan withdraw its military forces from China and French Indochina. The Japanese diplomats temporized and stalled as their nation's war preparations moved forward.

The Japanese negotiators well understood that the United States was Japan's principal supplier of oil, steel, and other strategic materials. On the one hand, there was fear that the aggressive Japanese policy in China would provoke an embargo; on the other hand, there was a desire to end the reliance on America by acquiring other sources of strategic materials. Thus the United States represented both an incentive to restrain aggression and an incentive to redouble it.

In the meantime, during the lead-up to the war, Japan was put on a wartime footing. Food and clothing were stringently rationed, and the population was "educated" by means of concerted propaganda campaigns. As in Nazi Germany, children and youth were targeted for special indoctrination

and training through the Greater Japan Youth Corps and a revamped national school system called the People's Schools. Quasi-military training became a part of every school day. In universities, military training was made compulsory. Propaganda was directed at increasing nationalism and racial pride as well as creating the perception that Japan was being menaced by the ABCD (America, Britain, China, Dutch) League.

The indoctrination and propaganda were intended to harden the Japanese people and prepare them for sacrifice, which was extensive even before Japan began suffering military reversals. Despite rigorous rationing, virtually all staples quickly fell into critically short supply, and luxuries were unknown. These radical conservation measures notwithstanding, Japanese war production was disappointing during the first two years of war—a problem that surely contributed to the nation's defeat. As Japanese victory was increasingly replaced by defeat, the government's rationing edict and demands for production and military manpower became more draconian. Middle-school education was reduced from five to four years, and all limits on the working hours of women and minors were suspended. In September 1943 unmarried women under the age of 25 were summarily conscripted into a "volunteer" labor corps.

The domestic emergency measures did dramatically increase war production. Although Allied air and naval action greatly disrupted the flow of raw materials from conquered territories, Japan managed to increase production dramatically by usurping civilian raw material stockpiles, cutting production for all civilian purposes, and pressing women and children into the workforce. Increased employment did not bring any improvement in the standard of living, however, because of wartime rationing and shortages.

The greatest hardships on the Japanese people came with massive aerial bombardment of the cities by the United States. Initially, industrial targets were singled out, but raids on residential areas of the cities became frequent, culminating in the fire bombing of Tokyo on March 9, 1945, in which almost 15.5 square miles of the city were razed and some 100,000 civilians killed. By the time of the atomic bombing of Hiroshima and Nagasaki, more than 10 million city dwellers (the majority women and children) had fled into the countryside. That American bombers attacked with near impunity testifies to the gross inadequacy of Japanese antiaircraft defenses. That civilian casualties were as high as they were also demonstrates the inadequacy of Japanese civil defense.

As horrific as the direct civilian casualties from bombing were, shortages during the final months of the war became desperate, and by the time of the atomic bombing attacks, acceptance of the Allied demand for unconditional surrender (with the single proviso that the emperor would remain in power, subject to the Supreme Allied Commander) was rapid, despite fanatical opposition from the army high command. In preparation for the occupation, Japanese authorities voluntarily and on their own initiative demobilized army forces that had been assembled for homeland defense. Civilians, who had been trained to fight the anticipated invasion to the death (using bamboo sticks and pikes), were now told to behave peaceably and to cooperate with the occupiers. The Americans met with virtually no resistance, as the Japanese people continued to obey the instructions of their government.

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Japan, air force of

Japan did not have a separate air arm in World War II. Its air forces were divided between the army and navy (see Japan, army of and Japan, navy of). This article discusses the forces operated by each of these services.

AIR FORCE OF THE IMPERIAL JAPANESE ARMY

By 1941 the air force of the Imperial Japanese Army (IJA) had about 1,500 aircraft ready to attack land

targets. Throughout the war, the army's aircraft were deployed mainly in Manchukuo and China and on other large land areas, including New Guinea. Nevertheless, symptomatic of the poor coordination between the Japanese army and navy, the army independently operated its own fleet of escort-class aircraft carriers, which launched army aircraft to protect troop convoys.

The army air force lacked long-range aircraft and was therefore poorly prepared to fight the Pacific war, which involved flying great distances over water. IJA pilots were trained mainly for short-range pursuit and ground-attack missions and were therefore also ill-prepared to fight in the vastness of the Pacific theater.

By the end of the war, the IJA Air Force consisted of six "air armies": the First through Third Air Armies created during June–July 1942, the Fourth in July 1943, the Fifth in February 1944, and the Sixth in August 1944. The basic operational air force unit was the Air Group (*sentai*), consisting of three squadrons (companies, *chitai*) of nine to 12 planes. An Air Brigade (*hikodan*) consisted of three fighter, light bomber, or heavy bomber Air Groups plus a reconnaissance unit. An Air Division (*hikoshidan*) was made up of two or three Air Brigades. An Air Army (*kokugun*) consisted of two or three Air Divisions.

AIR FORCE OF THE IMPERIAL JAPANESE NAVY

At the beginning of World War II, the Air Force of the Imperial Japanese Navy (IJN) had more aircraft than the IJA Air Force: about 1,750 fighters, torpedo bombers, and bombers, and 350 or more flying boats and float planes, used mainly for reconnaissance.

The organization of the naval air arm was complex, but its two major air units at the beginning of the war were the First Air Fleet, which operated aircraft carrier–launched airplanes, and the Eleventh Air Fleet, which operated land-based planes. Before the war was over, six more Air Fleets were formed: the Second, Third, Fifth, Tenth, Twelfth, and Thirteenth. Japan's Air Fleets were typically under the command of the commanders in chief of area naval fleets. Each Air Fleet was divided into at least two Air Flotillas, consisting of two or more Air Groups, each with 50 to 150 aircraft.

The naval air arm took the lead in aerial combat during the Pacific war. At the start of the war, its aircraft included some of the most advanced flown by any combatant, including the famed Zero fighter and the superb bombers, code named Nell, Betty, Jean, and Kate by the Allies. Admiral Yamamoto Isoruku was a strong believer in naval air power and saw to it that not only was the navy equipped with excellent aircraft, but that the planes were manned by highly skilled and thoroughly trained pilots. As the war progressed, however, Allied aircraft increasingly outclassed the Japanese, and pilot losses were so heavy that undertrained pilots were rushed into combat. (A cardinal weakness of Japanese naval organization was its failure to use veteran pilots to train novices.)

The naval air arm enjoyed early triumphs, most notably against Pearl Harbor on December 7, 1941. But the Battle of the Coral Sea, although a tactical air victory for Japan, resulted in a strategic defeat and heralded much worse defeat in the Battle of Midway, in which four Japanese aircraft carriers were sunk, many planes destroyed, and many experienced pilots killed. Midway forced Japan to assume the defensive for the rest of the war, which became a struggle of attrition that the Japanese could not sustain. Not only were they unable to make up their ongoing aircraft losses, but, even worse, they could not replace their best pilots. The worst aerial defeat of all came in the Battle of the Philippine Sea in June 1944, when 243 Japanese carrier aircraft were lost in what American pilots dubbed the "Great Marianas Turkey Shoot."

As the situation of the naval air arm became desperate, a desperate measure was formulated: the kamikaze, in which Japanese pilots deliberately used their aircraft as suicide weapons, human-guided missiles aimed at American ships.

See also aircraft, Japanese.

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Japan, army of

The high command of the Imperial Japanese Army consisted of the Inspectorate General of Military Training, the War Ministry, and the General Staff. The Inspectorate General of Military Training administered the national military academy, war college, and various other service schools. The War Ministry had charge of political affairs related to military affairs, budget administration, personnel administration, mobilization procedures, and other areas. The General Staff was responsible for strategy, doctrine, tactics, and other functions of high command.

Just before the Sino-Japanese War, the army was composed of 17 divisions, and the Korean Army, the Formosan Army, and the Kwangtung Army in Manchukuo. Between 1937 and the outbreak of the Pacific war, the army was increased to 31 divisions, and the Kwangtung Army was expanded from five to 13 divisions. During the war, the regular Japanese army was augmented by the Indian National Army and the Burma Independence Army. There were also various volunteer forces. Army command was structured this way: under the Imperial General Headquarters were general armies, area armies, and armies. Armies were formed from two or more divisions. The standard division (B-type) consisted of 20,000 men and had three infantry regiments and one engineer, one transport, and one artillery regiment in addition to a reconnaissance unit and service troops. There were two other, specialized divisions, the A-type and the C-type. A-type had 29,000 troops and operated mainly in China and Manchukuo. The C-type had 13,500 to 15,000 men and was used for garrison duty and antiguerrilla work.

In addition to divisions, the Japanese also fielded Independent Mixed Brigades, which had three to six infantry battalions (each with 750 to 900 men) with attached artillery, signals, and engineer units. Independent Mixed Regiments were smaller versions of the Independent Mixed Brigade used to defend certain Pacific islands. The army also employed Special Detachments (*shitai*), brigade-strength, combined-arms forces for special missions.

During the Sino-Japanese War and up to August 1939, Japanese armor doctrine subordinated tanks to the infantry. Armor was used strictly in support of infantry operations. Before the outbreak of World War II, however, the army began fielding discrete armored divisions, which were independent of infantry.

The army, like the navy, had airborne assault troops. In the army, these were organized into Raiding Regiments (*teishin rentai*) of 600 paratroops each, Two Raiding Regiments were organized into a Raiding Group (*teishin dan*), which also included two squadrons of transport aircraft to carry the paratroops, and also a glider regiment.

Amphibious warfare capability was important to the Imperial Japanese Army, and two elite divisions were specially trained in amphibious operations. The army also operated an extensive supply service for its island garrisons. This included the Central Shipping Transportation Shipping and Transport Command, which operated three Water Transport Commands, Shipping Artillery Regiments, Shipping Regiments, and Shipping Communications detachments. The army even operated its own escort carriers to protect troop convoys. (Japan's air forces were divided between the army and the navy. See Japan, air force of.)

Japanese army doctrine was based on offensive operations. During the early phase of the Pacific war, the doctrine served land forces well. But the Allied counteroffensive that began in August 1942 with the Guadalcanal Campaign forced a radical change of strategy and, increasingly, the adoption of a defensive posture. By the spring of 1944, with conditions in the Pacific deteriorating, Army High

Command had to reconfigure and redeploy its General Defense Command to build up defenses on mainland Japan and the Ryukyu Islands. After U.S. forces retook the PHILIPPINES and captured Iwo JIMA and OKINAWA, troops were recalled to defend the mainland from an anticipated invasion. The remaining strength of the Imperial Japanese Army was impressive even at this stage of the war: 1,900,000 troops organized into 53 divisions, 23 independent mixed brigades, three security brigades, and two tank divisions. The atomic bombings of HIROSHIMA and NAGASAKI made the invasion unnecessary.

By the end of the war, August 1945, the Imperial Japanese Army had raised a total of 170 infantry, 13 air, four tank, and four antiaircraft divisions—2,343,483 men. Of this number, 1,439,101 were either killed in action or listed as missing in action. The exact number of wounded is unknown, but postwar statistics count 85,620 Japanese soldiers as permanently disabled due to war wounds.

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Japan, navy of

After World War I, the Imperial Japanese Navy (IJN) was the world's third-greatest sea power. Although the Washington Naval Treaty of 1922 restricted Japanese tonnage to 60 percent of U.S. Navy tonnage, Japan flouted the restriction and, during the interwar period, embarked on a major shipbuilding program. Moreover, in 1936, Japan withdrew from the Washington Naval Treaty as well as the subsequent London Naval Treaty and no longer even pretended to adhere to tonnage restrictions.

Like Great Britain, Japan was a seagoing nation and, accordingly, followed the example of the British Royal Navy, giving the IJN precedence over the Army of Japan (*see* JAPAN, ARMY OF). The navy's officer corps, superbly trained at the Naval Academy (Etajima) and the Naval War College (Meguro), was socially and politically well connected. These connections proved a liability for some during the 1930s, when political instabilities resulted in the purge of many of Japan's senior naval officers—to the detriment of the service. Also during the 1930s, the influence of the army grew, and an intense and destructive army-navy rivalry crippled the strategic and tactical effectiveness of both services. Despite these problems, the IJN was a most formidable force at the commencement of World War II, not only because of the excellence of its crews and its advanced ships, but because of its advocacy of naval air power. (Japanese air forces were divided between the army and the navy; *see* JAPAN, AIR FORCE OF for discussion of Japan's naval air power.)

In planning for World War II, Japanese naval strategists correctly understood that the United States, an industrial giant, could and would maintain a larger fleet. Accordingly, the Japanese decided to exploit naval air power, advanced submarines, and advanced torpedo designs (Japan developed the most effective torpedoes of any World War II combatant), as well as forward naval bases on its mandate islands, including the Carolines, Marianas, and Marshalls, to enable a strategy of attrition intended fatally to degrade U.S. naval superiority. When the disparity in tonnage had been evened out through attrition, Japan, operating ultramodern ships from advance bases, would have a great tactical advantage over Americans who were operating far from sources of supply. At that point, the IJN would lure the U.S. Pacific Fleet into a final decisive battle, in which the U.S. fleet would be destroyed.

As of December 7, 1941, the IJN had 10 battleships (with two more under construction), 10 aircraft carriers (with four more under construction), 18 heavy cruisers, 20 light cruisers (plus four under construction), 112 destroyers (with another dozen under construction), 65 submarines (of which 21 were obsolete, but another 29 were under construction), and 156 other vessels (plus 37

under construction). Recognizing that oil supplies would be a critical issue, the IJN accumulated a two-year reserve before the war began. (This proved inadequate, and fuel became a critical problem for the navy during the late phases of the Pacific war.)

Despite its many strengths, the IJN also suffered from critical weaknesses. Its officer corps, though highly trained, was arrogant, believing that the navy was simply invincible. The spectacular Japanese tactical triumph at the Battle of Pearl Harbor intensified this attitude, prompting the IJN to push Japan's defensive perimeter in the Pacific far beyond the range of land-based air cover. This would prove to be a fatal error. Equally serious were the navy's failure to institute first-class training for replacement pilots, its scrimping on defensive armor plating in ships as well as naval aircraft to gain speed, its failing to develop adequate convoy tactics and commission escort vessels (armed escorts were little used, rendering convoys extremely vulnerable), and, despite the generally advanced design of Japanese ships, its choice almost totally to ignore radar technology. For their part, it should be pointed out, the Allies—especially the Americans and the British—grossly underestimated the fighting ability of the Japanese navy, an error in judgment that more than matched the Japanese in arrogance.

Japanese naval organization was complex during World War II. Generally speaking, however, most warships (except for the China Fleet) were organized into fleets that were part of the Combined Fleet, commanded by the most senior naval officer. At the start of the war, the fleets consisted of the First (Battle), Second (Scouting Force), Third (Blockade and Amphibious Force), Fourth (Mandates Fleet), Fifth (Northern Fleet), and Sixth (Submarine), plus two air fleets: the First (carrier aircraft) and Eleventh (land-based aircraft). There were also Home Naval Stations (at Kure, Sasebo, Maizuru, and Yokosuka), which patrolled home waters and were also assigned—on an ill-planned ad hoc basis—convoy escort duty. At Manchukuo, Korea, Formosa, and Hainan Island, Naval Guard Stations patrolled coastal waters.

The fleets were variously configured into task forces. At the outset of the war, these included the Main Body under Admiral Yamamoto Isoruku (who also commanded the Combined Fleet); the Striking Force, the Southern Force, the South Seas Force, the Northern Force, and a Submarine Fleet. During the war, more fleets and task forces were formed, and, in November 1943, the IJN belatedly recognized the necessity of providing convoy protection and formed a General Escort Command (which, however, was never adequately supplied with ships or crews). In March 1944, naval high command extensively reorganized the IJN. The Combined Fleet was redesignated the First Mobile Fleet, which included almost all surface warships.

The navy's role in amphibious warfare was to support army ground operations. The IJN also had its own special naval ground troops, however, who were deployed in some amphibious operations and designated Special Naval Landing Forces. From one of these units, two battalions of paratroops were trained.

Admiral Yamamoto intended the Battle of Midway (June 4–7, 1942) to be the decisive battle that would permanently reduce the threat posed by the U.S. Pacific Fleet. Unknown to Yamamoto and other Japanese naval commanders, the Americans had broken Japanese naval codes and were therefore able to anticipate the IJN's moves at Midway. The result was, in fact, a decisive battle—but one that turned the tide of the Pacific war against Japan. From Midway onward, the IJN was on the defensive and suffered steady and catastrophic attrition. Of 451 surface warships and submarines the IJN operated during World War II, a staggering 332 had been sunk by the end of the war. A mere 37 vessels remained operational.

See also ships, Japanese

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Japanese-American soldiers in World War II

At the time of the Battle of Pearl Harbor, December 7, 1941, some 120,000 persons of immediate Japanese descent were resident in the continental United States. Of these, about 80,000 had been born in this country and were citizens. Within four days after Pearl Harbor, the Federal Bureau of Investigation (FBI) arrested and detained 1,370 Japanese Americans as "dangerous enemy aliens," despite their being American citizens. On January 5, 1942, U.S. draft boards summarily classified all Japanese-American selective service registrants as enemy aliens, and many Japanese Americans already serving were discharged or restricted to menial labor duties. On January 23, Japanese-American soldiers and sailors on the U.S. mainland were segregated out of their units. On February 19, 1942, President Franklin D. Roosevelt signed Executive Order 9066, effectively authorizing the internment of Japanese-Americans living within 200 miles of the Pacific Coast.

In all, some 110,000 persons were moved to internment camps in California, Idaho, Utah, Arizona, Wyoming, Colorado, and Arkansas. During their confinement, some 1,200 young Japanese men secured release from the camps by enlisting in the army. The overwhelming majority of these young men were segregated in the 442nd Regimental Combat Team, which, activated on February 1, 1943, also included about 10,000 Japanese-Hawaiian volunteers. (Japanese Hawaiians had not been subject to Executive Order 9066.) The 442nd was sent to Europe and fought valiantly in Italy, France, and Germany, emerging from the war as the most highly decorated unit of its size and length of service in American military history.

In the meantime, on February 25, 1942, the all-Nisei Varsity Victory Volunteers (known as the "Triple V") was formed in Hawaii as part of the 34th Combat Engineers Regiment. On the west coast of the mainland, however, the War Department discontinued the induction of Japanese Americans as of March 30, 1942.

Shortly before Pearl Harbor, on November 1, 1941, the War Department had opened a secret language school under the control of the Fourth Army in San Francisco. The school was staffed by four Nisei instructors and had 60 students, of whom 58 were Nisei. These individuals would make up the first class of the Military Intelligence Language School. During the war, many of the school's graduates were sent to the Aleutian Islands and the South Pacific as Japanese linguists and as intelligence operatives. The language school was moved from San Francisco to Camp Savage, Minnesota, on May 25 in compliance with the order excluding all Japanese Americans from the West Coast.

On May 26, 1942, General George C. Marshall established the Hawaii Provisional Infantry Battalion, made up of Japanese Americans from the Hawaii National Guard. On June 5, the battalion left Honolulu for San Francisco and, on the June 12 it was activated in the Regular army as the 100th Infantry Battalion. Just five days later, the War Department announced that it would not accept for service any Japanese or persons of Japanese extraction, regardless of citizenship status. Before the end of the month, however, on June 26, army policymakers recommended the formation of a Board of Military Utilization of U.S. Citizens of Japanese Ancestry, to determine whether a Japanese-American unit should be sent to fight in Europe. In October, Elmer Davis, director of the Office of War Information, recommended to President Roosevelt that Japanese Americans be allowed to enlist.

While army policy shifted back and forth, 26 members of the 100th Infantry Battalion were sent to Ship Island and Cat Island off the Mississippi Gulf Coast to be used to train dogs, to recognize and attack Japanese. This assignment was based on what white officers believed was the unique scent of the Japanese.

On February 1, 1943, the army acted on the question of Japanese-American enlistment by activating the 442nd Regimental Combat Team (RCT), an all–Japanese-American force. The members of the Triple V unit formed the core of the 442nd, which began training in Mississippi in May.

Although the 442nd was destined to become the most celebrated Japanese-American unit, it was

not the first to see action. On September 2, 1943, the 100th Infantry Battalion landed in Oran, Algeria, and was assigned to guard supply trains from Casablanca to Tunisia. Later, the unit was assigned to the 34th Infantry Division and, on September 22, 1943, landed on the beach at Salerno, Italy, as part of the 133rd Infantry Regiment, 34th Infantry Division. In November, the battalion participated in an offensive against the Germans crossing the Volturno River south of Naples, and, in January 1944, it fought in the Battles of Cassino. From this engagement, in March, the battalion landed at Anzio and fought in the Anzio Campaign.

Generally, army policy was to use Japanese-American combat troops exclusively in the European theater; however, in late 1943, 14 Nisei were assigned to Merrill's Marauders, the famed commando unit operating in north Burma. In April 1944, the 1399th Engineering Construction Battalion, exclusively a Japanese-American unit, was formed to work on noncombat construction and maintenance projects in Hawaii. Throughout much of the Pacific and Asian war, Japanese-American graduates of the Military Intelligence Language School were deployed, typically in the front lines, as interpreters, translators, and intelligence operators.

The 442nd Regimental Combat Team finally shipped out of Hampton Roads, Virginia, bound for Europe on May 1, 1944, while the 100th continued to fight in Italy. Arriving in Italy on June 26, 1944, the 442nd RCT was assigned to the Fifth Army and attached to the 34th Division. At this point, the 100th Infantry Battalion was attached to the 442nd and, thus configured, the 442nd RCT was committed to battle near Belvedere, Italy. On July 27, 1944, General Mark W. Clark, commanding the Fifth Army, personally presented the Distinguished Presidential Unit Citation to the 100th Infantry Battalion for action at Belvedere. The 442nd's Antitank Company was detached from the RCT and assigned to the 1st Airborne Task Force for glider training. On August 15, 1944, the unit participated in the invasion of southern France, then rejoined the 442nd on October 11.

The 442nd left Italy for France on September 26, 1944, and as part of the Seventh Army, fought in the Vosges Mountains. In March 1945, the 442nd left France to return to Italy, where it joined the all African-American 92nd Infantry Division. The following month, the 442nd made a spectacular surprise attack on Nazi mountainside positions, breaking through the infamous Gothic Line in a single day. The unit then pursued the retreating Germans, driving them up the Italian coast to Genoa and Turin.

Detached from the 442nd, the 522nd Field Artillery Battalion participated in the liberation of Jewish prisoners of the Landsberg-Kaufering and Dachau concentration camps. After the German surrender on May 8, 1945, the 442nd participated in occupation duty, then returned to the United States in July 1946. On July 15, in Washington, D. C., President Harry S. Truman presented the 442nd RCT with a Presidential Unit Citation. "You fought not only the enemy," the president remarked, "but you fought prejudice—and you have won."

In addition to the Japanese-American men who rendered distinguished service in World War II, beginning in October 1943, Japanese-American women were accepted into the Women's Army Corps. Some 300 would serve during the war and immediately afterward.

See also internment, Japanese-American.

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jet aircraft

The basic constituents of the jet engine were patented in 1930 by the British aeronautical engineer Frank Whittle (1907–96). A British aircraft with a Whittle engine successfully flew in May 1941. German engineers patented an engine in 1935, but

A German Me-262, photographed just before delivery to the Luftwaffe *(National Archives and Records Administration)*

work on jets proceeded much more quickly in Germany than in Britain, and the first turbojet-powered aircraft, a Heinkel HE-178, flew in August 1939, a month before the start of World War II.

At first Adolf Hitler was a strong supporter of developing jet technology, but during the course of the war, acting on the advice of Luftwaffe chief Hermann Göring, he diverted production from jets to increasing the output of greater numbers of conventional aircraft. For this reason, Germany never produced jet aircraft in great quantity during the war. Nevertheless, both Germany and Britain recognized the jet as the wave of the future, at least for small fighter aircraft. In contrast, the American military and the aircraft industry were slow to develop jets, and the first American military jet fighter, the Shooting Star, did not become operational during the war. In Britain and Germany, the RAF and the Luftwaffe both flew jets in combat by 1944. Neither nation fielded a sufficient number to make a significant impact on the air war.

The British jet was the de Haviland Meteor. The principal German plane was the Messerschmidt Me262. The Me262 was extremely effective against U.S. bombers, since the aircraft easily outran even the best U.S. fighter escorts, such as the P-51 Mustang. The drawbacks of the Me262 were its short range and flight duration—it was extremely fuel hungry—and its relatively poor maneuverability relative to piston fighters. Most important, it was introduced too late in the war and was produced in quantities too small to have a significant effect on the outcome of the struggle.

The Luftwaffe experimented with other jet designs, as well as the ultraradical tailless flying-wing, the Me163, which used a liquid-fueled rocket motor instead of an air-breathing jet engine. The Me163 could fly at nearly 600 miles per hour and quickly climb above bomber formations, then attack from above—the ideal approach against bombers. Fuel lasted a mere 12 minutes, however, making the aircraft highly impractical.

Had Germany devoted more development and production effort to jet aircraft, it is likely that both the United States and Britain would have been forced to curtail the strategic bombing of Germany, and the war might well have been prolonged.

See also aircraft, British; aircraft, German.

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Jodl, Alfred (1890–1946) *chief of the Operations Staff of the German High Command*

As chief of the Operations Staff of the German High Command (OKW) during all of World War II, Jodl served as close military adviser to Adolf Hitler.

Jodl was born in Würzburg, Bavaria, and served in World War I as an artillery officer. Between the wars, in 1932, he served as a major in the operations branch of the Truppenamt, a body created to circumvent the Treaty of Versailles proscription abolishing the German General Staff. Jodl advanced to leadership of the National Defense Branch of the Armed Forces Office, and in October 1938 took command of an artillery unit in Vienna, before returning to Berlin in August of the following year as chief of OKW's Operations Staff under Wilhelm Keitel, his father-in-law.

Jodl was a pliable military bureaucrat who had a talent for pleasing those above him, including

General Jodl signs the German surrender at SHAEF headquarters, Reims, France, on May 7, 1945. *(Library of Congress)*

Hitler. In July 1940, he was jumped from brigadier to lieutenant general, then to general in January 1944. Among many in the German high command, Jodl had a reputation for passivity and subservience. In fact, he was more loyal than subservient, but it is true that he took great pains to avoid direct confrontations with Hitler. Unlike many other high-ranking officers, he retained Hitler's confidence through the very end of the war. It was Jodl who signed the German surrender at Reims on May 7, 1945.

Jodl was tried by the Nuremberg War Crimes Tribunal after the war and found guilty of war crimes. He was hanged. A German de-Nazification court posthumously exonerated him in 1953.

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July Plot, 1944 (to assassinate Hitler)

The July Plot, or July 20 Plot, was a failed coup d'état and the most famous of some 17 attempts (before and during the war) to assassinate Adolf Hitler.

The plot was formulated and led by Colonel Claus von Stauffenberg, a wounded war hero and the scion of old German nobility. Other principal plotters included General Ludwig Beck, Carl Goerdeler, Alfred Delp, Lieutenant Colonel Robert Bernardis, Carl Szokoll, Count Hans-Jürgen von Blumenthal, Adam von Trott zu Solz, Gottfried von Bismark, and Princess Marie Vassiltchikov. All were of the same social class as Stauffenberg and had come to distrust, disdain, or hate Hitler as an incompetent man of the people who was not only leading Germany to defeat, but, even if victory were somehow achieved, was determined (they believed) ultimately to wipe out the old nobility. Peripherally involved in the plot were Field Marshal Erwin von Witzleben, Günther von Kluge, and, most important, Field Marshal Erwin Rommel, Germany's most popular commander.

Stauffenberg's plan was to plant a time bomb near Hitler's place at the conference table of Wolfsschanze (Wolf's Lair), his military headquarters in Rastenburg, East Prussia. Once the bomb had been placed, Stauffenberg was to go to Berlin to take command of the troops who would be deployed to carry out the coup. The plotters had prepared a new government, to be led by General Beck with Goerdeler as chancellor. This was to be an interim government; the plotters planned ultimately to restore the Hohenzollern monarchy.

Stauffenberg designated the military aspect of the coup Operation Valkyrie. In essence, it was a deception by which the military would move on Berlin to "rescue" the capital from a purported takeover by slave laborers. This ruse was intended to cover extensive troop deployments designed to get troops in place for the main military coup d'état.

Stauffenberg succeeded in planting only one of the two time bombs he carried. The one he placed was hidden in a briefcase, which he took into Wolfsschanze. Stauffenberg then maneuvered himself close to Hitler, explaining that his war wound had impaired his hearing. He set the briefcase down on the floor, excused himself, and left the conference just before the bomb detonated. As fate would have it, after Stauffenberg left, someone

pushed the briefcase farther under the heavy wooden conference table around which Hitler and his officers were gathered. The bomb detonated, killing four and injuring (in varying degrees) everyone else in the room; it had been repositioned behind a thick leg of the table, however, and the tabletop and leg shielded Hitler from most of the blast's force. Badly shaken, he escaped with minor injuries.

By this time, Stauffenberg was already on his way to Berlin and assumed Hitler was dead. He arrived in the capital to find that General Friedrich Olbricht had failed to launch Operation Valkyrie, so it began four hours behind schedule. Lacking momentum, the coup also failed to seize the radio stations (as planned), and these soon broadcast the news of the assassination attempt—as well as the fact that Hitler was alive and well. Indeed, later that very day, Hitler calmly and publicly welcomed to Berlin Benito Mussolini, who had just been rescued by German commandos from captivity in Italy.

As soon as it was clear that Hitler was still alive and in power, the Berlin-based reserve army troops, who had been carrying out Stauffenberg's orders, turned against him and the other plotters. The coup instantly collapsed, and Hitler dispatched various forces to round up the plotters and the plot organizers. Stauffenberg, Olbricht, Albrecht Mertz von Quirnheim, and Lieutenant Werner von Haeften were caught late in the evening and summarily executed by firing squad in the courtyard of the Bendler Block (the War Ministry building). Hitler ultimately oversaw the purge and execution (in some cases, accompanied by show trials) of some 5,000 persons he believed were implicated in the plot. All were known opponents of the Nazi regime. Many were tortured to death. Some were hanged by the neck using piano wire.

Stauffenberg and the other plotters are remembered in modern Germany as heroes of the anti-Nazi resistance.

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K

Kádár, János (1912–1989) *Hungarian underground leader*

Born in Fiume, Hungary, Kádár (whose original name was János Czermanik, or Csermanek) was a mechanic by trade and, at age 19, joined Hungary's then illegal Communist Party. Before the war, he became both accustomed to and skilled at covert operations. During the war, he was a member of the Hungarian underground, and in 1942 was admitted to the Central Committee of the Communist Party. He gained the status of popular hero in Hungary for his work in the resistance. Captured by the Germans, he managed to escape and continue his covert action.

At the end of World War II, in 1945, Kádár became a member of the powerful Politburo of the Hungarian Communist Party. He served as premier of Hungary twice—from 1956 to 1958 and again from 1961 to 1965—and, from 1956 until 1988, was first secretary of the party. He was instrumental in Hungary's transition from the anti-Soviet government of Imre Nagy in 1956 to a pro-Soviet orientation. Nevertheless, like Tito in Yugoslavia, Kádár achieved a significant degree of independence for Hungary from direct Soviet rule.

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kamikaze

The Japanese word *kamikaze,* commonly translated as "divine wind," refers to a legendary typhoon that is believed to have saved Japan from a Mongol invasion fleet in 1281. During World War II (and in the present day as well) the word has been used in English to refer to suicide attacks made principally by Japanese pilots. The Japanese themselves reserved (and continue to reserve) *kamikaze* to describe only the 1281 typhoon. A World War II suicide attack unit was officially called *tokubetsu kōgeki tai,* "special attack unit," and was usually shortened to *tokkōtai.* The Imperial Japanese Navy called its suicide squads *shinpū tokubetsu kōgeki tai;* the word *shinpū* uses the same characters that form the word *kamikaze.*

American sailors became most terrifyingly familiar with airborne kamikazes, but the Japanese employed various modes of suicide attack, from soldiers who detonated explosives on their persons to explosive motorboats, to explosives-laden midget submarines, to human-guided torpedoes.

After the U.S. victory in the Battle of Saipan on July 15, 1944, which put American B-29 bombers in range for strikes against the Japanese mainland, and the subsequent commencement of the invasion of the Philippines on October 17, 1944, Japanese naval air commanders, whose forces were greatly diminished, faced the impossible task of stopping the Americans. In this desperate situation, First Air Fleet commandant Vice Admiral Takijiro

Deck-level view of a kamikaze strike on the aircraft carrier *Bunker Hill (National Archives and Records Administration)*

Onishi proposed the formation of a suicide attack unit, translated into English as the Kamikaze Special Attack Force. In October 1944, Commander Tamai Asaiki formed a group of 23 promising student pilots and one experienced lieutenant to join the special force. All were volunteers.

There is some controversy over what constituted the very first kamikaze attack. Late in 1944, the USS *Indiana* and USS *Reno* were hit by Japanese aircraft, but most authorities deem these to have been accidental collisions. Many believe that the first deliberate attack was led by Captain Masafumi Arima, commander of the 26th Air Flotilla, on October 13, 1944. On that day, no fewer than 100 Yokosuka D4Y Suisei (Judy) dive bombers attacked the carrier *Franklin* near Leyte Gulf, and Arima's aircraft dived into the ship. Again, however, this might have been inadvertent. The attack on the heavy cruiser HMAS *Australia,* flagship of the Royal Australian Navy, on October 21, 1944, was unmistakably a kamikaze assault. The pilot and aircraft involved were apparently attached to the Imperial Japanese Army air force, not the navy.

On October 25, the Imperial Japanese Navy's Kamikaze Special Attack Force carried out its first

mission, five Zeros targeting the USS *St. Lô* and other ships. The *St. Lô* was sunk. The October 25 attacks encouraged the Japanese to expand the kamikaze program, and over the next several months more than 2,500 planes and pilots made suicide attacks. The peak of the program came during April–June 1945, at the Battle of Okinawa. Suicide attacks by aircraft or boats sank or put out of action about 30 American warships and three American merchant vessels. Other Allied ships were also hit. The cost to the Japanese was a staggering 1,465 planes.

Planned as the most spectacular suicide mission was Operation Ten-Go on April 1, 1945. The *Yamoto,* pride of the Imperial Japanese Navy and the largest battleship of World War II, was sent on a suicide mission to attack the U.S. ships supporting landings on Okinawa. *Yamoto* was located before it got anywhere near the American invasion fleet and was attacked from the air on April 7. It sank with the loss of 2,475 sailors.

Most aircraft used in kamikaze attacks were ordinary fighters or dive bombers; very late in the war, however, the Japanese built the Nakajima Ki-115 Tsurugi, a cheap, simple, wooden airplane equipped with nonretractable landing gear jettisoned on takeoff (and reusable by other Ki-115s). Whereas the Ki-115 was a conventional piston design, the Yokosuka MXY7 Ohka was a rocket-powered aircraft—essentially a human-guided antiship missile. Also specially designed and manufactured for suicide missions were manned torpedoes, called Kaiten.

Defense against aerial kamikazes included antiaircraft fire and fire from Allied fighters. Poorly trained and inexperienced, kamikaze pilots fell easy prey to Allied pilots. Nevertheless, kamikaze attacks were extremely demoralizing to Allied sailors. Official Japanese sources record that kamikazes sank 81 ships and damaged 195, accounting for about 80 percent of U.S. naval losses in the closing months of the Pacific war. U.S. sources differ from this, recording that about 2,800 kamikaze attacks sank 34 U.S. Navy ships and damaged 368 others. Some 4,900 sailors were killed in the attacks, and another 4,800 were wounded. About 14 percent of kamikazes managed to score hits, and about 8.5 percent of all ships hit by Kamikazes sank. As for Japanese losses, 2,525 kamikaze pilots died, along with 1,387 army pilots.

"Kamikaze" or more general suicide techniques were not exclusive to the Japanese. Late in World War II, Otto Skorzeny, the daring German commando, and Hanna Reitsch, legendary German test pilot, proposed the *Selbstopfer* (self-sacrifice) program. Their idea was to convert V-1 buzz bombs for manned flight by installing a cockpit and controls. Approximately 100 pilots, from Skorzeny's commando group KG 200, were trained, and some 175 modified V-1s—renamed the Fieseler Fi 103 R Reichenberg—were manufactured. The mission was not 100 percent suicidal, since pilots were expected to bail out just before impact; however, this would have been a highly impractical maneuver: the cockpit was tiny, the aircraft would be in a steep dive, and the cockpit was located just below the pulsejet intake. It is not believed that *Selbstopfer* ever proceeded beyond the planning stage, and none of the modified V-1s was ever used in combat.

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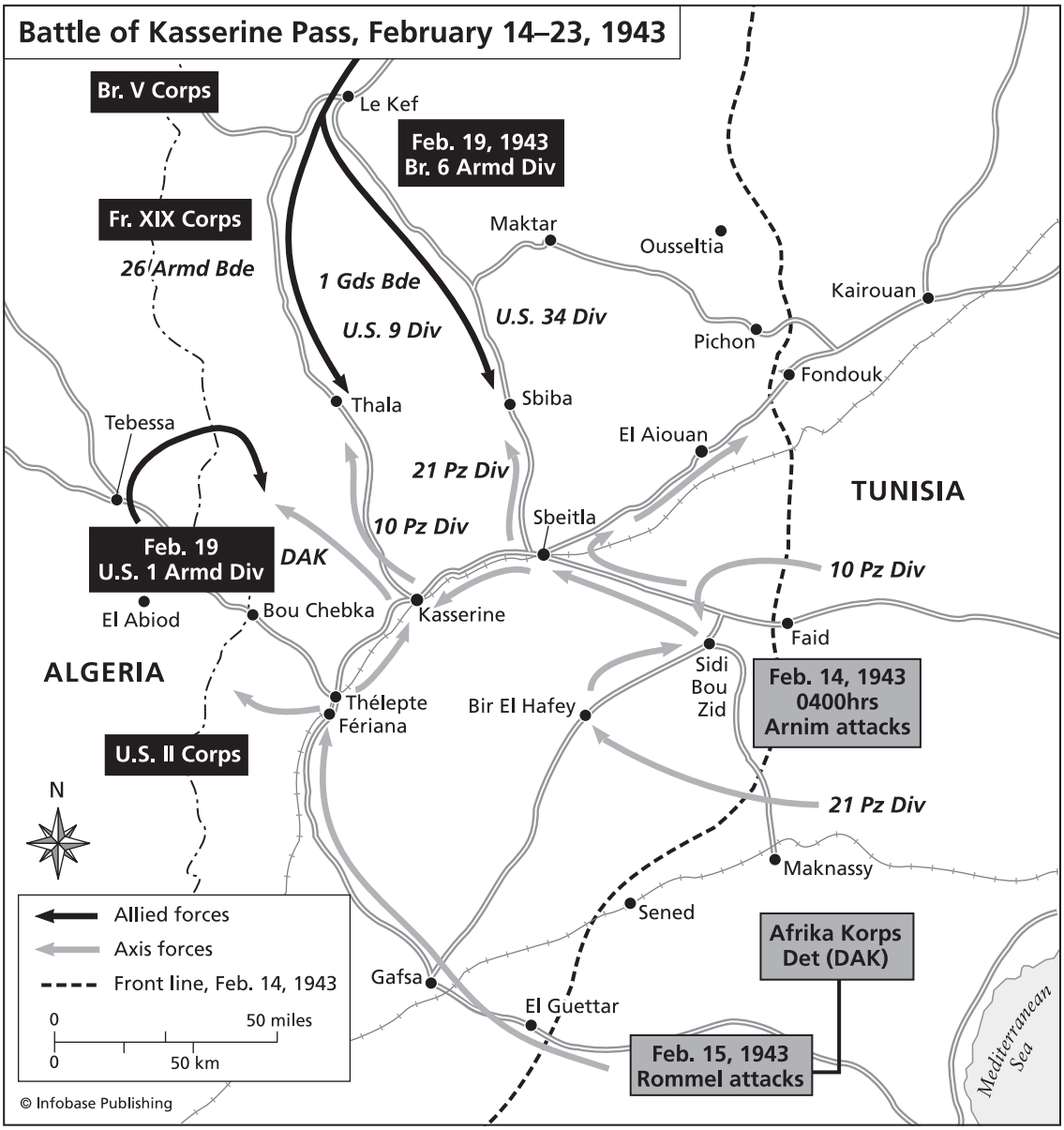
Kasserine Pass, Battle of

The first engagement between U.S. Army and German forces, the Battle of Kasserine Pass, Tunisia, during February 14–22, 1943, ended in humiliating defeat for the Americans.

In February 1943, Erwin Rommel's German-Italian Panzer Army and Jürgen von Arnim's Fifth Panzer Army counterattacked Dwight David Eisenhower's Allied forces to block their advance to the central Tunisian coast, an advance that would have split the Axis forces. Rommel and Arnim pushed Allied forces back to the Western Dorsale and dealt U.S. II Corps, under Lieutenant General Lloyd Fredendall, a sound defeat. Fredendall's leadership was poor, and the inexperienced troops performed badly.



The battle was also plagued by a misinterpretation of Ultra intercepts, which prompted British commander Lieutenant General Kenneth Anderson to deploy the main body of Allied reserves too far north. This left the Kasserine Pass vulnerable to the Afrika Korps steamroller. Fredendall ordered Colonel Robert Stark's mixed force to "pull a Stonewall Jackson" and make an immovable stand. Stark tried, and he did succeed in holding off the German advance on February 19, the first day of the battle, but Rommel pushed through by the next day. At this point, Fredendall's system of command

seems to have broken down. Fortunately for the Allies, Rommel and Arnim also fell into some disarray, and this led them to exploit the breakthrough at Kasserine in a poorly coordinated manner. Fighting was heavy on February 21, but incessant rain crippled Rommel's armor in the difficult terrain of the Kasserine region, and on February 22, he called off the offensive.

Kasserine was highly demoralizing to the Americans, and their British allies were gravely disappointed in the performance of II Corps, derisively referring to the U.S. Army as "our Italians." Nevertheless, the defeat could have been far worse had Rommel and Arnim more successfully exploited it. Moreover, the battle came as a wake-up call to Eisenhower, who had placed blind trust in Fredendall. Eisenhower replaced that commander with George S. Patton Jr., who rapidly rehabilitated II Corps and transformed it into a highly effective unit before turning over the command to Omar Bradley.

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Keitel, Wilhelm (1882–1946) *top military adviser to Adolf Hitler*

Wilhelm Keitel was Adolf Hitler's top military adviser throughout World War II. His loyalty to Hitler was fanatical, and he supported even the führer's most egregious military misjudgments. Others on the German General Staff secretly reviled Keitel with the derisive sobriquet of *Lackeitel,* a word suggesting "lackey" or "lickspittle."

Keitel was born in Helmscherode, Braunschweig, and served as an artillery officer during World War I. Seriously wounded in action, Keitel worked his way up to the General Staff. After the war, he became active in the Freikorps and in 1929 was named to head the Army Organization Department. Promoted to major general in 1934, Keitel was assigned to the War Ministry as head of the Armed Forces Office in 1935. He was promoted to lieutenant general in 1936 and General der Artillerie in 1937. On February 4, 1938, he replaced General Werner von Blomberg as chief of staff of the Armed Forces High Command, becoming, in November, Generaloberst (colonel general). In July 1940, with victory in the Battle of France, Keitel became a field marshal and was sent to Compiègne to negotiate the armistice with the French.

During the rest of the war, Keitel functioned as Hitler's conduit to the army. In contrast to many other senior German officers, his obedience to Hitler was unthinking. He approved mass murders in Poland, and he supported the creation and operations of the SS *Einsatzgrüppen,* the "Special Action Units" (see Schutzstaffel [SS]), which perpetrated the mass murder of "undesirable" civilian populations throughout the Soviet Union and elsewhere. He was also responsible for the *Nacht und Nebel* (Night and Fog) order, which authorized the secret and summary arrest of any persons deemed to endanger German security. For all these actions, Keitel was ultimately tried by the Nuremberg War Crimes Tribunal and found guilty of war crimes and crimes against humanity. He was hanged in the Nuremberg Prison on October 16, 1946.

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German Field Marshal Wilhelm Keitel signs the German surrender in Berlin, May 8, 1945. *(National Archives and Records Administration)*

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Kenney, George (1889–1977) *Allied air commander in the Southwest Pacific*

George Churchill Kenney was born in Nova Scotia, Canada, on August 6, 1889, while his family was vacationing there, and he grew up in Brookline, Massachusetts. He attended Massachusetts Institute of Technology for three years before leaving to work as an instrument technician with the Quebec Saguenay Railroad. When the United States entered World War I in 1917, Kenney enlisted as a Signal Corps private and was subsequently accepted for pilot training.

After the war, Kenney remained in the Army Air Corps and earned a reputation as a technical innovator. His most significant innovation was the introduction of machine guns in the wings of aircraft. An iconoclast, he advised, on the eve of the U.S. entry into World War II, a radical revision of the nation's military aviation program.

Kenney's first major assignment during World War II came in March 1942, when as a major general, he assumed command of the Fourth Air Force. In July 1942, he was assigned command of the Allied Air Forces in the Southwest Pacific as well as the Fifth U.S. Air Force. True to his reputation as an innovator, Kenney pioneered the use of parafrag (parachute fragmentation) bombs in the Pacific theater and developed low-altitude bombing techniques, including "skip bombing," by which a bomb was made to skip across the surface of the water, enabling below-the-waterline damage to enemy ships.

Kenney struggled in his corner of the Pacific, which was a much-neglected theater of the war. He organized his command to exploit every precious asset to the fullest and ruthlessly culled his officer corps, obtaining and retaining only the very best. Kenney also pioneered airlift techniques to support and transport troops in ground offensives.

Kenney was promoted to lieutenant general in October 1942 and then worked to improvise aircraft that could be used as "commerce destroyers" for high-speed, low-level attacks against cargo and transport vessels. A dozen B-25 bombers were modified with extra .50-caliber machine guns in their noses, and their crews were specially trained in skip bombing. The new squadron proved highly effective, especially in the Battle of the Bismarck Sea.

Kenney pioneered operations from crude forward airfields, always aiming to improve close air support and logistical support for ground offensives. General Douglas MacArthur learned to rely on him for highly imaginative and bold air operations under the most difficult and primitive conditions. He personally invited Kenney to accompany him on the deck of the battleship *Missouri* when he accepted the surrender of the Japanese on September 2, 1945.

After the war, Kenney went on to command the new Strategic Air Command and the Air University at Maxwell Field, Alabama.

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Kesselring, Albert von (1885–1960) *Germany's top commander in Italy*

Kesselring was a superb German general who showed himself in Italy to be a master of defensive strategy and tactics, which proved costly to the Allies.

Born in Marktsteft, Bavaria, Kesselring joined the Bavarian army as an artillery lieutenant in 1906. By the start of World War I, he had risen to become a staff officer and, after the war, remained in the army as an officer in the Reichswehr, the post-Versailles German military. He transferred from Wehrmacht (general military) staff assignments to the Luftwaffe in October 1933, when the branch, outlawed by the Treaty of Versailles, operated covertly. In 1936, Kesselring was pro-

General Albert Kesselring *(Library of Congress)*

moted to chief of the Luftwaffe general staff and promoted to lieutenant general. In 1937, promoted again, to general, he assumed command of Luftflotte I (Air Fleet 1).

In the opening action of World War II, the Blitzkrieg invasion of Poland, Kesselring conducted devastating air operations. In January 1940, he transferred to command of Luftflotte 2 and assumed direction of air operations in the Battle of France (May–June 1940). After victory was achieved there, Kesselring was promoted to field marshal on July 19, 1940. He now commanded his Luftflotte 2 in the Battle of Britain. During August 8–September 30, 1940, Kesselring concentrated on bombing RAF airfields in southern England. Adolf Hitler ordered him to abandon this highly successful program and to commence attacks on London instead, beginning on September 7. That was the start of The Blitz, which, while highly destructive, ultimately spared the RAF and led to the defeat and banishment of the Luftwaffe in the skies over England.

Despite what Hitler deemed the failure of the Luftwaffe, Kesselring was appointed Oberbefehlshaber (OB) Sud (commander in chief, south) in December 1941, an area of responsibility that encompassed the entire Mediterranean basin. With Erwin Rommel, Kesselring shared responsibility for North African Campaigns.

By 1943, the Axis had lost the initiative in North Africa, and Kesselring's mission became one of defense. He proved a master at this form of warfare, which German planners had disdained and largely ignored. Thanks to Kesselring, much of the German army evacuated from Tunisia intact during May. He then directed the defense of Sicily from July 9–August 17, 1943. Although the island fell to the Allies, Kesselring's defense made their victory costly.

In November 1943, Kesselring was named to command Army Group C after Italian dictator Benito Mussolini had been overthrown (on July 24) and the Allies had commenced their invasion of the Italian mainland (during September 8–9). Kesselring's mission was a desperate one. Essentially, he fought a long retreat, which he made monumentally costly for the Allies, who were unable to capture all of Italy until the very end of the European war. Kesselring's defense spanned 1943 to March 1945, when he was rushed to the German western front and assigned to do all he could to arrest the Allied advance there. It was a hopeless mission, and in May 1945, Kesselring was captured.

Kesselring was tried by the Nuremberg War Crimes Tribunal, charged with having authorized the massacre of 320 Italian prisoners in the Ardeatine Caves on August 24, 1944. Found guilty, he was sentenced to death in May 1947, but his sentence was commuted to life imprisonment in October 1947. Ill health prompted authorities to release him in October 1952, and he lived out the rest of his life in quiet retirement.

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Kharkov, Battles of

An important administrative and railroad city in the eastern Ukraine, Kharkov was the scene of five battles during World War II and changed hands four times.

During the German INVASION OF THE SOVIET UNION, Kharkov fell to the Sixth German Army on October 24, 1941. From here, the Germans advanced 25 miles to the east, stopping at the Donets River. ADOLF HITLER decided this would be the rallying point for the 1942 summer offensive. Soviet Red Army planners called for five armies to cross the Donets 75 miles southwest of Kharkov, then form a salient that would retake the city.

On May 12, 1942, Marshal SemyonTimoshenko led his Southwest Front (a "front" is the Red Army equivalent of the Western allies' army group) in an advance on Kharkov. On May 17, the Sixth and First German Panzer armies counterattacked with converging advances along the Donets from the north and south. Timoshenko pulled up short, halting 15 miles outside the city on May 20. His timing was bad, and the German forces encircled his armies by May 23. When the battle was over, on May 28, Timoshenko had lost more than 250,000 troops and 1,200 tanks. It was a disastrous defeat.

On February 11, 1943, two armies of General N. F. Vatutin's Voronezh Front crossed the Donets east of Kharkov. Hitler ordered three SS panzer divisions to hold the city, which he wanted as a fortress. By February 16, however, the Soviet armies had enveloped Kharkov, prompting the panzers to abandon the city, which was also in the throes of a popular uprising. The panzers headed south for a distance of 115 miles, where they joined up with the Fourth Panzer Army, under General HERMANN HOTH. Then, on March 9, the SS divisions wheeled about, determined to restore their honor by retaking Kharkov. Realizing what was happening, Hoth ordered the SS to bypass the city, but on March 11, the divisions, defying him, entered it and fought a three-day street battle, which ended in German victory on March 13. This prompted Hitler to issue orders for OPERATION CITADEL, with Kharkov as a staging area.

In early August, the Soviet victory in the great tank BATTLE OF KURSK enabled a massive offensive involving 14 Soviet armies and some 1.5 million troops. Kharkov was targeted by four armies of IVAN KONEV's Steppe Front. The German defenders were battered and repeatedly appealed to Hitler for permission to withdraw. It was not until August 22, 1943, that Hitler permitted the evacuation, and Kharkov remained in Soviet hands for the rest of the war.

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Khrushchev, Nikita (1894–1971) *Soviet war leader during World War II, Communist Party first secretary (1953–64), premier (1958–64)*

Nikita Khrushchev was born in Kalinovka, Ukraine, the son of a coal miner and the grandson of a serf. He had a rudimentary education then moved with his family to the mining town of Yuzovka (later named Stalino, now Donetsk) near the Donets River, where he went to work as a pipe fitter at age 15. His factory job allowed him to escape conscription in the tsar's army during World War I. In the course of the war, he became increasingly active in labor organizations and, by 1918, was a Bolshevik, a member of the Russian Communist Party. He joined the Red Army in January 1919 and served as a junior commissar, fighting the Whites as well as the invading Polish armies in 1920.

In 1922 Khrushchev enrolled in a Soviet worker's school in Yuzovka and received the equivalent

of a high school education. He became secretary of the Communist Party Committee at the school and, in 1924, married his second wife, the schoolteacher Nina Petrovna, his first wife having died in a famine.

By 1925, Khrushchev was full-time party secretary of the Petrovsko-Mariinsk district of Yuzovka. Lazar M. Kaganovich, one of Joseph Stalin's lieutenants and secretary-general of the Ukrainian Party's Central Committee, took notice of Khrushchev and made him a nonvoting delegate to the 14th Party Congress in Moscow. After this, Khrushchev became an active party organizer in Yuzovka, Kharkov, and Kiev.

In 1929, Khrushchev enrolled at the Stalin Industrial Academy in Moscow to study metallurgy. He was quickly appointed secretary of the academy's Party Committee and, in 1931, returned to full-time party work in Moscow. In 1933, he was named second secretary of the Moscow Regional Committee and spent the rest of the decade solidifying his position in Moscow politics.

Khrushchev supervised the completion of the Moscow Metro (subway), for which he was decorated with the Order of Lenin in 1935, and he was elevated to first secretary of the Moscow city and regional party organization, becoming effectively the governor of Moscow. An ardent Stalinist, Khrushchev was one of the few close associates Stalin trusted. He became a member of the Constitutional Committee in 1936, an alternate member of the Politburo in 1937, and also a member of the Foreign Affairs Commission of the Supreme Soviet. In 1938, Khrushchev, as a candidate member of the Politburo, was sent to Kiev as first secretary of the Ukrainian party organization, and in 1939 he became a full member of the Politburo.

In 1940, after the commencement of World War II, when Red Army forces invaded and occupied eastern Poland, Khrushchev directed the annexation of the region to the Soviet Union. The German invasion of the Soviet Union in June 1941 took Khrushchev away from this task, as he was rushed into position to oversee the emergency evacuation of Ukrainian industry to the east. This accomplished, he was commissioned a lieutenant general in the Red Army and assigned to rouse and organize civilian resistance to the German invasion. Khrushchev served as political adviser to Marshal Andrey I. Yeremenko during the defense of Stalingrad and to Lieutenant General Nikolay F. Vatutin at the Battle of Kursk.

After the invaders had been ejected from the Ukraine in 1944, Khrushchev was restored to his position as first secretary of the Ukrainian party organization. He undertook the monumental task of recovery of the devastated region. A postwar famine in 1946 brought him into conflict with Stalin, who ruthlessly demanded that grain production from Ukraine be sent elsewhere. Despite friction with Stalin, the Soviet premier recalled him to Moscow in 1949 to resume his leadership of the Moscow City Party and to accept appointment as secretary of the Central Committee of the CPSU.

From 1949 until Stalin's death in 1953, Khrushchev moved gingerly to avoid being purged by the increasingly irrational dictator. During this period, Khrushchev became an innovator in centralized agriculture, but many of his innovations were rejected in 1951 by the new agriculture chief, Georgy M. Malenkov. After the death of Stalin and the execution of state security chief Lavrenty Beria (Khrushchev was instrumental in bringing about Beria's demise), Khrushchev outmaneuvered Malenkov, Stalin's heir apparent, and replaced him as first secretary. In 1955, Khrushchev removed Malenkov from the premiership and put in his place his own handpicked candidate, Marshal Nikolay A. Bulganin.

Khrushchev introduced an era of de-Stalinization and greater liberalization in Soviet government and society. Although a tough opponent of the Western democracies, he also advocated a policy of "peaceful coexistence" in the nuclear age. Yet Khrushchev never achieved the agricultural successes the Soviet Union badly needed, he broke with mainland China, and (as many saw it) he allowed the USSR to suffer humiliation in the Cuban missile crisis of 1962. On October 14, 1964, he fell victim to a bloodless coup by his deputy Leonid Brezhnev and went into forced retirement, living out the rest of his life in obscurity.

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Kimmel, Husband E. (1882–1968)

commander in chief, U.S. Pacific Command, during the Battle of Pearl Harbor

As commander in chief, U.S. Pacific Command (CINCPAC) at the outbreak of World War II, Admiral Kimmel, along with his army counterpart, General Walter Campbell Short, was assigned principal blame for America's unpreparedness at the Battle of Pearl Harbor.

Kimmel was born in Henderson, Kentucky, and graduated from the U.S. Naval Academy at Annapolis in 1904. He served on a number of battleships in the Caribbean during 1906–07, then was assigned to the USS *Georgia* (BE-15) during the around-the-world cruise of the Great White Fleet (under Admiral George Dewey) from December 16, 1907, to February 22, 1909. Kimmel was wounded in action during the U.S. occupation of Veracruz, Mexico, in April 1914.

In 1915, well before the United States entered World War I, Kimmel was appointed aide to assistant secretary of the navy Franklin D. Roosevelt and then was detached to an advisory post with the British Grand Fleet, his assignment to teach British officers new gunnery techniques. In April 1917, when the United States entered World War I, Kimmel was recalled to serve as squadron gunnery officer with the U.S. Sixth Battle Squadron from 1917 to 1918. He was executive officer aboard USS *Arkansas* (BB-33) from 1918 to 1920, then served ashore as production officer at the Naval Gun Factory in Washington, D.C., from 1920 to 1923. His next assignment was as chief of the Cavite navy yard in the Philippines. During 1923–25, he also commanded Destroyer Divisions 45 and 38.

Admiral Husband E. Kimmel (center) confers with his aides. *(U.S. Navy History Center)*

In 1926, Kimmel completed the senior course at the Naval War College and was promoted to captain in July. Assigned to the office of the chief of naval operations from 1926 to 1928, he then returned to sea as commander of Destroyer Squadron 12 in the Battle Fleet from 1928 to 1930. In 1930, he returned to shore as director of ships' movements in the office of the Chief of Naval Operations. His next sea assignment came in 1933, when he was given command of the USS *New York* (BB-34). Two years later, he was back on shore, attached to the Navy Budget Office. Promoted to rear admiral in November 1937, Kimmel was appointed commander of Cruiser Division 7 in July 1938. In June 1939, he was assigned command of Battle Force Cruisers, and of Cruiser Division 9.

Kimmel's career had attracted much attention, and he was chosen over 46 more senior admirals for the post of CINCPAC, with his flag aboard the USS *Pennsylvania* (BB-38) in Pearl Harbor, territory of Hawaii. He was promoted to admiral in February 1941 and made vigorous preparations for a Pacific war that most government and military officials believed likely. Incredibly, however, the single scenario neither he nor most other military planners foresaw was a first-strike surprise attack on Pearl Harbor itself. When the fleet was devastated in the attack of December 7, 1941, Kimmel and his army counterpart, General Walter Short, bore the brunt of direct blame for the disaster. On December 17, Kimmel was relieved as CINCPAC and recalled to Washington to testify in the initial

Pearl Harbor inquiries. In the end—and unlike Short—he was never officially blamed for Pearl Harbor, but his career was smashed nevertheless. He retired from the navy with the reverted rank of rear admiral on March 1, 1942, and was periodically summoned to new Pearl Harbor inquiries through 1946.

During 1946–47, Kimmel worked for an engineering firm, then retired, later publishing *Admiral Kimmel's Story* as a defense of his actions.

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Kimura Hyotaro (1888–1948) *Japanese vice minister of war*

Kimura was trained as an artillery officer and, from 1931 to 1932, then a lieutenant colonel, commanded the 22nd Artillery Regiment before being appointed an instructor at the Field Artillery School. In 1935, he was named chief of the Control Section in the Economic Mobilization Bureau at the Ministry of War. This brought him close to the policymaking center of the militaristic Japanese government. He achieved even greater influence in 1936, when he was appointed head of the Ordnance Bureau.

Kimura returned to the field in 1939, during the Sino-Japanese War, as a lieutenant general in command of the 32nd Division in China. In 1940, he was named chief of staff of the Kwantung Expeditionary Army in Manchuria. In effect, he now commanded the equivalent of what the Western allies would call an army group.

With the outbreak of World War II in 1941, Kimura returned to the Ministry of War as vice minister of war. He reported directly to Tojo Hideki and was a leading voice in strategy and policy until 1943.

As 1944 drew to a close, Kimura was named to command the Burma Area Army, charged with defending Burma against the Allies. It was a desperate assignment in a desperate situation and a measure of the esteem in which Kimura was held. The Japanese high command hoped that he could somehow make the beleaguered Burma Area Army logistically self-sufficient. In an attempt to achieve this, Kimura decided not to attempt the hopeless task of defending all of Burma. Instead, he pulled back to a position behind the Irrawaddy River. This unexpected strategic stroke took the Allies by surprise—but ultimately did nothing more than buy a little time for the Burma Area Army. The Allies refocused their offensive and took Meiktila and Mandalay. Kimura continued to fight delaying actions and, in contrast to many other Japanese officers, decided to preserve as much of his army as possible rather than throw lives away in a forlorn defense. He relinquished Rangoon, then set about regrouping for a fresh stand. Before he could accomplish this, Japan surrendered.

At the Tokyo War Crimes Tribunal, Kimura was tried for war crimes against Chinese civilians as well as Allied POWs. He was also tried for his role in formulating the Japanese policy of militaristic expansion early in the war. Found guilty on all charges, he was hanged in 1948.

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King, Ernest J. (1878–1956) *U.S. chief of naval operations*

King was born in Lorain, Ohio, and enrolled as a midshipman during the Spanish-American War. Serving aboard the USS *San Francisco,* he participated in patrols off the East Coast during April–December 1898. After the war, King returned to the Naval Academy at Annapolis, graduating near the top of the class of 1901. As an ensign in 1903, he served aboard the USS *Cincinnati,* from which he observed naval action during the Russo-Japanese War (February 1904–September 1905). Promoted to lieutenant in June 1906, he taught at the academy as an ordnance instructor. In 1909, he returned to seagoing duty on battleships of the Atlantic Fleet. Promoted to lieutenant commander in July

Admiral Ernest King (left) with Dwight D. Eisenhower in Europe at the end of the war *(National Archives and Records Administration)*

1913, he returned to shore as an officer in the Engineering Experimental Station, located at Annapolis. In 1914, King assumed command of the destroyer *Terry* (DD-25) and served in operations off Veracruz in the crisis with Mexico during April-November.

With U.S. entry into World War I, King was promoted to commander in 1917 and to the temporary rank of captain in September 1918. He was selected after the war to head the postgraduate department at the Naval Academy, but in 1921 he chose sea duty again, this time as commander of a refrigerator ship off the East Coast. In 1922, he enrolled in submarine training at New London, Connecticut, then took command of Submarine Division II, serving in this capacity until 1923, when he was named commandant of the submarine base at New London, Connecticut.

In 1926, King was named senior aide to Captain H. E. Yarnell, commander of Aircraft Squadrons Scouting Fleet. While serving in this post, King trained as a naval aviator, earning his wings in May 1927 at the advanced age of 48. He was named assistant chief of the Bureau of Aeronautics (1928–29), then was assigned as commander of the naval air base at Hampton Roads, Virginia.

From 1930 to 1932, King was skipper of the aircraft carrier *Lexington* (CV-3). He returned to shore in 1933 to take the Naval War College senior course and was promoted to rear admiral in April of that year. He was named chief of the Bureau of Aeronautics, a post he held until 1936, when he

took command of the Aircraft Scouting Force. In 1938, after promotion to vice admiral, King was appointed to command the five-carrier Aircraft Battle Force, but he left to join the General Board in August 1939—a position that led to his receiving command of the Fleet Patrol Force (Atlantic) in December 1940. King was promoted on February 1, 1941, to admiral and was named commander in chief of the Atlantic Fleet. He was the first high-ranking officer to see action in World War II, directing the undeclared antisubmarine war with Germany off the U.S. East Coast.

Following the Battle of Pearl Harbor, King was named chief of naval operations (December 1941) and then commander in chief of the United States Fleet (March 13, 1942). In the latter post, he was a primary formulator of Allied naval strategy, and he participated in all of the major Allied war conferences. On December 17, 1944, King was promoted to fleet admiral, the rank he held upon his retirement in December 1945. Even after he formally retired, however, King continued to serve in an advisory capacity to secretaries of the navy and of defense, as well as to President Harry S. Truman.

King was a highly respected officer who nevertheless was notoriously irascible. His difficult personality notwithstanding, he was a brilliant strategist and an officer who ensured that operations were carried to victory.

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King, William Lyon Mackenzie (1874–1950) *prime minister of Canada*

William Lyon Mackenzie King—universally known as Mackenzie King—was the wartime prime minister of Canada. He was born to John King and Isabel Grace Mackenzie, who was the daughter of William Lyon Mackenzie, one of the leaders of the 19th-century Upper Canada independence movement and the Rebellion of 1837. King was educated at the universities of Toronto and Chicago and at Harvard University. While in Chicago, he became associated with Jane Addams's famed Hull House and developed a passion for the cause of social welfare.

A brilliant student, King was offered a professorship at Harvard in 1900, but declined it to become deputy minister of labor in the Canadian government. He resigned from the security of this civil service position in 1908 to run for Parliament on the Liberal ticket for his native county, North Waterloo, despite its being overwhelmingly Conservative. Elected, he was named in 1909 Canada's first full-time minister of labor. When the Liberal Party was defeated in 1911, King was out of government and, in 1914, worked with the Rockefeller Foundation in the field of industrial relations. King assumed the leadership of the Liberal Party in 1919 and, following the defeat of the Union Government in 1921, became prime minister—despite the minority status of the Liberal Party in Parliament. King proved skillful at forming a coalition government, which fell, however, to a customs department scandal in 1926. He dissolved Parliament and new elections were held, which finally gave him a majority in Parliament through a Liberal-Progressive alliance. He again became prime minister and was largely responsible for attaining Commonwealth status for Canada.

King's government was defeated in 1930, and he became the chief opposition leader during the first part of the Great Depression. Reelected in 1935, he remained prime minister until his retirement in 1948.

King's Canada was torn by many divisions, but, thanks to his leadership, the nation entered World War II in 1939 with great unity. King ensured that Canada not only served the interests of the British Commonwealth during the war, but was also a staunch ally of the United States. He was greatly admired by President Franklin D. Roosevelt.

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Kinkaid, Thomas C. (1888–1972) *key U.S. Navy commander in the Pacific*

Kinkaid was born in Hanover, New Hampshire, and graduated from the U.S. Naval Academy in 1908. His first assignment was with Admiral George Dewey's Great White Fleet, aboard the USS *Nebraska* (BB-14) and the USS *Minnesota* (BB-22) during 1908–11. Kinkaid attended the ordnance course at the Naval Postgraduate School in Annapolis in 1913 and quickly became a respected authority on naval gunnery. Promoted to lieutenant (jg) in June 1916, he served patrol duty off the East Coast as the United States prepared to enter World War I. In November 1917, with America in the war, he was promoted to lieutenant and assigned as gunnery officer aboard the USS *Arizona* (BB-39) in April 1918.

After World War I, Kinkaid was called to Washington as an officer in the Bureau of Ordnance. Promoted to lieutenant commander in 1922, he was appointed aide to Admiral Mark Bristol. In 1924, Kinkaid was given his first sea command, of the destroyer *Isherwood* (DD-284), but returned to shore duty in 1925 as an officer at the Naval Gun Factory in Washington, D.C. During 1927–29, Kinkaid returned to sea as a commander and gunnery officer sailing with the U.S. Fleet. He then enrolled in the Naval War College, from which he graduated in 1930.

Kinkaid served as executive officer on the battleship *Colorado* (BB-45) from 1933 to 1934, then became director of the Bureau of Navigation's Officer Detail Section from 1934 to 1937. Promoted to captain, he was named to command the cruiser USS *Indianapolis* (CA-35) but left this command in 1938 to become naval attaché and naval air attaché in Rome (November 1938) and naval attaché in Belgrade, Yugoslavia. In March 1941, Kinkaid returned to the United States and was promoted to rear admiral.

Just one month before the Battle of Pearl Harbor, Kinkaid was assigned to command Cruiser Division 6. During March 1942, shortly after the war began, he led the division in support of action against Rabaul and in the early phases of the New Guinea Campaign. Kinkaid fought in the Battle of the Coral Sea (May 4–8, 1942) and at the Battle of Midway (June 2–5, 1942). He then took command of Task Force 16, which was built around the aircraft carrier *Enterprise* (CV-6), and he led the task force in support of the landings of the Guadalcanal Campaign (August 7, 1942) and then fought in the carrier battles of the Eastern Solomons during August 22–25, and off the Santa Cruz Islands (October 25–28). During November 12–15, he fought Japanese surface ships in the waters off Guadalcanal. Early in 1943, Kinkaid was assigned command of the North Pacific Task Force and directed the recapture of the Aleutian Islands in the Aleutian Islands Campaign. Fighting in this very difficult and little-heralded corner of the war, Kinkaid retook Amchitka Island on February 12, 1943, and Attu on May 11–30. He landed troops on Kiska on August 15, but was unopposed—the Japanese having earlier evacuated.

In June 1943, Kinkaid was promoted to vice admiral and transferred to command of Allied Naval Forces in the Southwest Pacific Area and on November 26, the U.S. Seventh Fleet was added to his portfolio as well. His chief assignment was to support General Douglas MacArthur's amphibious advance along the New Guinea coast toward the Philippines.

Coordinating operations with the Third Fleet under Admiral William F. "Bull" Halsey, Kinkaid led the Seventh Fleet in covering the American landings on Leyte (October 20, 1944). The great crisis of this battle came when Kinkaid, responding to intelligence of a massive Japanese counterattack, deployed his aged battleships under Admiral Jesse B. Oldendorf to pinch off the southern entrance to Leyte Gulf at Surigao Strait. Outgunned, Oldendorf nevertheless checked the advance of the Japanese southern force and, during a spectacular night battle on October 25, destroyed it. In the meantime, the principal Japanese attack force, which arrived off the east coast of Samar, was met by nothing more than a small group of escort carriers under Admiral Clifton E. Sprague. Sprague held off this vastly superior fleet until a detachment of Oldendorf's battleships arrived on October 25, forcing the Japanese (who were low on fuel) to withdraw.

Kinkaid directed more Philippine amphibious operations against Mindoro (December 15) and at Lingayen Gulf on Luzon (January 9, 1945). He was promoted to admiral in April 1945, then commanded the landing of U.S. occupation forces in China and Korea during September. This mission accomplished, he left the Seventh Fleet to take command of the Eastern Sea Frontier, headquartered at New York, from January to June 1946.

Kinkaid was named commander of the Atlantic Reserve Fleet in January 1947, in which post he served until his retirement on May 1, 1950.

See also LEYTE, BATTLE OF; NEW GUINEA CAMPAIGN; and PHILIPPINES, FALL AND RECONQUEST OF.

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Kleist, Paul Ludwig von (1881–1954)
commander of German Army Group A during the invasion of the Soviet Union

Kleist was born into an aristocratic family and had a military education. In World War I, he served as a lieutenant of hussars and a regimental commander, then commanded a cavalry division between the wars, from 1932 to 1935. Promoted to lieutenant general in August 1936, he retired in February 1938, but was recalled to active duty in August 1939. As commander of XXII Corps, he participated in the INVASION OF POLAND.

In February 1940, Kleist was assigned to command three panzer corps during the BATTLE OF FRANCE in May 1940. That summer, Kleist transferred to the eastern front, where he led the advance toward the Caucasus. The failure of this offensive prompted ADOLF HITLER to relieve SIEGMUND LIST as commander of Army Group A. After briefly assuming personal control of the group, Hitler turned over command of it to Kleist on November 21.

Kleist took command at a point when Army Group A was cut off in the Caucasus. Despite the grave risk, he avoided encirclement, kept the army group intact, and, in February 1943, was promoted to field marshal in recognition of his skill as a general.

Kleist proved to be an independent-minded, pragmatic, and innovative commander. Whereas Hitler ordered that all Soviet citizens be treated mercilessly as subhuman Slavs, Kleist recognized that the survival of his army group depended on winning over the civilians in the occupied territories. Accordingly, he ignored Hitler's orders and worked hard to earn the cooperation of Soviet civilians. He exploited a strong anti-Stalinist sentiment in the region and gained considerable local support.

In September 1943, Kleist withdrew across the Kerch straits to the Crimea, thereby preserving his army. He repeatedly defied Hitler's orders for suicidal stands and the abuse or outright genocide of indigenous populations. Moreover, like some other distinguished German career officers, Kleist generally disdained the Nazis. At last, on March 30, 1944, Hitler dismissed Kleist, who sat out the remainder of the war. Tried for war crimes in 1946 in Yugoslavia, he was sentenced to 15 years imprisonment. After two years in a Yugoslav jail, he was extradited to the Soviet Union, where he was charged with alienating local Soviet populations—incredibly enough—"through mildness and kindness." He lived out the rest of his life in a Soviet prison camp.

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Kluge, Günther von (1882–1944) *anti-Hitler German general*

Scion of an aristocratic Prussian military family, Kluge was a staff officer during World War I, then fought in the Battle of Verdun in 1918, in which he was gravely wounded. Between the world wars, Kluge rose rapidly, gaining promotion to lieutenant general by 1936. In 1937, he was given command of Sixth Army Group (redesignated as Fourth Army after the outbreak of World War II).

Like a number of other military aristocrats, Kluge was anti-Nazi and participated in a plot, when Adolf Hitler threatened to invade Czechoslovakia, to overthrow Hitler and create an anti-Nazi government. The plot died aborning, however, and, despite his involvement, Kluge escaped unscathed. When the invasion of Poland came, he cast aside all doubt and brilliantly led the Fourth Army in the Blitzkrieg. Nevertheless, when Hitler announced his plan to attack the West, Kluge again protested; yet when the call actually came, he and his Fourth Army were instrumental in the offensive that culminated in the Battle of France. Kluge brought to the western front the same blitzkrieg tactics that had proved so devastating in the East. Despite his record of doubt and protest, he was promoted to field marshal in July 1940.

Kluge's Fourth Army was part of Army Group Center in the invasion of the Soviet Union in June 1941 and reached the edge of Moscow by the fall. When, in December 1941, Field Marshal Fedor von Bock fell ill, Kluge took over as commander in charge Army Group Center. At this point, certain staff officers approached Kluge to participate in a planned coup d'état against Hitler. Once again, Kluge vacillated. His vacillation ended in October 1942 when he received 250,000 Reichsmarks from Hitler as a reward for his performance in the war. This essentially purchased his loyalty, and he blocked a scheme to arrest and assassinate the führer during a March 1943 tour of the eastern front. Moreover, against his own better judgment, Kluge followed Hitler's order to mount a desperate offensive during the Battle of Kursk in July 1943.

In October 1943, Kluge suffered serious injuries in a car wreck at the front. He did not return to duty until June 30, 1944, when he replaced Gerd von Rundstedt as overall commander in the West during the German defense against the Normandy landings (D-day). Yet again, Kluge turned against Hitler, as it became clear to him that defeat was inevitable. But when the July Plot (to assassinate Hitler) miscarried, he immediately withdrew from any attempt to overthrow the führer—although he did attempt to make contact with Allied commanders on August 15, 1944. German intelligence intercepted an Allied wireless communication, which suggested to Hitler that Kluge intended to arrange a cease-fire. On August 17, Hitler relieved Kluge—replacing him with Walther Model—and recalled him to Germany. On August 18, 1945, Kluge shot himself.

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Koga Mineichi (1885–1944) *Japanese officer who led operations in the fall of Hong Kong*

Koga was a career Japanese naval officer who served as a naval attaché in Paris before assuming command of the Yokosuka Naval Station. Appointed vice chief of the Naval Staff Board in December 1937, Koga served until October 1939. With the outbreak of the Pacific war, he was instrumental in operations leading to the Fall of Hong Kong.

Koga was a competent officer, who worked effectively with other staff personnel, yet he was beset by two flaws: a tendency to be overcautious and a lack of tactical imagination, which prompted him to value battleships over aircraft carriers and air power. He replaced Yamamoto Isoruku as commander in charge of the Combined Fleet in April 1943, by which time the reversal of Japanese fortunes was unstoppable. Koga directed the first Japanese withdrawals from the Gilbert Islands and the Philippines.

On March 31, 1944, Koga's aircraft disappeared in a dense fog, and he was reported missing, almost certainly having been killed in a crash at sea. His death, less than a year after Yamamoto's, was not announced until May, when he was replaced as commander in charge by Toyoda Soemu.

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Konev, Ivan (1897–1973) *Soviet Red Army marshal*

Born of peasant stock, Ivan Stepanovich Konev was drafted into the czar's army in 1916 during World War I, then joined the Communist Party and Red Army in 1918 after the Russian Revolution. With the outbreak of the Russian civil war, he became a military commissar, organizing guerrilla units and fighting the forces of the Whites. He was also instrumental in ending the 1921 Kronstadt Rebellion against the Bolshevik government.

In 1926, Konev graduated from the Frunze Military Academy and, during 1937–38, commanded Soviet special forces in Outer Mongolia. During the German INVASION OF THE SOVIET UNION, in October 1941, Konev was assigned command of a portion of the West Front (a Red Army "front" was equivalent to an Allied army group) and led the first significant counterattack against the invaders. He brilliantly employed what became known as the "Konev ambush"—drawing in German forces by means of tactical retreat, then enveloping them in the jaws of his army's flanks—to defeat HEINZ GUDERIAN's advance on Moscow in December 1941.

In the summer of 1942, Konev blocked the advance of German forces sent to reinforce STALINGRAD. When major combat shifted south during the winter, Konev was more or less idled until July 1943, when, commanding the Steppe Front, he collaborated with GEORGI KONSTANTINOVICH ZHUKOV in repelling and turning back the main German offensive. In February 1944, Konev was made a marshal of the Soviet Union and, in August, he brought the war beyond the Soviet border by crossing the Vistula River into Poland. After fighting rapidly through Poland, Konev led the Red Army advance into Germany. In coordination with forces under Zhukov, he fought the BATTLE OF BERLIN. Afterward, at Torgau, his army linked up with U.S. forces commanded by COURTNEY H. HODGES.

After the war, Konev was named supreme commissar for Austria and, in 1946, succeeded Zhukov as commander in charge of Soviet ground forces. He served in this capacity until 1950 and became commander in charge of the Warsaw Pact forces in 1955. He retired in 1960, but was recalled the following year to serve as commander in charge of Soviet forces in East Germany. He stepped down from this post in 1962, but remained in the Defense Ministry until his death.

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Konoye Fumimaro (1891–1945) *prime minister of Japan during 1937–1939 and 1940–1941*

Konoye was born to one of the noble families from which regents and chancellors were traditionally chosen. Konoye was educated at Tokyo Imperial University and then Kyoto Imperial University, graduating with a degree in law. His education introduced him to Western philosophy, literature, and sociology, all of which he greatly admired. By the end of the 19th century, he even flirted with socialism.

Konoye entered politics as the protégé of elder statesman Saionji Kimmochi and served as an attendant to the Japanese delegation at the Paris Peace Conference, which produced the TREATY OF VERSAILLES ending World War I. He wrote an article criticizing the Wilsonian principle of pacifism not because it was pacifist as such, but because, Konoye argued, it was actually a cynical dodge designed to maintain the status quo, at the expense of Asia, in a world dominated by the Western nations.

As a Japanese prince, Konoye held a seat in the upper house of the Japanese Diet and here pressed for liberal reform. He was an opponent of rising fascism both abroad and in Japan, and he was deeply concerned over the growing influence of the military in Japanese government. He unsuccessfully advocated reform of the army general staff to remove it from any voice in foreign policy.

Konoye advocated the expansion of parliamentary politics and hoped to suppress militarism. Although his stance went against the dominant trend in Japan, Konoye served as vice president of the upper house and, in 1933, was appointed its president. In June 1937, as prime minister, he formed a nonparty cabinet and strove to make compromises with the military, accepting their more moderate demands while rejecting all that he considered extreme. He struggled to resolve the Sino-Japanese War, but was unsuccessful in this effort, and in January 1939 his cabinet fell. No longer prime minister, he served as head of the Privy Council and was given a post in the cabinet of Hiranuma Kiichiro. He resigned as head of the Privy Council in June 1940, hoping to develop a popular national movement that would prevent the military from seizing more power. This plan was forestalled by his elevation, for a second time, to the post of prime minister; however, the Imperial Rule Assistance Association, formed later in 1940, was conceived as the foundation of the national movement.

Konoye presided over a government that, against his wishes, continued to roll toward war. Although Konoye acquiesced in Japan's signing of the Axis (Tripartite) Pact with Germany and Italy, he continued to struggle against the expansion of the Sino-Japanese War in the hope of improving relations with Great Britain and the United States. As these relations nevertheless deteriorated, Konoye signed a nonaggression pact with the Soviet Union early in 1941. On the verge of opening personal talks with U.S. president Franklin D. Roosevelt in the hope of ending the Sino-Japanese War, Konoye resigned in October 1941 as a result of unending disputes with the army minister Tojo Hideki.

After the commencement of the Pacific war, Konoye was pushed to the periphery of Japanese politics. He collaborated with other antimilitarists to bring about the end of the Tojo government in 1944, and he survived the war to become deputy minister of national affairs in 1945. Arrested by the U.S. Army of Occupation late in the year on charges of war crimes, he committed suicide by drinking poison rather than stand trial.

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Korea, action in

Combat did not come to Korea until the very end of the war. The nation had unwillingly become a Japanese protectorate in 1905 and was annexed to Japan in 1910. Beginning about 1919, resistance to what was considered the Japanese occupation became increasingly organized. By the mid-1920s, this popular resistance movement was essentially communist in leadership and direction.

During the 1930s, Japanese militarists oversaw the conversion of a large sector of the Korean economy into industrial production. Moreover, in an effort to force the assimilation of the Korean people, the Korean language and literature were banned from schools, and Koreans were even ordered to adopt Japanese names. By the end of the 1930s, the Japanese began conscripting Korean labor, and in 1942 young Korean men were drafted into the Imperial Japanese Army. During the war, Korean nationalists, especially the communist factions, recruited young men for service in China against the Japanese.

During World War II, Japan pillaged Korea's agricultural output as well as its stock of raw materials, especially strategic metals. While such despoliation yielded important resources for the Japanese war effort, it raised the level of resistance in Korea, necessitating the deployment of large numbers of troops in the country to maintain order. In 1941, there were 46,000 Japanese troops in Korea; by the end of the war, there were 300,000—none involved in direct combat. Also by the end of the war, Korea represented a slave workforce of some 2.6 million. In effect, Japanese military administrators had transformed the country into a vast forced-labor camp, presided over by Japanese soldiers as well as by a large cadre of coopted Korean "police" in the employ of the Japanese. In addition to the Koreans forced to work in factories at home, approximately

three-quarters of a million Korean workers were sent to work abroad, mostly in Japanese war industries. Perhaps the most notorious exploitation of the Korean population was the forced employment of tens of thousands of "comfort women," Korean girls and women forced into prostitution as sexual partners for Japanese soldiers.

The postwar disposition of Korea was the subject of the November 1943 Cairo Conference among the Allied leaders and the February 1945 Yalta Conference, which, unlike the earlier conference, included Joseph Stalin. It was agreed at both Cairo and Yalta that Korea would become an independent nation. Nevertheless, when the Soviet Union belatedly declared war on Japan in August 1945, Red Army forces made a number of amphibious landings in north Korea (north of the 38th Parallel), and an entire Soviet army invaded Korea overland via China. The United States and the USSR quickly agreed to divide occupation of Korea along the 38th parallel, with U.S. forces to the south and Soviet forces to the north. This line rapidly evolved into the hostile border between communist North Korea and Western-aligned South Korea, and the two nations would go to war during 1950–53.

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Kowerski, Andrzej (1912–1988) *Polish resistance leader*

Born into the family of a large Polish landowner, Andrzej Kowerski had a promising future as an athlete but lost a leg as a result of a hunting accident. Despite his disability, he served in the sole mechanized brigade of the Polish army at the outbreak of World War II and was awarded the nation's highest decoration for bravery, the Virtute Militari.

Kowerski moved to Hungary after the Polish government went into Romanian exile on September 18, 1939. Working from Hungary, Kowerski created a covert network to aid Polish soldiers to escape from prison and internment camps. He oversaw their transportation via Yugoslavia to France and Britain.

Early in the war, Kowerski, adopting the name Andrew Kennedy, joined the British Special Operations Executive (SOE) and became that agency's only one-legged parachutist. He was air-dropped into Italy to aid in training a Polish legion there.

Kowerski survived his perilous SOE career and, after the war, started a chain of automobile dealerships in Germany. After the failure of his business, he returned to London, where he lived with Christine Granville, an SOE comrade.

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Kriegsmarine

See Germany, navy of.

Kristallnacht (*Reichskristallnacht,* "Night of Broken Glass")

Kristallnacht or *Reichskristallnacht*—Crystal Night—the "Night of Broken Glass," occurred throughout Germany during the night of November 9–10, 1938. A nationwide pogrom instigated and led by Nazis and the Nazi leadership, *Kristallnacht* saw the burning or vandalism of more than 1,000 synagogues and the looting of some 7,500 Jewish businesses, the windows of which were smashed—hence the ironically poetic name *Kristallnacht.* At least 91 Jews are known to have been killed during the night of violence, which continued over the next two days. In addition, Jewish homes, hospitals, schools, and cemeteries were attacked.

Kristallnacht, a graphic symbol of Nazi-sponsored anti-Semitism, was triggered by the November 7 shooting, in Paris, of German diplomat Ernst von Rath by Herschel Grynszpan, a student who

was a Jew from Poland. When news of the incident reached Adolf Hitler and his minister of propaganda, Joseph Goebbels, the two apparently decided on a nationwide pogrom by way of reprisal. Goebbels rallied veteran members of the Sturmabteilung (SA), who organized an outbreak of violent "spontaneous demonstrations." The demonstrations were, in fact, carefully choreographed and coordinated from Munich, and the violence spread not only throughout Germany, but into Austria as well. Gestapo chief Heinrich Müller issued telegrams to police units throughout the nation informing them of the demonstrations about to begin and instructing them not to interfere, except to arrest Jews—that is, the victims. Intervention was permitted only if the work of arsonists accidentally threatened "Aryan" lives or property.

In addition to property damage, loss, and desecration, as well as the 91 deaths, about 30,000 Jewish men and youths were arrested and sent to concentration camps, including Dachau and Buchenwald, as well as Sachsenhausen. The name the Nazi authorities conferred on the pogrom, *Kristallnacht,* was intended to enshrine it in national memory as the night that shattered the Jewish presence in the Third Reich. In the aftermath of the violence, government officials moved to seize any insurance settlements that Jewish victims obtained, and they fined the Jewish community a total of perhaps 1 billion reichsmarks to defray the cost of cleaning up after the pogrom—although, in fact, it was the Jewish victims themselves who did the cleaning.

See also Holocaust, the.

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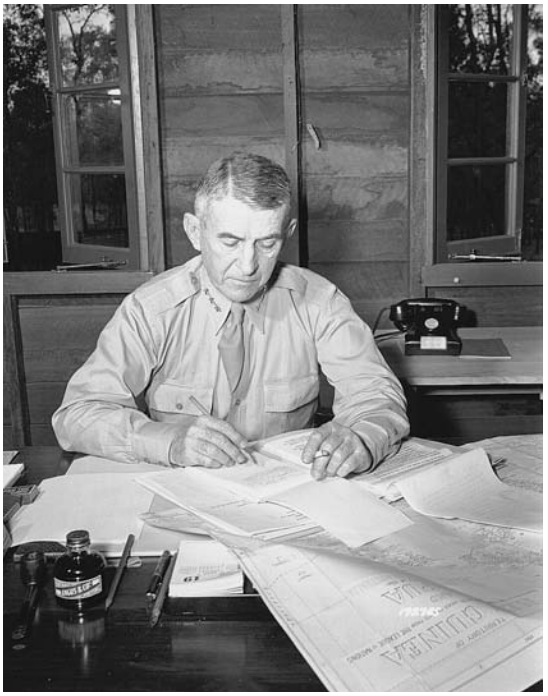
Krueger, Walter (1881–1967) *key U.S. Army commander in the Pacific*

Born in Platow, West Prussia, Krueger came to the United States with his family in 1889 and was raised in Cincinnati, Ohio. He left high school to enlist in the army during the Spanish-American War (1898), fighting in the Santiago de Cuba campaign of June 22–July 17. After returning to the United States, he joined the regular army and was dispatched to the Philippines during the Philippine Insurrection (1899–1903), which followed the war with Spain. He received a field commission as second lieutenant in the 30th Infantry in June 1901 and, on his return to the United States, attended the Infantry and Cavalry School. After graduating from the school in 1906, Krueger enrolled in the Command and General Staff School, from which he graduated in 1907.



Walter Krueger *(National Archives and Records Administration)*

Krueger was assigned a second tour in the Philippines during 1908–09, then served on the faculty of the Army Service School from 1909 to 1912. He was tasked during this assignment with translating German treatises on tactics and was recognized as an authority on the German army and its military practices.

Promoted to captain in 1916, Krueger served under John J. Pershing during the Punitive Expedition against Pancho Villa from March 1916 to February 1917. The United States entered World War I in April 1917, and Krueger was sent to France in February 1918. After attending the General Staff College at Langres, France, he was named assistant chief of operations for the 26th Division. He subsequently was transferred to the 84th Division and became chief of staff of the Tank Corps, serving in this capacity during the Meuse-Argonne offensive in October.

After the Armistice, Krueger remained in France as chief of staff for VI Corps, then became chief of staff for IV Corps in Germany with the temporary rank of colonel. After his return to the United States in 1919, he reverted to his Regular Army rank of captain and, in 1921, graduated from the Army War College. Assigned to the War Plans Division of the General Staff, he served there from 1923 to 1925, then graduated from the Naval War College in 1926. Krueger taught there from 1928 to 1932 and was promoted to Regular Army colonel. In 1936, he was promoted to brigadier general and appointed assistant chief of staff for War Plans. Krueger left this staff post in 1938 to command 16th Brigade at Fort Meade, Maryland, and was promoted to major general in February 1939, with command of the 2nd Division, followed by VIII Staff Corps in October 1940.

In May 1941, Krueger was promoted to temporary lieutenant general and named to command the Third U.S. Army and the Southern Defense Command. When the United States entered World War II, the Sixth U.S. Army was activated under his command, and he took it to Australia in January 1943, commanding it through a series of combat operations in the Southwest Pacific Theater under General Douglas MacArthur. Krueger led the landings on Kiriwina and Woodlark Islands on June 30, 1943, then directed the invasion of New Britain from December 15, 1943, to March 1944. He fought in the Battle of the Admiralty Islands and in operations along the northern coast of New Guinea during February–August 1944.

On October 20, 1944, Krueger directed the landings on Leyte, initiating the liberation of the Philippines. He commanded landings on Mindoro (December 15) and on Luzon (January 9, 1945); the Battle of Luzon stretched from February to August 1945. Krueger was promoted to general, just after the fall of Manila to U.S. forces on March 14. His troops mopped up Japanese resistance on Luzon, driving the diehards into the mountains of the northeast. By June 1945, the island was largely liberated.

Krueger remained in the Pacific after the surrender of Japan, commanding his Sixth Army in occupation duty on Honshu in September 1945. He retired in July 1946.

See also Leyte, Battle of; New Britain, Battle of; and New Guinea Campaign.

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Krupp munitions works

The storied firm of Krupp had been the leader of the German arms industry since the mid-19th century. During World War II, the firm, like a number of other war-production industries, entered into virtual partnership with the Nazi regime to ensure a steady and massive supply of the weapons of war.

Krupp was launched by Friedrich Krupp (1787–1826) as a modest steel foundry in Essen in 1811. Alfred (1812–87), his son, greatly expanded the firm, both in terms of finance and technology, transforming it into the foremost cannon foundry and locomotive manufacturer in Europe. For this, Alfred was dubbed "Alfred the Great" and the "Cannon King."

Under Alfred Krupp, the family firm became a significant power in Germany—not only as a supplier of arms, but as an owner of mines (in Germany as well as France) and as the creator of

company towns and subsidized housing for a rapidly expanding workforce. By the 1840s, artillery had become a company specialty. Government subsidies aided the development of newer, bigger, and more powerful weapons. By the end of the 1880s, arms manufacture represented 50 percent of Krupp's output, and the firm, which employed just five workers when Alfred took it over, had some 20,000 by the time of his death in 1887, having become the largest industrial company in the world.

Despite government subsidies, the Krupp firm remained fiercely independent during World War I, manufacturing arms not only for Germany and the other Central Powers, but for the Allies as well; however, with the rise of Adolf Hitler in 1933, the company's director, Gustav Krupp (1870–1950), son of Alfred, embraced Nazism and accepted the "patriotic" and profitable role as the very center of Germany's post-Versailles rearmament. A decree from Hitler in 1943 ensured Krupp's total reversion from a public stock company to a family-held firm, and Alfried Krupp von Bohlen und Halbach (1907–67), son of Gustav, assumed absolute control.

During the war, Krupp produced arms of all kinds for the German war machine, including tanks, artillery, and miscellaneous munitions; however, it was most celebrated for its gigantic guns, including those built shortly before the outbreak of the war: the 80-centimeter railway guns Schwerer Gustav and Dora, each weighting some 1,344 tons and capable of hurling a seven-ton projectile 37 kilometers.

After the war, the Allies wanted to try Gustav Krupp before the Nuremberg War Crimes Tribunal, but, aged and infirm, he was judged incompetent to stand trial. Instead, in what became known as the "Krupp Trial," Alfried was convicted of war crimes relating to the firm's use of slave labor. He was sentenced to 12 years imprisonment and was ordered to divest himself of 75 percent of his holdings in the firm. But when no buyer materialized, and under Cold War pressures, Alfried was released, and he resumed control of Krupp in 1953.

As the Krupp Group, the company merged with its chief competitor, Thyssen AG, in 1999 to become ThyssenKrupp AG, today one of the world's great steel producers.

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Kuribayashi Tadamichi (1891–1945)

commander of the Japanese garrison that fought to the death at the Battle of Iwo Jima

Kuribayashi was born into a samurai family and was marked from birth for a military career. From 1928 to 1930, he served as military attaché in Washington, D.C., and was greatly impressed by the industrial might of the United States. Like other top Japanese military leaders who came to know the United States, he believed war with the industrial giant would be all but unwinnable. This did not prevent his wholehearted commitment to the war, however, once it began.

In June 1944, Japanese emperor Hirohito personally selected Kuribayashi Tadamichi to command the Iwo Jima garrison, which, Hirohito told him, was an absolutely critical prize that must be denied to U.S. forces at all costs. The general took his orders with absolute seriousness and deployed his defenders carefully, determined to conduct a grinding campaign of attrition against the invaders. He ordered each soldier to kill at least 10 Americans or destroy one tank.

In the end, it was the garrison that fell to attrition. Kuribayashi's last radio message was heard on March 22, 1945, when he signaled that he had only 400 troops left but was still fighting. He noted that he and his men had laughed at U.S. pleas, broadcast through loudspeakers, to surrender. Kuribayashi's body was never recovered.

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Kurita Takeo (1889–1977) *Japanese admiral*

Kurita graduated from the Japanese naval academy in 1910 and became a torpedo specialist. By the outbreak of World War II, he had acquired extensive command experience, virtually all of it at sea. As a rear admiral, he commanded the 7th Cruiser Squadron, which played a key role in covering the Japanese invasion of Malaya and the INVASION OF THAILAND, both in December 1941. He next was instrumental in the ACTION IN THE NETHERLANDS EAST INDIES. As commander of the Western Attack Group, he successfully led the amphibious assault on Java on February 28, 1942, and he was commander of the Close Support Force in the BATTLE OF MIDWAY during June 1942.

Kurita fought with great skill at the BATTLE OF LEYTE in October 1944 as commander of the First Striking Force. His flagship was sunk under him, and, low on fuel, his remaining ships had to break off the battle against a significantly inferior U.S. force. Thus he was narrowly denied a victory that would have been disastrous for the U.S. forces landing on Leyte.

See also MALAYA, FALL OF.

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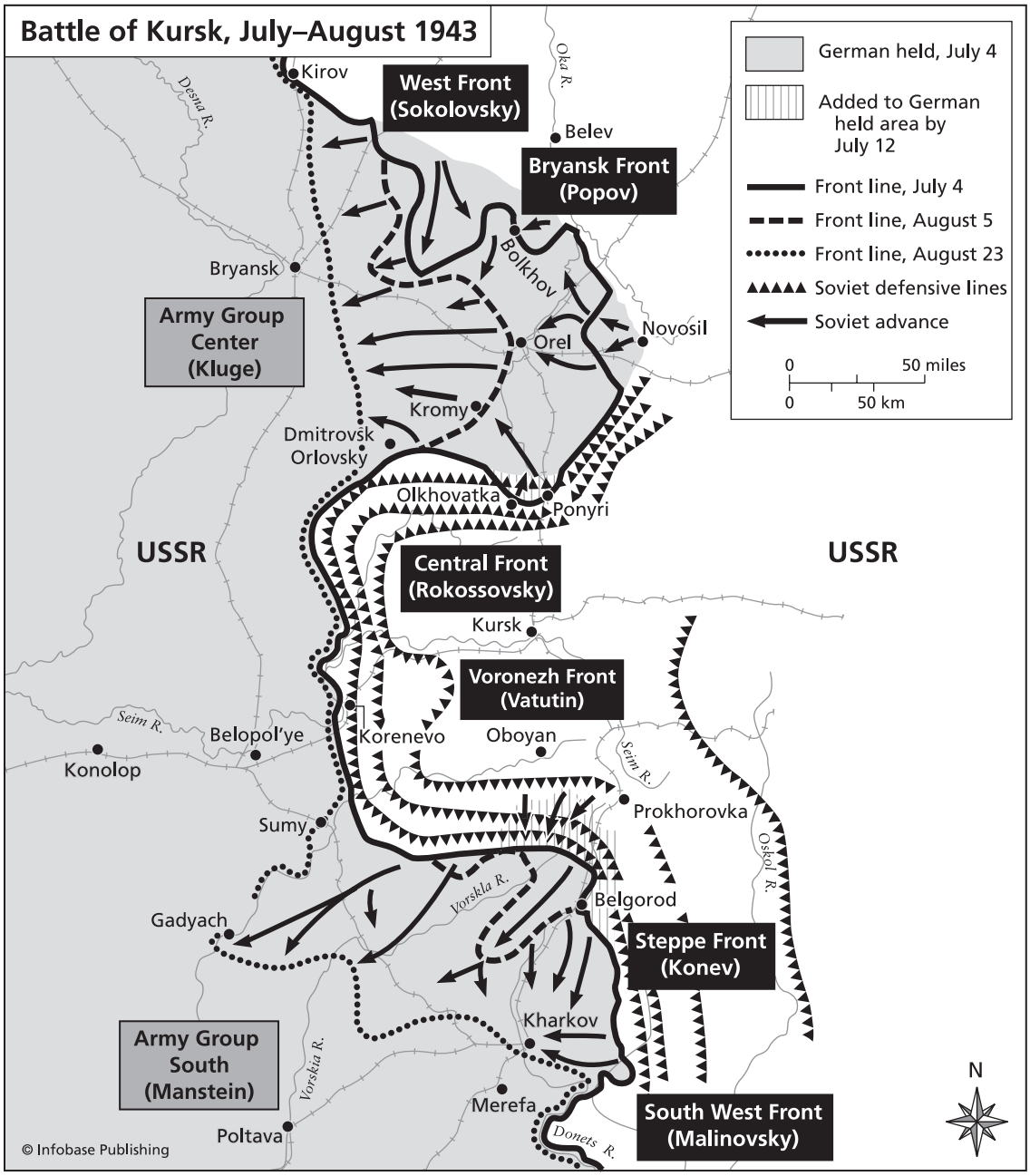
Kursk, Battle of

From the Soviet point of view, the Battle of Kursk, even more than Stalingrad, was the turning point of the war against the German INVASION OF THE SOVIET UNION. Victory at Kursk allowed the Red Army to seize the initiative, after which the German invaders were on the defensive for the remainder of the war.

The winter campaign of 1942–43 created a westward bulge in the front surrounding Kursk, a principal rail and road junction about 500 miles south of Moscow. Within this great bulge were five Soviet armies. Confronting them were the German Army Group Center (under GÜNTHER VON KLUGE) on the northern side of the bulge and, on the southern side, ERICH VON MANSTEIN's Army Group South. On April 15, 1943, ADOLF HITLER ordered Kluge and Manstein to prepare for the launch of OPERATION CITADEL on May 4, which was intended to pinch off the bulge and thereby envelop the Soviet armies. At the last minute, Hitler blinked, however, and postponed Operation Citadel.

The delay was fatal. JOSEPH STALIN and his top military commanders intended to expand the bulge into a wedge between the two German army groups and thereby seize the initiative in the war. Concerned that the Germans might be planning their own surprise attack, however, the Soviets reinforced the already vast forces holding the bulge. This put Hitler in position to make the first move, and Operation Citadel was launched on July 5 with Ninth German Army under WALTHER MODEL in the north and, in the south, the Fourth Panzer Army under General HERMANN HOTH and Army Detachment "Kempf" commanded by Lieutenant General Werner Kempf. In all, the Germans had nearly three-quarters of a million troops, 2,400 tanks and assault guns, and 1,800 aircraft. The Red Army fielded 1.3 million troops, 3,400 tanks and assault guns, and 2,100 aircraft. Moreover, the Soviets had prepared elaborate defenses around the bulge, including six trench lines of three to five trenches each. Additionally, six Soviet armies were held in reserve to the east.

Model's three panzer corps targeted the village of Olkhovatka, outside of Kursk, as their first objective. Red Army general Konstantin Rokossovsky assumed a blocking position and forced all three German corps into a fierce battle of attrition. On July 9, Model reported to Kluge that a breakthrough via Olkhovatka to Kursk was now doubtful. Accordingly, Hoth attacked northward west of the Donets River with two panzer corps while Kempf attacked east of the river. Hoth targeted Oboyan, halfway to Kursk and within the Soviets' last trench line. Hoth advanced steadily, crossing



the last Soviet trench line on July 12. At Prokhorovka, 22 miles southeast of Oboyan, Hoth was confronted by the Fifth Guards Tank Army, which had been held in reserve. Now a titanic armored battle developed involving about 1,200 tanks (some 800 of them Soviet), which was the largest tank battle of the war. It is this exchange that is usually designated as *the* Battle of Kursk.

Tactically, the 2nd SS Panzer Corps dealt more destruction than it received, but the battle overall was a Soviet strategic victory, since Kluge was forced to take two panzer divisions from Model to check a Soviet attack against the rear of the Ninth German Army. Simultaneously, as an Anglo-American force carried out Operation Husky, the invasion of Sicily, Hitler aborted Operation Citadel on July 13, claiming that he needed the troops to deal with the Allied invasion of Italy. The Red Army was quick to seize the initiative, and the German army was forced to assume the defensive on its eastern front.

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Kwajalein Atoll, Battle of

After the successful conclusion of operations on the Gilbert Islands in November 1943, U.S. admiral Chester A. Nimitz launched the Marshall Islands campaign 600 miles to the northwest of the Gilberts. By February 1, 1944, the V Amphibious Corps, under marine general Holland M. "Howlin' Mad" Smith, poised to land at Kwajalein Atoll in the center of the Marshall archipelago. A massive air and naval bombardment was launched preparatory to a landing on the island of Kwajalein itself by the U.S. 7th Infantry Division under Charles Corlett. Simultaneously, the 4th Marine Division, Harry Schmidt commanding, landed on the twin islands of Roi-Namur, 45 miles to the north of Kwajalein Island. One marine regiment took Roi on the first day; another captured Namur by noon of the second day of the assault. The Japanese defenders of the twin islands lost 3,500 killed and a mere 264 captured, whereas marine losses were 190 dead and 547 wounded.

Marine raiders on Kwajalein Atoll *(National Archives and Records Administration)*

On Kwajalein, the 7th Infantry ground down the garrison, in three days killing more than 3,800 Japanese with a loss of 177 Americans killed and about 1,000 wounded. Kwajalein was declared secure on February 4.

The quick victories at the Kwajalein Atoll prompted Admiral Nimitz to initiate the Battle of Eniwetok Atoll, 400 miles to the northwest, a full two months ahead of schedule.

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L

landing craft

Landing craft—shallow-draft vessels capable of transferring troops from troop transports to beachheads—were indispensable to amphibious operations during World War II, including many operations in the Pacific theater, the Mediterranean, and Europe; yet of all the combatant nations, only the United States developed and built landing craft in significant numbers. Even so, landing craft were regarded as a kind of stepchild by the principal U.S. military service arms—the navy was more interested in building large warships, and the army did not want to get involved in building ships at all; therefore, the availability of landing craft was always a critical issue. George S. Patton Jr. was forced to curtail some of his operations in Sicily for lack of adequate numbers of landing craft, and Dwight D. Eisenhower was forced to delay landings in the south of France (Operation Anvil/Dragoon), which he had wanted to conduct simultaneously with the Normandy landings (D-day).

The most famous and most numerous landing craft was the LCVP (landing craft, vehicle, personnel), popularly known as the Higgins boat. These 36-foot wooden-hulled craft were designed and built by New Orleans boatbuilder Andrew Higgins, who modified a civilian craft, the Eureka, which his company manufactured. They were light and powerful, and later versions of the craft included the familiar ramp at the bow, which was raised during the trip to shore, then lowered for landing. After landing its troops, the Higgins boat went into reverse and withdrew from the shore. The LCVP could carry 36 combat troops or about 8,000 pounds of supplies. Displacement was about nine tons and, powered by a six-cylinder, water-cooled Gray Marine Diesel engine generating 225 horsepower through a single propeller, the vessel could make about 12 knots under load. Virtually every Allied soldier who landed at Normandy on D-day

LSTs (Landing Ships, Tank) disgorge men and equipment on a Pacific island. These large ships were intended to deliver men directly from sea to shore—without the dangers of transfer to and disembarkation from small landing craft. *(U.S. Navy)*

arrived on a Higgins boat. Another version of the Higgins boat, the LCM (landing craft, mechanized) was the same size, but was designed to carry heavier loads, including tanks.

Larger than the Higgins boats were the LCTs (landing craft, tank). There were various versions, but the average World War II LCT was about 114 feet long with a beam of nearly 33 feet. Displacement was 286 tons, and load capacity was 150 tons. Its three Gray Marine diesels produced 675 horsepower each, driving three props for a top speed under load of about 7 knots. Unlike the unarmed Higgins boats, the LCTs were fitted with antiaircraft and machine guns.

One other major category of landing craft were the LSUs (landing ship, utility). At 119 feet in length and with a 34-foot beam, they were slightly larger than the LCTs. They displaced 180 tons empty and 360 fully loaded. Although powered identically to the LCTs, their streamlined hull design allowed them to reach a top speed of 18 knots.

See also Sicily Campaign.

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Latvia

In 1939, at the outbreak of World War II, Latvia was an independent Baltic republic ruled by a dictator, Dr. K. Ulmanis, who had dissolved by fiat all political parties five years earlier. The nation had become independent of the Russian Empire following its breakup following World War I, and its independence was guaranteed by the Soviet Union through two treaties, a League of Nations agreement of August 1920 and a Treaty of Guarantee of March 1927. Despite this, the German-Soviet Non-Aggression Pact of August 1939 secretly assigned Latvia to the Soviet "sphere of influence." Armed with this agreement, Joseph Stalin compelled Ulmanis to sign a Treaty of Friendship and Cooperation on October 5, 1939, which permitted the stationing of Soviet troops in Latvia. Also pursuant to the treaty, most of the German population was deported to Germany or Poland.

In June 1940, the Soviets commenced the full-scale occupation of Latvia, claiming that the country had defaulted on conditions of the treaty. In addition to the outright occupation, Soviet agents subverted the Latvian government through programs of intimidation, arrest, and assassination, culminating in fraudulent elections that created the Latvian Soviet Socialist Republic, which was absorbed into the USSR on August 5, 1940. Through July 1941, when the first period of Soviet occupation ended (replaced by German occupation), Latvia was subject to a reign of terror intended to force the assimilation of Latvia into the Soviet Union by crushing and obliterating all vestiges of nationalism.

The German occupation of Latvia began in July 1941 and did not end until April 1945, a month before the end of the war in Europe. Latvia was effectively annexed to the Third Reich as part of Reich Commissariat Östland. Many young Latvian men served willingly in German-controlled police and military units, eager to fight the Soviets, who had destroyed their country. Latvia even contributed two elite Waffen SS divisions. As in other occupied or annexed territories, the nation's Jews were rounded up and deported to concentration camps or, as in the ghetto of Riga (Latvia's capital), murdered in place.

Latvia was subject to a second Soviet invasion beginning in 1944, although the German occupation was not completely ended until April 1945. Those parts of Latvia reoccupied by the Soviets were again subjected to a reign of terror, the population starved by the forced collectivization of agriculture. After the war, Latvia was thoroughly subjugated under Soviet rule. In August 1991, during the rapid decline of Soviet communism, the Latvian legislature declared independence, which

the Soviet government recognized on September 6, 1991.

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Laval, Pierre (1883–1945) *collaborationist Vichy minister*

Born in Châteldon, France, Pierre Laval became a member of the French Socialist Party in 1903. He began practicing law in Paris in 1909 and earned national renown for his brilliant defense work on behalf of trade unionists, socialists, and other leftists. He was elected deputy for Aubervilliers in 1914 and consistently called for a negotiated peace to end World War I.

Laval lost his bid for reelection to the Chamber of Deputies in 1919 and left the Socialist Party the following year. Elected mayor of Aubervilliers in 1923, he held this title through 1944, even as he served in the national government. Laval achieved reelection to the Chamber in 1924 but resigned in 1927 to accept election as a senator. He served as minister of public works (1925), undersecretary of state (1925), minister of justice (1926), and minister of labor (1930). He became premier in 1931, but was defeated the following year and accepted an appointment as minister of colonies and, subsequently in 1934, as minister of foreign affairs. He once again became premier in 1935, but did not relinquish the foreign affairs post to a separate minister.

Deeply alarmed by the growing instability of Europe during the mid-1930s, Laval sought to build a strong relationship between France and the fascist Italy of Benito Mussolini. This effort was destroyed, however, by Italy's brutal invasion of Ethiopia in 1936. That same year Laval's cabinet collapsed.

Laval reentered French government in 1940 after the fall of France, becoming minister of state (vice premier) under Marshal Henri-Philippe Pétain. As the Germans swept through the nation during the Battle of France, Laval dissuaded the government from going into exile and successfully counseled leaders to negotiate an armistice with Germany for the purpose of ensuring the existence of a legal government empowered to negotiate favorable terms with Nazi Germany. Laval additionally persuaded the National Assembly to dissolve itself, thereby bringing the Third Republic to an end on July 10, 1940.

Laval was an extreme defeatist who believed that German victory in World War II was inevitable. He therefore held that the best course for France was to collaborate fully with the German victors. This, he believed, was the nation's only hope for the future. Accordingly, acting on his own, he commenced negotiations with the Germans for a full and final treaty of peace. Outraged by this presumption, Pétain dismissed Laval in December 1940, replacing him with Admiral François Darlan. His colleagues did not mourn his leaving. In April 1942, however, the Germans forced Pétain to recall Laval as premier, and Pétain himself withdrew into the role of a powerless figurehead in the Vichy government.

Laval realized that Germany by no means saw France as a political partner, and fearing that the nation would lose what little sovereignty remained to it, Laval decided to supply the German war machine with French laborers—in the hope that this would win the goodwill of Adolf Hitler. He made a radio address calling for volunteers and announcing his hope for a German victory.

Laval's many historical critics argue that his policies were as craven as they were fruitless. His few apologists counter that he did what he thought would salvage as much of France as possible. Whatever his motives, his control over the country steadily melted away, as the Vichy government was caught between a growing resistance movement, on the one hand, and an increasingly fanatical ring of German collaborators on the other.

Laval hung on until Germany surrendered to the Allies in May 1945. He then fled to Spain, which had been neutral during the war, and after prepar-

ing his defense, he returned to France to face trial in July 1945. Found guilty of treason, he was sentenced to death. He attempted suicide by poisoning, but was revived—only to be executed in Paris on October 15, 1945.

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Leahy, William (1875–1959) *close military adviser to Franklin Roosevelt*

Leahy graduated from the U.S. Naval Academy in 1897 and served during the Spanish-American War (1898), the Philippine Insurrection (1899–1901), and the Boxer Rebellion in China (1900). While he was commanding a navy transport during World War I, he met and was befriended by then Assistant Secretary of the Navy Franklin D. Roosevelt. The two remained close for the rest of Roosevelt's life.

Admiral William Leahy in 1935 *(U.S. Navy History Center)*

Leahy was promoted to admiral in 1936 and became chief of naval operations in 1937, serving in this capacity until his retirement (due to age) in 1939. Later that year, President Roosevelt appointed his old friend governor of Puerto Rico. In December 1940, he became ambassador to the Vichy government of France, but was recalled to the United States in April 1942 and, in July, was named chief of staff to the president, a new position FDR had created. Reinstated from military retirement, he served as chairman of the Joint Chiefs of Staff throughout most of the war.

Leahy was one of the president's closest wartime advisers and accompanied FDR to all of the major Allied conferences. He was promoted to fleet admiral in December 1944, in time to accompany Roosevelt to the ailing president's final conference, at Yalta, the following year.

President Harry S. Truman retained Leahy, although he did not enjoy the same degree of influence as under FDR. Retiring in 1949, he wrote a memoir of World War II entitled *I Was There* (1950).

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Lebensraum

A German word meaning "living space," *Lebensraum* became a key part of the Nazi vocabulary as a motive and justification for aggressive German expansion—primarily to the east.

The word and concept may have been used first by Rudolf Hess when he and Adolf Hitler were in Landsberg prison together following the failure of the Beer Hall Putsch of 1924. Hitler incorporated it into official policy as early as November 1937. For Hitler, colonization was not a satisfactory means of obtaining *Lebensraum.* He asserted that the needed space must be in Europe and must be contiguous with Germany. This, he

claimed, was also necessary for the security of Germany, and he repeatedly announced, in public, his intention to use whatever force was required to obtain *Lebensraum.*

Hitler's first explanation of the *Lebensraum* concept, in a secret meeting of November 1937, was recorded by his military adjutant, Colonel Friedrich Hossbach. Hossbach subsequently edited his notes of the meeting in what historians came to call the "Hossbach Memorandum." This document was offered at the Nuremberg War Crimes Tribunal as proof of the Hitler regime's deliberate intention to wage offensive war.

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Lebrun, Albert (1871–1950) *last president (1932–1940) of the French Third Republic when it fell to Germany*

Born at Mercy-le-Haut, France, Lebrun was trained as a mining engineer and was elected deputy for Lorraine in 1900. He became a senator in 1920 and president of the Senate in 1931. Lebrun also served as minister of colonies (1911–13 and 1913–14), minister of war (1913), and (during World War I), minister of blockade and of liberated regions (1917–19).

Lebrun was elected president of the republic in 1932 and was reelected in 1939. He was an agreeable man with no strong political convictions, and thus he made a pliable compromise candidate acceptable to all major French parties.

After the Germans defeated France in 1940, Lebrun acted without objection on his cabinet's decisions and thus concluded an armistice with Germany—although he did voice a preference for conducting a government-in-exile. In July, Lebrun voluntarily stepped aside to allow Marshal Philippe Pétain to assume leadership of the state. Retiring to Vizille near Grenoble, Lebrun was interned by the Germans at Itter in the Tirol during 1943–44.

Following the Normandy landings (D-day) and with the Allied liberation of France in progress, Lebrun endorsed General Charles de Gaulle as head of the provisional French government. At the end of the war, Lebrun published a memoir in an attempt to justify his actions in the aftermath of the Battle of France. Although he was not indicted for treason, he was generally held in popular contempt as an ineffectual leader in a time of grave crisis.

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Leclerc, Jacques-Philippe (Jacques-Philippe Leclerc de Hauteclocque [from 1945]) (1902–1947) *Free French army general*

Born into wealth and privilege as Philippe-Marie, vicomte de Hauteclocque, Leclerc was a graduate of the French military academy, Saint-Cyr, and the cavalry school, Saumur. At the commencement of World War II in 1939, he was an infantry captain and was wounded in battle. Captured by the Germans, he escaped to England. There he joined General Charles de Gaulle in London to take a command in the Free French Forces. He adopted the pseudonym Jacques-Philippe Leclerc to avert German reprisals against his prominent family still in France.

De Gaulle promoted Leclerc to colonel and sent him to French Equatorial Africa, where he proved to be a highly effective and dashing officer. He was quickly promoted to general, whereupon he led an extraordinary 1,000-mile march from Chad to Tripoli, Libya, so that he could join his forces to those of the British Eighth Army. En route, he engaged, defeated, and captured a number of Italian garrisons.

Leclerc participated in the Normandy landings (D-day) in command of a Free French armored division. It was to him, on August 25, 1944, that the German commander of the Paris garrison surrendered. In company with de Gaulle,

he entered Paris in triumph on the following day.

Leclerc liberated Strasbourg on November 23, 1944, and subsequently, in Germany, captured Berchtesgaden, the town above which Adolf Hitler had maintained his mountain retreat. After the surrender of Germany, Leclerc was assigned command of the French Expeditionary Force to the Far East in July 1945.

After the war, in March 1946, Leclerc was assigned duty in French Indochina. He judged the political situation there to be ultimately untenable, resigned, and, in July, assumed the post of inspector-general of French forces in North Africa. He died in an airplane crash and was posthumously promoted to marshal of France.

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Leeb, Wilhelm von (1876–1956) *German commander relieved by Hitler*

Leeb distinguished himself as a German officer in World War I and became a master theorist of defensive warfare. Between the wars, he rose rapidly, becoming a lieutenant general by 1934. Adamantly opposed to Adolf Hitler and the Nazi regime, he was forced into retirement in January 1938—at the rank of general. Months later, during the Czech crisis of August 1938, Leeb was recalled to command the Twelfth Army, which occupied the Sudetenland pursuant to the terms of the Munich Conference and Agreement. The crisis passed and Leeb returned to retirement, only to be recalled yet again at the outbreak of World War II in September 1939. He was assigned to command Army Group C, which was deployed on Germany's western front opposite the Maginot Line.

Leeb had strongly opposed "Fall Gelb," the German western offensive, arguing that violating Belgium's neutrality for the second time in the 20th century would turn the entire world against Germany. Accordingly, he supported General Franz Halder's proposed coup d'état against Hitler later in 1939. When the coup died aborning, Leeb went on to lead Army Group C with great success against the French, defeating them in Alsace-Lorraine during the Battle of France and earning promotion to field marshal in July 1940.

After the fall of France, Leeb's Army Group C was redesignated Army Group North, and Leeb led it in the invasion of the Soviet Union in June 1941. By September, Leeb was on the verge of taking Leningrad when Hitler ordered him to lay siege to the city instead of attacking. This was one of Hitler's great errors in the Russian campaign.

In January 1942, desperately defending against a Red Army counteroffensive, Leeb requested Hitler's permission to withdraw from the Leningrad front to make a more cohesive defensive stand. When Hitler refused, Leeb asked to be relieved of command, and he sat out the rest of the war. In October 1948, an Allied military court sentenced Leeb to three years' imprisonment for noncapital minor war crimes.

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Leigh-Mallory, Trafford (1892–1944) *commander in chief of the Allied Expeditionary Air Force during the Normandy Landings (D-day)*

Leigh-Mallory served in the British army as well as the Royal Flying Corps during World War I, then was among the first officers commissioned in the Royal Air Force (RAF), which was created in 1919. Leigh-Mallory rose rapidly in the interwar air arm, becoming an air vice marshal by 1938 with command of No. 12 Fighter Group. As commander of this unit, Leigh-Mallory participated in the Battle of Britain, with responsibility for the defense of the Midlands and, to some extent, support of No. 11 Fighter Group in southeast England.

Leigh-Mallory advocated what became known as "Big Wing" tactics. Whereas Air Vice Marshal Keith Park (commanding officer of No. 11 Fighter

Group) ordered German raids on Britain to be met by individual squadrons, which he considered the most flexible and effective means of response, Leigh-Mallory called for much larger formations, which would provide greater mutual protection and thereby reduce casualties. Leigh-Mallory and Park disputed this tactical point bitterly, and since the commander in charge of fighter command, Hugh Dowding, favored Park's approach, Leigh-Mallory's position became quite controversial. In November 1940 Dowding was replaced, and Park was transferred to a training command. This left Leigh-Mallory in position to promote his Big Wing tactics in offensives over France. Their effectiveness remains a subject of controversy to this day.

Leigh-Mallory was promoted to acting air marshal in July 1942 and, in August, commanded air operations in the ill-fated Dieppe raid. Named commander of Fighter Command in November 1942, he became commander in chief of the Allied Expeditionary Air Force for the Normandy Landings in December 1943. With this came promotion to air chief marshal.

His mission in Normandy accomplished by October 1944, Leigh-Mallory was transferred to the Southeast Asia Command as commander in charge of air operations. En route to his new command in November 1944, he was killed in an air crash.

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LeMay, Curtis (1906–1990) *commander, U.S. Twentieth Air Force*

LeMay was born in Columbus, Ohio. After failing to obtain an appointment to West Point, he enrolled at Ohio State University, leaving it after he completed an ROTC program. He joined the army in 1928 and became a cadet in the Air Corps Flying School that September. Earning his wings on October 12, 1929, LeMay was commissioned a second lieutenant in January 1930. He served with the 27th Pursuit Squadron, based in Michigan, and, over the next three years, completed the civil engineering degree he had begun at Ohio State, earning his diploma in 1932.

Curtis E. LeMay *(Library of Congress)*

During the Depression, LeMay worked with the Civilian Conservation Corps (CCC) and flew the air mails when President Franklin D. Roosevelt assigned army pilots to air mail operations in 1934. Promoted to first lieutenant in June 1935, LeMay attended an overwater navigation school in Hawaii. In 1937, he transferred from pursuit ships to bombers and was attached to the 305th Bombardment Group at Langley Field, Virginia. Here LeMay developed aerial techniques for locating ships at sea.

LeMay was among the first army pilots to fly the new B-17 bombers and led a flight of them on a goodwill tour to Latin America during 1937–38. He then enrolled in the Air Corps Tactical School during 1938–39 and was promoted to captain in

January 1940. Assigned to command of a squadron in 34th Bomb Group later that year, he was promoted to major in 1941.

After the United States entered World War II, LeMay rose rapidly, becoming a lieutenant colonel in January 1942 and a colonel just three months later. He assumed command of the 305th Bombardment Group in California in April and brought the unit to Britain as part of the Eighth Air Force. He worked to develop and perfect precision-bombing tactics by intense and comprehensive study of targets prior to missions and by employing the highly risky tactic of abandoning evasive maneuvering while over targets. Rigorous application of LeMay's techniques resulted in a doubling of the number of bombs placed on target.

In June 1943, LeMay became commander of the 3rd Bombardment Division, which he led in the famous "shuttle raid" against Regensburg, Germany, in August. In September, LeMay was promoted to temporary brigadier general, and in March 1944 to temporary major general. He was then sent to China to lead the 20th Bomber Command against the Japanese. LeMay transferred to command of the 21st Bomber Group, on Guam, in January 1945 and revolutionized bombing tactics using the B-29. He stripped the aircraft of defensive guns—as well as gun crews and ammunition—so that each ship could carry more bombs. Even more stunningly, he ordered these advanced high-altitude bombers to bomb from low altitudes for greater accuracy and to break formation. Air crews anticipated a slaughter, but, remarkably, survival rates actually increased—and bombing accuracy and effectiveness improved dramatically. Under LeMay, the 21st Bomber Group razed four major Japanese cities with incendiary bombs in attacks that proved far more destructive than the later atomic bombing of Hiroshima and Nagasaki, an operation also under LeMay's overall command.

In the late days of the war, in July 1945, LeMay was named commander of the Twentieth Air Force (20th and 21st Bomber Groups), then was appointed deputy chief of staff for research and development. He held this post through 1947, when he was promoted to temporary lieutenant general in the newly independent U.S. Air Force.

On October 1, 1947, LeMay took command of U.S. air forces in Europe and was a key planner of the great Berlin Airlift of 1948–49, the opening salvo of the cold war. In October 1948, LeMay returned to the United States as commander in charge of the newly created Strategic Air Command (SAC). He oversaw the entry of the USAF into the jet age with B-47 and B-52 bombers capable of virtually unlimited range by means of the in-air refueling techniques he was instrumental in developing. By the 1950s, LeMay oversaw the introduction of missiles into USAF's strategic arsenal.

Promoted to general in October 1951, LeMay was the youngest man to hold four-star rank since Ulysses S. Grant. He became vice chief of staff of the Air Force in 1957 and chief of staff in 1961. A right-wing conservative with an extremely prickly temperament, LeMay often found himself at odds with Presidents Kennedy and Johnson as well as with their secretary of defense, Robert S. McNamara. He retired from the USAF on February 1, 1965, and drew heavy criticism for becoming the running mate of segregationist third-party presidential candidate George Wallace in 1968.

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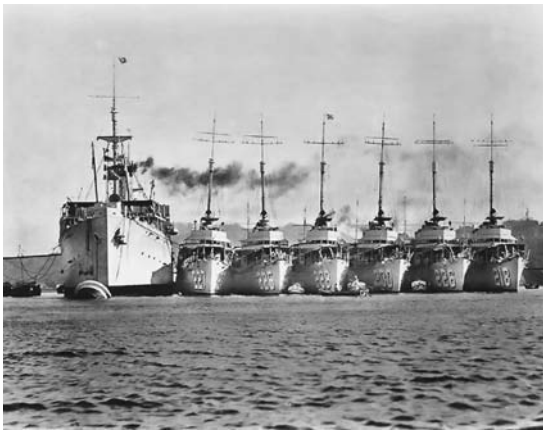
Lend-Lease Act

President Franklin Delano Roosevelt signed into law "An Act to Promote the Defense of the United States" on March 11, 1941, authorizing the president to aid any nation whose defense he deemed critical to that of the United States, despite U.S. neutrality. The act further authorized the acceptance of repayment "in kind or property, or any other direct or indirect benefit which the President deems satisfactory."

Well before the United States entered World War II, and while it was nominally neutral in that war, President Roosevelt committed the nation to aid the powers fighting Nazism and fascism. U.S.

law required that Great Britain, the first recipient of material war aid, acquire arms on a strictly cash-and-carry basis. By the summer of 1940, British prime minister Winston Churchill warned the Roosevelt administration that Britain would soon be incapable of making such cash payments. On December 8, 1940, President Roosevelt responded by suggesting the concept of lend-lease as an alternative to cash for arms. In return for arms supplied under lend-lease, including the delivery of 50 World War I–era U.S. destroyers to the Royal Navy, Britain granted the United States 99-year leases on military and naval bases located on British possessions in the Caribbean.

On February 23, 1942, after the United States had entered the war, the British and American governments concluded "Agreement Relating to the Principles Applying to the Provision of Aid in the Prosecution of the War." The agreement codified and clarified the provisions of the Lend-Lease Act, including such details as arrangements for payment to patent holders of various weapons systems, and it incorporated a statement on measures to promote worldwide economic cooperation.



The USS *Black Hawk* tends destroyers at Chefoo, China, a few years before World War II. These and other World War I–vintage ships were transferred to the British in the destroyers-for-bases program that preceded the Lend-Lease Act. *(National Archives and Records Administration)*

Lend-lease was authorized in response to the needs of Great Britain, but it was soon extended to China and the Soviet Union. By the end of the war, more than 40 nations had participated in lend-lease, having received aid valued at a total of $49,100,000,000.

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Leningrad, siege and relief of

Leningrad (now St. Petersburg) was one of the prime objectives of the German invasion of the Soviet Union. On July 8, 1941, the German Fourth Panzer Army severed the city's land contact with the Soviet interior by taking the fortress at Shlisselburg. The Finns, allied with the Germans, advanced to recover Karelia, which had been lost to the Soviets in the recent Russo-Finnish War. Having recovered this territory, however, Finnish forces did not push on to the city itself. Had they done so, Leningrad would probably have fallen early in the campaign.

By the middle of July 1941, German Army Group North was within 60 miles of Leningrad and, by the middle of September—following intensive long-range artillery bombardment, which commenced on September 1—it had largely enveloped the city.

Adolf Hitler was confident that the siege would quickly prove effective. The city had some 2.6 million inhabitants (of whom 100,000 were refugees from points west), but food stores were sufficient for only one, perhaps two months. It seemed a relatively easy matter to starve Leningrad into submission, but Hitler did not count on the endurance and resourcefulness of the Soviet people. Leningrad was the cultural and scientific center of the Soviet Union, and its proud citizens were determined to defend it. Scientists at the Leningrad Scientific

Institute rapidly developed a process for making flour out of shell-packing mixed with paste stripped from wallpaper. This significantly stretched meager food resources—as did the consumption of horses, dogs, cats, and rats. Additionally, small amounts of food and other provisions were brought across frozen Lake Ladoga—until November 9, 1941, when German forces captured Tikhvin, thereby cutting the route to the lake and rendering the German blockade apparently absolute.

After Tikhvin fell, the Soviets surreptitiously began cutting a road farther north, through forest lands. By the end of November, the road was partially ready, and supplies were once again transported via frozen Lake Ladoga. A relief convoy reached Leningrad on November 26 via this route, delivering 33 tons of food—a magnificent achievement but a supply that represented barely one-third of the city's daily requirement. When the forest road was completed on December 6, more food could be brought in, but by this time, Soviet forces had retaken Tikhvin, which once again opened the shorter route. Nevertheless, food rations remained barely above starvation level throughout the siege.

Soviet forces attempted to lift the siege with operations conducted during January–April 1942, but the Germans held. The Soviet Baltic fleet was the key military means of defending the city, supplemented by coastal artillery and aircraft. Despite all defensive efforts, however, the Germans landed some 150,000 artillery shells in Leningrad and dropped some 4,600 bombs.

On January 12, 1943, Red Army troops from within Leningrad (the Sixty-Seventh Army) and outside (the Second Shock Army) launched Operation Iskra (Spark) in a major effort to lift the siege. By January 18, 1943, advance units of these armies met just outside the city and forced a passage five to seven miles wide, through which the troops built a railroad and vehicle road in a mere 17 days. This was the first major break in the blockade. But it was not until February 1944 that the Red Army finally succeeded in driving out Army Group North, thereby ending the 900-day siege of Leningrad.

According to Soviet authorities, the total cost to the city was about 632,000 killed, almost all civilians. Western historians believe the actual number of dead was closer to 1 million.

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Leyte, Battle of

General Douglas MacArthur, supreme Allied commander in the Pacific, was eager to begin the campaign to retake the Philippines, which he had been forced to abandon at the beginning of the war. His forces had captured Morotai, between New Guinea and Mindanao, even as the III Marine Corps had conquered Peleliu and Angaur in the central Pacific. This put U.S. land forces in a position to begin the reconquest of the Philippines. However, after Admiral William "Bull" Halsey, in command of the Third U.S. Fleet, encountered little Japanese opposition at the Battle of Mindanao during September 9–10, 1944, MacArthur resolved to bypass the southern Philippines and make a direct assault on Leyte, in the center of the Philippine island group. Supporting the invasion was the spectacular naval Battle of Leyte Gulf.

The invasion was to be carried out by the Sixth U.S. Army under Walter Krueger with XXIV Corps (John Hodge) and X Corps (Franklin Sibert). Opposing Krueger was the Thirty-fifth Japanese Army (Suzuki Sosaku). The U.S. landings were carried out by the U.S. Seventh Fleet (Thomas Kinkaid) with air defense supplied by naval aviators as well as the Southwest Pacific Air Forces (George Kenney).

On October 17–18, army Rangers took the small islands guarding the eastern entrance to Leyte Gulf. The navy launched a two-hour bombardment on October 20, after which four infantry divisions landed on the east coast of Leyte between Tacloban and Dulag, 17 miles to the south. Two divisions of X Corps on the right and two divisions of XXIV Corps on the left fought inland from the beachheads in a four-day battle that secured operational airfields. It was November 2 before Sixth

Army gained control of the Leyte Valley, from Carigara on the north coast to Abuyog in the southeast. After this, on the left, the 7th Infantry crossed the island to Baybay on the west coast.

Progress had been slow but substantial. However, torrential rains and increased resistance from consolidated Japanese forces in the mountainous interior brought the American advance to a crawl. Determined to prevent the Americans from taking the Philippines, YAMASHITA TOMOYUKI, the Japanese commander in charge of the islands, funneled reinforcements to Leyte from surrounding islands. Between October 23 and December 11, about 45,000 Japanese troops landed at Ormoc on the island's west coast—even though the U.S. Navy had decimated Japanese sea forces.

Recognizing the urgent necessity of stopping the Japanese buildup, General Krueger launched a two-pronged offensive into the Ormoc Valley beginning in November. On the right, X Corps, reinforced by the 32nd Infantry Division, attacked the village of Limon, which was the northern entryway into the valley. Limon did not fall until December 10. On the left, the 11th Airborne Division joined XXIV Corps, as the 7th Infantry made a thrust across the island, at Balogo, on November 22. Two weeks after this, the main assault on Ormoc got under way when the 77th Infantry landed at Ipil. Ormoc was secured by December 10, and the 77th made contact with the 7th Division. The two units now advanced up both ends of the Ormoc Valley and converged at Libungao on December 20. Six days later, on Christmas Day, Palompon, the last Japanese-held port on Leyte, fell. On December 26, the Eighth U.S. Army (ROBERT EICHELBERGER) assumed command on the island (as XXIV Corps left for the OKINAWA CAMPAIGN) and spent the next four months in difficult mop-up operations.

Victory on Leyte cost the Americans 15,584 casualties, including 3,584 killed; Japanese losses totaled more than 70,000 men.

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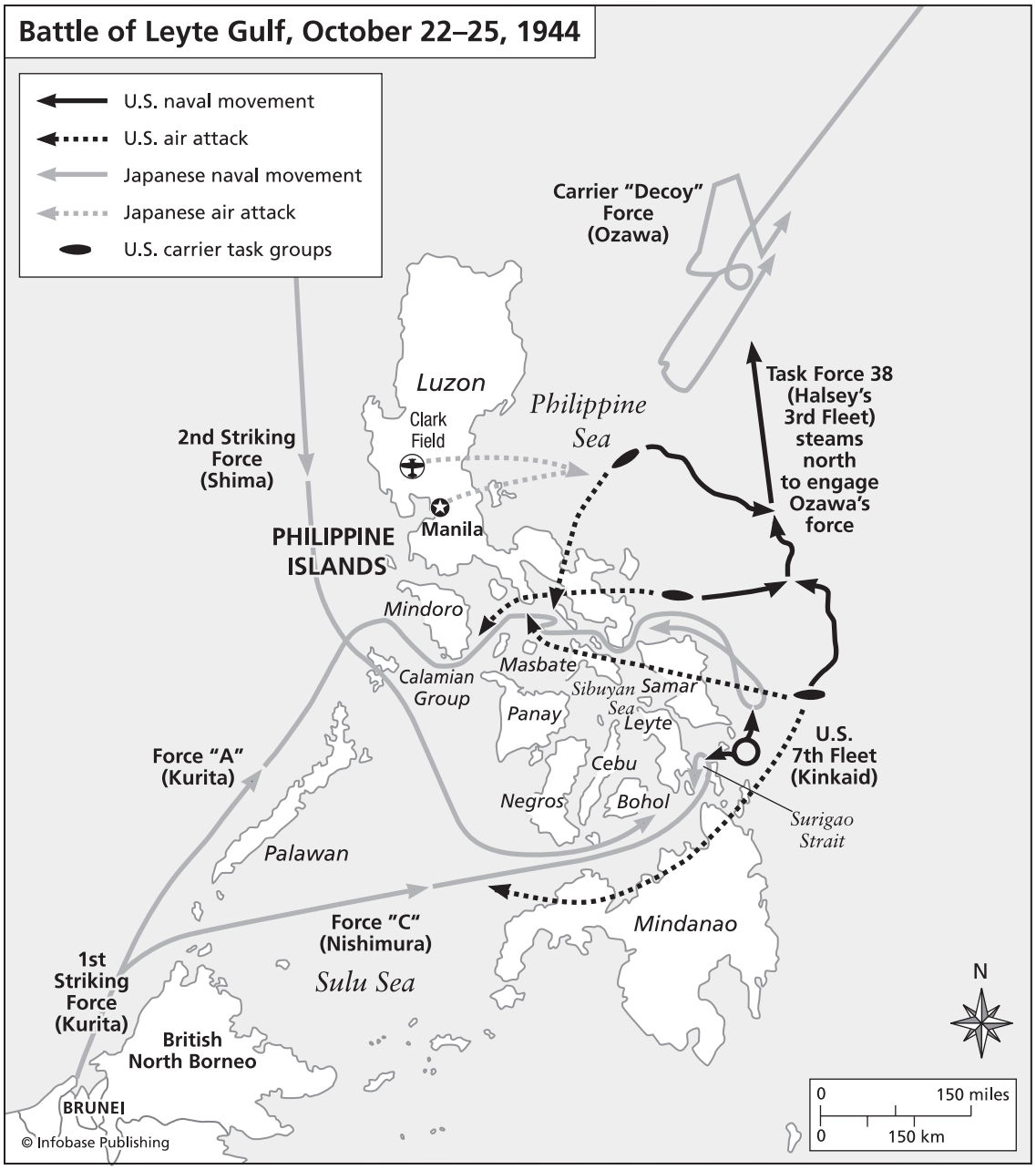
Leyte Gulf, Battle of

The Battle of Leyte Gulf was fought during October 23–26, 1944, in response to the attempt of Japanese naval forces to disrupt and destroy U.S. landings on the Philippine island of Leyte. The Battle of Leyte Gulf developed into the largest naval battle of any war and was also distinguished by the first KAMIKAZE attacks.

Learning where the American landings on Leyte were to take place, Admiral Toyoda Soemu, commander in charge of the Japanese Combined Fleet, launched Operation Sho-Go (Victory), by which he intended to draw the Third U.S. Fleet (under Admiral WILLIAM "BULL" HALSEY) into battle north of Leyte Gulf so that the Japanese naval forces could catch the landing forces as well as the smaller Seventh U.S. Fleet (under Vice Admiral THOMAS KINKAID), which was covering the landing, in a massive double envelopment, or pincers. Whereas in previous battles, U.S. Navy commanders had enjoyed the advantage of ULTRA decrypts, which gave them extensive knowledge of Japanese radio communications, the Japanese changed codes before Leyte Gulf and maintained a high degree of radio silence. Toyoda's trap very nearly succeeded.

Toyoda assigned Vice Admiral OZAWA JISABURO, commander in charge of the Mobile Force, tactical command of Operation Sho-Go. Ozawa divided his ships, including the two largest battleships ever built, *Yamato* and *Masashi,* five conventional battleships, and 16 cruisers, into two striking forces, under Vice Admirals KURITA TAKEO and Kiyohicle Shima. Ozawa himself led a decoy fleet, including four aircraft carriers, to lure Halsey to the north while Kurita and Shima closed the pincers. A portion of Shima's force, in company with a number of Kurita's ships (under Vice Admiral Shejo Nishimura), were detailed to sail into the Leyte Gulf via Surigao Strait, while Kurita approached the gulf by way of the San Bernardino



Strait. The rest of Shima's force escorted Japanese troop reinforcements to Leyte Island.

On October 24, Task Force 38, under Vice Admiral Marc Mitscher, launched air strikes against Kurita as his ships crossed the Sibuyan Sea, sinking one battleship, damaging others, and prompting Kurita to reverse course for a time. Kurita's excess of caution put him behind schedule,

but Halsey overestimated the damage that had been done to him and discounted Kurita as a threat. This played into the Sho-Go plan. With Kurita apparently out of the way, Halsey pursued Ozawa's decoy fleet.

The trap was set, but U.S. PT boats (followed by destroyers, then battleships and cruisers) attacked Nishimura as he entered Surigao Strait on the night of October 24. Nishimura was killed and all ships but a single destroyer of his force were sunk. Shima, who had been following Nishimura, withdrew without joining the fight. Thus one arm of the Japanese pincer was destroyed. Nevertheless, the other arm, Kurita's force, was still intact; Kurita sailed into the gulf via the San Bernardino Strait on the morning of October 25. A U.S. escort carrier group under Rear Admiral Clifton Sprague sighted the force off Samar Island. Both the American and the Japanese commanders were taken by surprise, but Kurita assumed that Sprague's ships were part of a much larger force and therefore ordered his ships to attack independently rather than risk committing his entire force. Had he used all that was available to him, he could easily have destroyed Sprague's outnumbered, outgunned escort carriers. As it turned out, however, in independent action Sprague's aircraft sunk two Japanese cruisers, and torpedo fire from a U.S. destroyer damaged a third cruiser. Sprague lost two of his escort carriers, one of them to a kamikaze attack. Two of his destroyers and a destroyer escort were also sunk, while a number of other ships sustained serious damage. It was perhaps the most desperate naval engagement of the Pacific war, but Kurita, presumably short on fuel—and doubtless still fearing the presence of a larger force—suddenly broke off the engagement and withdrew.

In the meantime, Admiral Kinkaid had radioed Halsey, who was in fighting pursuit of Ozawa, for aid. Halsey responded by sending one of Mitscher's task groups south to engage Kurita. Yet he apparently did not fully realize the desperate nature of the situation in Leyte Gulf and therefore retained some ships under Rear Admiral Willis A. Lee to continue the fight against Ozawa (who had already lost four carriers to Mitscher), rather than send them south to cut off Kurita's escape. Only after Lee was within range of what remained of Ozawa did Halsey, at last waking to the full danger to the Leyte landings and the U.S. Seventh Fleet, order Lee to break off and steam south as well. A smaller force continued to pursue Ozawa, and two more ships were sunk, but Ozawa nevertheless managed to escape complete annihilation. As for Lee, the delay imposed by Halsey meant that he arrived in the gulf too late to intercept Kurita.

The Battle of Leyte Gulf was a great American victory, albeit flawed by Halsey's misjudgment. The Japanese lost three battleships, four aircraft carriers, 10 cruisers, and nine destroyers as well as many aircraft. Most important, the Japanese failed to disrupt the Leyte landings, thereby virtually ensuring that the Americans would retake the PHILIPPINES.

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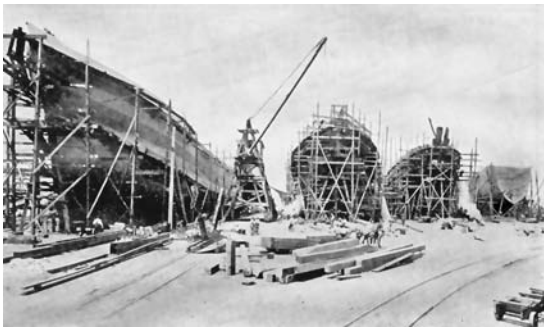
Liberty ships

From early in the Atlantic war, German U-boats took a terrible toll on Allied cargo transports plying the waters between the United States and Britain as well as between the United States and the Soviet Union. The ships were sunk faster than they could be built. In September 1940, well before the United States entered the war, Britain ordered 60 transports from the United States, supplying to the shipyards a radically simple design that lent itself to rapid construction. The single most important innovation was the use of welded rather than riveted plates. Welding greatly speeded construction but made for a far less durable ship. The British designers reasoned, however, that few vessels would survive the hazards of war long enough to create serious stress on the welded joints.

American designers, particularly those who worked for industrial giant Henry J. Kaiser, adapted

and greatly modified the British plans, building ships at an even faster rate than the British had contemplated. In January 1941, the United States, girding for war, launched its own emergency construction program calling for 200 vessels. These were referred to as the "The Liberty Fleet," and the name "Liberty ship" was used to describe these cheap, ugly, slow transports—the first generation were 7,126-ton vessels, making no more than 11 knots—which were produced by mass-production factory methods to prefabricate large subassemblies put together at shipyards on the West and East Coasts. The ships were, sailors said, "built by the mile and chopped off by the yard." The first of the American vessels, *Patrick Henry,* was launched on September 27, 1941.

Although all were based on the same prefabricated structural plan, Liberty ships came in different lengths and were readily modified for different uses, including freight transportation (the most common use), fuel transport, troop transport, tank transport (so-called "zipper ships"), and tender (floating repair) vessels. Some were even constructed as hospital ships. In all, 2,710 liberty ships were launched. Kaiser and other shipyard owners engaged in heated competitions to prove who could build ships the fastest. The record was an incredible four days, 15.5 hours from the laying of the keel to launch. The ships were customarily named for prominent Americans.



Liberty ships under construction on Puget Sound *(Author's collection)*

The Liberty ship *Jeremiah Bryan* moored behind the submarine *Pampanito (U.S. Navy)*

The Liberty ships were a tremendous success and served as a lifeline to Britain and, to a lesser extent, the Soviet Union. Two hundred of the vessels were given to Britain and 50 to the USSR as part of the Lend-Lease program. Many of the other vessels were ultimately lost at sea, most of them victims of torpedo attack, but one in 30 succumbed to the inherent structural weakness of welded construction. The Liberty ships were lightly armed (and carried U.S. Navy gun crews). One, the *Stephen Hopkins,* earned the unique distinction of actually sinking an enemy combatant, a German auxiliary cruiser, with its single four-inch gun.

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Liddell Hart, Basil (1895–1970) *Allied adviser on armored warfare doctrine*

One of the most important writers on armored warfare doctrine before and during World War II, Basil Liddell Hart was the son of the Reverend Henry Hart and Clara Liddell, and was educated at St. Paul's School and Corpus Christi College, Cambridge. He left the university to join the British army in World War I, earning a commission as an officer in the King's Own Yorkshire Light Infantry. Twice wounded, he fought at Ypres and the Somme.

After the war, Liddell Hart wrote the *Infantry Training Manual* in 1920, was invalided out of the army in 1924, and became military correspondent for the *Daily Telegraph* (1925–35), *The Times* (1935–39), and the *Daily Mail* (1939–45). During these years, he was Britain's best-known writer on military topics and wrote extensively on the deployment of tanks as a striking force independent from the infantry. Whereas accepted British doctrine subordinated armor to an infantry support role, Liddell Hart advocated using tanks independently to make deep penetrations into enemy territory so as to cut off enemy troops from their supplies and higher command.

German generals and military planners read Liddell Hart avidly, using his ideas to develop their own devastatingly effective doctrine of the BLITZKRIEG. Ironically, British commanders largely ignored his ideas on armored warfare before World War II, although Liddell Hart did serve Britain's Secretary of State for War Leslie Hore-Belisha as military adviser from 1937 to 1940.

In addition to his doctrinal writing, Liddell Hart was an important military historian, specializing in the history of World War I. After World War II, he interviewed key German commanders for his provocative *The Other Side of the Hill* (1948).

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List, Siegmund Wilhelm von (1880–1971) *important German commander*

List entered the German army in 1898 and served as a staff officer during World War I. He commanded the German forces sent into Austria following the *ANSCHLUSS* of March 1938. Promoted to general in April 1939, he commanded the Fourteenth Army during the INVASION OF POLAND, which started World War II during September–October 1939. On the western front, he led the Twelfth Army during the BATTLE OF FRANCE in June 1940.

List was given the baton of field marshal in July 1940 and, still in command of the Twelfth Army, fought in the Balkans from June to October 1941. In July 1942, List was succeeded by General Alexander Löhr as commander in charge of the Southeast, the Balkan theater commander. He then assumed command of Army Group A in the Soviet theater.

List was tasked with capturing Rostov-on-Don, then advancing to the Caucasus. His offensive faltered then failed, however, and ADOLF HITLER relieved him of command in September 1942, whereupon List retired. He was tried by the U.S. military for war crimes in 1948 and sentenced to life imprisonment for atrocities perpetrated in the Balkans and Greece. In 1952 he was pardoned and released.

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Lithuania

At the start of World War II, Lithuania, the largest of the three Baltic states, was a republic ruled by the dictator Antanas Smetona. The Smetona government had cordial relations with the Soviets, the nation's independence guaranteed by a treaty signed with the Soviet Union in July 1920 and reaffirmed by a Soviet-Lithuanian nonaggression pact concluded in 1926 and extended in 1934 for a 10-year period. Prewar relations with Poland, in contrast, were tense. Lithuania sought the return of its

historical capital, Wilno (Vilnius), which had been annexed by Poland in 1922. In January 1939, Poland issued an ultimatum forcing an end to the technical state of war that existed between it and Lithuania over the Wilno issue.

Lithuania's bow to Poland revealed just how precarious its claims to sovereignty were on the eve of World War II. On March 22, 1939, German forces annexed the Memel strip, to which Lithuania laid claim. Even more high-handedly, the German-Soviet Non-Agression Pact of August 1939 peremptorily assigned Lithuania to the German sphere of influence. When the Germans and Soviets invaded Poland in September 1939, however, it was Soviet troops that occupied Wilno. On September 28, the secret German-Soviet Treaty of Friendship and Demarcation transferred Lithuania to the Soviet sphere. The Soviets subsequently agreed to honor Lithuanian claims on Wilno in return for permission to station Soviet troops in Lithuania. Outwardly, this gave the appearance of most cordial relations between the USSR and Lithuania; in reality, Lithuania had become a Soviet puppet, and when the Soviet army entered the country in June 1940, Soviet agents undermined what remained of the Lithuanian government, arrested dissidents and nationalists, and conducted fraudulent elections. On August 5, 1940, Lithuania ceased to be an independent republic and was annexed to the USSR as the Lithuanian Soviet Socialist Republic.

The first period of Soviet occupation, from June 1940 to June 1941, saw mass terror, including the wholesale destruction of Lithuanian cultural and political institutions in an attempt to force assimilation into the Soviet state. All Germans living in the country were deported to Germany.

In June 1941, with Germany's invasion of the USSR, the German occupation of Lithuania began and did not end until July 1944. Lithuania was annexed to Germany as part of the Reich Commissariat Ostland. Lithuanian police and military units were formed under direct German command and were shipped to the Soviet front, and a Lithuanian Division was incorporated into the Waffen-SS. The Holocaust came to Lithuania with ruthless speed, as Lithuanian police and the German military rounded up the country's large Jewish community and concentrated it for the most part in ghettos created in Wilno and Kaunas, the capital. They were then variously murdered.

The second Soviet occupation commenced in April 1944. While it liberated the nation from Nazi terror, it reintroduced Soviet terror, including a program of forced agricultural collectivization, which brought Lithuania to near starvation. Poles remaining in the country were deported, and the Catholic Church, a central feature of Lithuanian life, was mercilessly purged and persecuted.

World War II reduced the population of Lithuania by a quarter and probably even more, largely as a result of the loss of its German, Jewish, and Polish components. The nation remained a Soviet republic until March 11, 1990, when a newly elected parliament declared independence. Central authorities of the rapidly declining Soviet Union intervened militarily, but on September 6, 1991, the Soviet parliament acknowledged Lithuania's independence.

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Litvinov, Maxim (1876–1951) *Soviet minister to the United States, foreign minister*

Litvinov became a Marxist early in life, joining the Russian Social-Democratic Workers' Party in 1898. Arrested for subversive activity in 1901, he escaped and took refuge in Britain in 1902. He became a Bolshevik after 1903 and was a prominent Communist activist throughout Europe. After the Russian Revolutions of 1917 and the Bolshevik seizure of power, Litvinov was named the new regime's diplomatic representative in London. He was arrested by British authorities in October 1918, however, for engaging in illegal propaganda activities. In January 1919, he was exchanged for Robert Bruce Lockhart, a British journalist who led a special mission to the Soviet Union in 1918.

After this exchange, Litvinov returned to the USSR as a member of the Commissariat for For-

eign Affairs. He became prominent in the international disarmament movement that followed World War I, and led the Soviet delegation to the preparatory commission for the League of Nations' World Disarmament Conference during 1927–30. The disarmament programs he advocated were the boldest and most extensive of any on the table.

In 1932, Litvinov was the principal Soviet delegate to the Geneva World Disarmament Conference, and he also headed the Soviet delegation to the 1933 World Economic Conference in London. He was the prime negotiator of the diplomatic relations that were established between the Soviet Union and the United States in 1934.

As Adolf Hitler came to power in Germany, Litvinov attempted to move the League of Nations to mount an effective resistance to the rise of Nazism during 1934–38. At the same time, he negotiated anti-German treaties with France and Czechoslovakia during 1935. In the political climate created by the appeasement policy advocated by Britain and France, in which Joseph Stalin also sought rapprochement with Hitler, the Jewish and resolutely anti-German Litvinov was dismissed from the Soviet government on May 3, 1939. He was both vindicated and reinstated in 1941, however, following the German invasion of the Soviet Union. Litvinov was appointed ambassador to the United States, serving from November 1941 to August 1943, then recalled to the Soviet Union to become deputy commissar for foreign affairs. He retired from government after the war, in August 1946.

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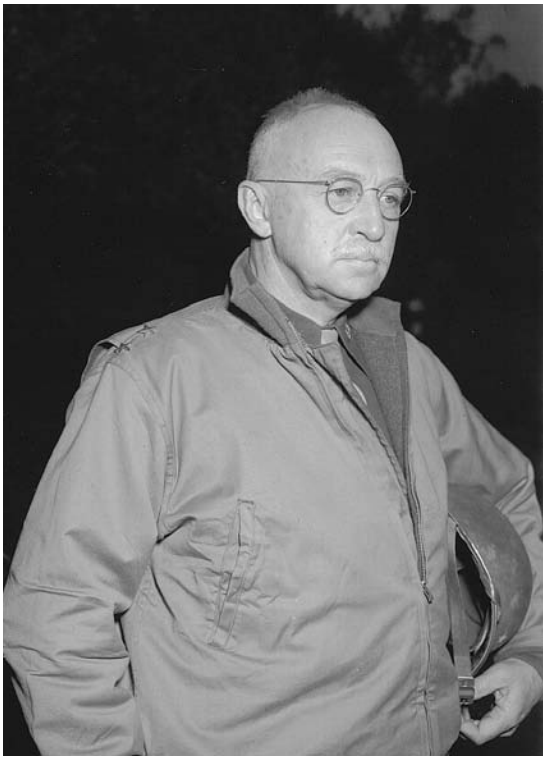
London Blitz *See* Blitz, The.

Lucas, John Porter (1890–1949) *U.S. general replaced at Anzio*

Born in Kearneysville, West Virginia, Lucas graduated from West Point in 1911 and, as a second lieutenant in the cavalry, was posted to the Philippines from December 1911 to August 1914. Back in the United States, he was assigned to the 13th Cavalry at Columbus, New Mexico, during the revolutionary violence in Mexico, which often spilled across the border. Lucas was a first lieutenant in 1916 and in command of the 13th Cavalry's machine-gun troop when the Mexican revolutionary Pancho Villa raided Columbus on March 9, 1916. Lucas and his unit played a major role in driving off Villa and his raiders. Lucas then served under John J. Pershing in the Punitive Expedition in pursuit of Villa (March 15, 1916–February 5, 1917).



John Lucas *(National Archives and Records Administration)*

After promotion to captain, Lucas was appointed aide-de-camp to Major General George Bell, headquartered at El Paso, Texas, during February–August 1917. When the United States entered World War I, Lucas, promoted to temporary major,

was attached to the 33rd Infantry Division and, in January 1918, assigned command of the division's 108th Field Signals Battalion. By the time the division was shipped to France in May 1918, Lucas had been promoted to temporary lieutenant colonel. He fought with distinction and was so seriously wounded in combat near Amiens that he was forced to return to the States.

By the time of the armistice in November 1918, Lucas was sufficiently recovered to be assigned duty in Washington, D.C. He reverted to his Regular Army rank of captain and taught military science at the University of Michigan (1919–20). In 1920, he transferred to the field artillery and was promoted to major. After graduating from the Field Artillery School in June 1921, he served as an instructor there during 1921–23. In June 1924, Lucas graduated from the Command and General Staff School, then served as professor of military science and tactics at Colorado Agricultural College from 1924 to 1929, when he was assigned to command the 1st Battalion, 82nd Field Artillery, at Fort Bliss, Texas.

Lucas left Fort Bliss in June 1931 to enroll in the Army War College, from which he graduated in June 1932. Posted to the Personnel Division (G-1), of the War Department General Staff in 1932, he was promoted to lieutenant colonel in 1935, then, in 1936–37, commanded the 1st Field Artillery Regiment at Fort Bragg. From December 1937 to July 1940 he served on the Field Artillery Board.

After brief service as commander of the 4th Field Artillery in 1940, Lucas was promoted to brigadier general and assigned command of the 2nd Infantry Division. In July 1941, Lucas transferred to command of the 3rd Infantry Division and was promoted to temporary major general on August 5. After conducting successful amphibious maneuvers in Puget Sound, he was assigned command of III Corps, based in Georgia, during April 1942–May 1943.

In the spring of 1943, Lucas was sent to England as a staff officer to the supreme Allied commander, Europe, General Dwight D. Eisenhower. In September, he was transferred to a field command as commander of VI Corps, Fifth Army, and led these troops in the Italian Campaign through fighting at Campania and to the Venafro line. Lucas was next assigned to land his corps at Anzio (January 22, 1944) during the Anzio Campaign in an effort to swing around the German defenses to take Rome. The methodical Lucas moved with an excess of caution (in large part because higher command had never made his objectives clear) and proved unable to do more than secure a beachhead before German forces blocked him. This brought intense criticism from the British Mediterranean Theater commander, General Harold Alexander, and prompted Eisenhower to replace Lucas with the more aggressive Lucian K. Truscott. Lucas was returned to the United States, where he was assigned in March to command the Fourth Army in Texas.

Following the war, from June 1946 to January 1948, Lucas served as chief of the U.S. military advisory group to the Nationalist (Kuomintang—KMT) forces of Generalissimo Chiang Kai-shek in his struggle against the Communists during the civil war in China. Promoted to the permanent rank of major general (retroactive to August 1944) at the end of his Chinese assignment, Lucas returned to the United States as deputy commander of the Fifth Army, headquartered in Chicago, and served in this capacity until his death.

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Lumsden, Herbert (1894–1945) *British commander in France and North Africa*

Born in 1894, Lumsden did not join the British army until the outbreak of World War II in 1939. A colonel leading an armored car regiment, Lumsden was part of the British Expeditionary Force sent to fight the Battle of France. He distinguished himself during the Dunkirk evacuation.

In January 1942 Lumsden led the 1st British Armored Division in the North African Cam-

paigns, but was severely wounded early in the fighting. He returned to duty in May 1942 and, after Neil Richie, his commanding officer, was defeated at the Battle of Gazala (near Tobruk, Libya) in June, the new Eighth Army commander, Bernard Law Montgomery, promoted him to command of the new X Corps. Although Lumsden incurred heavy losses in the battle at Kidney Hill during October 27–November 4 (see El Alamein, Battles of), he achieved his objective, breaking through the Afrika Korps lines and taking El Agheila.

Lumsden and Montgomery were both strongly individualistic commanders, who, following El Alamein, fell to disputing over the conduct of the Desert War. At length, on December 13, 1942, Montgomery relieved Lumsden and replaced him with Brian Horrocks.

A tough fighter, Lumsden earned the admiration of Prime Minister Winston Churchill, who sent him in 1944 to serve on the staff of Douglas MacArthur in the Pacific theater. On January 6, 1945, while aboard the USS *New Mexico* observing the bombardment of Lingayen Gulf (see Philippines, fall and reconquest of), Lumsden was mortally wounded in a kamikaze attack. He was buried at sea.

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Luzon, Battle of

Victory on land at the Battle of Leyte, in concert with the naval victory in the Battle of Leyte Gulf, was the opening act in Douglas MacArthur's promised return to the Philippines. These two battles allowed MacArthur to launch an amphibious invasion of Luzon, the principal island of the vast Philippine archipelago.

Preliminary to the invasion of Luzon was the landing by U.S. Eighth Army units under Robert Eichelberger on Mindoro, south of Luzon, on December 15, 1945. At San José, the infantry secured a large beachhead and immediately scratched out two airfields to accommodate air support for the Luzon operation.

On Luzon, Japanese general Yamashita Tomoyuki prepared his defenses by dividing the Fourteenth Japanese Army into three defensive groups: Shobu (140,000 men) in the north, Kembu (30,000) in the center, and Shimbu (80,000) in the south. The Japanese also unleashed a massive kamikaze campaign against the ships of the Third Fleet (under William Halsey), which furnished carrier-launched air support, and the Seventh Fleet (Thomas Kinkaid), which provided principal transport for the U.S. Sixth Army invaders under Walter Krueger. Kamikaze attacks sank 20 U.S. ships and severely damaged another 24.

Krueger landed at Lingayen Gulf on January 9, 1945—68,000 men in that first day—and immediately began a drive inland, penetrating 40 miles by January 20. I Corps, which pushed eastward, encountered the heaviest initial opposition from Yamashita's Shobu Group. Eichelberger kept pouring in reinforcements, including the 158th Regiment, the 25th Infantry Division, and the 32nd Infantry Division. (Notably, during this titanic battle, a detachment of army Rangers staged a raid behind Japanese lines to liberate several hundred Allied prisoners at Cabanatuan.)

While I Corps and its reinforcements slugged it out with Shobu group, XIV Corps, to the right of I Corps, advanced rapidly southward across the Central Plain of Luzon. It reached Clark Field—held by the Japanese since the beginning of the war—on January 23 and, within a week, secured this major base installation while also penetrating 25 miles farther south to Calumpit.

To the right of XIV Corps, XI Corps landed at San Antonio on January 29 and squared off against Kembu group. Fighting in concert with Filipino guerrillas, the 38th and 24th Infantry divisions of XI Corps sealed off the Bataan Peninsula after Bataan and Corregidor had been liberated. On February 2, Krueger sent XIV Corps on a rapid advance to Manila, the 1st Cavalry Division reaching the outskirts of the Filipino capital on the night of February 3–4, liberating 3,500 Allied prisoners

held at Santo Tomas University. On the following night, the 37th Infantry advanced into northwestern Manila and liberated another 1,300 prisoners from Bilibid Prison.

The Japanese withdrew behind the Pasig River, where they mounted a desperate resistance, holding off the U.S. advance for a month and, in the process, razing most of Manila. In this combat of attrition, 16,000 Japanese defenders died before Manila fell to U.S. forces on March 4.

During the fight for Manila, I Corps, to the north, struggled against the Shobu group defenses in rugged mountainous terrain. The 6th Infantry broke through Bongabon to the east coast on February 14, 1945, then moved to the Manila front. Baguio, the Philippine summer capital, fell on April 27, followed by Santa Fe, a major Japanese communications center, on May 27. These two cities taken, the 37th Division advanced down Cagayan Valley, by June 26 splitting the Shobu group in two, rendering both fragments incapable of mounting any significant counterattack.

In the meantime, to the south—east of Manila—XI Corps confronted the Shimbu group's defensive line. The 6th and 43rd Infantry and the 1st Cavalry became all but stalled in the Sierra Madre, pushing back Japanese defenders by inches. Elements of XIV Corps also drove southeast toward and down the Bicol Peninsula, where resistance was not ended until June 1.

On July 1 the Eighth Army took over the campaign on Luzon, freeing up the Sixth Army for the planned invasion of Japan scheduled to begin in the fall. On July 4, General MacArthur declared Luzon secure.

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M

MacArthur, Douglas (1880–1964) *supreme commander, Allied forces in the Southwest Pacific*

Douglas MacArthur was literally born into the United States Army, at Little Rock Barracks, Arkansas, the son of Arthur MacArthur, destined to earn the Medal of Honor and become the army's senior-ranking officer. MacArthur received an appointment to West Point, from which he graduated in 1903, first in his class. Commissioned a second lieutenant of engineers, he was sent to the Philippines, then served as aide-de-camp to his father during a military tour of Asia in 1905–06. In 1906, he was appointed aide to President Theodore Roosevelt and served until the following year, when he was given command of a company of the 3rd Engineers at Fort Leavenworth, Kansas, through 1909. He taught at the General Service and Cavalry Schools from 1909 to 1912, then was appointed to the General Staff, serving from 1913 to 1917. During this period, MacArthur fought in the military intervention at Veracruz, Mexico, during April–November 1914.

When the United States entered World War I in April 1917, MacArthur took a leading role in the creation of the 42nd "Rainbow" Division. He served as the division's chief of staff when it was sent to France in October 1917. MacArthur saw action at Aisne-Marne (July 25–August 2), then commanded a brigade during the assault on the Saint-Mihiel salient from September 12 to September 17. He also led a brigade at Meuse-Argonne (October 4–November 11, 1918) and commanded the entire Rainbow Division in the "race to Sedan" at the end of the war (November 6–11). MacArthur served with occupation forces in Germany after the armistice. On his return to the United States in April 1919, he was appointed superintendent of West Point.

MacArthur left West Point in 1922 to accept a command as major general in the Philippines. He

MacArthur observes Philippine operations with Vice Admiral Thomas Kinkaid, February 1944. *(National Archives and Records Administration)*

remained there until January 1925, returning to the United States until 1928, when he went back to the Philippines as commander of the Department of the Philippines through 1930. When he returned to the United States again in 1930, it was as chief of staff of the U.S. Army, the most senior post in the service.

In 1932, while serving as chief of staff, MacArthur personally led a detachment of troops to suppress the so-called Bonus Army (World War I veterans who demanded early payment of promised government moneys during the worst of the Great Depression) and drive them out of Washington, D.C. MacArthur exceeded his orders, acting not only against the Bonus marchers in the city, but raiding and razing an encampment just outside of town, at Anacostia Flats. Unseemly and brutal, the action brought upon MacArthur considerable negative publicity.

In October 1935, MacArthur stepped down as chief of staff to return to the Philippines to organize its military defenses in preparation for its assumption of full independence from the United States. When the new government of the Philippine Commonwealth bestowed on MacArthur the grandiose title of field marshal in August 1936, he resigned his U.S. Army commission to accept the appointment. Although he did not want to be transferred from the Philippines before completing preparations for its defense, MacArthur did accept recall to American service on the eve of war with Japan (July 26, 1941). He was promoted to lieutenant general and given overall command of U.S. Army Forces in the Far East (USAFFE), with his headquarters in Manila, Philippine Islands.

Like other senior American officers, MacArthur was stunned by the Japanese attack on Pearl Harbor on December 7, 1941, and was unprepared for Japanese air attacks on Clark and Iba airfields in the Philippines, which followed on December 8. Nevertheless, hopelessly undermanned and underequipped, MacArthur mounted a skillful and determined defense of the islands, prudently withdrawing to fortified positions on Bataan during a long fighting retreat (December 23, 1941–January 1, 1942) that inflicted heavy casualties on Japanese ground forces.

MacArthur personally commanded the defense of Bataan and the Manila Bay forts until President Franklin D. Roosevelt ordered his evacuation to Australia. He embarked on a harrowing escape aboard a PT boat on March 11, 1942, promising in a radio broadcast from Australia, "I shall return." They were three of the most famous words spoken during the war.

MacArthur was awarded the Medal of Honor for his defense of the Philippines and was named, in April, supreme commander of Allied forces in the Southwest Pacific Area. He assumed a leading role in laying out Allied Pacific strategy, beginning with the reconquest of New Guinea as a first step in the liberation of the Pacific. During July–September 1942, MacArthur successfully planned and directed the repulse of a Japanese assault on Port Moresby—the loss of which would have doomed Australia to invasion (see Port Moresby, defense of). Having defended that portion of New Guinea, he boldly assumed the offensive and advanced across the Owen Stanley Range during September–November, to attack and take the Buna-Gona fortifications during November 20, 1942–January 22, 1943 (see Buna, Battle of, and Gona, Battle of).

With these victories achieved, MacArthur carried out an island hopping strategy by which the Allied forces ultimately retook the Pacific islands in an inexorable advance against the Japanese homeland.

After campaigning along the north coast of New Guinea, MacArthur invaded western New Britain during December 15–30, 1943, cutting off the major Japanese base at Rabaul. Victories at Hollandia, Jayapura, and Aitape followed, cutting off and isolating the Japanese Eighteenth Army in April 1944. From here, MacArthur advanced west along the New Guinea coast, taking Sansapor on July 30, then, in September, coordinating a massive offensive with Admiral Chester Nimitz in the central Pacific. While MacArthur's forces took Morotai in the Molucca islands, Nimitz first pounded and then invaded the Palau islands.

On October 20, 1944, MacArthur opened the reconquest of the PHILIPPINES by personally commanding landings at LEYTE, thereby redeeming his pledge to return to the islands. MacArthur concentrated on the expansion of Philippine operations to Mindoro on December 1, 1944, and LUZON on January 9, 1945. Following the successful conclusion of the Luzon campaign, MacArthur liberated the rest of the Philippines. While this effort was under way, his forces captured the coastal oil fields of Borneo, which fueled much of the Japanese war effort.

In April 1945, MacArthur was named commander of all U.S. ground forces in the Pacific and would therefore command the anticipated invasion of Japan. This operation was made unnecessary by the atomic bombing of HIROSHIMA and NAGASAKI in August, which moved the Japanese to surrender before the invasion was launched. MacArthur was promoted to the five-star rank of general of the army and given the honor of accepting the Japanese surrender, which took place aboard the U.S. battleship *Missouri* riding at anchor in Tokyo Bay on September 2, 1945.

Douglas MacArthur brilliantly made the transition from wartime commander to head of the U.S. occupation government in Japan. He administered the devastated nation with a strong hand tempered by a benevolence and good judgment that made him an enormously popular figure among the Japanese people and politicians alike. He promoted not only the physical and economic recovery of Japan, but oversaw its rapid transition to democratic government.

While administering the postwar Japanese government, MacArthur remained in command of U.S. Far Eastern forces, and when the Korean War began on June 25, 1950, with the North Korean invasion of South Korea, he was named supreme commander of United Nations forces in Korea by a UN Security Council resolution of July 8. He directed the defense of the Pusan perimeter during August 5–September 15, then planned and executed the most brilliant military operation of his career by landing an amphibious assault force at Inchon on September 15, thereby surprising and rapidly enveloping the North Koreans, pushing the invaders back into the north. After securing both UN and U.S. approval to invade North Korea in October, he drove the communist forces all the way to the Yalu River, North Korea's border with Manchuria.

Although MacArthur assured President HARRY S. TRUMAN that the Communist Chinese would not join in the war, massive numbers of Chinese troops crossed the Yalu during November 25–26, 1950, driving the United Nations and South Korean relentlessly southward. MacArthur conducted a fighting withdrawal, finally setting up a defensive front just south of the South Korean capital of Seoul. He now publicly advocated a dramatic expansion of the war, including bombing targets (even with nuclear weapons) in China itself. President Truman and others, fearing a new and cataclysmic world war, vetoed the proposal. When MacArthur persisted beyond the point of insubordination, Truman relieved him of command on April 11, 1951, even though he had recaptured Seoul on March 14.

Replaced by Lieutenant General MATTHEW RIDGWAY, MacArthur returned to the United States a national hero. On April 19, 1951, he delivered a memorable retirement address to Congress, which included the valediction, "old soldiers never die, they just fade away," and, amid talk of his running for president, he retired from public life.

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machine gun

The machine gun was first used extensively in World War I, where it revealed itself to be perhaps the most important defensive weapon of the war, enabling one or two soldiers to defend a trench or other protected position against the onslaught of many times their number. In World War II, the weapon was also used extensively.

BRITISH AND COMMONWEALTH MACHINE GUNS

Besa Marks 1-3. Originally licensed from a Czech manufacturer, the weapon was produced in Britain by the Birmingham Small Arms Company. It fired 7.62 mm rounds at 500–700 rounds per minute.

Mk 1 Bren Gun. A magazine-fed 7.62 mm weapon, the Bren fired 500 rounds per minute and was light enough to be issued to front-line combat troops, yet sufficiently potent to serve as an antiaircraft weapon.

Vickers .303. This water-cooled weapon fired .303-caliber rounds at 500 rounds per minute.

FRENCH MACHINE GUNS

Fusil Mitrailleur Modèles 1924/29U. Modeled after the American Browning Automatic Rifle, this weapon fired a 7.5 mm round from a 25-round box.

Mitrailleuse MLE 1931. A modification of the Fusil Mitrailleur Modeles 1924/29U, this weapon was designed to be fired from tanks and other vehicles. It fired 750 rounds per minute from a 150-round drum magazine.

GERMAN MACHINE GUNS

MG34. This versatile standard-issue weapon fired 7.92 mm rounds at up to 900 rounds per minute. It could be fitted to tanks and other vehicles or carried into action by infantrymen.

MG42. An improvement on the MG34, this weapon fired at nearly twice the rate of the earlier gun.

JAPANESE MACHINE GUNS

Type 11. A light weapon, the "Nambu" (as soldiers called it) fired 6.4 mm rounds from a 30-round hopper at the rate of 500 rounds per minute.

Type 96. An improved version of the "Nambu," the weapon had a quick-change barrel (to prevent overheating), interchangeable sights, and a fixed bayonet.

SOVIET MACHINE GUNS

DSHK1938. A five-inch wheeled gun, the DSHK1938 fired 550 .5-inch rounds per minute and was belt-fed.

SG43. The standard-issue light machine gun of the Red Army, this weapon used 7.62 mm rounds, which it fired at 600 rounds per minute, fed from a belt.

UNITED STATES MACHINE GUNS

Browning Automatic Rifle. See Browning Automatic Rifle (BAR).

M-1919A4. Air-cooled and belt-fed, this Browning weapon fired 400 to 500 rounds per minute and was used in a wide variety of settings, from vehicles to ships.

M-2HB. The Browning ".50 cal" attained iconic status by the end of World War II. It was used in every conceivable mount, including aircraft, antiaircraft, ships, and armored vehicles. The weapons fired a variety of ammunition, from standard machine gun ammo to armor-piercing rounds, to tracer bullets, to incendiary munitions. It was the workhorse machine gun of the U.S. armed forces.

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Mackesy, Pierse (1883–1956) *commanding officer, Allied Land Forces, Narvik Area, Norway*

Mackesy joined the British army's Royal Engineers in 1902 and served in Africa, surveying the Ashanti and Northern Territories of the Gold Coast (present-day Ghana) as Deputy Director of Surveys, Gold Coast, from 1911 to 1914. During World War I, he served in Togoland and Cameroons (1914), then was sent to France, where, from 1917 to 1919, he was staff officer to Chief Engineer, Army Corps, France. After the war he served on the Military Mission to South Russia (1919–20).

Mackesy was appointed instructor at the Staff College, Quetta, India (present-day Pakistan), serving here from 1927 to 1930. He served on the staff of the War Office from 1932 to 1935 in London, then was assigned command of 3rd Infantry Brigade, with service in Britain and Palestine during 1935–38. On his return to Britain in 1938, he was assigned as commander of the West Riding Divi-

sion and Area of the Territorial Army, serving in this capacity until 1940.

Mackesy was the commanding officer of Allied Land Forces, Narvik Area, Norway, in 1940 (*see* NARVIK, BATTLES OF). He retired later in the year but returned to serve in the War Office through part of 1941 before leaving the army to become military correspondent for the *Daily Telegraph* (1941–42). After the war, Mackesy served as councilor, Southwold Borough Council (1946–53), and as mayor of Southwold, from 1949 to 1952.

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Macmillan, Harold (1894–1986) *British minister resident, Mediterranean Command, postwar prime minister*

Born in London, the son of an American-born mother and grandson of the founder of the famed British publishing house that bears his surname, Harold Macmillan graduated from Balliol College, Oxford, and fought with distinction in World War I. He was a member of Parliament from 1924 to 1929 and from 1931 to 1964.

Macmillan was an outspoken opponent of the APPEASEMENT POLICY of Prime Minister NEVILLE CHAMBERLAIN, a stance that gained the attention of WINSTON CHURCHILL, who, after he became prime minister, appointed Macmillan parliamentary secretary to the Ministry of Supply. He next served as colonial undersecretary before being sent, on December 30, 1942, to northwest Africa as the British minister resident in Allied Forces Headquarters, Mediterranean Command. Macmillan dealt with DWIGHT D. EISENHOWER on a daily basis, and also with other top Allied leaders.

Immediately after the conclusion of the war in Europe, Macmillan was named secretary of state for air, serving in this capacity from May to July 1945, when Churchill was defeated in his bid for reelection. With the return of the Conservative government in 1951, Macmillan served as minister of housing and local government (October 1951) and minister of defense (October 1954), under Churchill, then as foreign secretary (April–December 1955) and chancellor of the exchequer (1955–57) under ANTHONY EDEN. Appointed prime minister on January 10, 1957, after Eden resigned amid the Suez crisis, Macmillan was elected leader of the Conservative Party on January 22. Macmillan resigned office on October 18, 1963, due to illness, and left the House of Commons in September 1964. He devoted the rest of his long life to writing a distinguished series of memoirs.

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Madagascar, Battle of

At the outbreak of World War II, Madagascar was a French colonial island off the coast of East Africa. After the fall of France in the BATTLE OF FRANCE, the governor of Madagascar rallied to the cause of Free France at the call of CHARLES DE GAULLE, but then resigned after the British attack on the French fleet at the BATTLE OF MERS-EL-KEBIR in July 1940. He was replaced by an official of the VICHY GOVERNMENT.

When British intercepts of Japanese coded messages revealed that Germany had asked Japan to occupy Madagascar, Major General Robert Sturges was ordered to capture the naval base of Diégo Suarez on the northern end of the island. The landing, using a mixed force of British, British East African, and South African troops, was carried out on May 5, 1942, and was the first major British AMPHIBIOUS WARFARE of World War II.

The landing achieved total surprise, followed by stout resistance from the French. Sturges ordered an attack on the night of May 6–7, and the French troops surrendered by morning. The Vichy governor, however, refused to capitulate and instead withdrew to the south of the island with the forces that remained loyal to him. At this point, the British, at the urging of South Africa's Marshal JAN CHRISTIAAN SMUTS, revised and expanded their

original plan beyond the capture of Diégo Suarez. More landings were made on September 10 and afterward, which resulted in an armistice on November 5. Control of Madagascar thus passed to the Free French.

See also MAGIC (JAPANESE CODE).

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MAGIC (Japanese code)

The term "MAGIC" was often used by the Allies in World War II to refer to all Japanese military and diplomatic communications, but it was officially intended more narrowly to refer to the U.S. decrypts of secret Japanese diplomatic (not military) communications.

The most important MAGIC decrypts were of codes encrypted by a machine codenamed by the Allies PURPLE. U.S. intelligence was able to read most of the PURPLE ciphers well before the outbreak of World War II and thus had a unique over-the-shoulder perspective on prewar Japanese diplomatic communications. Despite this, MAGIC provided no specific information warning of the attack on PEARL HARBOR. Throughout the war, MAGIC not only yielded insight into Japanese diplomacy, but, indirectly, it provided a picture of German diplomacy as well—via comments relayed by the Japanese using the PURPLE cipher machine. Decrypts of MAGIC communications continued until the end of the war; the Japanese apparently never suspected that their principal diplomatic ciphers had been thoroughly compromised.

See also ULTRA.

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Maginot Line

Named for André Maginot, the French minister of war who began its construction between World War I and World War II, the Maginot Line was a series of fortifications running from Switzerland to the Luxembourg and Belgian borders, as well as in southern France. Its sole purpose was to deter a German invasion.

The Maginot Line fortifications were state-of-the-art, and the entire complex was a marvel of military engineering. The installation was also symptomatic of the myopic French focus on defensive warfare, which did not adequately anticipate the effectiveness of highly mobile offensive warfare (BLITZKRIEG). Nor did the French anticipate an invasion via neutral Belgium, which allowed the Germans merely to outflank the Maginot Line during the initial stages of the BATTLE OF FRANCE in May 1940.

The Maginot Line did hold against an Italian attempt to breach it in the south of France in June 1940, and where the Germans actually challenged the line, it also held well—the 400,000 French troops who garrisoned the line refusing to surrender. By the same token, the manpower requirements of the Maginot Line served to keep those 400,000 men from participating in the main battle, where they might have been used to greater effect.

The Maginot Line dramatically demonstrated the failure of defensive thinking and fixed fortifications in an age of high explosives, total war, and highly mobile combat.

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Makin Island Raid

In August 1942, Carlson's Raiders, led by EVANS CARLSON, mounted a raid against the Japanese garrison on this northernmost atoll of the Gilbert Islands. The purpose of the raid was to decoy the garrison during the landings at GUADALCANAL.

Operationally, the raid was innovative and successful. A force of 222 USMC raiders (2nd Raider Battalion) was transported 2,000 miles by submarine, then landed without detection. Strategically, the effect of the raid was counterproductive. It did relatively little damage, yet it prompted the Japanese to reinforce and fortify the adjacent island of Tarawa, which made the subsequent Battle of Tarawa Atoll very costly for the U.S. Marines who landed there in November 1943.

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Malaya, fall of

During the night of December 7–8, 1941, elements of the Twenty-Fifth Japanese Army (Yamashita Tomoyuki) under naval cover from ships of the Japanese Southern Force, invaded northern Malaya and southern Thailand preparatory to an assault on Singapore.

The Malayan Campaign began early on the morning of December 7, even before the Battle of Pearl Harbor, and was therefore the first Japanese act of aggression in the Pacific. Yamashita deployed 60,000 men, supported by 158 naval aircraft and 459 aircraft of 3rd Air Division to attack Malaya. The Anglo-Indian garrison on the island was taken by surprise, quickly lost the ability to maneuver, and was unable to defend its handful of air bases.

Yamashita's first landings, at Singora and Patani in southern Thailand, were unopposed. His next landings, on the northern Malayan coast, were inadequately met. Although the British commander in chief, Far East, Air Chief Marshal Robert Brooke-Popham, had a superior force of 88,600 Australian, British, Indian, and Malay troops under the direct command of Lieutenant General Arthur Percival, they were inadequately equipped with just 158 obsolete or obsolescent aircraft and no tanks.

Before the war, British planners had clearly recognized the importance of adequately defending Malaya because of its position with regard to Singapore. An enemy who took Malaya would possess the means of invading Singapore from the rear. Accordingly, a plan (known as MATADOR) was drawn up before the war to occupy Singora-Patani in Thailand, thereby interdicting any Japanese landing there. Political considerations, however, prevented implementation, and orders were not given to occupy defensive positions around Jitra until a full 10 hours after the Japanese had landed. The delay enabled the Japanese to seize control of the airfields at Singora and Patani. They were thus able to hit Anglo-Indian installations freely and frequently.

While the ground battle was rapidly developing into a British disaster, at sea the Japanese sank the *Prince of Wales* and the *Repulse,* two major Royal Navy ships.

Yamashita moved with great speed, quickly occupying Bangkok and sweeping aside all resistance at Jitra. The Japanese invaders also secured the cooperation of the Malayan civilian population and were thereby enabled to advance to the south with extraordinary rapidity, so that the Anglo-Indian defenders were repeatedly outflanked.

On January 11, 1942, Yamashita took Kuala Lumpur, forcing the British III Corps to retreat to Johore. A new force, designated Westforce and made up of the 8th Australian and 9th Indian Divisions, was quickly assembled to check the main Japanese advance in the west. Shortly after this, "Eastforce," consisting of the 22nd Australian Brigade and other units, was created with the intention of blocking the Japanese advance down the east coast. Both of these units were readily defeated, and by January 31, 1942, all British, Indian, and Australian forces had withdrawn to Singapore, which was now rendered highly vulnerable and ripe for invasion.

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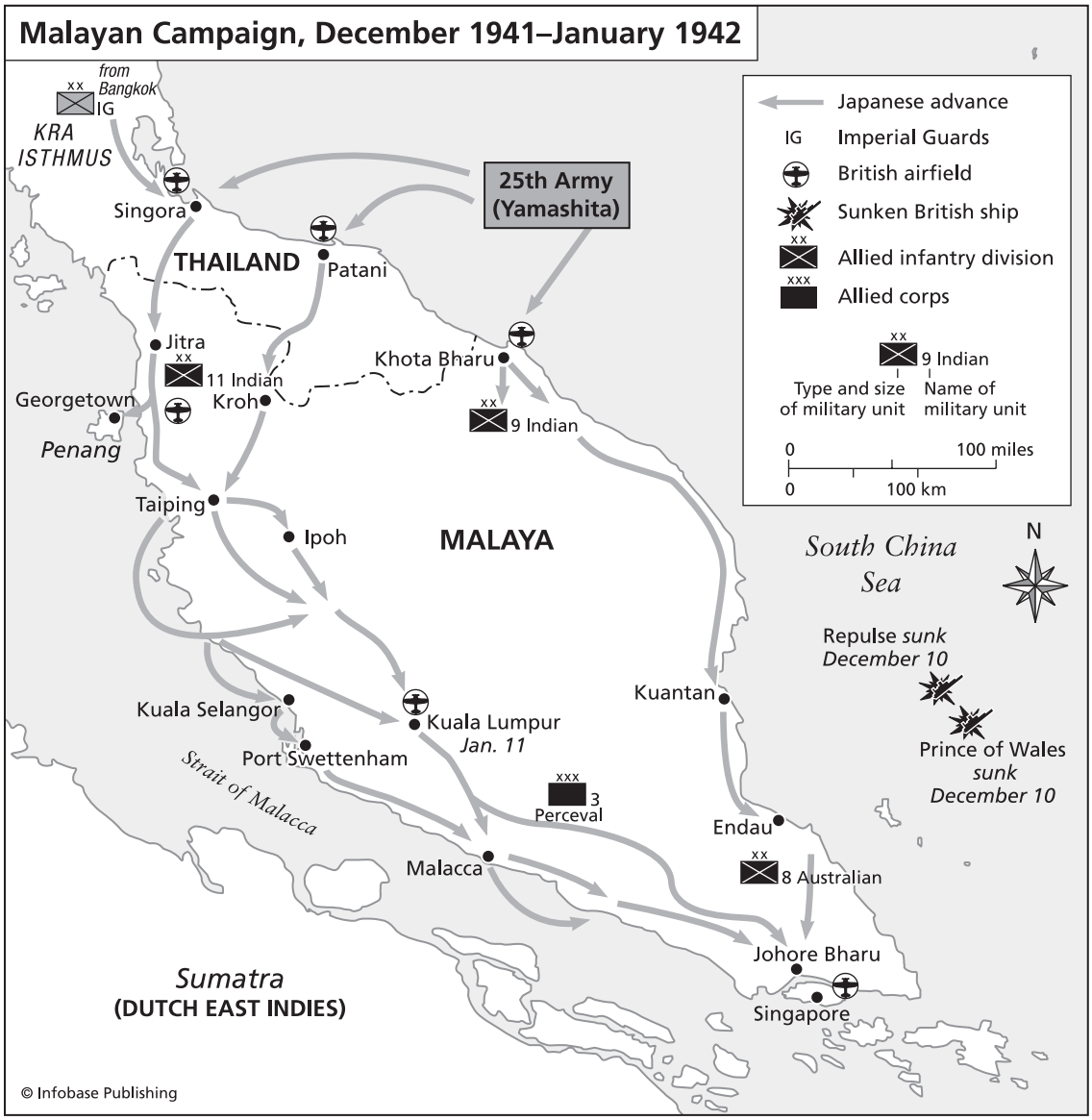

Malinovsky, Rodion (1898–1967) *Soviet Red Army commander*

A Ukrainian, born in Odessa, Malinovsky was conscripted into the tsar's army at the outbreak of World War I. He joined the revolutionary Red Army in 1919 and fought in the Russian civil war, rising in rank to command a battalion. Malinovsky joined the Communist Party in 1926 and attended the Frunze Military Academy, graduating in 1930. During the Spanish civil war (1936–39), he served as an adviser to the Republicans.

During the German INVASION OF THE SOVIET UNION, Malinovsky commanded the 48th Rifle Corps, rose rapidly to command of the Sixth Army,

then was put in charge of the South Front (army group). He led the Second Guards Army during the Battle of Stalingrad in December 1942 and took charge of offensives in Romania (late 1944) and Austria (spring of 1945).

After the war ended, during 1945–55, Malinovsky served in Soviet-held Manchuria and the Soviet Far East. He was named first deputy minister of defense and commander in chief of ground forces in 1956 and was elevated to full membership in the Central Committee of the Communist Party. During the height of the cold war, from 1957 to 1967, Malinovsky guided the expansion of the Soviet military.

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Malmédy massacre

During the Battle of the Ardennes (Battle of the Bulge), at Baugnez near Malmédy, Belgium, on December 17, 1944, SS Standartenführer (colonel) Joachim Peiper's special Kampfgruppe (battle group) summarily executed 86 U.S. prisoners of war in an atrocity that became infamous as the Malmédy Massacre. During World War II, the killing of enemy combatants who had surrendered and had been disarmed was forbidden by the Geneva Conventions and was universally considered a war crime.

After the war, the commander of Sixth SS Panzer Army, General Sepp Dietrich, along with Peiper and two other commanding officers, were found guilty of having issued illegal orders. Sixty-nine other German soldiers were also tried for complicity in the executions in a trial that began in May 1946. All were found guilty; Peiper and 42 others were sentenced to death, and 22 others, including Dietrich, were sentenced to life imprisonment.

Subsequently, U.S. prosecutors admitted to having coerced confessions by threatening execution, introducing false witnesses, and even staging

Discovery of the Malmédy massacre *(Army Medical Department)*

mock trials. The cases were appealed and reviewed, and all were initially reduced, then reduced even further after it was determined that all the suspects had been variously abused.

In March 1949, the Senate Armed Services Committee investigated the prosecution and concluded that the army had acted improperly. Senator Joseph McCarthy of Wisconsin, who would soon become infamous himself for his anti-Communist "witch hunts," accused the army of employing the tactics of the Nazi Gestapo and then engaging in a cover-up. In the end, all of the death sentences were vacated. Dietrich was paroled in 1955, and Peiper released in 1956.

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Malta, siege of

Malta, a British Mediterranean island colony (World War II–era population, 270,000), was subjected to severe aerial bombardment by Germany but refused to surrender, thereby continuing to play a key role in Allied Mediterranean operations.

Until May 1942, Malta's governor, Lieutenant General William Dobbie, served as commander

in charge of the island's defenses. Afterward General Lord Gort held this post. Malta's military significance lay in its airfields and harbor—the only British harbor between Gibraltar and Alexandria, Egypt. British offensive operations against Axis convoys supplying forces in North Africa were launched from Malta. The strategic location of Malta also made it highly vulnerable to attack. It was close to Sicily, yet far from any other British base. British commanders feared an invasion, and, indeed, the Axis leaders contemplated just that; however, they restricted their assault against the island to aerial bombardment.

Malta first fell under attack, from Italian bombers, on June 11, 1940. The Luftwaffe, flying from Sicilian bases, carried out more raids from January through April 1941. In July 1941, Italy's Tenth Light Flotilla attacked Valetta Harbor but failed either to destroy or take it. By this time, the Germans had diverted most of their Luftwaffe effort to the INVASION OF THE SOVIET UNION, thereby giving the islanders a reprieve. Beginning in December, however, the raids were resumed and picked up in intensity. From January 1 to July 24, 1942, air raids were a daily event, and the people of Malta took to living in underground shelters. Held under siege from the air, the population suffered severe privation, including malnutrition and epidemic disease. Civilian bombing casualties were 1,493 dead and 3,764 wounded.

British high command sent fighter squadrons to help protect the island, and fast convoys kept up a flow of supplies, despite Axis attacks on the ships. Of 86 vessels sent to the island between August 1940 and August 1942, 31 were sunk and others were damaged. The Axis also laid mines so thickly that by the spring of 1942, resupply had become all but impossible. With uncharacteristic optimism, German general ALBERT KESSELRING reported Malta "neutralized" on May 10, 1942. This led to another respite for the island, and bought time for the arrival of fighter reinforcements. By the middle of July, the Luftwaffe raids had decreased, and mine-clearing operations had made a path for resupply—although food shortages remained critical.

In October 1942, Kesselring resumed air raids, but Axis losses in the NORTH AFRICAN CAMPAIGNS, especially at the BATTLE OF EL ALAMEIN, deprived him of airfields, and the air raids were called off. With the Axis withdrawal from Africa in May 1943, the siege of Malta, the most thoroughly bombed island in World War II, ended. The courage and fortitude of the entire island was recognized by the British Crown by the award of the George Cross.

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Mandalay, Battle of

Fought between the Fourteenth British Army (WILLIAM SLIM) and the Fifteenth Japanese Army (Shihachi Katamura) in March 1945 during the BURMA CAMPAIGN, the Battle of Mandalay resulted in a British victory.

Japanese bombers virtually destroyed Mandalay in April 1942, leaving it to occupation by the anti-British nationalist forces known as the Burma Independence Army, which collaborated with the Japanese. Slim recaptured Mandalay, routing Shihachi and thereby opening the way to the capture of Rangoon.

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Manhattan Project

Officially begun in 1942, the Manhattan Project was the largest wartime scientific and industrial project ever undertaken by the United States. Its

object was to create and produce a practical atomic weapon.

The origin of the project may be traced to 1939, when a group of American scientists, including recent refugees from European fascist and Nazi regimes, became alarmed by what they knew to be work ongoing in Germany (led primarily by Werner Heisenberg) into nuclear fission, a process by which the energy of the binding force within the nucleus of the uranium or plutonium atom might be liberated to produce an explosion of unprecedented magnitude. These scientists decided to prevail upon the U.S. government to launch a project to develop fission for military purposes—before the German researchers could do so.

G. B. Pegram, a Columbia University physicist, brokered a meeting between the eminent Italian expatriate physicist Enrico Fermi and the U.S. Department of the Navy in March 1939. Leo Szilard, a Hungarian expatriate physicist, and other scientists prevailed on the nation's most celebrated refugee scientist, Albert Einstein, to write a letter to Franklin D. Roosevelt on August 2, 1939, advising the president of the urgent necessity of beginning work on a military fission project in light of the dangers posed by Germany. FDR responded, and in February 1940, the modest sum of $6,000 was authorized to begin research directed by a committee under the chairmanship of L. J. Briggs, head of the National Bureau of Standards. Direction of the research project was transferred on December 6, 1941, to the Office of Scientific Research and Development, headed by Vannevar Bush, another prominent scientist. The next day, the Battle of Pearl Harbor thrust the United States into World War II, and shortly after this, the War Department was given joint responsibility for the project. By the middle of 1942, project researchers had concluded that the military application of fission was feasible, but that many facilities, including laboratories and industrial plants, would be required; therefore, the War Department assigned the U.S. Army Corps of Engineers to manage the necessary construction work on an accelerated basis. Because most of the early research was being conducted at Columbia University, in Manhattan, responsibility was assigned to the Corps's Manhattan Engineer District in June 1942. The army's direction quickly expanded beyond construction, and in September 1942 Brigadier General Leslie R. Groves, an army engineer who had directed design and construction of the brand-new Pentagon outside of Washington, D.C., was put in charge of all military and engineering aspects of what was now being called, after the Manhattan Engineer District, the Manhattan Project. Work and facilities would extend across the country, yet the project would remain top secret until the end of the war.

Beginning in autumn 1941 Pegram and fellow physicist Harold C. Urey were authorized by the U.S. government to travel to Britain, where fission research was ongoing, to establish cooperation between scientists in the two countries. By 1943, the United States established a joint policy committee with Great Britain and Canada, and a number of leading British and Canadian nuclear researchers came to the United States to work on the Manhattan Project. Thus, the work became an international effort among allies.

The Manhattan Project was a unique, superaccelerated program of scientific, military, and industrial collaboration and coordination on a vast scale. An entirely new and hitherto theoretical field had to be researched, the research rapidly transformed into practical demonstrations, and those demonstrations quickly prototyped into a workable fission weapon. The unknowns were staggering, and success was far from assured. Moreover, because of the necessity for speed, various research programs had to be conducted simultaneously in the full knowledge that some might prove costly dead ends. Even before research was completed, design and construction of critical production plants would have to get under way.

The first problem to be solved was how to separate uranium 235, the fissionable material that would be the heart of the bomb, from its companion isotope, uranium 238. A massive amount of U238 was required to obtain a minute amount of U235, which, however, could not even be separated from U238 by any known chemical means. An entirely novel physical process had to be invented.

Two major processes were identified: an electromagnetic process developed at the University of California, Berkeley, under Ernest Lawrence, and the diffusion process Urey developed at Columbia University. Both processes required huge, highly complex plants with access to very large amounts of electric power. Under normal circumstances, pilot plants would have been developed to determine which process was superior, after which major facilities would be constructed. Groves decided to save time by taking the bold—and costly—step of creating production facilities to implement both methods. Construction was begun at Oak Ridge, a 70-square-mile tract near Knoxville, Tennessee. Additionally, a third method, thermal diffusion, was employed to produce initial separation.

To complicate matters further, there was another candidate element suitable for fission, plutonium 239. Groves also authorized full-scale production of this material. Developed at the metallurgical laboratory of the University of Chicago under the direction of Arthur Compton, it could be produced only by transmuting U238 via a fission chain reaction. In December 1942, Fermi produced the world's first controlled fission chain reaction in a U238 reactor pile constructed beneath the stands of the University of Chicago's Stagg Field. If the so-called atomic age may be said to have had a specific birth, this was it. But to produce sufficient quantities of P239 a massive reactor had to be built, requiring the development of chemical extraction processes that were entirely without precedent. To develop these procedures, a medium-sized reactor was built at Oak Ridge, chemical engineering work was quickly conducted using it, then large-scale production reactors were built on a remote 1,000-square-mile tract along the Columbia River north of Pasco, Washington. The facility was called the Hanford Engineer Works and, with Tennessee's Oak Ridge, it became the major production plant of the Manhattan Project.

While the work of creating fissionable materials was under way, a central laboratory capable of translating bomb theory into a working bomb had to be established. In 1943, J. Robert Oppenheimer, a leading American physicist, was chosen to create and direct the laboratory. Whereas General Groves directed the engineering and military aspects of the Manhattan Project, Oppenheimer was responsible for managing the scientific research. Groves and Oppenheimer were polar opposites in terms of background, intellectual interests, political beliefs, and overall personality; yet they learned to respect each other, and they formed a highly effective partnership.

For construction of the required laboratory, Oppenheimer chose a site on a remote mesa at Los Alamos, New Mexico, north of Santa Fe. This isolated and austerely beautiful location became a magnet that drew the nation's greatest physicists and chemists. A combination top-secret military installation and research laboratory, Los Alamos required a unique compromise between the creative freedom and openness necessary for scientific research and the high degree of discipline and security required in weapons production. Groves and Oppenheimer managed to create and maintain the compromise.

The task at Los Alamos was to invent methods of reducing the fissionable materials that emerged from the production plants to pure metal that could be fabricated into the precisely machined shapes that would enable and facilitate an explosive chain reaction. The goal was to bring together a sufficient quantity of fissionable material rapidly enough to achieve a supercritical mass. Critical mass would result in explosive release of energy: an atomic blast. Moreover, this exquisitely difficult feat of materials engineering had to be carried out within a device that could be carried in a bomber, dropped over a target, and detonated at precisely the proper moment above the target; explosion on impact was not desirable, because much of the explosive force would be absorbed by the earth and therefore dissipated. To complicate the task further, these problems had to be solved well before much fissionable material was available. The idea was to conserve as much of what could be produced for use in the finished bombs.

By the summer of 1945, when enough P239 had emerged from Hanford to produce a nuclear explosion, the Los Alamos scientists had created a

weapon they believed was ready to field-test. The scientists assembled observation and monitoring equipment to ensure that they would have accurate data on the performance—or failure—of the bomb. At Alamogordo, 120 miles south of Albuquerque, a special tower was constructed, from which the test bomb—the scientists dubbed it "the gadget"—was suspended. Although the site was remote from population centers, the scientists were far from certain as to the "yield" (the force and extent) of the explosion that would be produced. There was even a chance, some believed, that the detonation of the bomb could set off a chain reaction in the atoms of the air itself, perhaps destroying a vast area. Theoretically, it was possible the blast would ignite the very atmosphere of the earth.

The test bomb was detonated at 5:30 A.M. on July 16, 1945. Scientists and a handful of VIPs observed from bunkers and trenches 10,000 yards distant. All who witnessed the explosion were awed. A blinding flash was followed by a heat wave and, finally (since sound travels much more slowly than radiated energy), by a roar and a shock wave. The blast produced a great fireball, followed by the mushroom-shaped cloud (rising to an altitude of 40,000 feet) that would become a dreaded emblem of the "atomic age." This first bomb was calculated to have produced an explosion equivalent in energy to 15,000–20,000 tons of TNT.

In August, two more bombs, one using U235 and the other using P239, were dropped on the Japanese cities of HIROSHIMA and NAGASAKI.

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Mannerheim, Carl Gustav Emil von (1867–1951) *Finnish army commander in chief*

Born in Villnäs, Finland, Mannerheim attended various military schools and, in 1889, was commissioned a lieutenant of cavalry in the Russian army. (Finland belonged to Russia at the time.) He was a charismatic officer and a brilliant horseman popular with his troops. He was chosen in 1895 as one of the honor guard at the coronation of Russian czar Nicholas II and the czarina Alexandra.

Mannerheim's first combat experience came during the Russo-Japanese War of 1904–05. He emerged with the rank of colonel, then during World War I rose even more swiftly, becoming a lieutenant general in command of a corps by the middle of 1917. But with the collapse of much of the army and the Russian Revolution, Mannerheim resigned his commission, returned to Finland, and answered his nation's call after it declared independence from Russia on December 6, 1917.

A conservative, Mannerheim was not an enthusiastic supporter of Finland's revolutionary government, but he was a strong opponent of communism, and he therefore accepted command of the anti-Communist White forces in Finland on January 18, 1918. Operating from a base at Vasa, in western Finland, he engaged the Red Guard on March 16 outside of Tampere. Mannerheim captured the Karelian isthmus on April 29 and successfully contained Communist attempts at a breakout. On December 12, 1918, Mannerheim was named regent of Finland, serving in this capacity until a republic was established on June 17, 1919. He continued to serve in the Finnish military, quelling minor outbreaks along the Russian-Finnish border until the Treaty of Dorpat, signed on October 14, 1920, formally ended the war with Russia.

After the conclusion of peace, Mannerheim retired briefly then returned to public service as chairman of the Finnish defense council. Increasingly concerned over the Soviet threat to Finland's fragile independence, he lobbied for increased military funding and directed construction of border fortifications on the Karelian isthmus. Upon their completion in 1939, these defensive forts became known as the MANNERHEIM LINE. After the conclusion of the GERMAN-SOVIET NON-AGGRESSION PACT in August 1939, at the beginning of World War II, Mannerheim was appointed commander in chief of all Finnish forces just in time to meet the crisis of the Soviet invasion of Finland on

November 30, 1939, which started the Russo-Finnish War.

Initially, Mannerheim enjoyed considerable success, but he could not withstand indefinitely the Soviets' vast numerical superiority. What he did succeed in doing was making the Red Army's eventual victory very costly by the time he capitulated on March 12, 1940. When the war against the Soviet Union resumed on June 25, 1941, Mannerheim was again commander in chief, directing operations on the Karelian isthmus and in eastern Karelia. He was promoted to field marshal on June 4, 1942.

After the successful Soviet summer offensive of 1944, Finland's president, Risto Ryti, resigned. Mannerheim stepped in, offered himself as a candidate, and won, taking office on August 4, 1944. He concluded an armistice with the Soviets in September, agreeing to aid the Red Army in clearing Lapland of German troops during September-December 1944.

Mannerheim continued in office until shortly after the war. Illness forced his resignation in 1946.

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Mannerheim Line

A line of defensive fortifications extending across the Karelian isthmus from the Gulf of Finland to Lake Ladoga, the Mannerheim Line was named for Carl Gustav Emil von Mannerheim, the Finnish military commander and president who, as chairman of the Finnish defense council, advocated construction of the line and oversaw its construction.

The Mannerheim Line was intended to defend against a Soviet invasion of Finland, and it was here that the most intense fighting of the Russo-Finnish War (Winter War) took place in 1939.

The Mannerheim Line was first planned after the Finnish civil war, which followed the conclusion of World War I. Construction began in the 1920s and continued throughout the 1930s. When completed, the fortification line consisted of approximately 200 machine-gun emplacements encased in concrete bunkers. The Mannerheim Line was incomplete by the outbreak of the Russo-Finnish War but proved effective nonetheless.

The great advantage of the Mannerheim Line over the more extensive and more famous Maginot Line built by the French along their border with Germany was in its use of the natural terrain to leverage the effectiveness of its defenses. Whereas the Maginot Line and other traditional line fortifications used massive bunkers and other artificial structures, the Mannerheim Line exploited such landscape features as boulders and fallen trees. Whereas the Maginot Line was exceedingly conspicuous, the Mannerheim Line was skillfully camouflaged and thus a far more effective defensive position.

Although superior Red Army numbers eventually forced the surrender of Finland, the Mannerheim Line defenses stalled the Soviet advance for two very bloody months. Embarrassed by the cost of the invasion of Finland, Soviet commanders and politicians greatly exaggerated the extent and construction of the Mannerheim Line, as if to suggest that it was virtually impregnable. It was, in fact, for the most part a series of trenches and common field fortifications punctuated at considerable intervals by more substantial bunkers. Machine guns were the weapon of choice. The Mannerheim Line had virtually no artillery positions. Skillful defense by Finnish troops, not impregnable military architecture, was responsible for the effectiveness of the Mannerheim Line.

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Manstein, Erich von (1887–1973) *German commander*

Manstein was born Erich von Lewinski in Berlin, the son of General Eduard von Lewinski. When his father died, his mother was unable to support her 10 children, Erich was adopted by a childless aunt married to General George von Manstein, from whom the child took the name by which he would become known.

Manstein graduated from cadet school in 1906 and was commissioned lieutenant in the 3rd Foot Guards Regiment, an elite unit under the command of Paul von Hindenburg, Manstein's uncle. Manstein was soon enrolled in the Kriegsakademie, the highest German military college, but withdrew to enter active service at the outbreak of World War I in 1914. Wounded in November of the first year of the war, Manstein convalesced in a staff assignment. Excelling in this duty, he served out the rest of the war as a staff officer.

After the armistice of 1918, Manstein served in the Reichswehr, the post–Treaty of Versailles German army, and in 1929 was appointed to the General Staff. In 1936, he was appointed deputy to the chief of the General Staff, General Ludwig Beck, but was removed two years later when Defense Minister General Werner von Blomberg and army commander in chief Werner von Fritsch, outspoken opponents of Adolf Hitler's plans for conquest, were relieved of their offices. Manstein was transferred to command of an infantry division in Silesia, and then became chief of staff of the German occupation army in Czechoslovakia.

In August 1939, the month before war began, Manstein was appointed chief of staff of the Eastern Army Group under Gerd von Rundstedt. He participated in the Blitzkrieg invasion of Poland in September 1939. Reviewing the General Staff's plan for the invasion of France, Manstein objected to the simple head-on approach and called instead for the main part of the invasion to go through the Ardennes. The French assumed that this approach was too thickly wooded for an invading army, so they defended it only lightly. The Manstein Plan was adopted and enabled a rapid penetration across the French border, which stunned the defenders and was chiefly responsible for the German victory in the Battle of France.

During the culminating stages of the Battle of France, in May 1940 Manstein was given a field command. In March 1941, he was transferred to the eastern front in command of LVI Panzer Corps, which he led with breathtaking success in the invasion of the Soviet Union during June 1941. Promoted to field marshal in July, Manstein was assigned command of the Eleventh German Army in the Crimea, then took over Army Group Don in November 1942. This force was sent to the relief of the German Sixth Army at the Battle of Stalingrad. Manstein openly protested Hitler's order

Erich von Manstein *(National Archives and Records Administration)*

that the Sixth German Army not break out of Stalingrad to link up with Army Group Don. Nevertheless, the order stood, and, thus hobbled, Manstein was unable to stem the tide of battle at Stalingrad.

Transferred to command of Army Group South, Manstein worked feverishly to salvage the German campaign in southern Russia. He staged a surprise attack in March 1943 and recaptured KHARKOV, then commanded the right wing of the doomed German assault on the KURSK salient in July 1943. After this, he commanded the fighting withdrawal from southern Russia.

Relieved of command in March 1944 because of what Hitler deemed his poor performance on the Eastern Front, Manstein was inactive during the rest of World War II. He surrendered himself to British forces in May 1945 and was indicted for war crimes during the later phases of the NUREMBERG WAR CRIMES TRIBUNAL in August 1949. The Western Allies declined to prosecute, but the Soviets insisted on a trial. Found guilty of war crimes, Manstein was sentenced to 18 years' imprisonment. His sentence was subsequently reduced, however, and he was released in 1953.

During 1955–56, Manstein chaired the West German parliament's military subcommittee. During this cold war period, he reorganized West Germany's military and developed its operating doctrine.

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Manstein Plan

Proposed by senior German army commanders led by ERICH VON MANSTEIN and Franz Halder, the so-called Manstein Plan was the overall plan the Germans followed in the BATTLE OF FRANCE. Its major feature was an attack through the Ardennes in southern Belgium, which allowed the invaders to bypass the MAGINOT LINE. This sector was very thinly defended because the French assumed that no major invading army would attempt to march through the thickly wooded region. The culmination of the Manstein Plan was an advance all the way to the English Channel to bring about the surrender of France.

ADOLF HITLER approved the Manstein Plan on February 17, 1940, but it was May 10 before it was implemented. On this day, the Luftwaffe bombed Dutch and Belgian airfields while German ground forces took Moerdijk and Rotterdam. The 9th Panzer Division under Fedor von Bock used BLITZKRIEG tactics to pass through the Netherlands and Belgium, while the 7th Panzer Division (ERWIN ROMMEL), the IXX Corps (HEINZ GUDERIAN), and the 6th and 8th Panzers (GERD VON RUNDSTEDT) advanced through the Ardennes north of the Maginot Line. Seven panzer divisions reached the Meuse River at Dinant on by May 12. On May 13, the French government fled Paris.

The speed of the invasion under the Manstein Plan stunned the French, who offered little effective resistance. The British Expeditionary Force and elements of the French army were narrowly saved from complete annihilation by Operation Dynamo, the DUNKIRK EVACUATION, carried out from May 27 to June 4, 1940. Almost 2 million French soldiers were taken prisoner during the invasion, and some 390,000 soldiers were killed. The cost to the invaders was about 35,000 killed in action.

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Manteuffel, Hasso-Eccard Freiherr von (1897–1978) *German commander*

Born in Potsdam to an aristocratic Prussian family, Manteuffel enrolled in cadet school in 1908 and joined the army in 1916 as an officer of hussars. In

April, he entered World War I with the 3rd Hussar Regiment and was wounded on October 12. He convalesced as a staff officer assigned to the Divisional General Staff.

After the German army was dissolved by the Treaty of Versailles, Manteuffel joined the Freikorps in January 1919, then joined the Reichswehr, the small army permitted under the Treaty of Versailles. By the late 1930s, Manteuffel was an armored warfare expert, who served as an adviser to the Panzer Troop Command of the General Headquarters (OKH) and a professor at Panzer Troop School II.

On May 1, 1941, Manteuffel assumed command of the 1st Battalion, 7th Rifle Regiment, 7th Panzer Division and saw his first action in World War II during the invasion of the Soviet Union. On August 25, 1941, he took over command of the 6th Rifle Regiment, 7th Panzer Division, and fought in the Battle of Moscow during the winter of 1941–42. In the spring, he returned with the 7th Panzer Division to France and there was named commander of the 7th Panzer Grenadier Brigade of the 7th Panzer Division.

Manteuffel was sent to North Africa at the beginning of 1943 and, on February 5, was given command of Division von Manteuffel, attached to the 5th Panzer Army of Erwin Rommel's Army Group Afrika (Afrika Corps). Manteuffel participated in defensive operations during the Tunisia Campaign, conducting highly effective counteroffensives against the Allies. On March 31, 1943, however, he collapsed from exhaustion and was evacuated to Germany. While convalescing, on May 1, 1943, he was promoted to major general, then, on August 22, he was elevated to command of the 7th Panzer Division on the Soviet front. Severely wounded in an air attack on August 26, 1943, he refused evacuation and fought at the Battles of Kharkov and at Belgorod, and along the Dnieper River, bringing a Red Army offensive to a halt. Late in November, he retook Zhitomir to relieve the enveloped 8th Panzer Division, which his efforts rescued.

In recognition of his achievements, Manteuffel was made commander of the elite Grenadier Division Grossdeutschland on February 1, 1944. He led this unit in intense fighting west of Kirovograd as part of the German army's fighting withdrawal from the Soviet Union. Entering Romania in late March 1944, he regrouped his forces and fought a series of effective defensives in the northern part of the country through June. By that time the Grossdeutschland Division, exhausted, was withdrawn for refitting. Late in July, it was moved to East Prussia to defend against Soviet invasion. Manteuffel led a bold counterattack against the advancing Red Army in Lithuania, which stalled the Soviet advance.

Promoted to General of Panzer Troops on September 1, 1944, Manteuffel assumed command of the 5th Panzer Army on the Western Front and deeply penetrated Allied lines during the Battle of the Ardennes (Battle of the Bulge), nearly reaching the Meuse River in December 1944.

On March 10, 1945, Manteuffel was given command of the 3rd Panzer Army on the eastern front and led a desperate defense against the Red Army's advance into western Pomerania and Berlin. When he judged the situation to be hopeless, Manteuffel retreated to Mecklenburg, where, rather than fall into Soviet hands, he surrendered his forces to the Western Allies on May 3, 1945.

Held as a POW until September 1947, he was released and entered politics, becoming a representative in the Bundestag, the West German parliament, from 1953 to 1957. He later lectured at the U.S. Military Academy at West Point.

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Mao Zedong (1893–1976) *Chinese Communist leader*

Best known as one of the founders of the Chinese Communist Party (CCP, 1921) and the founder of the People's Republic of China (1949), Mao was

also a grassroots military leader of great tactical and strategic skill, and he was a charismatic leader of troops.

He was born to a prosperous family of Hunan peasant landowners and was educated at the local elementary school, where the curriculum emphasized classical Chinese Confucian thought. In October 1911, Mao left school after forces under the revolutionary leader Sun Yat-sen, (Sun Yixian) overthrew the Qing (Ch'ing, or Manchu) dynasty. Mao fought in the revolution of 1911–12 as an orderly in a militia unit until he was summoned home by his father, who sent the youth to a trade school, which he attended during 1912–13. In 1913, Mao moved to the provincial capital of Changsha and enrolled in the normal school, intending to become a teacher. In 1918, however, he moved to Beijing (Peking), supporting himself as a clerk in the library of Beijing University. In 1919, he returned to Hunan and secured an appointment as a teacher at the Changsha Normal School, having by this time acquired a reputation as a political intellectual.

After marrying Yang Kaihui (K'ai-hui), daughter of one of his teachers, Mao served as Hunan's chief delegate to the founding congress of the Chinese Communist Party (CCP) in 1921. With the rest of the CCP, he joined the Nationalist Party—the Kuomintang (Guomindang, KMT)—in 1923 and was elected as an alternate member of the KMT Shanghai Executive Committee in 1924. A bout of illness forced his return to Hunan, and as he convalesced, he drifted inexorably to the left. Mao organized unauthorized unions of laborers and peasants, provoking authorities to issue a warrant for his arrest. He fled to Canton in 1925, where he worked as a radical journalist. His journalism helped gain him entry into the inner circle of KMT leader Chiang Kai-shek (Jiang Jieshi), who appointed Mao head of the KMT's propaganda section.

Mao and Chiang soon came into conflict, and in May 1926 Mao was removed from the propaganda post. He joined the Peasant Movement Training Institute, a radical, far-left CCP cell, and by April 1927, the divide between the KMT and the CCP had become too great to bridge. Chiang repudiated the KMT alliance with the CCP and launched his Northern Campaign against CCP units. Mao retreated underground and, acting independently even of the CCP, put together a revolutionary army. He led it in the Autumn Harvest Uprising in Hunan during September 8–19. After the uprising failed, Mao was ejected from the CCP. Instead of giving up, however, he regrouped the remnants of his army—his most loyal followers—and retreated with them into the mountains, where he made an alliance with another CCP outcast, Zhu De (Chu Teh). Together, in 1928, they formed a peasant army called the Mass Line, with which they boldly set about creating their own republic, the Jiangxi (Kiangsi) Soviet. By 1934, the Soviet numbered some 15 million people.

The existence of the Jiangxi Soviet was an affront not only to Chiang's KMT, but also to the Moscow-dominated International Communist Party, which directed revolutionaries to concentrate their efforts on urban areas (in accordance with orthodox Marxist doctrine), rather than work among the rural peasantry. Mao and Zhu De did their organizing among the peasantry and, between 1929 and 1934, skillfully employed guerrilla tactics to repulse four KMT attempts to wipe out the Soviet.

In 1930, the KMT executed Mao's first wife, Yang Kaihui, and, after a fifth KMT assault on the Jiangxi Soviet in 1934, Mao fled with some 86,000 men and women. This began the celebrated Long March over a distance of some 6,000 miles to the province of Sha'anxi (Shensi). By October 1935, now with a mere 4,000 followers, Mao established a new party headquarters at Yenan.

Japanese aggression against China prompted the KMT to suspend further attacks on the CCP, and Mao made peace with Chiang in December 1936 so that they could present a united front against the Japanese.

During August 20–November 30, 1940, Mao launched the Hundred Regiments offensive against the Japanese invaders. It had negligible effect, and Mao did little else to fight the Japanese during World War II. Instead, he used the war years to

consolidate the CCP position in northern China as well as his own leadership of the party. In April 1945, he was elected chairman of the party's central committee.

During the war, Mao wrote and published a series of essays promulgating the basis for Chinese communism. His efforts to grow the party succeeded remarkably well. The CCP had 40,000 members in 1937. By the end of World War II, it had grown to 1.2 million.

The end of World War II—and, with it, the end of the Japanese threat—brought an end to the uneasy alliance between the CCP and KMT. Civil war broke out, in which Mao repeatedly defeated the armies of Chiang Kai-shek during 1946–49. After Chiang and his Nationalists fled to the island of Taiwan in 1949, Mao proclaimed the People's Republic of China.

The United States remained loyal to its wartime ally Chiang and rejected Mao's attempts to establish diplomatic relations. Mao carried out sweeping party purges during 1949–54 and instituted agricultural collectivization on a vast scale. He intervened militarily in the Korean War, then from 1956 to 1957, initiated the Hundred Flowers movement (named for his famous slogan, "Let a hundred flowers bloom, let a thousand schools of thought contend"), encouraging intellectuals to criticize the party and its methods of government and administration. This done, he suddenly turned the Hundred Flowers movement against the critics and dissidents in a remarkably successful effort to create a cult of personality around himself. He called for the total elimination of private property and the formation of people's agricultural communes. Simultaneously, he promulgated the Great Leap Forward, an attempt to accelerate industrialization on a massive scale.

China descended into chaos, and late in 1958, Mao stepped down as head of state and was replaced by Liu Shao-chi. He returned to the public stage in the mid-1960s, displaced Liu, and provoked the Cultural Revolution, which ushered in his reentry as party chairman and head of state. The Cultural Revolution produced a mass army of radical Maoist students, known as the Red Guard, who wrought havoc on China. Mao managed to suppress the Red Guard by the early 1970s. During this period, he moderated his views and approach to government and reached a remarkable rapprochement with the United States, initiated by a conference in Beijing with President Richard M. Nixon in 1972.

See also Sino-Japanese War.

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Mariana Islands campaign

U.S. victories in the Gilbert Islands and the Marshall Islands campaign penetrated Japan's outermost defensive ring in the central Pacific, which cleared the way for an attack on the Mariana Islands, a group of 15 islands stretching in a 500-mile arc halfway between Japan and New Guinea. The biggest islands of the group, Saipan, Tinian, Rota, and Guam, were U.S. possessions (having been ceded by Spain in 1898). The other islands had been purchased by Germany, but were captured by Japan during World War I and mandated to Japan by the League of Nations after that war.

The strategic location of the Mariana islands made them ideal for use as U.S. B-29 bomber bases because, from here, the long-range bombers could reach the Japanese homeland as well as the Philippines. They also figured as key military objectives because they were the headquarters of Japan's Central Pacific fleet, under command by Admiral Nagumo Chuichi, who had been in command at the Battle of Pearl Harbor. The islands were garrisoned by the Japanese Thirty-first Army, under General Obata Hideyoshi. Admiral Chester A. Nimitz, U.S. commander in chief in the central Pacific, believed that a battle in the Marianas would be decisive for the entire course of the Pacific war.

On June 15, 1944, the marines of Holland "Howlin' Mad" Smith's V Amphibious Corps invaded Saipan, the northernmost of the three major islands. The 2nd and 4th Marine Divisions

Japanese aircraft shot down in the "Marianas Turkey Shoot" *(National Archives and Records Administration)*

landed on the western side of the island, fighting their way nearly a mile inland by nightfall. During the night of June 16–17, the U.S. Army's 27th Infantry Division landed, capturing Aslito (Isely) Airfield on the 18th. (U.S. Army Air Forces fighters began using the field on June 23.)

After four more days of intense combat, V Corps cleared most of the southern portion of Saipan, then turned left to push the attack northward on June 23. The 2nd Marine Division advanced along the west coast, the 27th Infantry advanced up the center, and the 4th Marine Division took responsibility for the east coast. When the 27th Infantry fell behind the other two divisions, Smith relieved its commander, General Ralph Smith, and replaced him with General Sanderford Jarman and, subsequently, General George Griner. Under these commanders, the army unit caught up with the marines by July 1. With the invasion force now abreast, the 2nd Marine Division went on to take Garapan, while the other two divisions advanced toward Marpi Point, at the northern tip of the island. Resistance throughout was fierce, but, faced with the certainty of defeat, the Japanese commanders Nagumo and Saito committed suicide on July 6. Leaderless now, the Japanese troops staged fierce and suicidal *banzai* attacks. On July 9, all resistance on Saipan ended with a mass suicide of Japanese soldiers and civilians off Marpi Point. U.S. forces took just 1,000 prisoners. U.S. casualties were 10,347 (marines) and 3,674 (army), including a total of 3,426 marines and soldiers killed in action.

With Saipan secure, the attack on Guam, at the southern end of the Marianas chain, was launched on July 21. Marine general Roy Geiger, in command of the newly created III Amphibious Corps, landed 3rd Marine Division (Allen Turnage) north of Apra Harbor while 1st Brigade (Lemuel Shepherd) and 77th Infantry Division (Andrew Bruce) attacked south of Apra. The island was garrisoned by 19,000 Japanese troops under General Takashina Takeshi.

Good progress was made inland from the southern beachhead by nightfall, but the 3rd Marine Division, to the north, had a much harder fight. Whereas in the south, the advance was a mile by night, it took four days for the 3rd Marine Division to advance the same distance and link up the two advances. No sooner was this accomplished than, during the night of July 25–26, the garrison counterattacked, nearly overwhelming the marines before the Japanese were beaten back. This accomplished, 1st Brigade undertook mop-up operations between the two landing beaches.

While the 1st Brigade mopped up, the 3rd Marine and the 77th Infantry divisions attacked northeast on July 31. These two units were joined by the 1st Brigade a week later, and by August 10 the augmented assault had reached the northern tip of the island, and Guam was declared to be secure. U.S. casualties included 6,716 marines, 839 soldiers, and 245 sailors (of which total 1,023 were killed in action).

Three days after the Guam invasion stepped off, V Amphibious Corps marines under Harry Schmidt (replacing Holland Smith, who had been promoted to command of the General Fleet Marine Force Pacific), landed on Tinian, an island ideal for the construction of a B-29 air base. On July 24 the 2nd Marine Division made a decoy landing near Tinian Town on the southwest coast of the island, while the 4th Marine Division (now commanded by Clifton Cates) made the principal landing in the northwest. Tinian was defended by a garrison of

9,000 Japanese soldiers and sailors, but by early evening the 4th Marines had penetrated a full mile inland.

On July 25, the 2nd Marine Division landed and swept through the northern end of the island before turning right to attack down the east coast in concert with the 4th Marine Division. The entire island was secure by July 31, at the relatively light cost of 327 marines killed and 1,771 wounded. Almost the entire Japanese garrison was killed in action or committed suicide.

In all, the Marianas Campaign killed more than 40,000 Japanese troops, and on November 24 the first B-29 raid on Japan was launched from Saipan.

See also Saipan, Battle of, and Guam, Battle of.

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Marshall, George Catlett (1880–1959) *U.S. Army chief of staff*

Born in Uniontown, Pennsylvania, Marshall graduated from Virginia Military Institute (VMI) in 1901 and was commissioned a second lieutenant of infantry on February 3, 1902. He served in the Philippines and saw action during the insurrection on Mindoro during 1902–03. On his return to the United States, he attended Infantry and Cavalry School at Fort Leavenworth, graduating at the top of the class of 1907 and staying on at the Staff College during 1907–08. After promotion to first lieutenant in 1907, he taught at the service schools from 1908 to 1910.

Marshall was variously posted during 1910–13, then returned to the Philippines as aide to General Hunter Liggett. He was promoted to captain in 1916, returned to the United States, and was assigned as aide to General James F. Bell in 1917. In June 1917, Marshall shipped out to France as operations officer with the 1st Division. He was among the planners of the first U.S. offensive of World War I in May 1918.

Marshall was promoted to temporary colonel in July and, the next month, attached to General John J. Pershing's General Headquarters at Chaumont. Here he participated in the planning of the Saint-Mihiel offensive of September 12–16. When this offensive was completed successfully, he took charge of the transfer of 500,000 troops from Saint-Mihiel to the Meuse-Argonne front. The swift efficiency of this mass movement on a battlefront earned Marshall praise as a brilliant logistician, and he was appointed chief of operations for the First Army in October. In November, he became chief of staff of VIII Corps.

George C. Marshall *(National Archives and Records Administration)*

After the armistice of 1918, Marshall served with the army of occupation in Germany, returning to the United States in September 1919. He reverted to his prewar rank of captain and was appointed aide to Pershing, who was now army chief of staff. Marshall served as Pershing's aide through 1924 and worked with him on many aspects of the National Defense Act.

In July 1920, Marshall was promoted to major, then lieutenant colonel three years later. After he left Pershing's staff, he served in Tientsin, China, as executive officer of the 15th Infantry, then returned to the United States in 1927 to become assistant commandant of the Infantry School at Fort Benning, a post he held through 1932. He was promoted to colonel and worked with the Civilian Conservation Corps (CCC) in 1933, then was assigned as senior instructor to the Illinois National Guard from 1933 to 1936, when he was promoted to brigadier general and given command of 5th Infantry Brigade at Vancouver Barracks, Washington.

In 1938, Marshall came to Washington, D.C., as head of the War Plans Division of the Army General Staff. He was promoted to major general in July and was appointed deputy chief of staff. On September 1, he was made a temporary general and appointed chief of staff. From this position, he directed the rapid expansion of the army preparatory to war. It was under his direction that the army would grow from its prewar, predraft strength of 200,000 to 8 million by 1945.

After the Battle of Pearl Harbor and U.S. entry into World War II, Marshall reorganized the General Staff and, by March 1942, restructured the army itself into three major commands: Army Ground Forces, Army Service Forces, and Army Air Forces. As a member of the Joint Chiefs of Staff, he was a principal military adviser to President Franklin D. Roosevelt and was present at all the Allied conferences, first in company with Roosevelt and then with President Harry S. Truman.

As chief of staff, Marshall was one of the principal architects of American and Allied military strategy. In December 1944, he was promoted to general of the army (five-star rank). He ended his service as chief of staff on November 20, 1945. But five days later, President Truman sent him to China as his special envoy. For the next year, Marshall unsuccessfully attempted to mediate a peace between Chiang Kai-shek (and his Nationalists) and Mao Zedong (and the Chinese Communist Party). He then returned to the United States to replace James F. Byrnes as secretary of state in Truman's cabinet on January 1947.

In June 1947, in a speech at Harvard University, Marshall broadly outlined a sweeping program of economic aid to rebuild war-ravaged Europe, thus rendering aid to stricken humanity while also forestalling the spread of communism in economically devastated areas. The European Recovery Program was soon universally dubbed the Marshall Plan and was a great success, both in rebuilding Europe and in helping the United States to win the cold war.

Marshall resigned as secretary of state in January 1949, but returned to the Truman cabinet in September of the next year as secretary of defense. He served in that post during the opening phase of the Korean War. Marshall fell under attack by red-baiting Senator Joseph McCarthy during the early 1950s. Suffering from ill health, he resigned as secretary of defense and retired from public life in September 1951. In December 1953, Marshall was awarded the Nobel Peace Prize, largely in recognition of his advocacy of the Marshall Plan.

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Marshall Islands campaign

The Marshall Islands are a group of 36 Micronesian atolls in the Pacific, which includes the world's largest atoll, Kwajalein, where the Battle of Kwajalein Atoll was fought.

As a result of World War I, the Marshalls had been mandated to Japan, and, during World War II, the islands were an important constituent of Japan's outermost defensive perimeter. The U.S. invasion

of the islands began on January 30, 1944, when a marine and army amphibious assault force of 85,000 men, escorted by some 300 warships and landing craft, landed. The first contingent to land consisted of reconnaissance patrols, which hit the beach on Majuro Atoll. This was the first American occupation of Japanese soil.

Following the reconnaissance landings, the 4th Marine Division and 7th Infantry (Army) Division landed on the inner islands of Kwajalein Atoll, Kwajalein and Roi-Namur. These inner islands were targeted because ULTRA intercepts and decrypts had revealed that the Japanese had transferred the bulk of their forces to the outer atolls, where they expected landings. In accordance with the U.S. ISLAND HOPPING STRATEGY, the outer atolls were merely subjected to intensive air raids but were bypassed by troops, who simply cut the garrisons off by occupying the other islands. The outer atolls did not surrender until the very end of the war, although after victory in the BATTLE OF ENIWETOK ATOLL, the Marshalls came firmly under U.S. control.

The conquest of the Marshalls forced the withdrawal of the Japanese fleet from this area and cleared the way for the MARIANA ISLANDS CAMPAIGN, which resulted in the severe contraction of the Japanese defensive perimeter.

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Marshall Plan

After six years of war, Europe lay devastated, with two crises especially urgent: a shortage of food and a shortage of coal for heating. During 1946–47, the average German lived on a semistarvation died of just 1,800 calories daily, and if the German people were slowly starving, some were quickly freezing as well. During the brutal winters of 1945, 1946, and 1947, hundreds, perhaps thousands died in homes unheated for lack of fuel.

Although the United States had begun sending aid and relief to all of Europe even before the end of the war (amounting to approximately $9 billion by early 1947), these efforts were not sufficient, and the hope that Britain and France would recover sufficiently and quickly enough to care for their own populations as well as extend aid to others proved illusory. The economies even of the European victors were shattered, and recovery was slow. The cycle of the entire European economy was stalled. Although farmers could still produce food, urban populations had no way to pay for it. Even if industrial plants were rebuilt, neither urbanites nor farmers could pay for the goods produced.

Among the various plans proposed to aid European recovery was that favored by GEORGE C. MARSHALL, army chief of staff throughout World War II and, in the administration of HARRY S. TRUMAN, secretary of state. He understood the intense humanitarian crisis gripping Europe, and he also well understood how the punitive terms of the TREATY OF VERSAILLES, which had ended World War I, created a general desperation that made the rise of a new dictator and another world war virtually inevitable. Marshall also believed that because Germany had been the most powerful industrial force in Europe before World War II, its current state of economic prostration was holding back the recovery of all Europe. Moreover, the universal devastation across the continent rendered even the Western nations vulnerable to intimidation and takeover by the Soviet Union. Truman, Marshall, and others believed that only a massive infusion of capital, intended to relieve the humanitarian crisis while also jump-starting the collective European economy, could help Europe recover and remain free of Soviet influence.

The program that the press dubbed the Marshall Plan was no giveaway. Marshall and Truman believed that the political, social, and economic fate of Europe hinged on overcoming motives of rivalry, vengeance, and nationalistic passions. To recover, they believed, Europeans would have to act

with a unity they had never known before. Marshall believed that it was essential to make all of Europe, in collective agreement, responsible for determining just how the funds would be used. He proposed that the nations of Europe meet to formulate a unified plan for the disbursement and use of funds. No funds would be released until the plan had been made and presented.

On June 5, 1947, in a commencement address delivered at Harvard University, Marshall announced the broad outline of the plan for European recovery. His speech was based on studies and

reports he had commissioned from State Department officials George F. Kennan and Charles Bohlen, but in the speech, Marshall avoided all mention of precise figures. Instead, he spoke only of a "U.S. proposal . . . aimed at hunger, poverty, and chaos and not against any group" or ideology. Kennan wanted Marshall to direct the speech against Soviet aggression, but Marshall refused, arguing that the message should be universal, and he offered aid to "all Europe including the Soviet Union and her satellites." Disavowing, then, any political or ideological agenda, Marshall called on Europeans to create a plan for European recovery, which the United States would fund. That was the sum and substance of the speech that launched the Marshall Plan, a program unprecedented in the history of the world.

The plan, signed into law on April 3, 1948, provided funding to Austria, Belgium, Denmark, France, Greece, Iceland, Ireland, Italy, Luxembourg, the Netherlands, Norway, Portugal, Turkey, the United Kingdom, western Germany, and even to neutral Sweden and Switzerland. Over four years, some $13 billion in economic aid was distributed, most of it in the form of direct grants and a lesser amount in loans. Thanks to the Marshall Plan, the countries involved experienced a rise in their gross national products of 15 to 25 percent over four years. President Truman extended the plan to less-developed countries throughout the world under the "Point Four Program," launched in 1949.

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Masaryk, Jan (1886–1948) *Voice of Czech freedom fighters*

Born in Prague, Bohemia (modern Czech Republic), the son of the Czech statesman Tomáš Masaryk, Jan Masaryk saw military service with the Hungarian army during World War I. After Czechoslovakia became independent following World War I in 1919, Masaryk joined the foreign office and was dispatched to Washington, D.C., and London. In 1921, he became secretary to Czech foreign minister Edvard Beneš.

In 1925, Masaryk was appointed ambassador to Great Britain and served until 1938, when he stepped down to become foreign minister of the Czech government in exile, headquartered in London, following the German invasion of Czechoslovakia in the aftermath of the Munich Conference and Agreement.

During World War II, Masaryk was the voice of Czech exiles and freedom fighters. He regularly broadcasted to occupied Czechoslovakia, but his patriotic message was heard worldwide, and he emerged as a much-admired and popular figure. His speeches were collected, translated into English, and published in 1944 as *Speaking to My Country.* For many, the spirit of Czech freedom was kept alive during the war in the person of Jan Masaryk.

After the war, Masaryk resumed his role as foreign minister and accompanied Beneš to a conference with the Soviets in Moscow. Persuaded that Czechoslovakia had no choice but to remain on friendly terms with the USSR, he nevertheless tried to retain strong connections with the West. The Soviets soon proved overbearing, however, as when they vetoed Czech acceptance of the Marshall Plan. Increasingly dismayed by the growing influence of Soviet communism, Masaryk nonetheless complied with President Beneš's request that he continue in his post as foreign minister after the Communist regime was installed on February 25, 1948. A short time after this, however, Masaryk died under suspicious circumstances. The public story was that he had committed suicide by leaping out of a foreign office window. Certainly, he was heartbroken enough to have contemplated taking his own life; however, many believe that he was a victim of assassination—that he had been thrown out of the window.

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Matapan, Battle of

This battle took place during the Italian INVASION OF GREECE, on March 28, 1941. A British flotilla under Admiral Henry Pridham-Whippell intercepted an Italian force under Admiral Arturo Riccardi off Cape Matapan in the Greek Peloponnese. The battle, which lasted all day and stretched into the night, pitted three British battleships, four British cruisers, and a British aircraft carrier against the Italians, who lost three larger cruisers, one (possibly two) light cruisers, and two destroyers. An Italian battleship was also badly damaged. The British lost just two naval aircraft. Two thousand four hundred Italian sailors were killed in the battle. British crews rescued about 900 survivors.

The Battle of Matapan was crucial to the Allies in maintaining supremacy in the eastern Mediterranean.

See also MEDITERRANEAN OPERATIONS.

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Matsuoka Yosuke (1880–1946) *Japanese foreign minister*

Matsuoka Yosuke was Japanese ambassador to the League of Nations in 1933 when Japan left the League rather than bow to its demands that it end its occupation of Manchuria.

From July 1940 to July 1941, Matsuoka served as Japan's foreign minister. He had extensive experience of the United States, having been raised there from age 13 and having attended an American university. Nevertheless, he had little affection for either the United States or Great Britain, both of which he deeply mistrusted. This mindset was critical in leading Japan on the road to war during Matsuoka's fateful year as foreign minister.

Matsuoka supported and abetted the aggressive, expansionist policies of Japan's militarists. In 1940, he obtained military bases in French Indochina and successfully pressured Britain into temporarily closing the Burma Road from July to October 1940 to suppress the Chinese nationalist movement. Also in 1940, Matsuoka negotiated the AXIS (TRIPARTITE) PACT with Germany and Italy. In April 1941, in a move that stunned many in the Japanese government, he also concluded a nonaggression pact with the Soviet Union, a longtime rival. This pact prevented Japan from collaborating with Germany in the INVASION OF THE SOVIET UNION, yet it did not stop JOSEPH STALIN from declaring war on Japan shortly before Japan surrendered.

On the eve of the Pacific war, Matsuoka was widely regarded as a liability in the Japanese government. The only way to shed him was to dissolve the entire government, which the prime minister, Prince KONOYE FUMIMARO, did. The government was then reorganized without Matsuoka, who was without office and powerless throughout the war itself. This did not prevent his being arrested after the war on charges of war crimes. By that time, Matsuoka was broken in spirit and health. He died before he was brought before the TOKYO WAR CRIMES TRIBUNAL.

See also SINO-JAPANESE WAR.

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Mauthausen concentration camp

Opened in August 1938 near Linz, Austria, Mauthausen grew from a single camp to a facility consisting of the original main camp and 60 satellites. Some 206,000 inmates, mostly Jews from all over Europe, were held here. Although Mauthausen was not ostensibly a death (extermination) camp in the service of the FINAL SOLUTION, it was a forced-labor camp, and it is believed that some 71,000 inmates died of starvation, disease, and overwork.

In addition to the Jews incarcerated at Mauthausen, the camp received victims of the so-called Bullet Decree of March 1944, by which all escaped and recaptured prisoners of war (excluding U.S. and

British nationals) were condemned to be shot. Mauthausen was chosen as the site of these executions.

The camp was liberated by U.S. Army forces on May 5, 1945. A mass grave discovered by the liberating troops contained at least 10,000 bodies.

See also HOLOCAUST, THE.

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McAuliffe, Anthony (1898–1975) *U.S. hero of Bastogne*

McAuliffe earned lasting fame as the U.S. Army general who commanded the 101st Airborne Division in the desperate defense of Bastogne during the BATTLE OF THE ARDENNES (BATTLE OF THE BULGE) and replied to a German surrender demand with the monosyllabic expletive, "Nuts!"

Born in Washington, D.C., McAuliffe graduated from West Point in 1919 and was posted to the field artillery. During the NORMANDY LANDINGS (D-DAY), he was the artillery commander of the 101st Airborne Division, but a brigadier general, he was acting commander of the entire division during the defense against the Ardennes offensive. Led by McAuliffe, the 101st stalled the offensive long enough for the Third U.S. Army under GEORGE S. PATTON JR. to counterattack.

McAuliffe's reply to the German surrender demand became news worldwide and symbolized for many the offhanded, wisecracking courage and determination of the American approach to World War II.

McAuliffe retired from the army in May 1956 and worked in the industrial private sector.

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McNair, Lesley James (1883–1944) *chief of U.S. Army ground forces*

Leslie McNair was born in Verndale, Minnesota, and graduated from West Point near the top of his class in 1904. As a second lieutenant of artillery, he served variously in the United States and was promoted to first lieutenant in June 1905 and to captain in May 1907. From 1909 to 1913, he served with the 4th Artillery Regiment in the American West, then was sent to France to observe artillery training techniques. He returned to the United States in time to serve in the Veracruz Expedition (April 30–November 23, 1914), then under John J. Pershing in the Punitive Expedition in pursuit of Pancho Villa, the Mexican revolutionary leader who had raided a New Mexico town (March 1916–February 1917).

Promoted to major in May 1917, the month after the United States entered World War I, McNair served on the General Staff, then shipped out to France with 1st Division, only to be transferred in August to General Headquarters, American Expeditionary Force, with the rank of lieutenant colonel. Promoted to colonel in June 1918, he became a brigadier general in October, at the time the youngest general officer in the army.

At the end of World War I, McNair was serving as senior artillery officer in the General Staff's Training Section and reverted to his permanent Regular Army rank of major. He taught at the General Service School (1919–21), then transferred to a staff post in Hawaii, serving there from 1921 to 1924, when he returned to the mainland as a professor of military science at Purdue University. Promoted to lieutenant colonel in 1928, he left Purdue to attend the Army War College. After graduating in 1929, he was appointed assistant commandant of the Field Artillery School and also worked with the Depression-era Civilian Conservation Corps (CCC).

McNair was promoted to colonel in May 1935 and assigned command of the 2nd Field Artillery Brigade in Texas two years later, when he was also promoted to brigadier general in the Regular Army. McNair was named to command the Command and General Staff School at Fort Leavenworth in April 1939 and served there until October 1940.

McNair was promoted to major general in September 1940, then to temporary lieutenant general, in June 1941. In March 1942, he was named chief of Army Ground Forces (AGF). From his headquarters at Army War College, McNair directed the expansion of AGF from 780,000 men to its maximum wartime strength of 2.2 million in July 1943. He traveled extensively throughout the country and to the various theaters of the war in a tireless effort to ensure that the troops he had trained were combat ready. During one of these trips in Tunisia in 1943, he was seriously wounded by a shell fragment.

In June 1944, McNair was sent to Great Britain to replace General George S. Patton Jr. as commander of the fictitious "First U.S. Army Group," which had been contrived to deceive the Germans prior to the Normandy landings (D-day). In July, with the Normandy invasion well under way, McNair was in France observing the invasion. On July 25, 1944, Eighth U.S. Air Force bombers, assigned to soften up German positions, dropped some of their bombs short. McNair became a victim of this friendly-fire incident.

The death of McNair deprived the army of a much respected and highly able organizer, planner, and trainer of troops. He had been instrumental in building the wartime U.S. Army and in streamlining its tactical structure in brilliant ways, most notably in the transformation of the two-brigade, four-regiment "square" division into a three-regiment "triangular" division, which proved much more flexible in combat operations.

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Meiktila, Battle of

For four weeks during the Burma Campaign, in February–March 1945, Japanese and British forces sparred with each other near and in Meiktila, which was a key Japanese communications and supply center.

Under William Slim, the Fourteenth Army (Anglo-Indian) crossed the Irrawaddy River in central Burma on the trail of Lieutenant General Shihachi Katamura's Fifteenth Japanese Army. Determined to trap the Fifteenth Army, Slim staged a magnificent deception, broadcasting misleading radio signals from a decoy headquarters, which persuaded Shihachi that Slim was about to attack Mandalay. To reinforce this impression, Slim made a feint toward Mandalay while secretly moving his main striking force (the 17th Indian Division and 255th Tank Brigade) down the Myittha Valley, across the Irrawaddy, and toward Meiktila.

The striking force encountered resistance from the Indian National Army, which, however, was no match for Slim's hardened veterans. At Meiktila, Japanese transportation troops and a small contingent of combat infantry put up a determined defense, but were soon defeated. Meiktila fell on March 3.

Lieutenant General Masaaki Honda led the Japanese 49th Division and elements of four other divisions in a counteroffensive to retake the Meiktila nerve center. Honda managed to cut off the 17th Indian Division, but Slim responded with air drops that kept the division supplied. He also flew in a full brigade to reinforce the 17th. This was sufficient to repulse Honda, who withdrew on March 28, 1945.

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Mein Kampf

Perhaps the most infamous book of the 20th century, *Mein Kampf (My Struggle)* was a combination autobiography and political manifesto by Adolf Hitler. In it, he expressed the core concepts of Nazi ideology.

Hitler began composing the book, dictating it to his henchman Rudolf Hess, while both were serving terms at Landsberg Prison following the collapse of the Munich "Beer Hall" Putsch of November 1923—Hitler's premature and abortive coup d'état against the government of the Weimar

Republic. The first volume of *Mein Kampf* was published in the summer of 1925. A second volume was published in December 1926 and then was added to the first volume in 1930, which became the standard edition.

Twenty-three thousand copies of the first volume sold between 1925 and 1930, and 13,000 of the second volume sold from the end of 1926 to 1930. With Hitler's meteoric rise to power after he was named chancellor of Germany in 1933, sales of *Mein Kampf* exploded. By the end of 1933, the combined "standard" edition had sold 1.5 million copies. It is believed that at least 10 million copies were sold during the author's lifetime.

Mein Kampf is a historically important book, but, as literature it is undistinguished and nearly unreadable. Stylistically, it is repetitive and turgid. Although it was required reading throughout Germany during the Third Reich, Hitler himself was not pleased with the work. He recognized its defects of expression. Nevertheless, he repeatedly affirmed its substance, declaring that he would change nothing in it.

See also Nazi Party (NSDAP).

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Memel (Lithuania)

Memel, the Memel Strip, or Memelland was a region along the Baltic Sea north of the Neman River that had belonged to East Prussia before World War I. As a result of the Treaty of Versailles, Memel—most of whose population were Lithuanian—was severed from Germany and made a French protectorate. The French proposed that the region be declared a free state, but in January 1923, Lithuanian military forces seized it, and Memel was annexed to Lithuania as Klaipeda. It was held by Lithuania as an autonomous region until, on March 23, 1939, the German government issued an ultimatum that forced the return of Memel to Germany. The ultimatum was the result of months of agitation by Adolf Hitler, who demanded the return of "the Memel Strip."

Memel was restored to Lithuania in 1945, after the German surrender. By then, Lithuania itself had been swallowed up by the Soviet Union.

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Mengele, Josef (1911–1979) *SS physician*

Born in Günzburg, Germany, Josef Mengele was the son of a manufacturer of farm machinery in Bavaria. Raised in privilege, Mengele was a philosophy student at the University of Munich during the 1920s and fell under the spell of the racial ideology of Alfred Rosenberg. After graduating, he went on to earn a degree in medicine at the University of Frankfurt am Main.

Propelled by Rosenberg's racist philosophy, he was naturally attracted to the Sturmabteilung (SA), the Storm Troopers, which he joined in 1933. Mengele became a dedicated Nazi who went to work as a researcher at the newly founded Institute for Hereditary Biology and Racial Hygiene in 1934.

With the outbreak of World War II, Mengele became a medical officer with the Waffen SS and served in France and the USSR until May 1943, when Heinrich Himmler appointed him chief physician at Birkenau, an extermination camp attached to the Auschwitz extermination camp.

Mengele and his staff were responsible for "selection," choosing which of the prisoners coming into the camp would be immediately murdered and which would be used as slave laborers. He also selected certain prisoners as the involuntary subjects of bizarre, grotesque, and horrific medical experiments, including experiments intended to devise means of increasing fertility to accelerate the growth of the German "race." Mengele's particular interest was in twins. Ostensibly, his experiments on twins were related to his search for the means of multiplying the German nation, although most of the experiments appear to have been nothing more or less than exercises in extreme sadism. He injected many twins with varying concentrations of poisons and

pathogens to study their effects. He even oversaw a surgical operation in which two gypsy children were sutured together in an effort to create conjoined twins. Thousands died by his hand, and many others suffered permanent injury or disfigurement.

Mengele was always impeccably attired in a white lab coat and was dubbed by inmates "the White Angel" or the "Angel of Death." Despite his high profile at Birkenau-Auschwitz, Mengele managed to evade capture by the Allies after the war and lived in obscurity for four years near Rosenheim in Bavaria, working as a stable hand. In 1949, it is believed that he slipped out of Germany, traveling via Genoa, Italy, to South America. He married—it was his second marriage—under his own name in Uruguay in 1958; calling himself "José Mengele," he applied for and was granted citizenship in Paraguay the following year. It is believed that he moved to Brazil in 1961, apparently assuming the identity of Wolfgang Gerhard, a former Nazi who had also found refuge in Brazil.

Mengele was never brought to justice, and his final whereabouts remained a mystery until 1985, when a team of Brazilian, West German, and American forensic specialists determined that Mengele had died of a stroke in 1979 while swimming and was buried under Gerhard's name. This conclusion was confirmed by dental records.

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Merrill, Frank Dow (1903–1955) *leader of "Merrill's Marauders"*

Merrill was born in Hopkinton, Massachusetts, and enlisted in the army in 1922, serving in Panama through 1925. He received an appointment to West Point, from which he graduated in 1929 and was commissioned a second lieutenant of cavalry. During 1931–32, he attended Ordnance School, then, from 1934 to 1935, Cavalry School, in which he became an instructor during 1935–38.

In 1938, Merrill was attached to the U.S. embassy in Tokyo and took the opportunity to study both the Japanese language and the imperial military organization. Promoted to captain in 1939, he left the embassy assignment the following year to join the intelligence staff of General Douglas MacArthur's Philippine Command. In 1941, he was promoted to temporary major and was on a mission in Rangoon when the United States entered World War II on December 8, 1941. Remaining there, he joined the command of Lieutenant General Joseph W. "Vinegar Joe" Stilwell when Stilwell reached Burma with Chinese forces in March 1942.

Merrill served with Stilwell during the first Burma Campaign and accompanied his retreat to India in May. He was promoted to temporary lieutenant colonel at that time and then to full colonel early the following year. Stilwell appointed him to command a provisional U.S. infantry regiment, which he sent into combat in northern Burma as part of the joint American-Chinese offensive to reopen the Burma Road in February 1944. Merrill's all-volunteer Ranger unit, dubbed "Merrill's Marauders," marched 100 miles into Burma and spearheaded a broad Chinese-American envelopment action. Merrill and his Marauders were celebrated as masters of quasi-guerrilla jungle warfare tactics.

During this arduous jungle campaign, Merrill suffered from heart trouble and had to be hospitalized twice. At last, in mid-August, he was transferred to lead a liaison group of the Allied Southwest Asia Command in Ceylon and was promoted to major general in September. He was then appointed chief of staff of General Simon B. Buckner's Tenth Army in the Okinawa campaign from April 1 to June 22, 1945. After Buckner's death, Merrill served as chief of staff to Stilwell, who replaced him.

After the war, Merrill served as chief of staff of the Sixth U.S. Army, headquartered in San Francisco. He was appointed chief of the American Advisory Military Mission to the Philippines in 1947, but retired from the army the following year

and served the state of New Hampshire as commissioner of roads and public highways.

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Mers-el-Kebir, Battle of

Mers-el-Kebir was the Algerian port, near Oran, where the French fleet, now under the control of the Vichy government, was anchored when, on July 3, 1940, it came under attack by the British Royal Navy. After France's defeat in the Battle of France, the British were anxious to ensure that the ships of the French fleet would not fall into German hands. The French warships anchored at Mers included the advanced battle cruisers *Dunkerque* and *Strasbourg,* magnificent vessels that outclassed German ships of the same type, as well as two older battleships and six large destroyers. Another seven destroyers and four submarines were anchored nearby, at Oran.

By the terms of the armistice signed by the defeated French, neither the Germans nor the Italians were to make use of the French fleet, which would be held, immobilized, under German and Italian control. Despite the armistice agreement, Admiral François Darlan, the navy minister under the Vichy regime, sent messages to his captains that they were not to allow their ships to fall into German hands. The British were unaware of this message and acted independently to ensure that the French ships would not be taken by Germany. On July 3, 1940, all French ships in British ports were seized. On that same day, Force H (the fleet responsible for the Mediterranean) sailed to Mers-el-Kebir. British admiral James Somerville presented to Admiral Marcel Gensoul, the local French naval commander, four options:

1. To sail and join forces with the Royal Navy
2. To sail with reduced crews to any British port, where the ships would be interned and the crews repatriated
3. To sail with reduced crews to a French port in the West Indies, where the ships would be immobilized for the duration of the war
4. To scuttle the ships immediately—that is, within six hours

Although Somerville did not present the option to Gensoul, he was also authorized to offer a fifth choice: immobilization of the fleet at Mers.

Somerville warned Gensoul that if he refused to accept one of the four options he presented, his fleet would be sunk by British fire. When Gensoul reported to the French Admiralty, he mentioned only the fourth option: scuttling. The admiralty replied with instructions to resist.

Somerville was profoundly uneasy about firing on French ships, and he continued negotiations. Yet even while he and Gensoul conferred aboard the *Dunkerque,* the British intercepted a French Admiralty communication ordering all French naval forces in the Mediterranean to sail to Oran to defend the fleet there. Somerville now had no choice but to act quickly, before ships got under way.

At 5:54 in the afternoon, the British opened fire, destroying the battleship *Bretagne* and severely damaging a number of other ships, killing in the process 1,297 French sailors. *Dunkerque* was lightly damaged in the initial attack, but was entirely disabled in a subsequent air attack on July 6. *Strasbourg* and six other ships escaped, along with some cruisers that had been stationed at Algiers.

On July 5, the battleship *Richelieu,* anchored at Dakar, was hit by torpedo bombers, but intervention by Admiral Andrew Cunningham persuaded the French commander at Dakar to surrender and disarm all of his ships. In this way, further bloodshed was avoided.

The Battle of Mers-el-Kebir came close to propelling Vichy France into an outright military alliance with Germany. At the height of the crisis created by the battle, Vichy severed diplomatic relations with Great Britain, and French torpedo bombers attacked Gibraltar in a gesture of retaliation. In the end, however, the crisis subsided, the ships stayed out of Adolf Hitler's hands, and Vichy France essentially stayed out of the war.

See also Mediterranean operations.

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Messe, Giovanni (1883–1968) *commander of Italian Expeditionary Force during invasion of the Soviet Union*

Messe commanded the Italian Expeditionary Force, which was Italy's contribution to the Axis INVASION OF THE SOVIET UNION. The force, which was ordered into action by BENITO MUSSOLINI, had not been requested by ADOLF HITLER, who, from very early in the war, had a low regard for the Italian military. The Italian Expeditionary Force made little impact on the Russian front and suffered heavy casualties before it was withdrawn in October 1942.

In February 1943, Messe was given command of what had been the German-Italian Panzer Army (formerly commanded by ERWIN ROMMEL). Renamed the First Italian Army, it fought in Tunisia during the NORTH AFRICAN CAMPAIGN and managed to pin down the Eighth British Army at Enfidaville before it was defeated and surrendered along with the rest of the Axis forces—Italian and German—remaining in North Africa.

Despite Messe's record of defeat, he was promoted to marshal later in 1943 but saw no more action. In November 1943, after Italy's surrender to the Allies, Messe was named to head the Italian High Command.

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Messervy, Frank (1893–1973) *commander of British "Desert Rats"*

Messervy was a dashing and popular British commander in World War II who led a brigade in East Africa and then, in the WESTERN DESERT CAMPAIGN, the 7th Armored Division—better known as the "Desert Rats"—which was pitted against elements of ERWIN ROMMEL's Afrika Korps.

During the BURMA CAMPAIGN, Messervy commanded the 7th Indian Division. From December 1944 to July 1945, he commanded 4th Corps against the Japanese at the BATTLE OF MEIKTILA, as a result of which he became the liberator of Rangoon.

Messervy ended the war as commander in chief, Malaya command.

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Metaxas, Ioannis (1871–1941) *Greek dictator*

Ioannis Metaxis was born in Ithaca, Greece, and enlisted in the Greek military. He saw action in the Greco-Turkish War of 1897, then went to Germany to further his military education. Returning to Greece, he rose through the officer ranks, gaining appointment to the general staff during the Balkan Wars of 1912–13 and becoming chief of staff in 1913. He was promoted to general in 1916.

In 1914, at the outbreak of World War I, Metaxas served as military adviser to King Constantine I, but his outspoken counsel that Greece maintain neutrality brought him into conflict with the premier, Eleutherios Venizelos, who favored alliance with the Allies. When Constantine abdicated in 1917, Metaxas, opposed to the pro-Allied military policies of Venizelos, resigned. After Constantine returned to the throne in 1920, Metaxas was restored as well and used his position to oppose Venizelos; however, when Constantine's son and successor George II was forced to abdicate in 1923, Metaxas again stepped down and, this time, left the country. He returned after a brief interval to accept a ministry-level position in the government of the new republic. During this period, he founded a small royalist party, which he employed as a platform from which to

voice his opposition to the very government he was serving.

With the restoration of George II in 1935, Metaxas was named minister of war and then, in April 1936, premier. Backed by the king, he imposed a dictatorship on August 4, 1936, modeling himself on Benito Mussolini and the fascist example. Despite this, however, he carefully maintained diplomatic ties with both Britain and France. Using his near-absolute authority, Metaxas carried through a limited but badly needed program of economic and social reform. As for opposition, he suppressed it with summary brutality.

When Italy invaded Greece in 1940, Metaxas made limited use of his good relations with the West. Although he did not want overt aid from Britain—lest he antagonize Germany—he accepted covert military assistance and drove the Italian invaders back into Albania.

Metaxas died on January 21, 1941, just three months before the Germans invaded Greece with far greater success than the Italians.

See also Greece, invasion of.

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MI5 (British Military Intelligence)

During World War II, the British security service MI5 shared with MI6 (British Military Intelligence) and the Special Branch of the Metropolitan Police authority for evaluating and advising the government on intelligence relating to national security. MI5 provided intelligence to aid in defense against espionage, sabotage, and political subversion.

The personnel of MI5 and MI6 often came into conflict over matters of jurisdiction. Originally, when the two agencies were established under the War Office before World War I, MI5 (created in 1909 by Sir Vernon Kell) was responsible for intelligence within the United Kingdom to a limit of three miles off the coastline. Additionally, MI5 could cooperate in intelligence work in countries of the British Empire, including Egypt. MI6, in contrast, was concerned primarily with collecting intelligence abroad and was also responsible for national security beyond the geographical limits imposed on MI5.

Between the wars, MI5 handled security related to the British armed forces, whereas the Special Branch was responsible for security relating to the civilian population. In 1931, MI5 (now officially called the Security Service, but still familiarly referred to by its original name) took over from Special Branch intelligence work relating to all subversion, military or civilian. Throughout World War II, there was considerable dispute over whether MI5 should be incorporated into MI6 or assume responsibility for all counterespionage, at home and abroad. Despite this clash, the traditional division of responsibility remained more or less in force, with MI5 concentrating on domestic counterintelligence and MI6 focusing on espionage and counterespionage abroad.

During the war, MI5 monitored the activities of outspoken British fascists and fascist sympathizers, such as Oswald Mosley, as well as anyone who had, before the war, advocated close ties with Germany. Early in the war, panic over the existence of a vast domestic fifth column threatened to overwhelm the meager resources of MI5.

At the outbreak of the war, MI5 was headed by its superannuated founder, Kell. Prime Minister Winston Churchill effectively forced Kell's retirement, replacing him briefly with Brigadier General Jasper Harker until Kell's permanent replacement, Sir David Petrie, arrived from India. Petrie had worked for 36 years with the Indian police and was a thoroughgoing expert in counterespionage and countersubversion tactics. Under Petrie, MI5 rapidly developed into a highly competent agency and a fitting adversary of the German espionage unit known as the Abwehr. MI5 infiltrated the Abwehr in Britain by introducing double agents. This infiltration, combined with efficient interception and decryption of coded German radio messages, allowed MI5 to defeat the first

major Abwehr operation against Britain in November 1940. All 21 German agents active in Britain at this time were either captured or surrendered. One committed suicide. Through 1943, MI5 intercepted Abwehr agents trying to infiltrate into Britain at the rate of about 20 a year. Some of these MI5 turned into double agents. The agency's success was such that the Abwehr essentially presented no real threat to Britain by the middle of the war. Worse for the Germans, MI5 used its double-agent network to generate disinformation and deception, which proved especially important during the lead-up to the NORMANDY LANDINGS (D-DAY).

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MI6 (British Military Intelligence)

MI6 was created before World War I along with MI5. Whereas MI5 had responsibility for domestic and colonial counterespionage, MI6 worked abroad to gather foreign intelligence relating to national security. (Despite this geographical division of jurisdiction, disputes between the two agencies were common during World War II.) MI6 was put under the control of the British Foreign Office in 1921 and officially redesignated Secret Intelligence Service; however, it continued to be far more familiarly known as MI6.

In addition to managing a network of agents abroad, MI6 also administered the British Code and Cypher School at Bletchley Park, which was responsible for intercepting and deciphering coded messages produced by the German ENIGMA CIPHER AND MACHINE and producing ULTRA intelligence. It was in this work that MI6 made its greatest impact in World War II, although its fieldwork was also important and effective.

Like MI5, MI6 had a staff inadequate for its mission on the eve of war; however, in 1938, funding was provided to build up the agency under the leadership of Admiral Hugh Sinclair (codenamed "C"), who augmented the existing counterespionage section and created a new section—designated Section D—for sabotage and subversion. On Sinclair's death late in 1939, Stewart Menzies took over. He immediately faced a crisis when two of his top officers were abducted, compromising much of MI6's European network. Another blow came in May 1940, when the new prime minister, WINSTON CHURCHILL, transferred Section D from MI6 to the Special Operation Executive (SOE). This created an ongoing competition between MI6 and SOE for a variety of scarce resources.

Despite various handicaps, parts of MI6 worked well in conjunction with MI5 and SOE, especially in the management and coordination of double agents. Very early in the war, breakthroughs in reading encrypted communications to and from German Abwehr agents yielded extremely valuable intelligence and counterintelligence.

At the outbreak of the war MI6 created a special scientific section that was responsible for conducting and analyzing aerial photographic reconnaissance. Although this work was taken over by the RAF early on, the advances developed by the scientific section of MI6 were invaluable.

MI6 truly came into its own beginning in 1942, as the Allies gradually seized the initiative and began offensive operations. MI6 became a key provider of tactical intelligence and served as liaison among and coordinator of the intelligence services of the various Allied governments in exile, including, most important, the Poles, Czechs, Free French, and Resistance operatives in occupied France. Covert activity in France steadily gained in importance as the war progressed. MI6 also established and maintained important contacts with the German internal resistance (*see* RESISTANCE MOVEMENTS).

Perhaps the most spectacular work of MI6 came during preparations for the NORMANDY LANDINGS (D-DAY). An MI6 agent managed to steal plans of the Atlantic Wall, the massive fixed defenses along the coast that the Germans had built with slave labor. Other agents working under MI6 provided detailed sketches of some 50 miles of Norman coastline. After the invasion, MI6 created Special Counter-Intelligence Units to accompany the Allied armies into France, Belgium, and the

Netherlands. Their mission was to prevent enemy infiltration of the invading forces. By the end of the war, the reputation of MI6 had not only been rehabilitated but even mythologized. It came to be regarded as among the most effective intelligence organizations of World War II.

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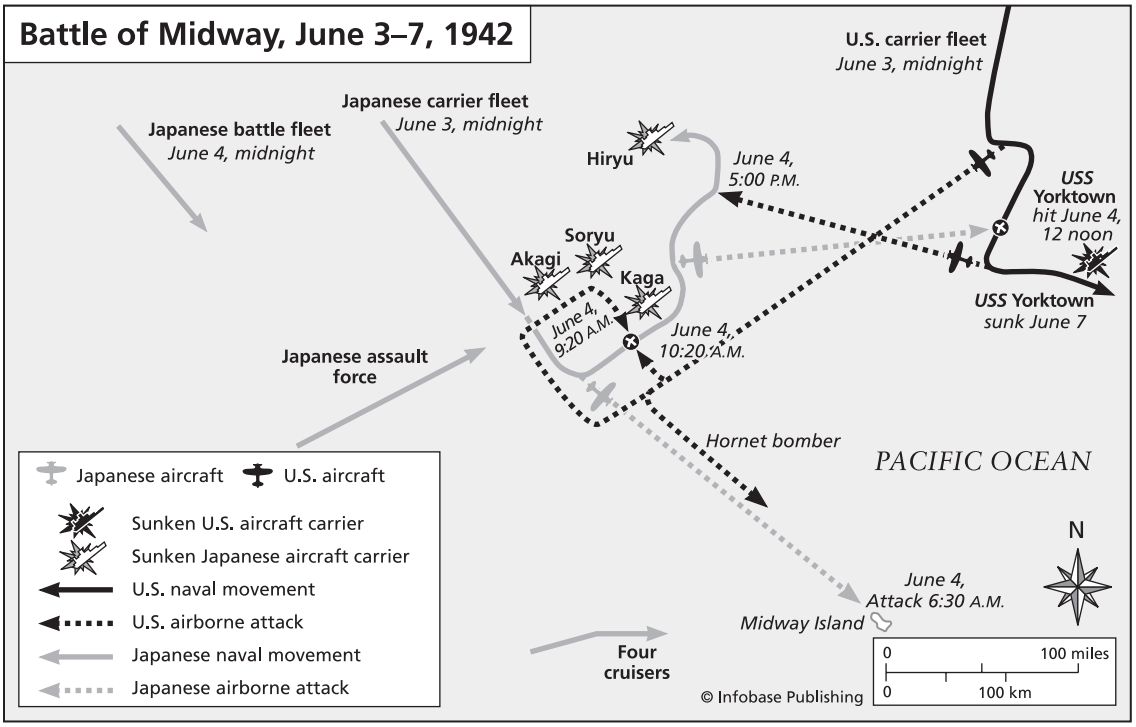
Midway, Battle of

Japan's Admiral Yamamoto Isoroku conceived a grand plan to lure the U.S. Pacific fleet into a single decisive battle that would finish the work of the Battle of Pearl Harbor, destroying or at least crippling the fleet so severely that the United States would be forced to seek a negotiated peace in the Pacific theater. Midway Island, just 1,000 miles west of Hawaii, was a strategically located piece of land from which either side could launch major attacks against the other. Yamamoto believed that he could trap the U.S. fleet here and administer a coup de grâce.

He sent a diversionary force to the Aleutian Islands, U.S. territory in the northern Pacific, while Admiral Nagumo Chuichi, the very man who had led the attack on Pearl Harbor, took a four-carrier striking force followed by an invasion fleet—a total of about 88 ships—to Midway. Thanks to Ultra intelligence, the U.S. Pacific commander, Admiral Chester A. Nimitz anticipated Yamamoto's move and intended to oblige him by providing the decisive battle he wanted—with, however, a very different outcome: an American victory.

Nimitz hurriedly assembled two task forces east of Midway: Number 16, under Admiral Raymond Spruance, and Number 18, commanded by Admiral Frank Fletcher. In addition to the aircraft



launched from the large carriers *Enterprise, Hornet,* and *Yorktown,* land-based planes would operate from Midway itself.

Midway-based planes attacked a portion of the Japanese fleet more than 500 miles west of Midway on June 3, 1942. The attack failed to do significant damage, and American losses were heavy. On the morning of June 4, the Japanese seized the initiative, sending 108 planes against Midway, causing heavy damage, including the loss on the ground of 15 of the 25 USMC fighter planes defending the island. At the same time, U.S. torpedo bombers made a second air attack against the Japanese fleet. They hit no ships and lost seven aircraft. In a second strike this day, eight of 27 USMC dive bombers were lost, again having inflicted no damage. At last, 15 heavy B-17 bombers flying out of Midway attacked, but, again, the Japanese carriers escaped unscathed. However, American torpedo bombers launched from all three carriers made yet another attack on the Japanese fleet. They inflicted little damage, and, worst of all, 35 of the 41 bombers engaged were shot down. But this costly attack forced the Japanese carriers to launch all of their aircraft in defense, leaving the carriers vulnerable to an attack. As the Japanese crews were still preparing their aircraft, which had just returned from defending against the latest torpedo bomber attacks, 54 dive bombers from the *Enterprise* and *Yorktown* (the *Hornet*'s planes failed to find their targets) descended on three of the great Japanese carriers—*Akagi, Kaga,* and *Soryu.* All were loaded with just-recovered aircraft not yet ready to take off. In a mere five minutes, all three ships were sent to the bottom, along with crews, aircraft, and pilots. A fourth carrier, *Hiryu,* was sunk in a second attack later in the afternoon—although not before the *Hiryu*'s planes had savaged the *Yorktown,* ultimately sinking it.

The Battle of Midway was costly for American pilots and sailors, but it was fatal to the Japanese. Losing four aircraft carriers, many aircraft, and—perhaps worst of all—many of its most highly skilled pilots, the Japanese withdrew on June 5. The U.S. forces in the area were themselves too battered to give chase—although they did subsequently sink a heavy cruiser, the *Mikuma,* on June 6.

The Battle of Midway is universally regarded as the turning point of the Pacific war. Up to this point, Japan had been on the offensive, a veritable juggernaut. After Midway, it could fight only a defensive war, and its hold on the vast Pacific was steadily eroded. The cost to the United States for this momentous strategic triumph was 150 planes, 307 men, a destroyer, and the carrier *Yorktown.* Japanese losses were 275 planes, four carriers, a heavy cruiser, and nearly 5,000 sailors and airmen—the latter an irreplaceable loss.

See also Aleutian Islands Campaign.

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Mihailović, Draža (Dragoljub Mihailović) (1893–1946) *commander of the Chetniks—Serbian guerrillas*

Draža Mihailović entered the Belgrade (Serbia) Military Academy at age 15 and saw his first combat in 1912 during the Serbian war against Turkey. Mihailović next fought in World War I, emerging from that conflict with the rank of captain in the Serbian army.

After World War I, Serbia became a part of Yugoslavia, and, during the run-up to World War II, the Yugoslav government under Prince Regent Paul aligned itself with the Axis; however, Paul's government was toppled by a military coup on March 27, 1941, which established a government more or less aligned with the Allies. Just ten days after the coup, however, German aircraft devastated Belgrade, an attack that was followed by the invasion of Yugoslavia.

After the German occupation of Yugoslavia, Mihailović became head of the Chetniks (Četniks),

a mountain guerrilla movement that took its name from the anti-Turkish fighters of 1912–18. Aided by the Allies, Mihailović and his Chetniks fought alongside the partisans of Marshall Tito—at least for a time. The two leaders and their partisan armies came to blows over a basic political and ideological conflict. Whereas Mihailović was a staunch monarchist, Tito was a committed communist.

Ultimately, the ideological differences between Mihailović and Tito overwhelmed Mihailović's opposition to the Germans. He began to collaborate with the Germans and Italians against Tito and his partisans. Pursuant to a decision at the Teheran (Tehran) Conference of November 28–December 1, 1943, the Allies abruptly ended all aid to Mihailović and funneled everything to Tito.

After the war, on March 13, 1946, Tito loyalists captured Mihailović, who was tried and convicted as a collaborator. He was executed on July 17, 1946.

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Mikołajczyk, Stanisław (1901–1967) *prime minister of Polish government in exile*

Stanisław Mikołajczyk launched his political career as an activist in rural Polish youth organizations and in agricultural special-interest organizations. He joined the Polish Peasants Party (PIAST) in 1922 and in 1927 became cofounder of the Wielkopolska Union of Rural Youth, based in Pozna . He earned national fame and became a prominent Polish politician. In 1933, he was elected to the Polish parliament (Sejm) and rose in the ranks of the Polish Peasants Party.

During the invasion of Poland in September 1939, Mikołajczyk escaped to London, where he joined with Władysław Sikorski and Władysław Raczkiewicz to establish a Polish government in exile, the National Council. Mikołajczyk served as deputy prime minister in the National Council under Sikorski. When Sikorkski was killed in an air crash in July 1943, Mikołajczyk was appointed prime minister.

Mikołajczyk returned to Poland in June 1945 and assumed the post of deputy prime minister and minister of agriculture and agricultural reforms in the postwar Provisional Government of National Unity. He also took up leadership of the re-formed Polish Peasants Party in July 1945. He struggled against domination by Moscow and, in October 1947, was forced by the Soviets to flee the country. He spent the rest of his life in exile in the United States, working as an activist against Soviet totalitarian communism.

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mines, land

Land mines in World War II were of two major types, antitank mines and antipersonnel mines. The latter were developed chiefly to foil attempts to detect and remove the antitank mines.

The first antitank mines deployed in World War II were laid by the Italians in 1940 during the Western Desert Campaigns. These devices were activated by pressure on the top of the mine. The Italians also deployed antipersonnel mines—chiefly to protect the antitank mines—which were nothing more than stick hand grenades triggered by trip wires or pressure fuses.

The British were the second belligerent to develop antitank mines, but these were not deployed until after the conclusion of the Battle of France. Fearing invasion, the British began to mass-produce the mines to defend against Panzer attack. The devices were manufactured from modified cake tins, which were filled with eight pounds of TNT and fitted with a primitive pressure fuse. The first model, designated Mark IV, was easily cleared by explosive blasts detonated nearby, so the mine was redesigned with a new fuse that could not be so easily triggered by a blast; this was designated Mark V. The British did not produce antiper-

sonnel mines, instead defending their minefields by gunfire.

The German Tellermine was first used in the Western Desert Campaigns in 1941. Like the British mines, it was circular. The mine was packed with 11 pounds of TNT and was activated by a pressure fuse. In addition to this antitank mine, the Germans deployed the S-Mine (*Springenmine*), an antipersonnel device that was buried just below the surface of the topsoil. Small prongs remained above ground; when triggered, these set off a shrapnel-filled canister, which sprayed the deadly metal shards upward to chest height.

The Soviets produced few mines at the outbreak of the war, largely because, as defensive rather than offensive weapons, they were frowned on by Joseph Stalin and other Communist Party members. It was not until 1941 that production of antitank mines began in earnest in the USSR. Before the end of the war, however, the Soviets produced mines in massive quantities, laying perhaps as many as 200 million.

Mines were laid principally wherever armor was extensively employed in combat. For that reason, the Pacific war, which made relatively little use of tanks, did not see a large quantity of mines.

As a weapon, mines were not only destructive in and of themselves, but required an extensive commitment of manpower to clear, so beyond their direct effect, their use tended to tie down significant numbers of troops and generally to delay the advance of armor. They were often a menace to the mine-laying side however, as well as the enemy. It was all too easy to blunder into one's own minefield.

As the war progressed, the technology of mine detection advanced. Initially, mines could be detected only by dangerous and time-consuming prodding with bayonets or special metal probes. Once found, they had to be carefully lifted by hand—a hazardous undertaking not just because of the mines themselves, but because of the necessity to expose oneself to enemy fire. In 1942, all sides had small, hand-held electromagnetic mine detectors intended to take the place of manual probing, but these did not prove wholly reliable.

The British developed and deployed several devices designed to clear mines quickly and with less danger. Tanks were fitted with special rollers and mine plows, but the most successful device was the mine flail—also called a "Crab" or "Scorpion." A large rotating drum was fitted to the front of a tank, the rotation of the drum driven by the tank's transmission. As the drum rotated, weighted chains flailed out from it, beating the earth and detonating the mines. Vehicles that followed directly behind the flail could reliably traverse a tankwide path cleared of mines.

Another mine-clearing device was a modification of the Bangalore torpedo. Explosive-filled steel pipes (called Snakes) were pushed through minefields by tanks. The explosives set off most antipersonnel mines, clearing a wide path, but the method was less effective for clearing antitank mines, which were less susceptible to detonation by blast.

In 1943, the Axis began laying wooden mines with plastic pressure fuses. Because they were nonmetallic, these mines could not be detected by Allied electromagnetic mine detectors. In addition to nonmetallic antitank mines, the Germans also laid many *Schuhmines,* which consisted of a wooden box filled with just enough explosive to blow off the foot of anyone unfortunate enough to step on one. The maimed soldier was thus rendered unfit for battle, and at least one or two other troops had to come to his aid.

Land mines did not defeat the tank as a weapon, but they surely made an impact and significantly reduced their mobility. It is estimated that between 20 and 30 percent of all tank casualties in World War II were caused by mines

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mines, naval

The history of naval mines is longer than that of Land Mines, dating to before the middle of the

19th century. It is estimated that the belligerents laid approximately a half million naval mines during World War II. The direct effect of this weapon was not as great as one might expect. Mines were responsible for sinking about 6.5 percent of all Allied merchant shipping during the war; aircraft, submarines, and surface ships accounted for the vast majority of sinkings. Nevertheless, the presence of mines had a profound effect on naval strategy. By laying mines, the Germans could prompt the closing of British and U.S. ports for days at a time. Mines were important in the siege of MALTA, and the British made effective use of mines against German surface raiders in February 1942. The United States used naval mines—laid from the air—most effectively in the blockade of Japan. This heavy mine barrage greatly disrupted merchant supply traffic into the Japanese homeland.

All combatants deployed primarily moored contact mines. These were ball-shaped mines from which horns projected. When the hull of a ship broke one of the horns, a chemical was released, which triggered a firing mechanism that touched off approximately 600 pounds of explosive material. Contact mines were generally laid in moderately shallow waters, no more than 600 feet deep (although the Japanese developed mines that could be laid in water as deep as 3,500 feet). They were moored to the sea bottom by a weighted cable. Contact mines were laid by specialized minelaying ships as well as by other warships modified to carry minelaying equipment.

During World War I, both the British and the Germans developed more sophisticated magnetic mines, which were also called influence mines. Whereas contact mines were detonated by actual contact with a ship's hull, magnetic mines were detonated by the proximity ("influence") of the steel hull of a passing ship. This significantly increased the chance that a mine would be detonated.

At the beginning of the war, the Germans deployed many influence mines to great effect; however, a hiatus in the German minelaying program from early December 1939 until the end of March 1940 proved strategically damaging to the Germans, who were never able thereafter to lay sufficient quantities of influence mines to disrupt British shipping significantly. Moreover, by mid-1940 the British had developed effective minesweeping countermeasures. The British Minesweeping Service recovered an intact German magnetic mine in November 1939, analyzed it, and by mid-1940 developed and deployed a magnetic sweep. The Germans then began deploying another type of influence mine, the acoustic mine, which was detonated by the sound of a passing ship's screw. The British quickly developed effective sweeps for these as well.

Whereas contact mines were generally laid by ships, influence mines, which were cylindrical rather than spherical, were usually air-dropped. Early in the war, this required flying at extremely low altitudes, which exposed aircraft to enemy fire, but by the beginning of 1944, the use of airborne RADAR enabled Allied aircraft to deploy mines from as high as 15,000 feet. Influence mines could pack as many as 775 pounds of explosives.

Of the combatant nations, the Soviet Union developed influence mines late in the war (after 1943), and Japan never developed them.

The German Luftwaffe dropped 2,200-pound naval magnetic mines by parachute on British cities. Called Luftmines by the Germans, they were classified as "G" mines by the British Bomb Disposal Service. These attacks provoked British retaliation in the form of Operation Royal Marine, which, in May 1940, air-dropped small, buoyant mines so that they would float down the Rhine River, greatly disrupting river traffic between Karlsruhe and Mainz.

In 1944, at the time of the NORMANDY LANDINGS (D-DAY), the Germans introduced yet another kind of influence mine, the pressure mine, which the Allies referred to by the code name "Oyster." This mine was detonated by changes in ambient water pressure caused by a vessel passing overhead. Some 400 were laid off the Norman coast and caused significant losses until one was recovered intact and analyzed. The British then calculated the maximum speed at which a vessel could move in various depths without triggering the mine. If a captain were very

careful, this countermeasure worked well, but it required scrupulous calculation.

See also MINESWEEPER.

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minesweeper

During World War II, minesweeping—the removal of NAVAL MINES—was carried out by specially built minesweepers and destroyer-minesweepers as well as an array of converted civilian craft, including trawlers and even paddle steamers. Some of the specialized vessels had wooden hulls, so that they would not detonate magnetic mines. But most World War II–era minesweepers were conventional steel-hulled ships, of which the U.S. Navy YMS Class was typical. The YMS ships displaced 270 tons, were 136 feet in length, and were crewed by 32 men. They carried a single three-inch antiaircraft gun and a pair of 20 mm antiaircraft guns. Driven by a pair of diesels making about 2,000 horsepower, the YMS-class ships had a top speed of 15 knots.

Most commonly, Allied minesweepers were equipped with Oropesa sweeps (named after the first ship to use this equipment in 1919). Designed to sweep contact mines, the Oropesa sweep was towed behind the minesweeper. It severed the mine's mooring cable by means of a weighted wire equipped with sharp cutters and a small explosive charge. When the released mine bobbed to the surface, it was detonated by gunfire.

Magnetic mines were swept using the LL, or magnetic sweep. This consisted of two long buoyant electrical cables towed behind a wooden-hulled sweeper. An electric current was passed through the cables, creating a magnetic field that detonated the mines. Magnetic mines could also be swept using coils mounted on wooden barges and towed by a tug. Low-altitude aircraft fitted with magnetic coils could also be employed to clear magnetic mines. The Allies experimented less successfully with ships that had massive electromagnets installed in their bows. The sweeping of magnetic mines became less important after degaussing technology advanced, by which the magnetic field of a steel hull could be effectively neutralized.

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Mitscher, Marc (1887–1947) *U.S. Pacific commander*

Marc Mitscher was born in Hillsboro, Wisconsin, and raised in Oklahoma City, but his landlocked birthplace and early home notwithstanding, he gained admission to the U.S. Naval Academy, from which he graduated in 1910. While serving on the USS *California* during 1913–15, he participated in the landings at Veracruz, Mexico, in April 1914. In 1915, he enrolled in flight training at Pensacola Naval Air Station, earning his wings in June 1916. After advanced flight training at Pensacola, he served aboard the attack cruiser *Huntington* and performed balloon and aircraft catapult experiments during April 1917.

During World War I, Mitscher served aboard vessels on Atlantic convoy escort duty, then was posted to Montauk Point Naval Air Station on Long Island, New York, then given command of the Rockaway, Long Island, Naval Air Station in February 1918.

In 1919, Mitscher assumed command of the Miami NAS and in May of that year attempted a transatlantic flight, but made it only as far as the Azores—a feat for which he nevertheless received the Navy Cross.

In the winter of 1920, Mitscher transferred to the Pacific as commander of the Pacific Fleet's air

unit based in San Diego, California. In 1922, he returned to the East Coast as commander of the Anacostia NAS in Washington, D.C., and also served in the Plans Division of the Bureau of Aeronautics from 1922 to 1926. In 1922, he led the navy team at the international air race at Detroit and, in 1923, at St. Louis.

From July to December 1926, Mitscher served aboard the USS *Langley,* the navy's first aircraft carrier, in the Pacific. He transferred to another carrier, the USS *Saratoga,* and was appointed the ship's air officer when it entered the fleet in November 1927. Promoted to commander in October 1930, Mitscher returned to shore duty in Washington at the Bureau of Aeronautics, serving until 1933, when he was named chief of staff to Base Force commander Admiral Alfred W. Johnson. He served aboard the seaplane tender *Wright* for a year before being appointed executive officer of the *Saratoga* in 1934. Mitscher returned to the Bureau of Aeronautics as leader of the Flight Division from 1935 to 1937.

Late in 1937, Mitscher assumed command of the USS *Wright* and was promoted to captain the following year. As captain, he took command of Patrol Wing 1, operating out of San Diego, serving until June 1939, when he was named assistant chief of the Bureau of Aeronautics. In July 1941, Mitscher was given command of the new aircraft carrier USS *Hornet.* He was skipper of this carrier when Army Air Corps colonel Jimmy Doolittle flew the Doolittle Tokyo Raid from its deck. Mitscher also commanded the *Hornet* during the Battle of Midway (June 1942), after which he was promoted to rear admiral and assigned command of Patrol Wing 2. In December 1942, he became commandant of Fleet Air, based at Noumea, capital of New Caledonia. After the U.S. victory in the Battle of Guadalcanal, he moved his base to that island in April 1943.

Marc Mitscher *(U.S. Navy History Center)*

During the Solomon Islands campaigns, Mitscher directed combined operations of army, navy, marine, and New Zealand air units, then returned to sea as commander of the Fast Carrier Task Force during the Marshall Islands campaign, the Battle of Truk Island, and in the New Guinea Campaign.

Promoted to vice admiral in March 1944, Mitscher took command of carrier operations at the Battle of the Philippine Sea and was in command during the destruction of the Japanese carrier force in the celebrated "Marianas Turkey Shoot" of June 19–21. During August and September, he supported amphibious landings at the Bonins and Palau, then commanded air cover operations for the landings at the Battle of Leyte in October. During the Battle of Leyte Gulf (October 24–26), he directed carrier operations that destroyed most of the remaining Japanese carrier fleet.

Mitscher next played a supporting role at the Battle of Iwo Jima in February 1945 and the Battle of Okinawa in April. During the Battle of the East China Sea (April 7), Mitscher's carriers sank the great Japanese battleship *Yamato* along with most of its escorts.

Mitscher returned to Washington, D.C., in July 1945 as deputy chief of Naval Operations (Air) and, in March 1946, he was promoted to admiral. He commanded the Eighth Fleet briefly before his death, at age 60, from illness.

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Model, Walther (1891–1945) *German commander, "Führer's Fireman"*

Model was born in Genthin near Magdeburg, the son of a music teacher. He joined the army in 1909 and, by the outbreak of World War I, had risen to service in several staff and adjutant positions. He received the Iron Cross in October 1915. After the armistice, Model was one of the small cadre of 4,000 officers retained for service in the Reichswehr, the diminutive army Germany was permitted under the Treaty of Versailles.

An early follower of Adolf Hitler, Model joined the Nazi Party and was rewarded in 1935 with command of the Technical Department of the Army General Staff. On March 1, 1938, Model was promoted to major general, and the following year was given command of IV Corps in the invasion of Poland (September–October 1939). Promoted to lieutenant general on April 1, 1940, he led the 3rd Panzer Division through Flanders and France during the Battle of France (May–June 1940).

Elevated to *General der Panzergruppen* (panzer group general), Model was sent to the Russian front on October 1, 1941, where he briefly commanded the XXXI Panzer Corps before promotion to *Generaloberst* (colonel general) on February 28, 1942. He was given command of the Ninth German Army, which he led from January 1942 to January 1944. After leading the northern arm of the failed offensive against Kursk during July 5–12, 1943, he was assigned command of Army Group North in January 1944. In March, after promotion to field marshal, he took command of Army Group North Ukraine. On June 28, Model assumed command of what remained of Army Group Center on the eastern front.

After the July Plot (to assassinate Hitler)—July 20, 1944—Model reaffirmed his loyalty to Hitler, whereupon he was named commander of Army Group B and commander in chief (OB) West on August 17, 1944. Days later, however, on September 5, his authority reverted to command of Army Group B only.

Model led a highly effective defense against the Allied advance at Arnhem during Operation Market-Garden (September 17–26, 1944), and he was in overall command of the daring Ardennes offensive from December 16, 1944, to January 15, 1945. By April 1945, however, Model's forces were surrounded in the Ruhr Pocket Campaign. He conducted a hopeless though valiant resistance for 18 days before finally surrendering his 300,000 remaining troops. As for himself, rather than surrender, he committed suicide at Lintorf on April 21, 1945.

The majority of Germany's best military commanders were often contemptuous of Hitler as a strategist, and they harbored deep ideological and moral objections to Nazism. In contrast to these, Model was a zealous follower of Hitler and a thoroughgoing Nazi. His military philosophy was unceasingly aggressive, and his talent for intervening productively in desperate situations earned him the nickname "Führer's Fireman."

See also Ardennes, Battle of the (Battle of the Bulge), and Kursk, Battle of.

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Moelders, Werner (1913–1941) *German air ace*

Born in Gelsenkirchen, Germany, Moelders graduated from the Dresden Military Academy and joined the Luftwaffe in 1935. He served as a flight instructor until 1938, then as a squadron commander, fought during the Spanish civil war. He emerged from this conflict an ace, credited with 14 victories, more than any other German pilot.

When World War II began, Moelders assumed command of Jagdgeschwader 53, then, during the Battle of France, commanded Jagdgeschwader 51, narrowly escaping death on June 5, 1940, when his Messerschmitt Bf109 was shot down over Chantilly. Moelders flew next in the Battle of Britain

and in the INVASION OF THE SOVIET UNION. In these two campaigns, he quickly became Germany's ace of aces, scoring an incredible 115 kills. He was not only the first Luftwaffe flier to be decorated with the Knight's Cross with Oak Leaves, Swords, and Diamonds, but Germany's most highly decorated soldier.

When Ernst Udet, German air ace of World War I, committed suicide on November 17, 1941, Moelders was summoned from the Russian front to attend the hero's funeral. He was killed when his Heinkel He111 crashed in fog at Breslau on November 21, 1941.

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Molotov, Vyacheslav (1890–1986) *Soviet foreign minister*

Born Vyacheslav Mikhaylovich Skryabin in Kukarka (modern Sovetsk), Russia, Molotov was one of the founders of the Bolshevik Party in 1906. He was arrested by tsarist police in 1909 and again in 1915 for revolutionary agitation, and when the Bolsheviks seized power in the Russian Revolution of 1917, he was active in a number of provincial party organizations. In 1921, he was elevated to the Central Committee of the Communist Party, both as a member and as a secretary. He also became a candidate member of the Politburo.

Following the death of Vladimir Ilich Lenin in 1924, Molotov was an ardent supporter of JOSEPH STALIN and quickly entered Stalin's inner circle, becoming a full Politburo member in 1926. This put him in a position to control the Moscow Party Committee, which, during 1928–30, he purged of all anti-Stalinists. Stalin rewarded him in 1930 with appointment as chairman of the Council of People's Commissars, effectively making him the equivalent of prime minister of the Soviet Union. He held this post until 1941.

On the eve of World War II, in May 1939, Stalin selected Molotov to replace MAXIM LITVINOV as the commissar of foreign affairs. Molotov negotiated the GERMAN-SOVIET NON-AGGRESSION PACT in August 1939. In May 1941, Stalin personally assumed the post of chairman of the Council of Ministers (the new name for the Council of People's Commissars), but Molotov remained its first deputy chairman.

After the INVASION OF THE SOVIET UNION in June 1941, Molotov was appointed to the State Defense Committee, Stalin's war cabinet, a post he held simultaneously with the first deputy chairmanship of the Council of Ministers. While he was on the Defense Committee, Molotov negotiated Soviet alliances with Great Britain and the United States. He was in attendance at three key Allied conferences, the 1943 Teheran Conference, the Yalta Conference of 1945, and the POTSDAM CONFERENCE, also in 1945. Molotov was the chief representative of the Soviet Union at the 1945 San Francisco Conference, which created the United Nations.

The Western Allied leaders, especially WINSTON CHURCHILL, FRANKLIN D. ROOSEVELT, and HARRY S. TRUMAN, found Molotov difficult to deal with since he did nothing to disguise his extreme hostility to the West. During the war, his name was memorialized by association with the improvised incendiary device, the so-called Molotov cocktail, a glass bottle partly filled with gasoline or alcohol, its mouth stoppered airtight with a cork, and a cloth rag tied around the mouth. Before use, the rag was soaked with gasoline or alcohol and lit. The bottle was thrown at the target and shattered on impact, disgorging its flammable contents, which ignited explosively. Cheap, quick, and easy to make, the Molotov cocktail was used extensively by the Red Army as well as by partisans. Molotov ordered its mass production.

Molotov remained in high office after the war but, in March 1949, resigned as foreign minister only to resume this post after the death of Stalin in March 1953. He fell to disputing with NIKITA KHRUSHCHEV and was dismissed in June 1956, but was named minister of state control in November of that year. In June 1957, he made an unsuccessful attempt to overthrow Khrushchev and was subsequently stripped of all of his offices, but was

appointed ambassador to Mongolia and then served as Soviet delegate to the International Atomic Energy Agency in Vienna (1960–61). He persisted in criticizing Khrushchev, and was expelled from the Communist Party in 1962. From that time on, he lived out the rest of his long life in obscure retirement in Moscow.

See also YALTA AGREEMENT.

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Monckton, Walter (1891–1965) *British propaganda director*

Walter Monckton was born in Plaxtol, Kent, and was educated at Harrow and at Balliol College, Oxford. During World War I, he served in the army, was decorated with the Military Cross, and mustered out with the rank of captain. After the war, he practiced law, earning appointment as attorney general to the Duchy of Cornwall in 1932. He was Edward VIII's legal adviser during the abdication crisis of 1936.

When World War II began, Prime Minister NEVILLE CHAMBERLAIN appointed Monckton director general of the Press and Censorship Bureau. In 1940, when WINSTON CHURCHILL became prime minister, he appointed Monckton director general of the Ministry of Information and undersecretary of state for foreign affairs. In July 1941, Brendan Bracken replaced Duff Cooper as minister of information and sent Monckton on a propaganda mission to the Soviet Union in an effort to smooth relations between the two mutually suspicious and hostile allies.

Monckton became director general of British Propaganda and Information Services in Egypt in 1942 and served in this capacity throughout most of the rest of the war, repeatedly declining Churchill's invitation to join his government until May 1945, when he accepted the post of solicitor general. He attended the Potsdam Conference in July 1945 as the British delegate on the Reparations Commission.

Following the war, Monckton joined the Conservative Party and, in 1951, was elected to the House of Commons. After Churchill was reelected as prime minister later in the year, he appointed Monckton minister of labor. In 1955, ANTHONY EDEN appointed Monckton minister of defense. Monckton disagreed with Eden during the Suez crisis (1956) and agreed to step down as defense minister to accept the far lesser position of paymaster general.

Monckton became a viscount in 1957, left the House of Commons, and served as chairman of Midland Bank through 1964. He held several other distinguished posts concurrently, including that of chancellor of the University of Sussex from 1961 until his death in 1965.

See also POTSDAM AGREEMENT.

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Montgomery, Sir Bernard Law (first viscount Montgomery of El Alamein) (1887–1976) *British commander of World War II*

Born in London to the family of a clergyman, Montgomery was raised in Tasmania until he returned to London as a youth to attend St. Paul's School. In 1906, he enrolled at Sandhurst, the British military academy, graduating in 1908 with a commission in the Royal Warwickshire Regiment. He saw action with this regiment during World War I and fought with distinction at the first Battle of Ypres in October–November 1914, suffering a severe wound and earning the Distinguished Service Order (DSO). He was invalided back to Britain and assigned training duties during 1915. At the beginning of 1916, Montgomery was sufficiently recovered to return to France, where he served as brigade major of the 104th Brigade at the Somme from June 24 to November 13, 1916. Promoted to staff officer for the 33rd Division at Arras during

April 9–15, 1917, and then for IX Corps at Passchendaele from July 31 to November 10, he ended the war as a staff officer with the 47th Division.

Montgomery saw service in the army of occupation in Germany after the armistice, then enrolled in the staff college at Camberley in 1921. He served in various home posts until 1926, when he was appointed an instructor at Camberley. In 1929, he rewrote the army's *Infantry Training Manual,* then was posted for three years in Jerusalem, Alexandria, and Poona (India), where he commanded a regiment from 1930 to 1933. Appointed chief instructor at Quetta Staff College (in India; now Pakistan), he served there from 1934 to 1937. Back in Britain, Montgomery assumed command of the 9th Brigade at Portsmouth until October 1938, when he was named commander of the 8th Division in Palestine. Through August 1939, he was involved in suppressing anti-British Arab insurrection.

Montgomery was recalled to Europe at the outbreak of World War II in September 1939 and assigned command of 3rd Division, II Corps, during the failed British offensive in Flanders. He won distinction for his role in managing the Dunkirk evacuation, in which he led a brilliant rearguard action during May–June 1940. He was knighted for this action and named to replace Sir Claude Auchinleck as commander of V Corps in July, then transferred to command of XII Corps in April 1941. By November, he was in command of the entire Southeastern Army.

Montgomery played a role in planning the ill-fated Dieppe raid of August 1942, but (fortunately for his reputation) he was transferred to Operation Torch, the Allied landings in North Africa, before the Dieppe raid was executed. Originally Montgomery was to command the First British Army, but, after General W. H. E. Gott died in August, he took over the Eighth British Army in Egypt. With this body he would make his greatest contribution to the war.

Montgomery immediately came under attack by the vaunted Afrika Korps of Erwin Rommel, whose August 31–September 7 offensive at Alam Halfa Montgomery successfully repulsed. Seizing the initiative created by this defense, Montgomery attacked at El Alamein during October 23–November 4 and achieved a victory. He was subsequently promoted to general and continued to pursue the Afrika Korps, driving it to the border of Tunisia by January 1943. Rommel eluded Montgomery and turned the tables on him at Medenine on March 6, 1943, then at Mareth, on March 20. Montgomery quickly recovered, however, and outflanked the German position during March 27–April 7.

Bernard Law Montgomery *(National Archives and Records Administration)*

Montgomery led the Eighth British Army through the rest of the Tunisia campaign, which ended on May 13, 1943. Victory achieved, he participated next in Operation Husky and the subsequent Sicily Campaign. Montgomery drove the Germans out of their positions around Mount

Etna during July 9–August 17. In the subsequent invasion of the Italian mainland, he captured the critical airfields at Foggia during September 3–27, but his advance was stalled at the Sangro River at the end of the year, and he was grateful for his recall to Britain, where he was assigned command of the Twenty-First Army Group in preparation for the invasion of France, the NORMANDY LANDINGS (D-DAY).

In the Normandy invasion, Montgomery was assigned overall command of ground forces, reporting directly to the supreme Allied commander, DWIGHT D. EISENHOWER. On September 1, 1944, he was promoted to field marshal.

After the Allied breakout from Normandy and the advance of the Allied armies across France, Montgomery conceived OPERATION MARKET-GARDEN (BATTLE OF ARNHEM) as a quick means of invading Germany and hastening the conclusion of the war. The operation failed, however, when the British component of the force was defeated at Arnhem during September 17–26. Montgomery was temporarily shifted to a secondary role in the final months of the war in Europe, but at least partially redeemed himself when he took command of the northern end of the American line during the ARDENNES OFFENSIVE (BATTLE OF THE BULGE) during December 16, 1944–January 15, 1945. Although Montgomery did much to prevent disaster in this battle, he offended American commanders by publicly proclaiming that he had saved the American army.

Montgomery was assigned to plan and direct the British crossing of the Rhine at Wesel on March 23, 1945, and from here he pushed into northern Germany. It was Montgomery who accepted the surrender of German forces in the Netherlands and Denmark, and then, on May 4, in northwestern Germany as well.

Montgomery was assigned command of British occupation forces in Germany in May 1945 and was created Viscount Montgomery of Alamein in January of the following year. In June 1946, he became successor to Lord Alanbrooke as chief of the Imperial General Staff, but was highly unpopular in this post, which he soon relinquished to become chairman of the Western European Union commanders in chief in 1948. This organization evolved into the military arm of NATO and led to Montgomery's appointment as first commander of NATO forces in Europe. Montgomery served in this post from March 1951 until his retirement from the army in September 1958.

See also EL ALAMEIN, BATTLES OF.

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Morgenthau, Henry, Jr. (1891–1967)

Franklin Roosevelt's secretary of the Treasury

Born in New York, Morgenthau entered public life as the editor of *American Agriculturist,* a leading farm journal, from 1922 to 1933. During this period, he became a good friend of FRANKLIN D. ROOSEVELT, whose family's estate at Hyde Park was not far from Morgenthau's farm in Dutchess County, New York. When FDR became governor of New York (1929–33), Morgenthau was appointed state conservation commissioner and chaired the governor's Agricultural Advisory Committee. He also became a vigorous campaign worker, both in FDR's bid for reelection as governor in 1928 and for election as president in 1932.

FDR nominated Morgenthau as secretary of the Treasury. He proved to be a dynamic leader, serving all 12 years of FDR's four terms. It was his responsibility to administer the disbursement of some $370 billion during the Great Depression and World War II. This sum was a staggering three times the amount of money that had been administered by all previous secretaries—combined.

Morgenthau's most controversial position during World War II was as the formulator and champion of what was called the Morgenthau Plan. This was a proposal that Germany be made responsible

for paying all the costs of World War II, thereby effectively hobbling the German economy permanently and reducing this industrial nation to a level of subsistence agriculture. In this way, Morgenthau hoped to prevent Germany from ever posing a threat to world peace again.

Although FDR initially endorsed the Morgenthau Plan, the president died before it was put into effect. FDR's successor, Harry S. Truman, with others, objected to the Morgenthau Plan on the grounds that it would repeat the great error of the Treaty of Versailles, which had imposed punitive reparations on Germany after World War I and thereby created an economic and cultural desperation that provided the fertile soil from which Adolf Hitler rose to power. Moreover, Truman and others regarded Germany's economic and industrial recovery as vital to the postwar recovery of all Europe as a whole. With Truman's rejection of the plan, Morgenthau resigned as secretary of the Treasury in April 1945, very shortly after FDR's death. In retirement, he became a farmer and a philanthropist.

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Morocco

During World War II the French protectorate of Morocco was a country of 6.25 million inhabitants, including 187,000 Europeans, nominally governed by a sultan, Mohammed Ben Youssef, who sided with France at the outbreak of war in September 1939. Local French authority was represented by General Auguste Noguès, who resisted the U.S. landings of Operation Torch in November 1942. Even after General George S. Patton Jr. took Casablanca and occupied Morocco, Noguès retained his position until he was relieved by the pro-Allied French Committee for National Liberation in June 1943. Gabriel Puaux took over the administration of the government at that time and successfully resisted Mohammed Ben Youssef's efforts to achieve independence.

Under Puaux, Morocco contributed troops to the Allied cause. Elite *Tirailleurs* fought in the Battle of France in June 1940, and, with soldiers known as *Goums,* fought in the North African Campaign, again on the side of the Allies. Moroccan units were also dispatched to fight in the Italian Campaign, and some participated in the landings on the French Riviera (Operation Anvil/Dragoon), which followed the Normandy landings (D-day) in August 1944.

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Morrison shelter

Named for Herbert Morrison, the British wartime home secretary and minister of home security in the administration of Winston Churchill, the Morrison shelter was introduced in the fall of 1941. It was a home shelter that consisted of a steel plate mounted on legs with wire mesh forming the sides. Intended for indoor use, it was, in effect, little more than a heavily reinforced table—which is what many families used it for. The Morrison unit sold for £7 but was issued free of charge to families whose annual income was less than £350.

See also Anderson shelter.

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mortar

The World War II–era mortar was a weapon that fired at angles greater than 45 degrees. Mortars

were primarily light, smoothbore weapons used by infantry for their own close support; however, the term *mortar* was also applied to heavy rifled HOWITZER weapons sometimes mounted on special rail cars or used for coastal defense (although in practice the coastal weapons were rarely fired in anger during World War II).

World War II infantry mortars were chiefly derived from two prototypes developed in World War I: the British Stokes mortar and the French Brandt mortar. Between the wars, the manufacturers of these weapons licensed them worldwide, so that during World War II, there was a remarkable similarity among the mortars used by the belligerents.

Infantry mortars were of three classes: light mortars were 50–60 mm in caliber, medium mortars were 81–82 mm, and heavy mortars were 100 mm (or greater) in caliber. A simple weapon, virtually all mortars consisted of a smooth-bore barrel, its butt end resting on a steel base plate that transmitted and spread the recoil shock to the ground. A bipod or tripod held the barrel at the desired elevation. Depending on the model, adjustments were provided to facilitate more accurate elevation and traversal.

The mortar fired a projectile typically referred to as a bomb. It was generally of a teardrop shape and was fitted with tail fins for stability. The projectile was propelled by a two-part charge. The primary charge was a shotgun cartridge fitted in the center of the tail and packed with smokeless powder; secondary charges were placed around or between the tail fins in cloth bags or celluloid containers, retained in place by clips or springs.

Loading was simple. The bomb dropped down the barrel from the barrel's front end. When the primary cartridge at the tail struck a firing pin at the base of the weapon, the charge detonated, thereby igniting the secondary charge, which propelled the bomb out of the barrel. (Some mortars incorporated a more complex design with firing pins actuated by a trigger.)

The U.S. Army developed a rifled mortar, which used a specially designed bomb that permitted drop loading while still accepting the rifling when fired. Despite the added complexity, the American rifled mortar achieved enhanced accuracy and could fire a heavy 107 mm projectile.

Early in the war, the German army used an 81 mm. mortar, but later developed a 120 mm weapon after engaging the Soviets, who used the heaviest infantry mortars of the war. Soviet mortars included 160 mm and 240 mm weapons—the latter attached to artillery units. The 160 mm Soviet mortar was a muzzle loader, but the 240 mm weapon loaded at the breech.

British mortars came in two-inch (51 mm), three-inch (76 mm), and 4.2-inch (107 mm) models—the 4.2-inchers attached to artillery regiments for use in the BURMA CAMPAIGN, where dense jungle made most conventional field artillery useless.

Japanese mortars were based mostly on the French Brandt designs. The Allies were particularly fascinated by one variety they called the "knee mortar," which was carried strapped to an infantryman's leg. Some Allied soldiers also believed that the "knee mortar" could be fired from the bent knee. This was a mistaken belief, as such use would surely have broken the soldier's leg.

Both the United States and Italy also made use of 60 mm and 81 mm Brandt mortar designs licensed from the French.

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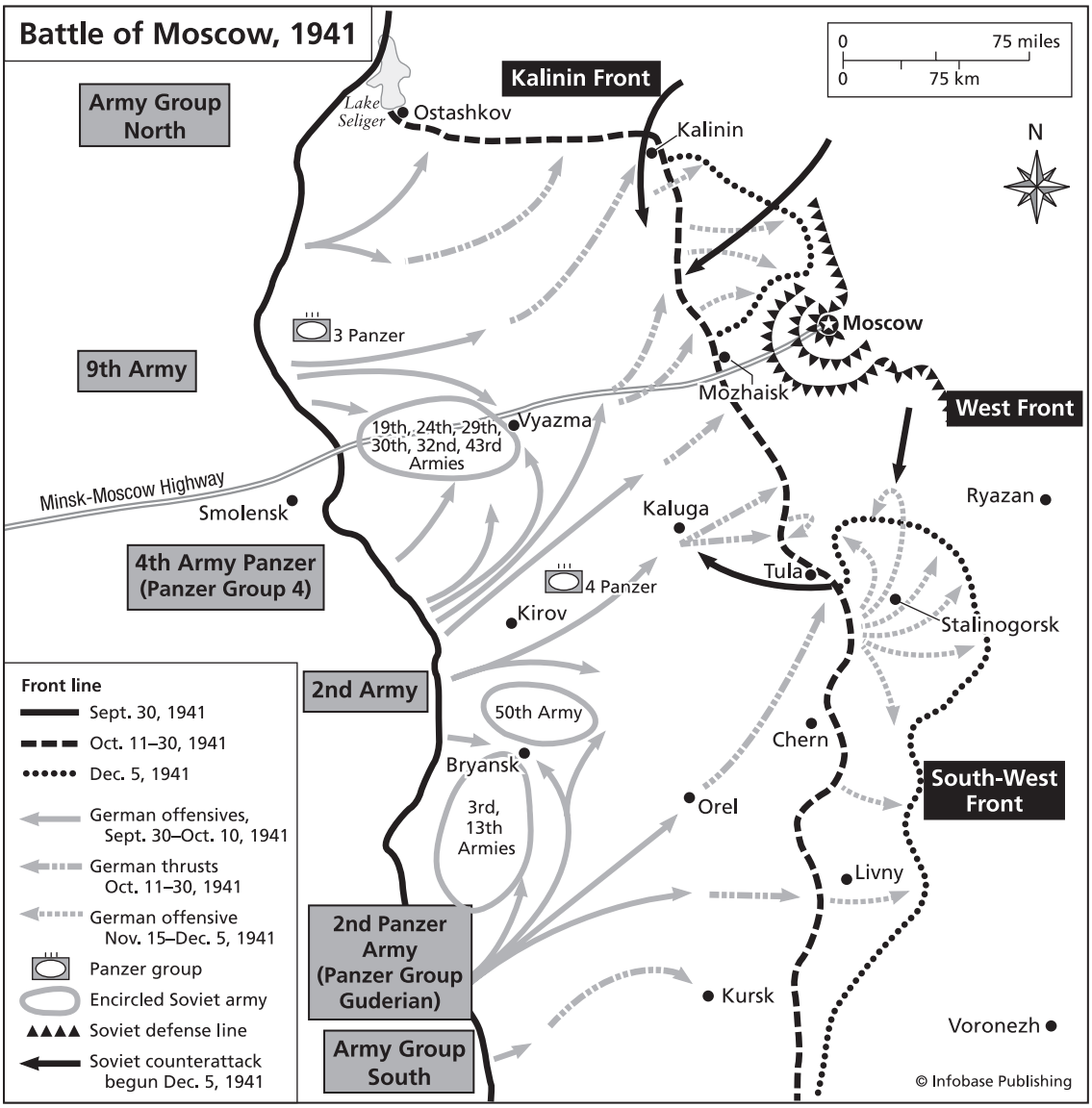
Moscow, Battle of

ADOLF HITLER targeted Moscow, the capital of the Soviet Union, in the initial drive of the INVASION OF THE SOVIET UNION in 1941. In September of that year, however, the German advance on Moscow was halted at Smolensk because the German Army Group Center (under Field Marshal Fedor von Bock) had to send two armies southward to form a great pincers against Kiev with Army Group South. Not until October 2 could the forces initially massed against Moscow be reassembled. At this time, 60 divisions resumed the advance on Mos-



cow, racing against time to move the final 200 miles to the capital before the onset of winter.

Forming the right of this advance was Heinz Guderian's Second Panzer Group, which thrust through Orel on October 8 and Chern on October 24, then moved forward toward Tula, just 100 miles due south of the capital. The center of the advance consisted of the Third and Fourth Panzer groups under Hermann Hoth and Erich Hoeppner, respectively, which worked in pincers fashion against the Soviet position at Vyazma during October 2–13. The cost to the Soviets in this portion of the offensive was approximately 600,000 killed or captured.

The Third Panzer Army, under Hans Reinhardt, supported by the Ninth German Army, wheeled

north and west of Moscow, taking Kalinin on October 15. In the meantime, in the center, Günther von Kluge's Fourth German Army made a drive directly for the capital, which was just 40 miles away. Almost certain that Moscow would fall, the Soviet government—except for Joseph Stalin himself—evacuated 550 miles southeast to Kuibyshev on the Volga.

With the prize in view, the Germans suddenly found that Soviet resistance was becoming increasingly fierce and increasingly effective. Worse, late fall rains churned roads into mud, greatly hindering the advance of heavy German armor. Mid-November brought the first hard freeze, which enabled Kluge to speed up his advance and intensify his attack. But this advantageous change in the weather soon turned deadly. On November 20, a severe winter storm stopped the German advance—quite literally—cold.

On December 2, the 2nd Panzer Division made a do-or-die drive toward the city and actually sighted the Kremlin, which they had been ordered to level with explosives as a blow against communism. Yet even with the objective in sight, the unit, under heavy counterattack, could move no farther.

The 258th Infantry Division, Fourth German Army, slugged its way into the Moscow suburbs, only to be driven back by bands of armed factory workers during two days of intense fighting. Casualties were heavy on both sides.

Like Napoleon before him, Hitler was largely unprepared for the Russian winter. His troops had not been issued cold-weather clothing and equipment. Nevertheless, Hitler gave explicit orders forbidding withdrawal. As a result, the weather began to take its deadly toll.

On December 6, Georgi Konstantinovich Zhukov, now in command of the Moscow front (he had relieved Semyon Timoshenko, who took over the southern front), launched a counteroffensive with 100 brand-new divisions. On December 9, Soviet ski troops led a massive attack on Guderian's Tula salient south of Moscow, killing 30,000 Germans in five days and prompting the replacement of Guderian by General Rudolf Schmidt.

Having gained the initiative, the Red Army advanced westward, taking Kaluga on December 26. The Germans briefly recaptured the city, but soon lost it again. On January 18, Zhukov took Mozhaisk, 60 miles west of Moscow. To the north, Kalinin was retaken on December 15.

Kluge, who now commanded the German forces in the center, retreated to Vyazma in the south and Rzhev in the north. Both of these positions were about 125 miles from Moscow. Kluge dug in here and held off further Soviet advances, but also bore the full brunt of the ongoing winter. It was the weather that now claimed more lives than the enemy, and the Germans were never able to mount another assault on the Soviet capital. The Battle of Moscow was the first major defeat the Nazis suffered on land in World War II. The German army held in place throughout the rest of 1942 and into early 1943, before beginning to fall back in March 1943, reeling under one Soviet thrust after another.

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Mosley, Oswald (1896–1980) *leader of British fascism*

Oswald Mosley was born in London and served as a member of Parliament from 1918 to 1931. He began his political career as a Conservative, became an independent, then joined the Labour Party, serving in a Labour ministry during 1929–30. He married Lady Cynthia Blanche Curzon in 1920; she died in 1933, and, three years later, he married Diana Guinness (née Freeman-Mitford), whose father, the 2nd Baron Redesdale, was a prewar supporter of the rise of Adolf Hitler and the Nazi regime in Germany. Like many right-wing Europeans, he saw the Nazis and fascists as desirable alternatives to the Communists.

Mosley also became increasingly attracted to the extreme right wing of European politics. In 1932, he

founded the British Union of Fascists after unsuccessfully trying to form a socialist party the year before. He led this group until 1940, then founded its successor, the Union Movement, in 1948 and led that until his death. British Union members wore Nazi-style uniforms and insignia and adopted paramilitary discipline. They were enthusiastically pro-Hitler and pro-Benito Mussolini, and they were virulently anti-Semitic, sponsoring the publication and distribution of anti-Semitic literature and conducting hostile marches through the Jewish neighborhoods of east London.

Mosley was a powerful demagogue whose oratory attracted a considerable following. He was promoted, too, by friendship with Viscount Rothermere, a prominent newspaper publisher.

Winston Churchill and others considered Mosley dangerous in the years leading up to the war. At the outbreak of hostilities, Mosley, unrepentant, was ordered interned. He fell ill in prison and was released in 1943, but remained aloof from public life until February 7, 1948, when he founded the Union Movement, a politically irrelevant fascist fringe organization consisting mostly of far-right book clubs.

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Moulin, Jean (1899–1943) *French resistance leader*

Born in Bézier, France, the son of a history professor, Jean Moulin was drafted into the French army during the last year of World War I, but was mustered out at the end of the war without seeing action. Following the armistice, Moulin entered the civil service, rising to become the youngest prefect in France. Between the wars, Moulin became a radical leftist and used his civil service connections during the Spanish civil war to smuggle at least one French airplane to the Republicans.

After the fall of France following the Battle of France in 1940, Moulin refused to cooperate with officials of the German occupation. For this, he was arrested and tortured by the Gestapo. He sought escape by means of a suicide attempt, cutting his throat with a piece of broken glass, but was treated, recovered, and released. He returned to his post as prefect, but, in November 1940, when Vichy government officials ordered all prefects to dismiss leftist town and city mayors, Moulin refused and was himself dismissed.

Moulin began to organize other French men and women who wanted to overthrow the Vichy government and rise up against the German occupiers. He made contact with the leaders of disparate French resistance movements, then slipped out to London in September 1941, where he met with Charles de Gaulle and other leaders in exile of the Free France movement. In October 1941, Moulin wrote *The Activities, Plans and Requirements of the Groups Formed in France,* a comprehensive summary of the state of resistance in France. Impressed with Moulin's command of the French situation, De Gaulle anointed him as the principal leader of the French resistance. Accordingly, Moulin was returned to France, dropped by parachute on January 1, 1942.

Moulin's first assignment was to use money he carried into the country to establish an underground press to recruit resistance members and coordinate their activities. This was a crucial step in his effort to unite the various resistance groups. Following weeks of dangerous meetings, Moulin succeeded in persuading all eight major groups to form the Conseil National de la Résistance (CNR), the closest the movement ever came to being governed by a single central body. The first meeting of the group, chaired by Moulin, was held in Paris on May 27, 1943. The following month, however, on June 7, René Hardy, a key resistance operative, was arrested and tortured by Gestapo agents under the command of the infamous Klaus Barbie. He revealed the identity of Moulin, who was then arrested at Caluire on June 21. Moulin died under torture on July 8, 1943.

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Mountbatten, Louis (first earl Mountbatten of Burma) (1900–1979)

supreme allied commander, China-Burma-India theater

Louis Francis Albert Victor Nicholas Mountbatten, Earl Mountbatten of Burma, was born at Frogmore House, Windsor, to Prince Louis of Battenberg (later first marquess of Milford Haven) and Princess Victoria of Hesse-Darmstadt, who was a granddaughter of Queen Victoria. Battenberg changed the family name to Mountbatten during World War I because of public hostility toward all things German or German-sounding.

Mountbatten enrolled as a cadet at the Osbourne Naval Training College in 1913. After graduating in November 1914, he enrolled at the Royal Naval College, from which he graduated at the top of his class in June 1916. He served as a midshipman in World War I aboard Admiral David Beatty's flagship HMS *Lion* (July 1916–January 1917) and HMS *Queen Elizabeth* (February–July 1918). Promoted to lieutenant, he transferred to P-boat (coastal torpedo boat) service in August and served aboard these craft through the end of the war.

Lord Louis Mountbatten (left) with an unidentified officer *(National Archives and Records Administration)*

After the armistice, Mountbatten studied for a year at Cambridge University, then toured Australia, Japan, and India with the Prince of Wales (later Edward VIII) beginning in 1920. He returned to Britain and married Edwina Ashley in 1922, then, the following year, served aboard HMS *Revenge* (1923). He completed an advanced signals course in July 1925 and was assigned as assistant fleet wireless officer in the Mediterranean during 1927–28, becoming fleet wireless officer in 1931. Promoted to captain in 1932, he continued to serve as Mediterranean Fleet wireless officer through 1933, when he briefly commanded the destroyer HMS *Daring.* From 1936 to 1938, Mountbatten served as naval aide-de-camp to Edward VIII and then George VI. On the eve of World War II, in June 1939, he was assigned to command the destroyer HMS *Kelly,* then under construction. After overseeing the completion of the vessel, Mountbatten sailed aboard it as commander of the 5th Destroyer Flotilla, consisting of *Kelly* and *Kingston,* on September 20, 1939. Mountbatten performed with great distinction in the evacuation of Namsos following the ill-fated offensive in Norway during June 1940 (*see* Narvik, Battles of). During the evacuation of Crete on May 23, 1941, HMS *Kelly* was sunk by German dive bombers.

After the loss of *Kelly,* Mountbatten was given command of the aircraft carrier HMS *Illustrious,* which was being repaired in the United States during October 1941. While overseeing the repair work, Mountbatten made many valuable American contacts and favorably impressed U.S. naval leaders.

In April 1942, Prime Minister Winston Churchill recalled Mountbatten to Britain to serve as director of Combined Operations. Eager to take offensive action in the war, Mountbatten was among the chief advocates and planners of the Dieppe raid (August 18, 1942), which resulted in disastrous defeat. Characteristically of Mountbatten, the loss at Dieppe did not shake his resolve. On the contrary, it persuaded him that Britain's

amphibious capabilities required development, and he set about building an amphibious-capable force, so that by April 1943, Combined Operations consisted of some 2,600 landing craft and 50,000 personnel. He also turned his attention to creating technological improvements to facilitate amphibious operations, including "mulberries" (towed harbors) and the PLUTO system (Pipe-Line Under the Ocean), both of which were of crucial logistical importance in the Normandy landings (D-day).

As a result of the August 1943 Quebec Conference, Mountbatten was advanced above other more senior officers to become supreme Allied commander for Southeast Asia, which proved to be a very difficult assignment in a theater of the war that was chronically undermanned, poorly supplied, and generally neglected. Mountbatten accepted these challenges and was highly innovative and resourceful in his direction of Allied operations in the Burma Campaign and the Indian Ocean.

Following the surrender of Japan in August–September 1945, Mountbatten had the difficult task of accepting the surrender of various Japanese forces and then reestablishing British colonial authority in places that had been occupied by the Japanese and were now increasingly nationalistic in spirit. He became personally convinced that the era of colonial rule had come to an end, and he committed himself to working toward a peaceful transition to independence for many of the British possessions. He also oversaw the speedy and humane liberation of Allied POWs throughout the Southeast Asian theater.

Mountbatten's immediate postwar authority extended over Indochina and Indonesia during September 1945–46. From March 24 to August 15, 1947, he was the last British viceroy of India and directed the difficult and delicate British withdrawal from India and the inauguration of independence for India and Pakistan.

In 1946, Mountbatten was created a viscount, then made an earl in 1947. In 1950, he was appointed fourth sea lord, serving until 1952, when he became commander in chief of the Mediterranean Fleet. In 1954, he was made first sea lord and served in this post until 1959. Promoted to admiral of the fleet in 1956, he was named chief of the United Kingdom Defence Staff and chairman of the Chiefs of Staff Committee in July 1959. He served in these posts until July 1965, when he became governor—and, in 1974, lord lieutenant—of the Isle of Wight.

In 1979, Mountbatten, his teenaged grandson Nicholas, and a local Irish boy were killed when an Irish Republican Army bomb exploded aboard Mountbatten's yacht.

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Mount Suribachi

The highest point on the Pacific island of Iwo Jima, Mount Suribachi was a key objective of the U.S. Marines who landed on the Japanese-held island during the Battle of Iwo Jima. Suribachi was taken on February 23, 1945, and the American flag was ordered to be raised—largely as a means of enhancing the morale of the marines who were still heavily engaged in combat on the island. When the first flag raised was judged too small for troops scattered across the island to see, a second, much larger flag was ordered to be raised about two hours later. This second raising was photographed by Joe Rosenthal of the Associated Press, and the Pulitzer Prize–winning photograph became perhaps the single most pervasive image of the U.S. role in World War II. It was reprinted endlessly in newspapers, magazines, and books, and was reproduced on a U.S. postage stamp in 1945.

Most famously, the Rosenthal photograph served as the model for a heroic bronze sculpture group in Arlington, Virginia (near Arlington National Cemetery), officially called the U.S. Marine Corps War Memorial, but more familiarly known as the Iwo Jima Memorial. Like the photograph, the monument depicts five marines and a U.S. Navy hospital corpsman—Sergeant Michael Strank, Corporal Harlon H. Block, Private First Class Franklin R. Sousley, Private First Class Rene

A. Gagnon, Private First Class Ira Hayes, and Pharmacist's Mate Second Class John H. Bradley—raising the Stars and Stripes.

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Mulberry harbor

"Mulberry" was the code name for a type of artificial harbor, two of which were constructed for use in the Normandy landings (D-day).

The mulberries were conceived as a means of supplying troops during a massive invasion. The disastrous Dieppe raid had vividly demonstrated the futility of attempting to capture a French port by a head-on attack. Yet a port was necessary to sustain a major invasion. Charged by Prime Minister Winston Churchill in May 1942 with investigating the potential of floating piers as logistical components for an invasion, Louis Mountbatten, chief of Combined Operations Headquarters, authorized intensive research into floating piers (known as "whales") with adjustable legs (codenamed "spuds"). The spuds were protected by hollow concrete caissons (called "phoenixes"). This entire assembly became the mulberry.

Two mulberries were prefabricated for transportation and emplacement at Normandy. They had 213 "spuds," and some of the "phoenixes" were 200 feet in length and 60 feet high. As an additional guard against severe weather, 200-foot-long floating tanks ("bombardons") were also built to provide secure anchorages along the whales.

Before the mulberries were put into place, five smaller floating harbors—called "gooseberries"—were formed from 74 blockships (or "corncobs"). These would provide shelter for the multitude of small craft involved in the early phases of the landing operations while the phoenixes were being readied. Once the mulberries were in place, two of the gooseberries were integrated into them, and the rest provided boat shelters closer to shore.

The components for the mulberries—400 discrete units with a total weight of 1.5 million tons—were built at various locations in Britain. All the components were towed to the south coast, then temporarily submerged to prevent their being spotted by German aerial reconnaissance. After the first Normandy landings on June 6, 1944, the mulberry components were towed across the English Channel and, in a monumental operation employing 10,000 men and 132 tugboats, they were assembled.

The mulberries—at St. Laurent (to accommodate the Americans) and at Arromanches (for the British and Canadians)—were nearly completed when, on June 19, a fierce storm so severely damaged the St. Laurent mulberry that it had to be abandoned. The single Arromanches mulberry thereafter accommodated all supplies—an influx of some 11,000 tons per day. Intended as a temporary expedient to last through the summer of 1944 only, the Arromanches mulberry continued to operate through December.

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Munich Conference and Agreement

Pursuant to the Appeasement Policy advocated by British prime minister Neville Chamberlain after the German annexation of Austria (*Anschluss*) in March 1938 and Adolf Hitler's demand for the annexation of the Czech Sudetenland, Chamberlain agreed to a four-power conference proposed by Italy's Benito Mussolini. The conference took place in Munich on September 29–30, 1938, and included Hitler, Mussolini, Chamberlain, and French prime minister Edouard Daladier. President Franklin D. Roosevelt did nothing more than send a message to the principals on September 26, rather lamely reminding them that, by virtue of having signed the Kellogg-Briand Pact of 1928, they had agreed to refrain from going to war with each other. No representative from the Soviet Union was invited to the conference, and while two Czech diplomats were called to Munich, they were not per-

mitted to attend the conference, but were held under guard by the GESTAPO until the morning of September 30, when they were summoned to hear what the four powers in attendance had decided in their absence.

They had decided that the German army was to take over the Sudetenland—the largely German-speaking frontier areas of Czechoslovakia—by the beginning of October, including the military and industrial installations in this region. The sovereignty of the rest of Czechoslovakia would be guaranteed in some manner not specified by the four conference principals.

At the conclusion of the Munich Conference, on the morning of September 30, Hitler and Chamberlain signed a joint declaration (the so-called Munich Agreement), pledging that Germany and Britain would peacefully consult whenever problems should arise between them. It was a copy of this declaration that Chamberlain held aloft on his return to London, claiming to have secured "peace with honour" and "peace for our time."

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Murphy, Audie (1924–1971) *most-decorated U.S soldier in World War II*

Audie Leon Murphy was born near Kingston, Texas, one of 12 children in the family of a sharecropper. During World War II, in June 1942, about the time of his 18th birthday, he enlisted in the U.S. Army and first saw combat in the NORTH AFRICAN CAMPAIGN as a private in Company B, Fifteenth Infantry Regiment, Third Infantry Division. This was the beginning of a remarkable military career in which Murphy received 33 awards, citations, and decorations, as well as a battlefield commission as second lieutenant. Murphy received every decoration presented by the United States for valor—two of them awarded twice—and on January 26, 1945, he was awarded the Medal of Honor for his actions near Holtzwhir, France. There he killed or wounded some 50 Germans and stopped a tank attack. Murphy was the most decorated U.S. soldier in history. In addition to his American decorations, he received medals from France and Belgium.

Murphy participated in eight World War II campaigns, in Sicily, Italy, France, and Germany, as well as two amphibious assaults, in Sicily and southern France. He was wounded in action three times.

After his discharge from the army on August 17, 1945, Murphy became a successful (if critically undistinguished) film actor, a top-selling country-and-western lyricist, a best-selling author, and a poet. He appeared in 45 films, starring in 39, including the motion picture version of his 1949 World War II memoir, *To Hell and Back* (1955). Murphy's greatest film popularity came not in war stories, however, but in westerns.

Murphy joined the Texas National Guard in 1950, as a captain, in the hope of fighting in the Korean War. His division was never called to active duty, however. Before he was assigned to inactive status in the Guard in 1957, he was promoted to major. He transferred to the United States Army Reserve in 1966, remaining a reservist until his death in an airplane crash on May 28, 1971, near Christiansburg, Virginia. Murphy was buried with full military honors near the Tomb of the Unknown Soldier at Arlington National Cemetery.

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Mussolini, Benito (1883–1945) *dictator of Italy, founder of fascism*

Born in Verano di Costa, near Forli, Italy, to a blacksmith father (a radical socialist) and schoolteacher mother, Benito Mussolini was a violent

Benito Mussolini *(Author's collection)*

bully as a child, but was also highly intelligent, his romantic imagination stimulated by his indulgent mother, who repeatedly told him that he was destined for great things. A voracious reader as a youth, Mussolini devoured the works of such political philosophers as Louis Auguste Blanqui, Friedrich Nietzsche, Georges Sorel, and, perhaps most significantly, Machiavelli.

Mussolini received his formal education in the Salesian college of Faenza and then at the normal school there, from which he obtained a teaching certificate. By 18, he had obtained a post as a provincial schoolteacher and also traveled, living essentially as a vagabond for several years in Switzerland and the Austrian Trentino. He soon gave up teaching for socialist journalism, becoming editor of the Milan Socialist Party newspaper *Avanti!* in 1912.

Mussolini's political development was astonishingly inconsistent, even mercurial. During his early Socialist phase, he was a committed pacifist and wrote many articles arguing against Italy's entry into World War I. Suddenly, however, he abandoned the Socialist Party line and just as vehemently urged Italy's entry into the war on the side of the Allies. The Socialist Party accordingly expelled Mussolini, who quickly founded a rival newspaper in Milan, *Il popolo d'Italia.* He used the new magazine to develop and disseminate the doctrine of what became the fascist movement, but he broke off publication to enlist in the Italian army as a private in 1915. He served until he was wounded in the buttocks by trench mortar fragments early in 1917. After convalescing, he resumed publication of *Il popolo.*

On March 23, 1919, encouraged and inspired by the grandiloquent poet, novelist, patriot, and adventurer Gabriele d'Annunzio, Mussolini founded in Milan with other war veterans a revolutionary hypernationalistic group called the Fasci di Combattimento. The name was derived from the Italian word *fascio,* "bundle," or "bunch," which in itself suggested unity but was also directly derived from the Latin word *fasces,* the bundle of rods bound together around an ax with the blade protruding that was the ancient Roman emblem of government power and authority.

Fascism soon abandoned its left-wing socialist origins to become a radical right-wing nationalism founded on ideas of brute force. Although many of Mussolini's early speeches were radically pro-labor and anti-church (in effect, left even of socialism and verging on anarchy), what captured the public's imagination was a nationalist message that evoked visions of a return to imperial Roman glory. This message was popular not only with the average Italian, but resonated with the likes of d'Annunzio and the wealthy landowners in the lower Po Valley, leading industrialists, and senior army officers.

As the fascists became increasingly influential, Mussolini created squads of thugs, the Blackshirts, who waged a street-level civil war against all opposing parties and interests, including socialists, communists, Catholics, and liberals. By 1922, Mussolini enjoyed the support of the rich and powerful, as well as many among the masses. On October 28, he authorized his Blackshirts to march on Rome (to which he journeyed by train), with the object of intimidating King Victor Emmanuel III into forming a coalition government with the Fascist Party. The king yielded, and, in the manner of the dictators of the classical Roman republic, Mussolini was granted absolute dictatorial powers set to last one year.

Mussolini used what became the inaugural year of his dictatorship to refashion Italy's economic

structure, slashing government expenses for public services, reducing taxes on industry to encourage production, and centralizing as well as consolidating government bureaucracy. Backed by big finance, business, and industry, Mussolini was indeed able to revitalize the nation's foundering economy.

Mussolini also used his first year to replace the royal guard with his own Fascist armed coterie and the Orva, a secret police force that reported directly to him. He greatly increased Italy's prestige in foreign affairs when he responded to the murder of Italian officials at the hands of bandits on the Greek-Albanian border by demanding a huge indemnity from the Greek government, then bombarded and seized the Greek island of Corfu. He next negotiated an agreement with Yugoslavia to obtain Italian possession of the long-contested Fiume.

In the beginning, Mussolini carefully avoided attacking labor, and in 1924 he even relinquished his dictatorial powers and called for new elections. This was a deception, however, since he had taken care to secure legislation guaranteeing a two-thirds' parliamentary majority for his party regardless of the outcome of the popular vote. Among the handful of Socialists elected that year despite fascist domination was Giacomo Matteotti, who made a series of antifascist speeches, exposing such political outrages as acts of intimidation and violence, misuse of public funds, and even political murder. Shortly after one of these speeches, Matteotti's own murdered body was found, and a protracted parliamentary crisis ensued. Emboldened, the opposition press attacked Mussolini and his followers. This prompted Mussolini to end all pretext of democracy. He imposed by fiat a single-party dictatorship and a policy of strict censorship. He sent his Blackshirts to bully and terrorize all opponents. And he now moved openly against labor, solidifying his power base among Italian capitalists by abolishing free trade unions. At the same time, in 1929, he secured the backing of the Catholic Church by negotiating the Lateran Treaty, by which the Vatican was established under the absolute temporal sovereignty of the pope.

An absolute dictator, Mussolini was now called Il Duce, the Leader, and during the 1930s he prosecuted a blustering and aggressive foreign policy. Seizing as a pretext a clash over a disputed zone on the Italian Somaliland border, he invaded Ethiopia during 1935–36 without a declaration of war, unleashing aerial bombardment and poison gas on the civilian population. On May 9, 1936, Italy annexed the now prostrate African nation. At this time, Mussolini also gave military assistance to Generalissimo Francisco Franco in the Spanish civil war. During 1936–39, Mussolini forged a fateful alliance with Adolf Hitler's Germany.

In April 1939, Mussolini sent his armies to occupy Albania, but Hitler's entreaties notwithstanding, he kept Italy out of World War II until June 1940, during the Battle of France, when the fall of France was assured. Initially, Hitler embraced Mussolini as an inspiration and mentor, but he soon had reason to regret the alliance. Mussolini's military suffered one humiliation after another in Greece and North Africa, and by the middle of World War II, the popular tide in Italy rapidly turned against Il Duce.

Mussolini was deposed by vote of the Fascist Grand Council on July 25, 1943, and he was immediately dismissed as premier by King Victor Emmanuel. Held under a kind of house arrest, Mussolini, on Hitler's orders, was rescued on September 12 by German commandos led by the brilliant Otto Skorzeny. Hitler then installed Mussolini as his puppet in northern Italy, territory that had yet to be taken by the inexorably advancing Allies.

By the spring of 1945, Allied forces were closing in on Mussolini. In April, he and his mistress, Clara Petacci, fled, only to be captured by Italian partisans at Lake Como. The couple was executed by a partisan firing squad on April 28, and their half-naked bodies were strung up by the heels in a public square in Milan, where they were exposed to public shame and desecration.

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Mykikyina, Battle of

U.S. general Joseph "Vinegar Joe" Stilwell led the First Chinese Army in a campaign to clear a supply route to China via Burma before the onset of monsoon season in May 1944. With the support of Merrill's Marauders and Chindits, the First Chinese Army attacked and seized the airfield at Mykikyina on May 17, 1944. The next objective was the town itself, which, however, the Japanese rushed to reinforce. The Japanese garrison, led by Major General Genzu Mizukami, held out for an incredible 79 days against the vastly superior numbers Stilwell threw against it. At last, the few survivors among the defenders retreated across the Irrawaddy River, having lost 790 killed and 1,180 wounded. Stilwell took the town on August 3, having lost 972 Chinese killed and 3,184 wounded, in addition to 272 Americans killed and 955 wounded. Some 980 men from all of Stilwell's forces succumbed to tropical disease during the siege. Rather than join the retreat or surrender, Genzu committed suicide.

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Nagasaki, atomic bombing of

At 11:02 (local time) on August 9, 1945, Nagasaki became the second Japanese city to suffer nuclear attack, after HIROSHIMA, which had been bombed on August 6.

Like the Hiroshima weapon, the Nagasaki bomb was the product of the MANHATTAN PROJECT; however, in contrast to "Little Boy," the uranium 235 Hiroshima weapon, the fissionable component of "Fat Man," as the Nagasaki bomb was called, was plutonium 239. Like the earlier bomb, it was dropped by parachute so that it would detonate at a preset altitude (1,625 feet) to ensure the maximum destructive effect of the blast (if detonated at ground level, much of the explosive force would be absorbed by the earth). Fat Man weighed almost 9,000 pounds, was 11 feet, 4 inches long, and packed the explosive equivalent of 22 kilotons of TNT.

The B-29 from which Fat Man was dropped, *Bock's Car,* piloted by Major Charles W. Sweeney, had as its first-choice target the city of Kokura, now part of Kitakyushu. Heavy cloud cover prompted diversion to the second-choice target, Nagasaki.

Although Fat Man was more powerful than Little Boy, the topographical situation of Nagasaki, within narrow valleys bordered by mountains, resulted in less destruction. Approximately 2.6 square miles of Nagasaki were razed as compared with 5 square miles of Hiroshima. Nearly 23 percent of the city's 51,000 buildings were destroyed or badly burned; just over 36 percent were left essentially undamaged. Of the 270,000 people in the city that morning (a number that included some 2,500 Korean slave laborers and 350 Allied prisoners of war), at least 73,884 were killed and 74,909 injured. Over the years, many others suffered the long-term effects of exposure to high levels of radiation—although, as at Hiroshima, the very high rates of cancer anticipated did not occur. Within days of the bombing, Japan's emperor HIROHITO broadcast his surrender message.

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Nagumo Chuichi (1887–1944) *commander of Japanese elite carrier striking force at the Battle of Pearl Harbor, December 7, 1941*

Vice Admiral Nagumo Chuichi achieved remarkable tactical success in the Pearl Harbor attack, but, worried that U.S. submarines would soon pursue the force, he failed to launch a third-wave attack, which, had he targeted more of Pearl Harbor's permanent installations, might have crippled the base for a very long period. His decision to withdraw after the second wave gave the lie to his peacetime reputation for boldness. He was, in fact, a cautious

Nagumo Chuichi *(U.S. Navy History Center)*

commander. (Indeed, he was a somewhat curious choice as commander of an aircraft carrier force, since he was a torpedo specialist and not a naval air commander.)

After Pearl Harbor, Nagumo fought during early 1942 in the invasion of the Netherlands East Indies and led raids against the northern Australian port of Darwin, as well as against objectives in the Indian Ocean. He played a key role in the Battle of Midway in June 1942, at which he suffered a disastrous strategic defeat, despite tactical triumphs off Guadalcanal.

Midway shook Nagumo's confidence and the confidence of others in him. He was relieved of his principal command in 1943 and sent to the Mariana Islands, where he was given the responsibility for preparing the defenses of Saipan. In July 1944, on the eve of the U.S. invasion of the island, Nagumo committed suicide.

See also Guadalcanal campaign and Netherlands East Indies, action in.

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Nanking, Rape of

Also called the Nanking Massacre and (in Japan), the Nanking Incident, the Rape of Nanking describes the atrocities committed by the Imperial Japanese Army in and around Nanking (Nanjing), which was the capital of China at the time of the city's fall to the Japanese on December 13, 1937, during the Sino-Japanese War.

Japanese soldiers entered Nanking on December 13 and over at least the next six weeks committed atrocities including looting, rape, arson, and the wanton slaughter of noncombatant civilians and prisoners of war. Modern Chinese historians adhere to the Chinese Communist Party estimates that some 300,000 civilians were killed in Nanking. Some of these victims may in fact have been Nationalist Chinese soldiers masquerading as civilians, but it is indisputable that massive numbers of women and children were killed. During the Tokyo War Crimes Tribunal after the war, officials of the Imperial Japanese Army claimed that all the deaths in Nanking were military in nature and denied that massacres and atrocities took place. The tribunal, in sentencing to death the commander of the Japanese army in Nanking, General Iwane Matsui, fixed the number of civilian dead at 100,000. Even today, Japanese and Chinese authorities dispute both the toll and the nature of the Rape of Nanking—although no one now denies that something terrible occurred there.

The occupation of Nanking followed the Battle of Shanghai, which was very costly to the victorious Japanese. Many historians believe that the Rape of Nanking was vengeance taken by the Japanese soldiers. Eyewitness accounts of six weeks of mayhem abound, including what most historians judge as the reliable accounts of foreigners (chiefly missionaries and businessmen) living in the city.

An American missionary, John Magee, took still photographs as well as motion-picture footage of scenes of atrocity. Indeed, a German businessman resident in Nanking, John Rabe, organized a 15-man International Committee on November 22, 1937, and proclaimed a Nanking Safety Zone in an effort to protect civilians. Many believe that but for the Rabe committee's efforts, the death toll would have been even higher.

Atrocities reported and (in many cases) documented include a rampage through the Nanking Hospital, during which soldiers tore bandages from the flesh of the wounded, smashed casts with clubs, and raped nurses. Throughout the Nanking area, 20,000 to 80,000 girls and women were raped. Victims ranged from seven-year-old girls to very elderly women. The rapes were often public and frequently in the presence of spouses, children, and other family members. In many cases, victims were gang raped then murdered, often by mutilation. Many women were compelled to serve as so-called comfort women—military prostitutes for the pleasure of Japanese soldiers. Reports also exist of various instances of forced sexual exhibition: troops compelling families to commit grotesque acts of incest, celibate monks forced to commit rape, and even instances of forced necrophilia (sex acts with corpses). Those who refused to comply were instantly shot.

In addition to rape and rape-murder were thousands of instances of especially brutal murder, usually with the bayonet or, en masse, by machine gun. Those machine gunned were typically shot beside the Yangtze River, so that their corpses would fall into the river and be carried down to Shanghai. Others were subjected to mass execution in trenches dubbed "Ten-Thousand Corpse Ditches." Decapitation was another common method of killing, while some individuals were immolated, nailed to trees, or hanged by their tongues. Others were simply beaten to death.

Arson caused the destruction of two-thirds of Nanking, as well as buildings outside of the city. No attempt was made to suppress looting and burglary, which apparently was condoned or even encouraged among the troops. Soldiers were also instructed to strip the city of metal, for use as scrap metal for Japanese war production purposes.

At present, although the historiography of the Rape of Nanking remains controversial, no reputable Chinese or Japanese group or individual denies that atrocities were committed in Nanking. Yet there is widespread disagreement over the numbers involved.

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Narvik, Battles of

Narvik, Norway, was an ice-free port strategically vital to Germany as a point of embarkation for Swedish-export iron ore, which was essential to the German war effort. Recognizing this, the British Royal Navy laid mines off West Fjord, the entrance to the port, on April 8, 1940, but the Germans checked any Allied attempt to occupy Narvik by preemptively landing 2,000 German troops at the port on April 9. A five-destroyer British flotilla under Captain Bernard Warburton-Lee arrived too late to prevent the German landing, but Warburton-Lee sank two German destroyers and damaged another on April 10 and also sank six German merchantmen.

Unaware that five more German destroyers were in neighboring fjords, Warburton-Lee came under attack himself. He was killed, his flagship was run aground, one destroyer was sunk, and two others damaged. The German ships were also damaged in

the battle, however, and could not pursue the remaining British destroyers to finish them off.

On April 13, the British battleship *Warspite* and nine destroyers attacked and sank the remaining eight German destroyers, which were stranded at Narvik for lack of fuel. The *Warspite* group also sank a U-boat and successfully set up a naval blockade, which cut off the German troops who had landed on Narvik.

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Navajo code talkers

Philip Johnston, the son of a missionary to the Navajo and one of very few non-Navajo who spoke the Navajo language, was a veteran of World War I who knew that Native American languages, especially Choctaw, had been used during that war to encode messages. He believed that the Navajo language would be ideal for secure communications in World War II. The language was unwritten and extremely complex. Its syntax, qualities of intonation, and dialectical variety rendered it wholly unintelligible to those who lacked either lifelong exposure or extensive training. At the time of World War II, it was estimated that fewer than 30 non-Navajos—none of them Japanese—could understand Navajo.

With all of this in mind, Johnston met with Major General Clayton B. Vogel, commanding general of Amphibious Corps, Pacific Fleet, early in 1942 and presented his idea. Johnston agreed to conduct tests under simulated combat conditions. The tests demonstrated that Navajo could encrypt, transmit, and decrypt a three-line message in 20 seconds. Conventional cipher machines of the period required a half-hour to perform the same task. Impressed, Vogel recommended to the commandant of the Marine Corps that the USMC immediately recruit 200 Navajo.

The first 29 recruits reported for basic training in May 1942. Working at Camp Pendleton, this first contingent created the Navajo code, quickly accomplishing the task of developing a dictionary and inventing many words for military and technological terms. This dictionary, including all code words, had to be committed to memory during the training of the so-called code talkers. After completing their training, the code talkers were sent to a marine unit in the Pacific. Their principal mission was to transmit orders and information relating to tactics and troop movements over field telephones and radios. Secondarily, the code talkers served as messengers. They participated in every assault and campaign the marines conducted in the Pacific from 1942 to 1945, including the Battle of Guadalcanal, the Battle of Tarawa, the Battle of Peleliu, and the Battle of Iwo Jima, and they served in all six marine divisions as well as in USMC Raider battalions and parachute units. The Japanese never succeeded in breaking the code.

As of 1945, some 540 Navajos had enlisted in the Marine Corps, of whom 375 to 420 were trained as code talkers. Their contribution to World War II in the Pacific went largely unheralded until September 17, 1992, when the code talkers were officially recognized by a special permanent exhibition at the Pentagon.

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naval war with Germany, undeclared (1940–1941)

Officially, the United States remained neutral in World War II until the U.S. declaration of war on Japan, on December 8, 1941, following the Battle of Pearl Harbor; however, in October 1939, a month after World War II began in Europe with the invasion of Poland, the United States and 21 Latin American countries jointly issued the Declaration of Panama, creating in the waters of the Americas a 300-mile neutrality zone off limits to

all belligerents. In June 1940, the Declaration of Havana reasserted and expanded the Monroe Doctrine. Whereas the 1823 doctrine warned that the United States would regard any attack against any state in the Americas as an attack against itself, the Declaration of Havana stipulated that *each* signatory would regard an attack against *any* nation in the hemisphere as an attack on itself. The chief enforcer of the Havana document was the United States, of course, and President Franklin D. Roosevelt ordered U.S. Navy ships to patrol the neutrality zone.

On March 11, 1941, Roosevelt signed into law Lend Lease, which authorized the president to provide material aid to any nation whose defense he deemed vital to the safety and security of the United States. The U.S. Navy presented Great Britain with 50 World War I–era destroyers (valuable as convoy escorts) in return for 99-year leases on British naval bases located on British possessions in the Caribbean. Also early in the year, the U.S. Navy's neutrality patrol was extended to 2,000 miles from the U.S. coast.

On August 14, 1941, President Roosevelt concluded with British prime minister Winston Churchill the Atlantic Charter, which effectively divided the world into spheres of strategic control for the common defense. At this point, American warships began escorting fast convoys partway to Britain, taking escort responsibility in the sea lanes of the western Atlantic, including in the vicinity of Iceland. By mid-September, navy vessels were escorting convoys between the Grand Banks and Iceland. While U.S. ships escorted fast convoys, ships of the Royal Canadian Navy escorted slow convoys.

Escort operations resulted in an undeclared naval war between the United States and Germany, especially in conjunction with the Canadians and the highly vulnerable slow convoys. On September 4, 1941, the destroyer USS *Greer* was attacked by a German submarine. On October 15, the USS *Kearny* was attacked, and on October 31, the *Reuben James* was sunk. The sinking of the *Reuben James* and other armed exchanges prompted Congress, on November 17, 1941, to amend the latest in a series of Neutrality Acts to permit the arming of merchant vessels and to allow merchant vessels to carry cargoes into belligerent ports.

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Nazi Party (NSDAP)

"Nazi" was the familiar name for the Nationalsozialistische Deutsche Arbeiterpartei (NSDAP), the National Socialist German Workers' Party, which was born of a post–World War I political movement called National Socialism. Contrary to popular belief, the Nazi Party was not founded by Adolf Hitler, but by an obscure Munich locksmith named Anton Drexler, as the German Workers' Party, in 1919. Hitler, at the time a political agent for the German army, joined Drexler's party in September 1919 and began a rapid rise within it. In 1920, he took charge of the party's propaganda operations and resigned from the army to devote himself full-time to the party. Hitler proved to be a popular orator of extraordinary power, and during 1920–21, he took over leadership of the party, pushing out the original leaders and renaming it the National Socialist German Workers' Party.

In many respects, Hitler was typical of the thousands of Germans outraged by the humiliating and economically ruinous terms imposed by the Treaty of Versailles. The general discontent and desperation made fertile soil for the rise of the Nazis and, within Germany, no place was more promising for the rapid growth of the party than Bavaria, which had always harbored separatist sentiments with regard to the rest of the nation and which particularly despised the Berlin-based republican government imposed by the Versailles treaty. The principal Bavarian city, Munich, birthplace of the Nazi Party, was a magnet for disaffected veterans, including those who had joined the Freikorps, the extralegal paramilitary organization founded in 1918–19 and

made up of German army units that, in effect, simply refused to demobilize. It was from the Freikorps ranks that many of the early members of the Nazi Party were recruited; this gave the party a strong paramilitary slant. The most prominent of the early Freikorps Nazi recruits was Ernst Röhm, who became closely associated with Hitler and raised and organized the uniformed thugs whom Hitler used early on to protect party meetings and to engage in street brawls with socialists and communists. Most of all, Röhm's thugs projected the organized strength of the party, much as Benito Mussolini's Blackshirts projected the strength of the Fascist Party in Italy. In 1921, Röhm organized his thugs—now known as Brownshirts—into a kind of palace guard called the Sturmabteilung (SA). Increasingly, Röhm obtained the cooperation and protection of the Bavarian government, which relied on him—at the time he was also a staff member of the official district army command—to employ the local army to maintain order. Thus Bavarian officials were often complicit in the tactics of terrorism and intimidation the SA used to suppress opposition to the Nazi Party.

Early in his rise within the party, in 1920, Hitler promulgated a 25-point program that became the foundation of Nazism. The chief provisions of the program were the abrogation of the Treaty of Versailles and the expansion of German territory. Always driving this basic message was an appeal to nationalism on the basis of a racial definition of it—the idea of a German race—whose destiny was to dominate the world. The chief enemies of the German race were the Bolsheviks and their natural allies, the Jews. From the beginning, the Nazi Party was steeped in anti-Semitism. That was hardly a new strain in European political movements, but Hitler and the Nazis made it a focus of their demonizing demagoguery, which was aimed at radicalizing the disaffected German working class.

The Nazi Party quickly developed as a projection of a cult of personality centered on Adolf Hitler. It became sufficiently strong in Bavaria that, in 1923, Hitler and his followers staged the coup d'état in Munich known as the Beer Hall Putsch, an attempt to seize control of the Bavarian state government in the expectation that this would in turn set off a national uprising against the Weimar Republic. The coup, premature, instantly collapsed, the Nazi Party was temporarily outlawed, and Hitler was imprisoned for most of 1924.

Hitler used the period of his incarceration to write a combination political memoir and party manifesto, *Mein Kampf,* and, on his release, resurrected the Nazi Party. He decided that he would not again attempt a coup, but would instead build power through at least ostensibly legal political means. In 1925, the party had some 25,000 members. Four years later, the membership had grown to 180,000. Hitler instituted a system of district leaders, called Gauleiters, to nationalize the party, which began to make its presence increasingly felt in municipal and state as well as federal elections. The party also benefited from the growing economic desperation of the Great Depression. The immediate postwar years had been bad for Germany, but the worldwide economic Depression that began in 1929 made conditions even worse. Unemployment spiked during 1929–30 and gave the Nazis millions of jobless voters to whom they could appeal. In a remarkably brief period, from 1929 to 1932, party membership exploded. In the elections of July 1932, the Nazi Party received some 14,000,000 votes, making it the single largest voting bloc in the Reichstag (German Parliament), with 230 members, or 38 percent of the total vote.

As the popular power of the Nazi Party grew, it also drew important support from German financiers and industrialists, who saw the Nazis as a bulwark against communist and socialist workers' movements and as a means of gaining important business advantages (such as government-sanctioned cartels) by controlling aspects of the government. Thus the party became increasingly well financed. Moreover, the legal, political, and financial rise of the party was always augmented by the paramilitary intimidation provided by the SA.

A significant decline in unemployment during late 1932 reduced the Nazi Party's vote to about 33 percent in the November 1932 elections; however, by this time, Hitler had become an individual to reckon with, and he commanded a sufficient bloc

to compel Paul von Hindenburg, the superannuated president of the Weimar Republic, to name him chancellor on January 30, 1933, thereby elevating him and the Nazi Party to the very highest level of government.

Hitler now moved with lightning speed to consolidate his power and that of his party. In the elections of March 5, 1933, the Nazis skyrocketed to 44 percent of the vote, which Hitler used to usurp control of the Reichstag. On March 23, he pushed through that body the Enabling Act, by which the government Hitler now controlled was "enabled" to issue decrees independently of the Reichstag and of President Hindenburg. Adolf Hitler was now Germany's dictator. Among the first uses he made of his new absolute power was to declare the Nazi Party the only political party in Germany on July 14, 1933. When Hindenburg died the following year, Hitler extended his cult of personality beyond the party and to the nation by officially adopting the title of Führer (Leader). He also retained the roles of chancellor and commander in chief of the army. Additionally, he remained the head of the Nazi Party.

Although legally distinct from the German government, the Nazi Party became the core of the German nation. All significant government and civil service posts were occupied by party members. Gauleiters became potent figures in state governments. Having outgrown his need for Ernst Röhm, who was now perceived as a rival (because he led the socialist-oriented left wing of the party), Hitler turned against him and other top-level SA leaders. In 1934, they were executed, with Röhm. This left Hitler unopposed within the party, and the party, in turn, controlled every aspect of German government and German life, from German society to the German economy to German culture. The Nazi ideology was compounded of the thoroughgoing exploitation of propaganda, of national and racial mythologies, of a concept of national and racial destiny, of the hatred of all things "non-Aryan" (non-racially German)—especially Jews—and of the indissoluble marriage of government, industry, and the military toward the goal of world domination.

Adolf Hitler promised the German people that National Socialism would bequeath to them ultimate prosperous stability in a "Thousand Year Reich." The Nazi government lasted, in fact, a dozen years, half of them consumed in world war. Following Germany's defeat and the suicide of Hitler and many other Nazi leaders, the Nazi Party was outlawed by the Allied occupiers, who also subjected the surviving leaders to trials for war crimes and crimes against humanity. Although Nazi and quasi-Nazi movements and parties have appeared in various countries since World War II, including the United States (mainly in the form of white supremacist movements), National Socialism has reemerged nowhere as a significant political force, let alone a mass movement.

See also Fascism and Nuremberg War Crimes Tribunal.

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Netherlands

At the outbreak of World War II, the Netherlands, also called Holland, was a constitutional European monarchy—a democratic kingdom—with about nine million people. The Dutch Empire at the time also included two major colonies, the Dutch West Indies and the Netherlands East Indies.

The Netherlands had a long-standing tradition of absolute neutrality and had even managed to remain neutral during World War I. The outbreak of World War II found the nation without war plans of any kind. Adolf Hitler sent Queen Wilhelmina his personal guarantee that Germany would respect Dutch neutrality. It was a pledge he immediately violated. Before the war was over, 220,000 Dutch citizens were dead, and the nation suffered an economic loss of approximately one-third of its gross national product.

The last general election held before the war, in 1937, gave 4 percent of the vote to the Dutch Nazi Party, which had at the time only 30,000 members. Even during the German occupation, this grew only to 50,000 members. Hitler never worked closely with the Dutch party and seems not to have taken it very seriously. More than 5,000 Dutchmen joined the Waffen SS; however, the vast majority of the Dutch population was hostile to the occupation, and the Dutch resistance was highly active. Although the occupiers kept the established Dutch police force in operation, it generally adopted an attitude of passive noncooperation with German authorities.

The German army invaded the Netherlands on May 10, 1940, during the Battle of France. Three days later, Queen Wilhelmina was evacuated by a British destroyer. Her intention had been to take refuge in Zeeland, in southwest Holland, but the German advance proceeded so rapidly that she was transported to London instead, to which the Dutch cabinet (after conferring its legal powers upon General H. G. Winkelman, commander in charge of Dutch armed forces) followed her. A government in exile was established, as was a small Dutch military force, consisting of a handful of airmen (who became part of Squadron 320 of the RAF) and an army brigade, called the Irene Brigade, which fought in the Normandy landings (D-day) and in northwestern Europe. Those Dutch warships that had managed to evade German capture fought under the control of the British Royal Navy. Throughout the war, Wilhelmina made broadcasts to her people via Radio Orange and acquitted herself nobly as a symbol of Dutch freedom and nationalism.

Within the Netherlands, the German invaders set up a government to administer the nation as a province of the Third Reich. Arthur Seyss-Inquart, as head of Reichskommissariat Niederlanden, was the chief Nazi administrator of the Netherlands. His top lieutenant was H. A. Ranter, commander of the Schutzstaffel (SS) and security police. As usual, the policy of the occupiers was to loot the country for the purpose of prosecuting the war. Most food production and virtually all manufacturing capacity was siphoned off. Forced Dutch food exports significantly undermined the effectiveness of the British blockade against Germany.

The German occupiers sternly regulated all aspects of Dutch life. Dutch Jews, who had for centuries enjoyed the benefits of a tolerant government and society, were removed from virtually all professions. When non-Jewish faculty members of the University of Leyden objected, the institution was closed. Gentile professionals, including doctors, architects, lawyers, and so on, were compelled to join Nazi-sanctioned professional organizations. Many refused and resigned from their positions in protest. Some went underground. Although Nazi philosophy regarded the Dutch as fellow Aryans, the vast majority of Dutch citizens were revolted by Nazism on moral as well as religious grounds. As the German occupation developed, approximately 104,000 Dutch Jews, including Anne Frank were deported to concentration and extermination camps. At least 36,000 escaped this fate, however, many of them by hiding among and with the aid of their gentile neighbors. Popular outrage over the Nazi roundup of Amsterdam Jews triggered a general labor strike in February 1941, which affected much of the country. When the occupiers responded by executing 17 Dutchmen (including 15 who were already being held on charges of sabotage), Dutch citizens responded with even more outrage, since the nation had abolished the death penalty during the previous century.

Three major resistance movements developed in the Netherlands during the occupation. The Orde Dienst (OD), specially sanctioned by the government in exile, worked in close cooperation with the British Special Operations Executive. The Raad van Verzet (Resistance Council) operated independently, as did the so-called *knokploegen* (combat groups). Both of these groups gave assistance to citizens (including Jews) who had gone underground (and were collectively known as *onderduikers*). They also performed acts of sabotage. Beginning in 1942, Dutch operatives supplied the Allies with a good deal of useful intelligence.

The Dutch resistance maintained a clandestine news service, circulating underground papers to a surprisingly large readership. The Nazi policy of forcing many in conquered populations into slave labor prompted large numbers of young Dutchmen to become *onderduikers.* These men, combined with the active resistance movement, formed a ready body to assist the Allies when they entered the Netherlands in 1944.

Active resistance brought brutal German retaliation. At the start of the ill-fated Operation Market-Garden, an attempt to invade Germany via Holland, P. J. Gerbrandy, prime minister of the Dutch government in exile, broadcasted from London in September 17, 1944, an order for the Dutch railways to strike. They did precisely that, whereupon the Germans cut off all movement of food by canal as well. This brought on mass hunger and the death by starvation of some 16,000 Dutch citizens.

THE DUTCH MILITARY IN WORLD WAR II

Dutch neutrality dictated a strictly defensive military policy at the outbreak of World War II. The Dutch government placed inordinate reliance on the ability to flood vast portions of the low-lying country as a sovereign means of halting any invasion. German Blitzkrieg tactics readily overwhelmed Dutch defenses, however, which were powerless against heavy aerial assault. On May 14, 1940, the Luftwaffe carried out the massive Rotterdam air raid, which prompted the Netherlands to capitulate.

In 1940, the Dutch army consisted of about 400,000 men, but it totally lacked armor and had a mere 656 obsolete artillery pieces. It could offer no credible resistance to invasion.

The Dutch navy was small but modern, and was deployed principally to defend the Netherlands East Indies. It consisted of five cruisers, eight destroyers, 24 submarines, 16 minesweepers, and a number of torpedo boats and small auxiliary craft. The navy also operated about 50 obsolete aircraft. Many of the vessels stationed in the Netherlands escaped to Britain during the invasion and operated with the Royal Navy in the Mediterranean theater. Virtually all Dutch ships in the Netherlands East Indies were lost to the Japanese.

The Dutch air force, called the Luchtvaart Afdeling (Military Aviation Division), was administered by the army. At the time of the invasion, it consisted of just 175 planes, of which 132 were operational and 72 sufficiently modern not to be classed as obsolete. Sixty-two of these modern, serviceable aircraft were lost on the first day of the invasion.

Perhaps the most significant of the Netherlands' military assets was its merchant marine, which was for the most part overseas during the invasion and therefore escaped capture, destruction, or internment. The merchant marine gallantly served the government in exile throughout the war.

See also Final Solution; Holocaust; and Netherlands East Indies, action in.

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Netherlands East Indies, action in

At the outbreak of World War II, the Netherlands East Indies was a Dutch colony in Southeast Asia. It encompassed Java, Sumatra, Dutch Borneo, Dutch New Guinea, Celebes, western Timor, and the Moluccas. It was a key resource for raw materials vital to war, including oil (mostly from Sumatra), tin, bauxite (aluminum ore), and coal. Also produced here were rubber, copper, nickel, timber, quinine, sugar, rice, tea, and coffee. The population of the vast colony was about 70.5 million at the outbreak of the war; it included 1 million Chinese and 250,000 Dutch nationals.

After the Germans occupied the Netherlands in May 1940, the People's Council in Batavia, the

colonial legislative body in Java, declared loyalty to the Dutch government in exile, although the Council governed the colony with near autonomy. In January 1941, the Japanese foreign minister called the Netherlands East Indies part of the Greater East Asia Co-prosperity Sphere—in effect laying claim to its bounty. In response, the People's Council protested and refused many (but not all) Japanese demands for its products. The Council also declined to grant Japan large-scale fishing and prospecting rights and denied unrestricted access to its ports. Nevertheless, the colony did increase its general exports to Japan. In August 1941, however, the Council obeyed orders from the Dutch government in exile to stop shipping oil to Japan. With this, relations between the Netherlands East Indies and Japan deteriorated precipitously.

The Japanese saw the Netherlands East Indies as a major prize. Although they were confident that they could conquer the region, they were fearful that the Allies would first destroy many of the mines and plantations rather than let them fall into Japanese hands; speed of conquest was therefore of the essence. On December 20, 1941, Lieutenant General Hitoshi Imamura dispatched elements of his Sixteenth Army from Mindanao Philippines, to assault Dutch Borneo, Celebes, and the Moluccas. Paratroops were deployed on north Celebes on January 11, 1942.

Japanese units seized the oilfields of Dutch Borneo, as well as airfields at Kendari (southern Celebes) and Amboina (Moluccas). On February 16, 1942, a paratroop assault spearheaded an invasion by the Sixteenth Army at Palembang, southern Sumatra. A major oil refinery was captured. Next to fall was Dutch Timor, which was occupied on February 19. Resistance to the invasion was offered by small and poorly equipped colonial forces with modest assistance from Australian, and British forces commanded by British general Archibald Wavell. Wavell was severely handicapped, however, by an almost total lack of an air force, which was mostly destroyed in Japanese raids on February 19 and 27. Allied naval forces fared somewhat better, as American destroyers managed to sink four Japanese transports and a patrol boat off Balikpapan, which delayed the advance—albeit not for long. Japanese forces ultimately overwhelmed all defenders.

On February 25, 1942, the Allies dissolved Wavell's American-British-Dutch-Australian Command and left the Dutch governor-general on Java to assume command of the remaining forces. This represented a considerable number of troops, but by this time the Japanese were so firmly established everywhere that the situation was hopeless. Japanese forces landed on Java on March 1 and marched on Bandung. On March 8, the governor-general surrendered some 93,000 men of the Royal Netherlands East Indies Army. Other Allied units in the region also capitulated. At the same time, more Japanese troops landed in northern Sumatra. By the end of March, Sumatra fell, and the Japanese assaulted Dutch New Guinea. Here resistance persisted until October 1942, and the Japanese never succeeded in taking quite all of the Netherlands East Indies, as portions of Dutch New Guinea held out throughout the war.

The Japanese occupiers put Sumatra under the military administration that also controlled Malaya from headquarters in Singapore. The army also administered Java and some other islands directly, but two other major administrative areas, centered on Borneo (British and Dutch) and on Celebes, the Moluccas, and Dutch New Guinea, were governed by the Imperial Japanese Navy. Administration was harsh, and Dutch internees were subjected to particular brutality.

The Japanese did not eliminate resistance during the occupation. Guerrilla operations were widespread, but such was the hostility bred by years of colonial administration that the indigenous people often failed to cooperate with or support operations by the British Special Operations Executive, Special Operations Australia, and the Netherlands Forces Intelligence Service.

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neutral nations

Few major nations chose or were able to remain neutral during World War II. Belgium proclaimed neutrality, but was brutally invaded during Germany's initial assault on the West. The Netherlands had received assurances from Adolf Hitler that its neutrality would be respected, but it, too, was invaded during the Battle of France. The United States adhered to its Neutrality Acts, although increasingly close cooperation with the British marked an unmistakable drift toward war until the Battle of Pearl Harbor forced Franklin D. Roosevelt's hand.

The Republic of Ireland remained neutral throughout the war, largely because of its long history of hostility toward Great Britain. It was the only British Commonwealth nation to declare neutrality. Despite this, some 60,000 Irishmen voluntarily joined the British armed forces, others worked in the British merchant marine, and untold thousands went to Britain to work in war industries. In 1920, Ireland had been divided into the Irish Free States (which later became the Republic of Ireland) and Northern Ireland, which remained legally unified with Great Britain. During World War II, the population of Northern Ireland was exempted from conscription; nevertheless, some 30,000 Northern Irishmen voluntarily enlisted in the British armed forces.

Portugal had fought on the side of the Allies during World War I, but at the outbreak of World War II, its dictator, Oliveira Salazar, had sympathies with the fascist regime of Spain's Francisco Franco and Italy's Benito Mussolini as well as the Nazi government of Adolf Hitler. His ties with Franco had been formalized by the 1939 Friendship and Non-Aggression Pact between Portugal and Spain. At the same time, like Franco, he chose neutrality in preference to alliance with the Axis. Salazar was instrumental in persuading Franco to maintain neutrality. Salazar quite correctly feared that an alliance with the Axis would bring occupation of Portugal.

Unlike Franco, Salazar became increasingly sympathetic to the Allied cause as the war progressed and, in October 1943, he allowed the Allies to base aircraft and ships in the Azores, which Portugal controlled. Throughout the war, Lisbon was a hotbed of international intrigue carried out by Allied and Axis agents.

In Spain, Franco owed his power to the military aid proffered by fascist Italy and Nazi Germany during the Spanish civil war of 1936–39. Hitler assumed that Franco would join the Axis, and Franco repeatedly asserted his intention to do so "when the time was right." Although that time apparently never came, Spain, which had declared itself neutral at the outbreak of the war, changed its status from "neutral" to "nonbelligerent" after Italy entered the war. This meant that the Spanish government supported the Axis, but was not actively fighting in a military alliance. Nevertheless, Spain allowed German ships to refuel and refit in Spanish harbors, condoned various German espionage operations, and sanctioned the formation of the Blue Division, Spanish volunteers who served on the Russian front alongside German troops.

The Allies were long unwilling to take any action that might drive Spain wholly into the German camp; however, in 1944, they instituted an oil embargo against Spain, to which Franco responded by ending the export to Germany of wolfram (necessary for the production of tungsten and tungsten steel), expelled a number of German spies, recalled the Blue Division from the East, and released to the Allies three Italian warships that had been interned in Spanish ports. In April 1945, as Allied victory in Europe was assured, Franco severed diplomatic relations with Germany as well as Japan.

Sweden declared neutrality in both world wars and, in contrast to its neighbors Finland and Norway, was able to resist invasion and maintain its neutrality throughout the war. Its stance toward Germany was one of defiance, and it persuaded Hitler that Swedish resistance would be so fierce that German troops would be tied down indefinitely.

Unwilling to take this risk, Hitler abstained from invasion. For its part, however, Sweden met heavy German demands for export of iron ore, and German troops were permitted to transit Swedish territory via Swedish railroads. When the war turned inexorably against Germany by 1943, however, Sweden cut off iron exports and barred German troop movement across Sweden. By the end of the war, Sweden was not so much a neutral nation as a pro-Allied nonbelligerent. Yet only on the very last day of the European war did Sweden formally sever diplomatic relations with the Nazi regime.

The best-known neutral during World War II was Switzerland, a historically neutral state. The Axis respected Swiss neutrality largely because the small nation had a formidable military, which could readily defend its extremely mountainous territory. Switzerland would have been a daunting objective for any invader. Moreover, the Swiss made many accommodations to Axis demands, allowing both German and Italian troops to transit the country and to use Swiss railroads. Swiss banks, food producers, and industry traded extensively with the Germans and Italians. Only long after the war did the full extent of Swiss war profiteering emerge, especially with regard to dealings between Swiss banks and the German government. Swiss banks have been especially recalcitrant in refusing claims by Holocaust survivors and their heirs to return money the Nazi regime had looted from them and deposited in Swiss accounts.

Switzerland did serve as a refuge for escaped POWs and political prisoners, and the Swiss government often granted political asylum to victims of the Axis. But early in 1942, it closed its borders to some 170,000 French Jews seeking asylum.

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Neutrality Acts, U.S.

Italy's first attack on Ethiopia prompted the U.S. Congress to pass the first of four prewar Neutrality Acts in August 1935. The act empowered the president to embargo arms shipments to belligerents in the Ethiopian conflict and to issue official warning to U.S. citizens traveling on the ships of belligerents that they did so at their own risk. A second act, passed in February 1936, added to these provisions a prohibition on extending loans or credit to belligerents. As if to certify U.S. neutrality, neither act distinguished between aggressor and victim, although it was abundantly clear to the world that Italy was the former and Ethiopia the latter.

In July 1936, the outbreak of the Spanish civil war posed a legislative problem because the two existing acts applied only to wars between nations, not civil conflicts. A joint resolution of Congress on January 6, 1937, forbade supplying any party involved in the war with arms, and when the 1936 Neutrality Act expired, the resolution was incorporated into a new law, which not only included civil wars, but also authorized the president to expand the embargo list to include "strategic materials" (for example, steel and oil) in addition to weapons. Even more significantly, the 1937 act expressly outlawed travel by U.S. nationals aboard ships of the belligerents.

As President Franklin D. Roosevelt increasingly saw the nation's interests as aligned with the opponents of fascism and Nazism, he found that the Neutrality Act of 1937 was becoming an obstacle to the foreign policy he wanted to develop. Therefore, FDR enforced it selectively, most specifically in favor of China and against Japan, which had invaded China in the ongoing Sino-Japanese War. The 1937 act made additional important provisions:

> Section 4 excepted from the act "an American republic or republics engaged in war against a non-American state or states, provided the American republic is not cooperating with a non-American state or states in such a war." This upheld the Monroe Doctrine of 1823, which held that an attack by a European state

against any American state would be considered a direct attack against the United States.

Section 5 created a National Munitions Control Board, charged with carrying out the provisions of the act.

Section 6 prohibited American vessels from carrying arms to belligerent states.

Section 7: Whenever, during any war in which the United States is neutral, the President, or any person thereunto authorized by him, shall have cause to believe that nay vessel, domestic or foreign, whether requiring clearance or not, is about to carry out of a port of the Untied States, fuel, men, arms, ammunition, implements of war, or other supplies to any warship, tender, or supply ship of a belligerent state, but the evidence is not deemed sufficient to justify forbidding the departure of the vessel as provided for by section 1, title V, chapter 30, of the act approved June 15, 1917, and if, in the president's judgment, such action will serve to maintain peace between the United States and foreign states, or to protect the commercial interests of the United States and its citizens, or to promote the security or neutrality of the United States, he shall have the power and it shall be his duty to require the owner, master, or person in command thereof, before departing from a port of the United States, to give a bond to the United States, with sufficient sureties, in such amount as he shall deem proper, conditioned that the vessel will not deliver the men, or any part of the cargo, to any warship, tender, or supply ship of the belligerent state. (b) If the president, or any person thereunto authorized by him, shall find that a vessel, domestic or foreign, in a port of the United States, has previously cleared from a port of the United States during such war and delivered its cargo or any part thereof to a warship, tender, or supply ship of a belligerent state, he may prohibit the departure of such vessel during the duration of the war.

Section 8: Whenever, during any war in which the United States is neutral, the President shall find that special restrictions placed on the use of the ports and territorial waters of the United States by the submarines or armed merchant vessels of a foreign state, will serve to maintain peace between the United States and foreign states, or to protect the commercial interests of the United States and its citizens, or to promote the security of the United States, and shall make proclamation therefore, it shall thereafter be unlawful for any such submarine or armed merchant vessel to enter a port or the territorial waters of the United States or to depart therefrom, except under such conditions and subject to such limitations as the President may prescribe. Whenever, in his judgment, the conditions which have caused him to issue his proclamation have ceased to exist, he shall revoke his proclamation and the provisions of this section shall thereupon cease to apply.

Section 9 prohibited the arming of American merchant vessels.

On November 4, 1939, two months after the German invasion of Poland started World War II in Europe, President Roosevelt signed into law a new neutrality act. Although it substantially recapitulated the Neutrality Act of 1937, the Neutrality Act of 1939 permitted sales of arms and strategic materials to belligerents, except as might be prohibited by presidential proclamation. Most important, all sales were to be on a cash-and-carry basis only. This was to prevent the United States from being drawn into a war because it held the debt of some belligerent country; nor would a U.S. vessel be permitted to risk running a blockade for the delivery of goods. (The cash-and-carry provision created an obstacle to the concept of Lend Lease, which would be overcome by the Lend-Lease Act of 1940.)

The 1939 act also gave the president the authority to designate "combat areas," through which travel by U.S. nationals and vessels would be prohibited. As originally passed, the act retained the earlier prohibition against the arming of merchant vessels; however, on November 17, 1941, after inci-

dents with German submarines and the torpedoing of the U.S. destroyer *Reuben James,* Congress amended the act to permit the arming of merchant vessels and additionally permitted those vessels to carry cargoes into belligerent ports. This amendment is traditionally considered the fourth Neutrality Act; it was, however, short-lived, since the entry of the United States into World War II on December 8, 1941, ended neutrality.

See also NAVAL WAR WITH GERMANY, UNDECLARED (1940–1941).

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New Britain, Battle of

See RABAUL, BATTLES OF.

New Georgia Campaign

A phase of the Solomon Islands campaign, the New Georgia Campaign was fought as part of the U.S. effort to capture Rabaul, which was the principal base in Japan's southeast Pacific area of operations.

The New Georgia campaign commenced in June 20, 1943, when a U.S. Army Raider battalion landed at Segi Point on the main island of the group, New Georgia. Over the next two weeks, marines as well as troops of the U.S. Army 43rd Division landed on Rendova and Vangunu islands and on western New Georgia, where they seized a Japanese airfield at Munda point. The U.S. Navy coordinated with these assaults, fighting the naval battles of Kula Gulf and Kolombangara, yet the combined operations were unable to interdict some 4,000 Japanese reinforcements, which augmented the 10,500-man New Georgia garrison under Major General Noboru Sasaki.

Most of the reinforcements took up positions on Munda, which became the center of the Japanese defense. The Japanese troops did not content themselves with passive defense, but practiced night infiltration, which was extremely effective against the U.S. troops, many of whom were inexperienced. Japanese infiltration tactics took an enormous toll on U.S. morale, greatly increasing the incidence of battle fatigue and prompting the replacement of many troops by those of the 37th Division. The reinvigorated U.S. forces were ordered to go on the offensive, and an entire corps attacked on July 25. By August 1, the overwhelmingly outnumbered Japanese withdrew inland. Augmented naval forces prevented more Japanese reinforcements from reaching Munda; the Battle of Vella Gulf on August 6–7 sank three Japanese troop transports.

Munda was declared secure and became a base from which the marines launched an amphibious assault on Vella Lavella on August 15, bypassing—and isolating—the Japanese garrison on Kolombangara. Most of these men were able to withdraw on September 15, as were the Japanese survivors on Vella Lavella. Although the Americans prevailed at New Georgia, the campaign proved costly.

See also RABAUL, BATTLES OF.

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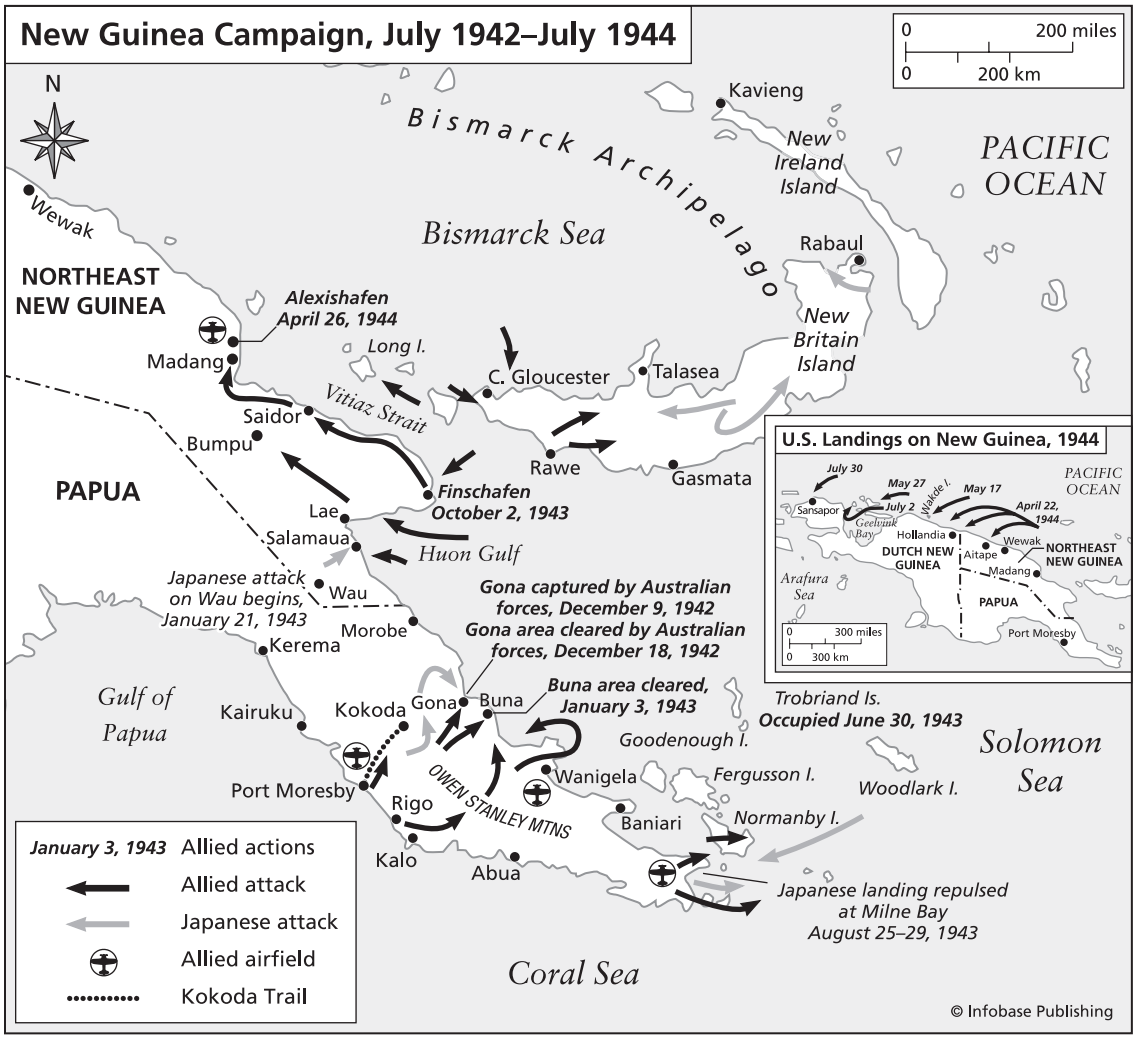
New Guinea Campaign

New Guinea, in the southwestern Pacific, was the focus of military action from 1942 to 1944. The Japanese well understood that by controlling New Guinea, they could readily invade Australia. The Allies understood this as well.

The Japanese captured Lae and Salamaua on New Guinea's Huon Gulf coast on March 8, 1942. This served as a springboard to the conquest of the



Dutch East Indies and put the Japanese in position for an assault on the key base of Port Moresby, in southeastern New Guinea, the final position defending Australia. The U.S. Navy intercepted the Japanese fleet in the Battle of the Coral Sea on May 7–8, suffering a tactical defeat but achieving a strategic victory in that the Japanese were forced to withdraw their Port Moresby–bound invasion convoy.

The next major Japanese assault on New Guinea came on July 21–22, 1942, when elements of the Eighteenth Japanese Army (under Adachi Matazo) landed at Gona and Buna. From here, the Japanese launched a new offensive against Port Moresby. On August 26, 1,900 Japanese troops landed at Milne Bay but were repulsed by combined Australian and American engineer troops, who were building airstrips.

On July 22, two Japanese regiments left Gona-Buna on a treacherous march along the Kokoda Trail over the 13,000-foot Owen Stanley Range. They occupied Kokoda village on August 12 and

reached Ioribaiwa on September 17, putting the advance guard of the Japanese force just 32 miles from Port Moresby. Here, however, they were intercepted by the 7th Australian Division, which counterattacked, driving the Japanese out of the mountains and down into the swamplands around Gona and Buna. Joined now by U.S. and other Australian units, the 7th Division fought a fierce jungle campaign that drove the Japanese out of Gona on December 10, 1942, and out of Buna on January 3, 1943. The last Japanese resistance in this area, at Sanananda Point, was neutralized on January 23. With this, Papua was liberated. U.S. and Australian forces had suffered 8,546 combat casualties in this phase of the New Guinea Campaign, whereas Japanese losses were estimated at 12,000 killed and 350 captured; some 4,000 Japanese withdrew successfully. Victory in this phase of the campaign allowed Douglas MacArthur to seize the initiative and begin the Allied counteroffensive in the Southwest Pacific.

In the spring of 1943, the U.S. I Corps, under Robert Eichelberger (which would be expanded into the Sixth U.S. Army under Walter Krueger) began the next phase of the New Guinea Campaign. In coordination with Admiral Thomas Kinkaid's Seventh U.S. Fleet, Eichelberger led the fight to push the Japanese from the north coast of New Guinea. Beginning at Gona, on the coast, and Wau, inland, U.S. and Australian troops conducted a fighting advance west and north toward the Salamaua-Lae area. On the night of June 29–30, a regiment of the U.S. 41st Infantry landed at Nassau Bay, near Salamaua. In concert with the 5th Australian Infantry, the 41st captured Salamaua on September 12. Simultaneously, the 9th Australian Division landed 10 miles east of Lae while the U.S. 503rd Parachute Regiment and the 7th Australian Infantry Regiment were air dropped into the Markham Valley to the west of the village. This enveloped the Japanese position, and on September 16, Lae fell.

On September 22, a brigade of the 9th Australian Infantry landed at Finschhafen, 50 miles from Lae. Finschhafen fell to the Allies on October 2, which enabled the conquest of the entire Huon Gulf region.

On January 2, 1944, the U.S. 32nd Infantry landed at Saidor, 100 miles to the west of Finschhafen. The troops, who had simply bypassed 12,000 Japanese defenders on the north coast of the Huon Peninsula, seized an airstrip, giving the Allies control of the region and cutting off the Japanese garrison, of which only one-third survived.

On March 5, the 32nd Infantry advanced farther west, taking Mindiri. Elements of the 5th and 11th Australian divisions advanced to the Astrolabe Bay area and took Bogadjim, Madang, and Alexishafen during April 24–26. While the Australians conducted these operations, Krueger's Sixth U.S. Army made an amphibious advance 400 miles to the west, landing near Hollandia on April 22, the U.S. 24th Infantry landing at Tanahmerah Bay, and part of the 41st Infantry landing at Humboldt Bay, 25 miles to the east of the 24th's position. The divisions linked up on April 26 while the U.S. 163rd Regiment captured Aitape, 125 miles farther east. These spectacular three-pronged landings bypassed and cut off no fewer than 50,000 soldiers of the Eighteenth Japanese Army in the Wewak area. U.S. troops of XI Corps (Charles Hall) repulsed every Japanese attempt to break out. Japanese losses were heavy—8,800 killed, for U.S. losses of 450 dead and 2,500 wounded.

With many of the Japanese on New Guinea contained, the Sixth U.S. Army leapfrogged 125 miles to the west on May 17, 1944, landing at Arara and, on May 18, at Wakde Island, both in the Maffin Bay area. Japanese resistance on Wakde was very heavy, and the island was taken only after four arduous days of combat. All of Maffin Bay was declared secure by the end of June. While the Wakde battle raged, however, the U.S. 41st Infantry jumped 200 miles on May 27 to Biak Island, which controlled the entrance to Geelvink Bay, near the western end of New Guinea. Ten thousand Japanese held the island. They resisted the initial assaults and, early in June, were reinforced by an additional 1,000 troops; but air and sea attacks interdicted the remaining Japanese transports in the troop convoy. Two Japanese destroyers were sunk and some 50 planes shot down. Hopelessly cut off on Biak, the Japanese gradually yielded; nevertheless, Biak was not

declared completely secure until August. The Biak operation cost the 474 U.S. troops killed and 2,400 wounded. Japanese losses were in excess of 6,100 killed and 450 captured.

Seventy miles southwest of Biak, Noemfoor Island fell to the 503rd Parachute Regiment during July 1–6. For 70 U.S. killed and 350 wounded, the Japanese lost 2,000 killed and 250 captured.

The U.S. 6th Infantry took Sansapor (on the Vogelkop Peninsula at the northwestern end of New Guinea) on July 30–31, thereby completing MacArthur's titanic 1,500-mile operation across the northern coast of New Guinea cut off and thus neutralized. This extraordinary combination of fighting and bypassing the Japanese cut off and thus neutralized some 135,000 Japanese troops.

The New Guinea Campaign had one final action. While the main Japanese forces suffered one defeat after another on New Guinea, another Japanese force established a base to the northwest of New Guinea proper, on Halmahera Island in the Moluccas. The U.S. XI Corps (Charles Hall) was dispatched to the area. It bypassed the Japanese on Halmahera and landed on Morotai on September 15. Airfields were built so that the Allies would have a base midway between western New Guinea and Mindanao (in the southern Philippines). All that was left after Morotai was taken were mop-up operations on Asia and Mapia (Saint David) islands, 150 miles north of the Vogelkop Peninsula, during November 15–20.

See also Buna, Battle of; Dutch East Indies, action in; and Gona, Battle of.

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New Zealand, air force of

During World War II, the Royal New Zealand Air Force (RNZAF) operated two reconnaissance squadrons in New Zealand and two in Fiji. Under the British Empire Air Training Scheme (BEATS), it also provided trained air crews for the British RAF—some 10,000 men by the end of the war. New Zealanders served in RAF units as well as New Zealand squadrons. The major concentration of RNZAF personnel was in the Pacific, where New Zealand squadrons participated in the Solomon Islands campaigns and in the Battle of Rabaul. The peak wartime strength of the RNZAF was 45,000 men—and women; the RNZAF was the first Allied air force to recruit women when its Women's Auxiliary Air Force was created in January 1941. Peak female enlistment was 4,000 in August 1943.

See also Great Britain, air force of.

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New Zealand, army of

At its peak, the army of New Zealand consisted of approximately 150,000 men and women. The first major force was the expeditionary force, initially designated the New Zealand Division and, from June 1942, the 2nd Division. In proportion to population, the size of the New Zealand army was the equivalent of 25 British divisions.

The commander in charge of the 2nd Division was Major General Bernard Freyberg, who was instructed to treat the army as a national force and to act under the orders of the British theater commander subject to the "requirements of His Majesty's government in New Zealand." The 4th Brigade was the first New Zealand unit to see action in the war, arriving in Egypt on February 12, 1940. A second echelon, consisting of the 5th Brigade, was sent to Britain as part of the force assembled to defend against an anticipated German invasion during the second half of 1940.

From March 1941 to September 1942, New Zealanders fought as part of the Eighth British

Army under Bernard Law Montgomery. In 1941, a Women's Army Auxiliary Corps was formed, reaching its peak strength of 4,600 in July 1943. In addition to fighting in the Western Desert Campaign, New Zealand army forces took over some British responsibilities in the Pacific Islands. The 2nd Division also fought in the Italian Campaign from October 1943 until it was involved in the occupation of Trieste in May 1945. In September 1944, pursuant to a decision by the Combined Chiefs of Staff in Washington and after the Quebec Conference, the 2nd Division was reduced and the 3rd Division disbanded, so that its men could be held in reserve as reinforcements or returned to New Zealand, where they were employed in much-needed agricultural and other labor.

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New Zealand, navy of

At the outbreak of World War II, the New Zealand navy was called the New Zealand Division of the British Royal Navy. It consisted of the light cruisers *Leander* and *Achilles,* two British escort vessels, and one minesweeping trawler.

Achilles participated in the Battle of the River Plate in December 1939, and *Leander* sank an Italian auxiliary cruiser in the Indian Ocean in February 1941. In September 1941, the New Zealand Division was given autonomous status as the Royal New Zealand Navy (RNZN), which included a New Zealand section of the Women's Royal Naval Service. The British cruisers of the RNZN were augmented by the addition of two corvettes, 16 mine sweepers, 12 anti-submarine patrol boats, and more than 100 harbor defense launches and other small craft.

See also Great Britain, navy of.

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Nimitz, Chester William (1885–1966) *U.S. commander of the Pacific Fleet*

A native of Fredericksburg, Texas, Nimitz enrolled in the U.S. Naval Academy in 1901 and graduated in 1905. He was commissioned an ensign while serving on the China station in 1907 and then served on the submarine *Plunger.* Promoted to lieutenant in 1910, he was given command of the submarine *Skipjack* as well as the Atlantic Submarine Flotilla in 1912. During 1913, he toured Germany and Belgium, studying diesel engines and subsequently supervised construction of the U.S. Navy's first diesel ship engine.

Nimitz was promoted to lieutenant commander in 1916. After U.S. entry into World War I in April 1917, he was appointed chief of staff to the commander of the Atlantic Fleet's submarine division. He served in various posts immediately after the war, then promoted to commander in 1921, attended the Naval War College, graduating in 1923. From 1923 to 1925, he was attached to the staff of the commander in chief, Battle Fleet. During 1925–26, he served on the staff of the commander in chief, U.S. Fleet. After this assignment, he organized the first training division for naval reserve officers at the University of California and administered this program from 1926 to 1929. He was promoted to captain in 1927 and, in 1929, was assigned command of Submarine Division 20, serving in this capacity through 1931.

Nimitz was given his first surface command, of the cruiser USS *Augusta* (CA-31) in 1933. In 1935, he was named assistant chief of the Bureau of Navigation, and in 1938 was promoted to rear admiral. He left the bureau to command a cruiser division and then a battleship division, returning to the Bureau of Navigation in June 1939 as its chief.

After Admiral Husband E. Kimmel resigned on December 17, 1941, following the Battle of Pearl Harbor, Nimitz, promoted to admiral, was named on December 31 to replace him as com-

mander in charge of the Pacific fleet. Nimitz extensively reorganized Hawaiian defenses and directed the rebuilding of the shattered Pacific fleet. On March 30, 1942, he took unified command of all U.S. naval, sea, and air forces in the Pacific Ocean Area.

Acting on superb naval intelligence, Nimitz had overall command of operations that checked Japanese operations against Port Moresby at the Battle of the Coral Sea on May 7–8, 1942. He was instrumental in the great victory at the Battle of Midway (June 2–6, 1942), which turned the tide of the Pacific war. With Douglas MacArthur, Nimitz formulated the Allied island-hopping strategy, which played a key role in Pacific victory.

Admiral Chester Nimitz *(National Archives and Records Administration)*

Nimitz personally directed strategy in the Gilbert Islands (November 20–23, 1943) and the Marshall Islands campaign (January 31–February 23, 1944), delegating tactical authority to key subordinates, with whom he worked brilliantly. Nimitz presided over the advance into the Mariana Islands campaign (June 14–August 10, 1944) and the Paulay Islands campaign (September 15–November 25). With MacArthur, Nimitz planned and executed the invasion of Leyte in the U.S. return to the Philippines on October 20, 1944.

On December 15, 1944, Nimitz was promoted to the newly created rank of fleet admiral (five-star), then went on to direct naval operations in the Battle of Iwo Jima (February 19–March 24, 1945) and the Okinawa Campaign (April 1–June 21, 1945), followed by operations against the Japanese homeland itself during January 1945 until the surrender of Japan—in a ceremony aboard Nimitz's flagship, USS *Missouri,* on September 2, 1945.

After the war, Nimitz served as chief of naval operations from December 15, 1945, to December 15, 1947, when he was appointed special assistant to the secretary of the navy during 1948–49. Nimitz served as a U.N. commissioner for Kashmir from 1949 to 1951 and wrote (with E. B. Potter) an important history of warfare at sea, *Sea Power: a Naval History,* published in 1960.

See also Leyte, Battle of; and Leyte Gulf, Battle of.

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Noguès, Auguste (1876–1971) *Vichy French commander of forces in North Africa*

At the outbreak of World War II, in September 1939, Noguès was the French commander in charge of forces in North Africa. Under the Vichy government, he served as French resident-general of

Auguste Noguès with U.S. general Mark Clark *(National Archives and Records Administration)*

French Morocco. On the one hand, he defied Germany by maintaining his irregular mountain troops, the Goums, in an armed and ready status, thereby purposely violating the terms of the armistice that ended the Battle of France; yet on the other hand, his forces resisted the U.S. landings in Morocco during Operation Torch in November 1942. With the invasion an established fact, however, he agreed to cooperate with the Allies. His proclivity for changing allegiance was such that the Allies punned on his name, dubbing him "General No-yes."

General Charles de Gaulle forced Noguès to resign in June 1943, whereupon he took refuge in neutral Portugal. After the war, in 1947 a French court sentenced Noguès in absentia to 20 years imprisonment as a collaborator. In 1956, he was duly arrested when he returned to France, but he was subsequently released, and he served no time for the collaboration conviction.

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Norden bombsight

The Norden bombsight was one of the legendary secret weapons of World War II—so secret that the device was always loaded onto the bomber, under armed guard, just prior to takeoff, and it was removed, again under armed escort, immediately after landing. All crewmembers—especially bombardiers—who flew on aircraft equipped with the Norden bombsight were required to swear an oath to protect the bombsight and its secrets with their lives.

Although the Norden bombsight was a remarkable piece of engineering and a significant advance in bombsight technology, much of the supersecrecy surrounding it was hype and propaganda, engendered both by the U.S. government and by the sight's inventor, Carl Norden, a Swiss-educated Dutch engineer who had immigrated to the United States in 1904 and originally worked with Elmer Sperry's gyroscope firm. Norden began designing the bombsight for the U.S. Navy in 1920. Simultaneously, his former boss, Sperry, developed a bombsight for the Army Air Corps. Norden's sight was delivered to the navy in 1928. In 1932, the army studied the navy's device and, finding it superior to the Sperry bombsight, purchased it from the navy. It was in service with U.S. Army Air Forces heavy bombers that the Norden bombsight earned its primary wartime fame.

The function of a bombsight is to allow a bomb to be dropped precisely at the right time to hit the target. The Norden bombsight did this so well that it enabled U.S. bomber crews to carry out their assigned mission of precision daylight strategic bombing. Norden's device was really an advanced analog computer, which used a system of gyros, motors, gears, mirrors, levels, and a telescope to factor in the data provided by the bombardier,

including air speed, wind speed and direction, altitude, and angle of drift. The Norden would then calculate the correct trajectory of the bomb. Early versions of the Norden bombsight merely determined the exact moment bombs had to be dropped to hit the target accurately. Later versions—those employed beginning with the B-17G Flying Fortress—were actually coupled to the aircraft's flight controls. As the plane neared its target, the pilot would relinquish control to the Norden, which, via autopilot, would fly the aircraft through the bomb run and even automatically release the bombs. In an aircraft flying at some 300 feet per second, human reaction time was simply too slow.

Norden claimed that the sight was sufficiently accurate to hit a 100-foot circle from an altitude of 21,000 feet. As a practical matter, in combat, accuracy was typically much lower.

The Norden bombsight was used on the *Enola Gay* on August 6, 1945, to drop the atomic bomb on Hiroshima.

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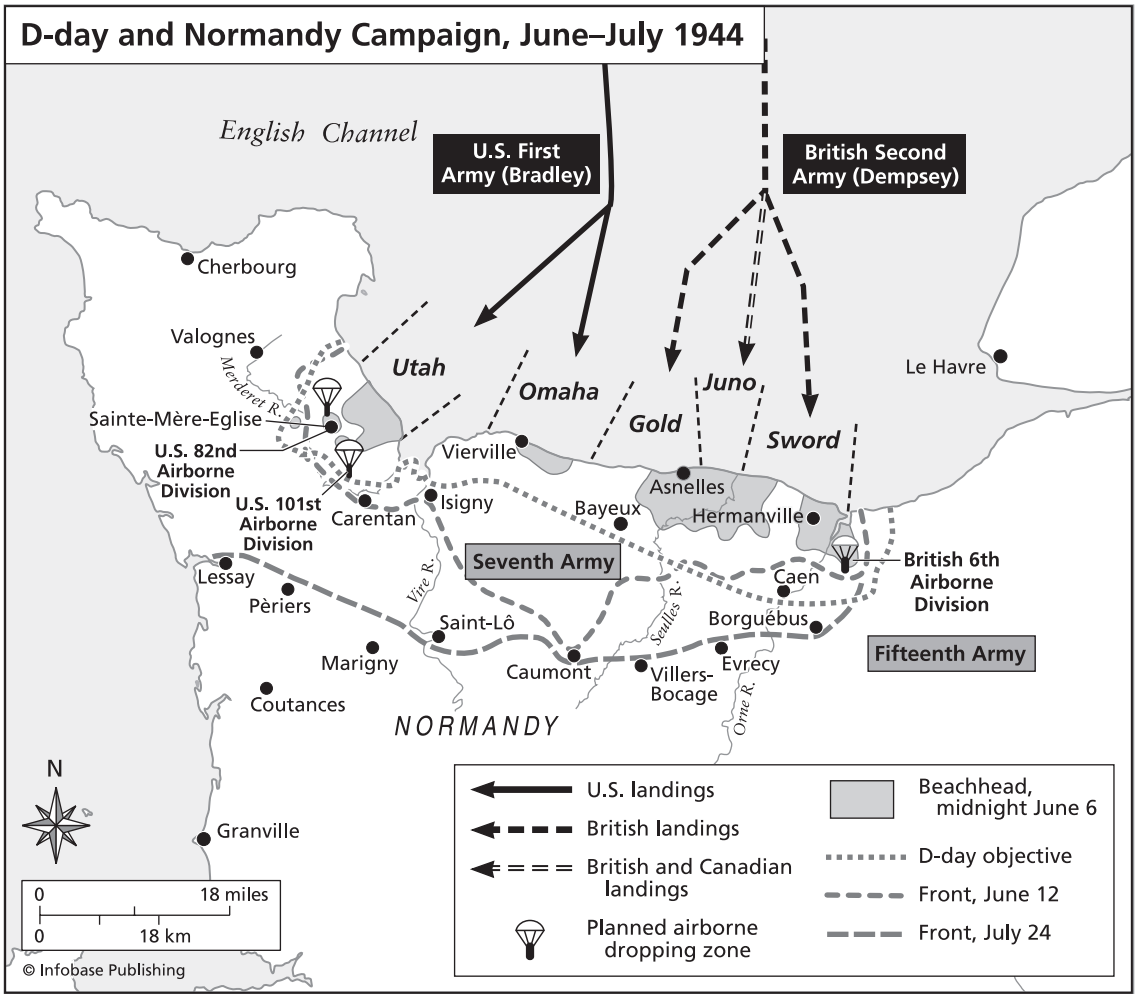
Normandy landings (D-day)

The Allied invasion of western Europe, launched on June 6, 1944, was the implementation of Operation Overlord (and the phase of Overlord devoted specifically to the initial assault, Operation Neptune), the product of some two years of planning, training, and buildup of personnel, equipment, and supplies.

By May 1944, 47 divisions—about 800,000 combat troops—had been assembled at embarkation points in Britain, ready to cross the English Channel to designated beaches in Normandy, France. The operation was under the overall command of U.S. general Dwight David Eisenhower, supreme Allied commander, Europe, whose headquarters was designated Supreme Headquarters, Allied Expeditionary Forces (SHAEF). Directly under Eisenhower was British general Bernard Law Montgomery, who had field command of all Allied ground forces.

The Allies had chosen to land along a 50-mile expanse of Norman coast, from Caen west to the base of the Cotentin Peninsula. Tactically, this area was divided into five beaches, code-named, from east to west, Sword (to be assaulted by the British 3rd Division), Juno (Canadian 3rd Division), Gold (British 50th Division), Omaha (U.S. 1st Division and part of the 29th), and Utah (U.S. 4th Division). These initial landings represented about 156,000 troops.

The Atlantic coast was formidably guarded and fortified by the Germans, who had built the so-called Atlantic Wall, consisting of mammoth hardened fortresses and gun emplacements in addition to all manner of beach and sea obstacles, as well as explosive mines. Behind the Atlantic Wall were the German Seventh Army (Friedrich Dollman) and a portion of Army Group B, commanded by the legendary Field Marshal Erwin Rommel. Another of Rommel's armies, the Fifteenth, was commanded by Hans von Salmuth and was held north of the Seine River. Overall German command in the west was under Field Marshal Gerd von Rundstedt, who had 36 infantry and six Panzer divisions in the coastal area. The Allies understood that the success of the initial assault would depend heavily on surprise. Geographically, the most logical place for the assault was at the Pas de Calais, at the shortest distance between the English and French coasts; it provided a direct line of advance inland. Precisely because it was the most logical point of assault, the Allies decided to land at Normandy instead. In the months preceding the operation, they staged an extraordinary campaign of deception, which included disinformation disseminated through double agents, phony radio traffic, and elaborate decoys, all designed to deceive the Germans into believing the landings would come at Pas-de-Calais. The deception worked extremely well, and the German command placed the bulk of its forces opposite the Pas-de-Calais instead of Normandy. Even well after the initial breakout from the beachheads, the German high command continued to believe that the Normandy landings were merely a feint and that landings by much larger forces were imminent at the Pas-de-



Calais. For this reason, the entire Fifteenth German Army was retained north of the Seine and did not participate in resisting the initial breakout.

The cross-Channel invasion required precisely the right combination of tidal conditions, moonlight, and weather to succeed. This meant that timing was critical. A severe storm forced a one-day delay in the launch, but a narrow window of marginally acceptable weather permitted the invasion to proceed on June 6, 1944. It was the biggest amphibious landing in history. The first-wave force of 156,000 men sailed in a fleet of more than 4,000 ships commanded by British admiral Sir Bertram Ramsay. The landings were preceded the night before with an AIRBORNE ASSAULT by paratroopers of the U.S. 82nd and 101st Airborne divisions behind Utah Beach. Their mission was to capture exits into the Cotentin Peninsula. At the same time, the British 6th Airborne parachuted onto the eastern margin of Sword Beach to take bridges over the Orne River and the Caen Canal, which would be vital to the protection of the invasion's left flank. The air component of the invasion also included operations by 4,900 fighter planes and 5,800 bombers, all under the British air chief marshal TRAFFORD LEIGH-MALLORY. During the first 24 hours of

the operation, these aircraft flew some 14,600 sorties against German coastal defenses.

The actual landings began at dawn on June 6 supported by massive naval bombardment and close air support. By the evening of the first day, four of the five beachheads had been completely secured. These included, on the left (the east end of the assault), the three landings of the Second British Army (Miles Dempsey). The First U.S. Army (Omar Bradley) had advanced five miles inland at Utah Beach, but at Omaha Beach, which was much more heavily defended, the U.S. 1st Division ended June 6, 1944, with a most precarious hold on the beachhead. Nevertheless, Allied casualties in the first 24 hours were about 11,000 (including 2,500 killed in action), costly, yet far less than had been anticipated.

Over the next six days, the invaders successfully joined together their five beachheads into an 80-mile-broad lodgment with an average depth of 10 miles. During this period, eight additional combat divisions landed. There was now no chance that the invasion would be repelled; nevertheless, the breakout into France would not be easy. On the left flank of the invasion, panzers kept the British Second Army out of strategically vital Caen for weeks after the landings. On the right, three corps of the First U.S. Army defended the perimeter from Caumont to Carentan. North of Carentan, the U.S. VII Corps attacked to the west across the base of the Cotentin Peninsula. Progress was greatly impeded by the *bocage,* or hedgerows, of the Norman coastal farmlands. On June 18, the Americans were able to turn north, and, on June 20, the 9th, 79th, and 4th Infantry divisions reached the outer defenses of Cherbourg. From June 22 to June 27, the Americans battered Cherbourg's defenses. This port, once secured, became a major avenue of supply for the growing forces of the invasion.

Elsewhere, the battle of Normandy developed with great violence. The Allies raced to build up forces behind their lodgment preparatory to a major breakout. For their part, the Germans brought up reinforcements in a bid to contain the beachhead. On June 28, Seventh German Army commander Dollman was killed and replaced by SS General Paul Hausser. Adolf Hitler, in panic, relieved the highly capable Rundstedt on July 3 and replaced him with Field Marshal Günther von Kluge, who was transferred from the eastern front. On this same day, the First U.S. Army attacked to the south but met fierce resistance and at first made little progress. The First Army took Lessay as an anchor for the invasion's right flank. The important village of Saint-Lô, at the approximate center of the American sector, was captured on July 18 at great cost. In the meantime, on the left flank of the invasion, the Second British Army at long last took at least part of Caen (west of the Orne River) on July 8. It was not until July 20 that a second attack took the rest of the town. Although the landing phase of the Normandy invasion had gone remarkably well, by July 20 the invading forces held little more than 20 percent of the area that had been assigned to them. Nevertheless, by July 24 they were poised to attempt a breakthrough in Operation Cobra.

Total casualties to this point were 122,000 for the Allies and 117,000 for the German defenders.

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North African Campaign

The North African Campaign commenced after the Allied landings on French Morocco and Algeria, November 8, 1942, in Operation Torch. The campaign concluded in May 1943 with the surrender of Axis forces in Tunisia.

British prime minister Winston Churchill and U.S. president Franklin D. Roosevelt agreed that the Allies' first joint offensive in World War II

Shell burst by night somewhere in North Africa *(Library of Congress)*

would be an attack on North Africa and its liberation from Axis control. The defeat of France in the Battle of France in June 1940 left that nation's North African colonies under the control of Vichy government forces, which were supposed to defend the colonies against any invader, Allied or Axis. The initial British plan for the occupation of Tunisia and Algeria (Operation Gymnast) was nevertheless based on the assumption that Axis support was soft among the colonial French administration and that, ultimately, the French in North Africa would cooperate with (or at least not resist) an Allied invasion. When the United States entered the war after the Battle of Pearl Harbor, Operation Gymnnast was revised as Operation Super-Gymnast, which included an American component. Still, it was based on an assumption of French cooperation. But when the Eighth British Army suffered defeat at the Battle of Gazala in June 1942 and was forced to withdraw from Libya, Super-Gymnast was shelved—only to be resurrected when an invasion of North Africa was settled upon (over objections from U.S. high commanders George C. Marshall and Dwight D. Eisenhower) as a more feasible alternative to an immediate joint invasion of France. This time, the Allies did not simply assume French cooperation; nevertheless, they gambled on this as a probability. French general Henri Giraud, resolutely opposed to collaboration with Germany, was spirited out of Vichy France in the hope that he would become the nucleus around which pro-Allied colonial French forces would rally. This quickly became a forlorn hope, as Giraud initially failed to cooperate with the Allied leaders, then simply proved ineffectual.

Now assuming that the French might offer at least some degree of resistance, Allied leaders reformulated Super-Gymnast as Operation Torch, which would be primarily an American operation under Eisenhower (as commander in charge of the Allied Expeditionary Force). American major general Mark Clark was named Eisenhower's deputy, and another American, Brigadier General James Doolittle, took charge of the Western Air Command (Twelfth USAAF). The rest of Eisenhower's top commanders were British: Lieutenant General Kenneth Anderson, Admiral Andrew Cunningham, and Air Marshal William Welsh (Eastern Air Commander). Eisenhower set as his task the goal of achieving perfectly unified command between the Allies; although he was never able to remove all friction, he succeeded, after some stumbling, to a remarkable degree.

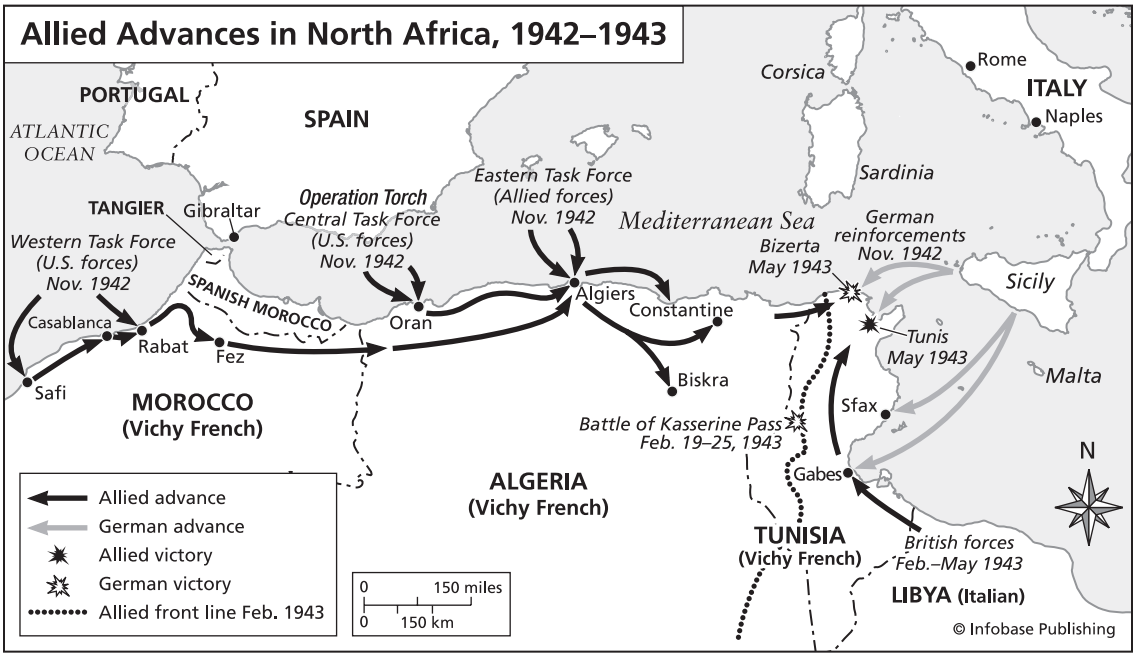
The Combined Chiefs of Staff—the joint Allied high command—assigned Eisenhower to take all of North Africa, from the Atlantic to the Red Sea. He was to land in Algeria and French Morocco, conquer these, then attack to the east to destroy Erwin Rommel's German-Italian panzer force in Libya. Eisenhower assigned Clark to make a clandestine landing near Algiers on October 22, 1942, to meet with Major General Charles Mast, chief of staff of the French IXX Corps and known to be a supporter of Giraud. As a result of the meeting, Mast pledged that, given four days' notice of the invasion, he would order the French army and air force to offer no more than token resistance to the Allied landings (sufficient to satisfy French honor), especially in the vicinity of Algiers. He warned, however, that he could not speak for the French navy—which, in fact, resisted more stoutly.

Three landings were planned. Major General George S. Patton Jr. would lead the Western Force in an assault on Casablanca, Major General Lloyd Fredendall would land at Oran with the Central Force, and Major General Charles Ryder would

assault Algiers with the Eastern Force. Western Air Command would provide close air support for the two western landings, and Eastern Air Command would support the Algiers landings. The Western and Central land forces, consisting of American troops, would become the U.S. II Corps. Because it was believed that the French would fiercely oppose a British landing—as retribution for the destruction of the French fleet in the Battle of Mers-El-Kebir—the Eastern Force consisted initially of a modest American assault force, which would be reinforced by British troops only after the landings had been secured. This would then become the First British Army. In all, 65,000 Allied troops would land—about half the number of French forces in North Africa.

The landings were made on November 8, 1942, and achieved complete surprise. Patton's Western Force encountered the stiffest opposition near Casablanca, but Algiers fell on the very day of the landing and Oran just two days later. Eisenhower exercised his own initiative to negotiate with Admiral François Darlan, the highest Vichy authority in Algiers, and negotiated a general cease-fire by November 10. All fighting in French Morocco and Algeria ceased, and no attempt was made to retake Casablanca. The Vichy government in France, however, severed diplomatic relations with the United States and accepted the offer of German air support, which led to the German occupation of Tunisian airfields. Moreover, the Vichy government repudiated Darlan's cease-fire, prompting the admiral to attempt to rescind it, whereupon American authorities arrested him.

The Allied invasion of North Africa and Darlan's cease-fire caused the Germans to occupy Vichy France. Italian forces moved into Corsica, and Axis troops invaded Tunisia. But Darlan resolved that the German occupation of Vichy France released him from any obligations to the Vichy government, and he now agreed to give full cooperation to the Allies in return for Eisenhower's appointing him high commissioner for French North Africa. This caused great consternation among some Allied leaders, but both Roosevelt and Churchill backed Eisenhower's decision. Darlan's



cooption in this manner doubtless saved Allied lives, although Darlan failed to persuade the French fleet at Toulon to join him in the Allied cause (the fleet was scuttled), and he himself proved short-lived, falling victim to an assassin's bullet on December 24, 1942. Giraud replaced Darlan as high commissioner.

Although the French were neutralized as a threat by the end of November 1942, the Luftwaffe and Axis ground forces offered fierce resistance. By December, the ground forces were consolidated as the Fifth Panzer Army, with the 10th Panzer Division as its principal striking force, under Jürgen von Arnim. His assignment was to prevent the capture of Tunis and to block the Allied advance to the central Tunisian coast (and thereby prevent the Allies from driving a wedge between Arnim's forces and those of Rommel). Initially, Arnim succeeded against the Allies. In mid-January 1943, the U.S. 1st Armored Division and part of the U.S. 1st Infantry gathered to mount a new assault, but before this could be launched, Arnim counterattacked on January 18, rolling up the French forces that were now fighting alongside the Allies. By the end of January, the Germans controlled all Eastern Dorsale mountain passes, and in mid-February they launched a new offensive. Arnim captured Sidi Bou Zid and Sbeitla, while Rommel took Gafsa as the Allies withdrew to the mountains of the Western Dorsale. Although the withdrawal was completed on February 19, 1943, Fredendall's U.S. II Corps was badly mauled, first by Arnim and then by Rommel at the Battle of Kasserine Pass—which was the first major engagement between U.S. and German forces.

The defeat of II Corps gave Rommel an opportunity to outflank the Allied forces in northern Tunisia, but he was compelled to yield to the Italian high command, which ordered him to attack Allied reinforcements at Le Kef instead. This lost the opportunity for a major blow.

In the meantime, the Allies reorganized their forces into the Eighteenth Army Group and a unified air command. British air chief marshal Arthur Tedder now assumed overall command of the Mediterranean Air Command, and Alexander became Eisenhower's deputy as well as commander in charge of the army group (which included the U.S. First and the British Eighth armies) in Tunisia. On February 21, the Allies returned to Kasserine, but the disgraced Fredendall was replaced the following month by Patton, whose orders from Eisenhower were to rehabilitate II Corps.

Alexander oversaw an extensive reorganization of the front, and by April 1, the Allies retook Kasserine and the other lost ground. In the meantime, on March 6, the Eighth British Army defeated Rommel at Medenine in southern Tunisia, and Rommel, sick with diphtheria, was evacuated to Germany on March 9. Montgomery went on to lead the Eighth British Army against the forces of Giovanni Messe at the Mareth Line. Montgomery's first assault, on March 19, failed, but a flanking maneuver in conjunction with Patton's II Corps and coupled with an Allied naval blockade forced Messe to withdraw. The Allies now pushed the Axis forces into an ever contracting pocket around Tunis. On April 22, 1943, Alexander launched Operation Vulcan, a major offensive in which the First U.S. Army attacked toward Tunis, with Omar Bradley (who had taken over command of II Corps from Patton) striking at Bizerta and the French IXX Corps advancing toward Pont du Fahs. Montgomery proved unable to break through Messe's new positions at Enfidaville, however. Nevertheless, the Allies quickly recovered by mounting a new assault—Operation Strike—by the U.S. IX Corps along the Medjez-Tunis road. Augmented by artillery and close air support, this offensive rolled up Arnim's defenses, bringing about the sudden collapse of Tunis, Bizerta, and Pont du Fahs. On May 13, the Axis forces, essentially disorganized, surrendered, and the North Africa Campaign ended.

The Allies suffered 76,000 casualties during the campaign, but took more than 238,000 Axis prisoners of war. Despite its success, the wisdom of the North African Campaign was debated by contemporary strategists and has been further debated by military historians ever since. Some argue that it distracted the Allies from the "real" task of invading France; others, however, counter that the mixed performance record of the Allied armies in North

Africa proves that they were hardly ready to invade Europe and that the North African Campaign was, in fact, an appropriately less ambitious alternative at the time.

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Norwegian Campaign

Initially, Adolf Hitler showed little interest in Norway, but about six months after the conclusion of the invasion of Poland, which started World War II, he decided to launch a combined arms operation against neutral Norway with the object of ensuring that the Allies would not interdict the free passage of Swedish iron ore to the Reich's war machine.

On April 9, 1941, the German army occupied Denmark and, on the same day, invaded six major ports along a thousand miles of neutral Norway's coast. The attack consisted of airborne assault as well as troops clandestinely transported into the harbors in the holds of merchant ships. Altogether, the invasion force of 25,000 achieved total surprise, which was further facilitated by a Norwegian pro-Nazi underground and turncoats, chief among whom was Vidkun Quisling, whose very name would become a byword for treason. Control of Narvik, Trondheim, Bergen, Stavanger, Kristiansand, and Oslo—all key ports—was accomplished within a mere 48 hours. Oslo, the nation's capital, was taken by just 1,500 parachutists. Much of the Norwegian army, apparently stunned into inaction, surrendered without offering resistance. A minority of the forces rallied around King Haakon VII, retreated inland, and organized a gallant but largely ineffective resistance from headquarters in forests and mountains.

At the behest of Winston Churchill, the Allies attempted a counterinvasion between April 14 and 19, landing primarily at Namsos and Andalsnes, on either side of Trondheim, on the central coast. Simultaneously, they attacked in the far north, in and around Narvik. Inadequately supported logistically, most of the hastily conceived operation soon collapsed, and 30,000 Allied troops withdrew. By May 3 all of central Norway was under firm German control.

The Allies enjoyed more success in the far north, at Narvik, but, here, too, they were ultimately forced to withdraw—not because of the situation in Norway, but because of the collapse of France in the Battle of France. The last Allied troops left Narvik on June 9, taking with them King Haakan VII, who presided over a government in exile in London.

At sea, the Germans did not fare nearly so well. To begin with, Norway's large merchant fleet—perhaps 1,000 vessels—joined the Allies. British warships sank a heavy German cruiser, two light cruisers, 10 destroyers, 11 troop transports, eight submarines, and 11 auxiliary vessels for the loss of the aircraft carrier *Glorious,* the cruisers *Effingham* and *Curlew,* nine destroyers, and six submarines. The German navy would never make up the losses among its surface fleet, without which the prospect for an invasion of Britain dimmed significantly. Nevertheless, the German conquest of Norway and Denmark secured the northern flank of the German armies and assured the Reich access to iron ore as well as agricultural produce—the latter an important hedge that significantly reduced the stranglehold of the British naval blockade. Militarily, Germany gained submarine and air bases from which to attack Allied convoys in the North Atlantic.

See also Narvik, Battles of.

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Nuclear Weapons Program, United States

See Manhattan Project.

Nuremberg Laws

The Congress of the Nazi Party convened in Nuremberg, Germany, on September 10, 1935, to discuss passage of laws to clarify the requirements of citizenship in the Third Reich, to promote and protect the "purity of German blood and honor," and to define the position of Jews in the Reich. Two principal laws were enacted by the Reichstag (parliament) on September 15, 1935, which, along with various ancillary laws that followed them, were collectively called the Nuremberg Laws or, in full, the Nuremberg Laws on Citizenship and Race.

The laws actually grew out of a debate over the economic effects of Nazi Party actions against Jews. It was decided that the party would cease such actions once the Reich had formulated a firm official policy against the Jews. The policy, embodied in the Nuremberg Laws, was hastily drawn up—so hastily that, because there was a shortage of regular stationery, some portions of the text of the laws were drafted on menu cards.

The first major law, called the Law for the Protection of German Blood and German Honor, prohibited marriage as well as extramarital sexual intercourse between Jews and Germans. The law also barred the employment of German females under 45 years of age in Jewish households.

The second major law, the Reich Citizenship Law, summarily stripped Jews of German citizenship, introducing a new distinction between "Reich citizens" and "Reich nationals"—the Jewish Germans to be included in the latter category.

The Nuremberg Laws codified what had been the general but unofficial measures taken against Jews in Germany to 1935.

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Nuremberg War Crimes Tribunal

After the war in Europe, during 1945–46, a series of trials were conducted by an International Military Tribunal convened in Nuremberg, Germany, to call to account former Nazi leaders on charges of war crimes. The indictments lodged against each defendant consisted of a possible four counts: crimes against peace (the planning, instigation, and waging of wars of aggression in violation of international treaties and agreements), crimes against humanity (exterminations, deportations, and genocide), war crimes (violations of the accepted laws and international conventions of war), and conspiracy to commit any or all of the criminal acts listed in the first three counts.

The International Military Tribunal at Nuremberg was convened pursuant to the London Agreement of August 8, 1945, which included a charter, signed by representatives from the United States, Great Britain, the Soviet Union, and the provisional government of France, for a military tribunal to try major Axis war criminals whose offenses had no particular or specific geographic location. Subsequently, 19 other nations accepted the tribunal provisions of the agreement. The tribunal was authorized to find any individual guilty of the commission of war crimes (as specified in the three enumerated counts) and also to find any group or organization to be criminal in character. In the case of an organization determined to be criminal, tribunal prosecutors had the option of bringing individuals to trial for having been members. The defense would be barred from challenging the criminal nature of the group or organization.

The tribunal was made up of a member (plus an alternate member) selected by each of the four principal signatory countries. The first session was convened under the presidency of General I. T. Nikitchenko, the Soviet member, on October 18, 1945, in Berlin. At this session, 24 former Nazi leaders were charged with war crimes, and various groups (including the Gestapo) were charged as being criminal in character. After this first session, all others, beginning on November 20, 1945, were held in Nuremberg under the presidency of Lord Justice Geoffrey Lawrence, the British member.

Defendants had the right to receive a copy of the indictment, to offer an explanation or defense, to be represented by legal counsel, and to confront and cross-examine all witnesses brought against them.

At the conclusion of 216 court sessions, on October 1, 1946, the verdicts on 22 of the original 24 defendants were handed down. One defendant, Robert Ley, had committed suicide while in prison, and the aged Gustav Krupp von Bohlen und Halbach, the great German arms manufacturer, was judged mentally and physically unfit to stand trial. Of the 22 tried, three, Hjalmar Schacht, Franz von Papen, and Hans Fritzsche, were acquitted; four, Karl Dönitz, Baldur von Schirach, Albert Speer, and Konstantin von Neurath, were sentenced to 10 to 20 years in prison; three, Rudolf Hess, Walther Funk, and Erich Raeder, were sentenced to life imprisonment; and 12 were sentenced to be hanged. Of these, ten—Hans Frank, Wilhelm Frick, Julius Streicher, Alfred Rosenberg, Ernst Kaltenbrunner, Joachim von Ribbentrop, Fritz Sauckel, Alfred Jodl, Wilhelm Keitel, and Arthur Seyss-Inquart—were executed on October 16, 1946. Martin Bormann was tried and condemned to death in absentia, and Hermann Göring committed suicide before sentence could be carried out.

The tribunal established certain enduring principles of international law, including those embodied in the rejection of the chief defenses offered by the defendants. The tribunal rejected the contention that only a state, and not individuals, could be found guilty of war crimes. The court concluded that crimes of international law are committed by men and women and that only by holding individuals to account for committing such crimes could international law be enforced. The tribunal also rejected the defense that the trial as well as its adjudication were ex post facto. All acts of which the defendants were found guilty, the tribunal held, had been universally regarded as criminal prior to World War II. These principles and others created a precedent for subsequent war crimes trials relating to World War II as well as subsequent conflicts.

See also Tokyo War Crimes Tribunal.

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Oberth, Hermann (1894–1989) *German rocket pioneer*

Born in Nagyszeben, Austria-Hungary (modern Sibiu, Romania), Hermann Oberth was the son of a physician. He studied medicine in Munich, but his education was interrupted by service in the Austro-Hungarian army during World War I. Wounded, he spent his convalescence pursuing his true scientific passion, the infant field of astronautics and rocketry. A visionary, Oberth created experiments to simulate weightlessness and designed a long-range, liquid-propellant rocket that impressed his commanding officer sufficiently to prompt him to send it on to the War Ministry, where it was summarily rejected as the stuff of science fiction.

After the war, Oberth wrote a doctoral dissertation devoted to his rocket design. When the text was rejected by the University of Heidelberg, Oberth privately subsidized its publication as *The Rocket into Interplanetary Space* (1923). The book presented the mathematical formulation of the speed and thrust required to achieve escape velocity to reach beyond the gravitational pull of the earth. Oberth became famous in scientific circles as a result of the book. He began a correspondence with U.S. rocket pioneer Robert Goddard and Soviet rocket theorist Konstantin Tsiolkovsky, then wrote *Ways to Spaceflight* (1929), which won the first annual Robert Esnault-Pelterie-André Hirsch Prize of 10,000 francs, which he use to finance practical research on liquid-propellant rocket motors. In 1931, Oberth was awarded a patent for a liquid-propellant rocket by the Romanian Patent Office and launched his first rocket on May 7, 1931, near Berlin.

Widely acclaimed, Oberth joined the faculty of the Technical University of Vienna in 1938, became a German citizen in 1940, and began working on German military rocket development at Peenemünde under Wernher von Braun, whom he had earlier mentored.

In 1943, Oberth left Peenemünde to work on solid-propellant antiaircraft rockets. Unlike von Braun and many other German rocket scientists, Oberth, after the war, worked neither for the Americans nor the Soviets, but lived in Switzerland for a year, working as a rocket consultant, before moving to Italy in 1950 and designed solid-propellant antiaircraft rockets for the Italian navy. It was not until 1955 that Oberth came to the United States, where he worked in space research for the U.S. Army. In 1958, he retired and returned to live in West Germany. His "retirement" was absorbed in theoretical and philosophical studies unrelated to rocket science.

See also V-1 buzz bomb and V-2 rocket.

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Oboe

"Oboe" was one of the key advances in RADAR during World War II. It was introduced early in 1943 by the RAF as the first radar precision-bombing system. The nickname was derived from the simple fact that the radar pulses were translated into sounds that called to mind the pure, high pitch of an oboe.

The oboe system exploited radar's ability to measure the range of an aircraft with a high degree of accuracy. Two ground stations were at the heart of the system. One tracked the aircraft as it flew along an arc of constant range running through the target. It transmitted to the aircraft correction signals whenever the plane drifted from this arc. Simultaneously, the second ground station measured the range along the arc, broadcasting a release signal when the bomber aircraft reached the bomb release point that had been previously calculated and programmed into the system. The third component of the oboe system was a pair of repeater-transmitters on board the bomber itself. These amplified both the range and the track signals, then returned them to the ground stations.

Oboe proved to be remarkably accurate, but it was a line-of-sight system limited in range by the curvature of the earth to 280 miles between ground transmitters. These had to be erected in friendly territory, of course, which meant that bombers could not rely on oboe for distant penetration into enemy territory; nevertheless, the England-based system was within range of the industrial Ruhr Valley. The other serious limitation of oboe was that each pair of ground stations could control only one bomber at a time. This limitation could be compensated for by equipping a light bomber, such as the Mosquito, with the oboe device and assigning it to serve as a pathfinder for a formation of heavy bombers.

Oboe had a great advantage over other radio guidance systems (including those used by the Germans) in that it was difficult to jam.

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O'Connor, Richard (1889–1981) *British general in the Western Desert Campaign*

Born in Srinagar, Kashmir, India, Richard O'Connor was the son of a major in the Royal Irish Fusiliers. He was educated in British public schools, then enrolled in the Royal Military Academy Sandhurst in 1908. Before World War I, O'Connor received signals and rifle training; stationed in Malta from 1911 to 1912, he served as regimental signals officer. With the outbreak of World War I in 1914, he served as signals officer of the 22nd Brigade, 7th Division and saw distinguished action, earning in brevets from captain to major and lieutenant colonel. He was also highly decorated.

Between the wars, O'Connor served during 1921–24 as brigade major of the Experimental Brigade, which was created to test methods for using tanks and aircraft in coordination with infantry and artillery. He then served in various posts, including as an instructor at the Staff College at Camberley from 1927 to 1929. In 1935, he attended the Imperial Defence College, London, and, promoted to brigadier general, assumed command of the Peshawar Brigade in northwest India. Here he learned valuable lessons in mobile warfare, which he applied in Libya during the WESTERN DESERT CAMPAIGN of World War II.

In September 1938, O'Connor was promoted to major general and named to command the 7th Division in Palestine while also serving as military governor of Jerusalem. In August 1939, his division was transferred to the fortress at Mersa Matruh, Egypt, and was assigned to defend against a potential attack from the Italian Tenth Army across the Libyan border. When Italy declared war on Britain and France on June 10, 1940, O'Connor was named to command the Western Desert Force, his chief mission to defend Egypt and the Suez Canal from Italian attack. Greatly outnumbered—with 36,000 men opposing some 150,000 Ital-

ians—O'Connor led a brilliant defense, which included the Long Range Desert Group that became the famed Desert Rats. After disrupting the Italians, O'Connor conducted a counteroffensive that cut a broad swath through the Italian rear areas, driving the Italians out of Egypt by December 1940.

After a brief interval of rest, O'Connor led his Desert Force into Italian Libya and, on January 22, 1941, captured Tobruk. O'Connor swept through Italian Libya, ultimately destroying an entire 10-division Italian army and taking some 130,000 prisoners.

By March 1941, Erwin Rommel and the German Afrika Korps arrived to bolster the Italians. During a night reconnaissance mission on April 7, 1941, O'Connor and General Philip Neame were captured by a German patrol. O'Connor spent the next two and a half years as a prisoner of war, mainly in Florence, Italy, and made repeated escape attempts before finally succeeding, with the aid of the Italian resistance, in September 1943.

O'Connor was given command of VIII Corps for the Normandy landings (D-day) and the breakout that followed, plus Operation Market-Garden. On November 27, 1944, he was transferred to India as commander in charge of the Eastern Army.

After the war, in November 1945, O'Connor was promoted to general and appointed commander in charge of the North Western Army. In July 1946, he became adjutant general to the Forces and aide-de-camp general to King George VI. Following a dispute over the cancellation of demobilization of troops stationed in the Far East, O'Connor retired in 1948. He served as commandant of the Army Cadet Force, Scotland, from 1948 to 1959 and in other largely honorific posts.

See also Tobruk, Battles of.

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Office of Strategic Services (OSS)

The OSS was the principal American intelligence organization in World War II. Its origin may be found in the work of William Donovan, who, in July 1940, at the personal request of Franklin D. Roosevelt, undertook a series of study missions abroad to appraise the state of U.S. intelligence and to make recommendations for creating an efficient, centralized intelligence-gathering apparatus. With war looming, the United States had no central intelligence agency. The army's G-2, the navy's N-2, the Department of State, and individual diplomats and departments gathered intelligence on a catch-as-catch-can basis. In his presidential, "Memorandum of Establishment of Service of Strategic Information," Donovan called for a centralized channel for acquiring and processing strategic information, noting that political as well as psychological factors would be critical in World War II. In July 1941, responding to the memorandum, FDR appointed Donovan, a U.S. Army general, to the civilian position of Coordinator of Information (COI), with responsibility and authority for consolidating intelligence-gathering and analytical tasks and reporting the results to the Joint Chiefs of Staff and to the president himself.

Donovan was an aggressive administrator who rapidly expanded his agency, assuming the functions of information gathering, propaganda, espionage, subversion, and even postwar planning. Donovan was soon seen by others as an empire builder, and interagency friction developed between his organization and the existing intelligence units. On June 13, 1942, propaganda functions were removed from the COI and turned over to a newly created Office of War Information (OWI). It was at this time that COI received its new designation as the Office of Strategic Services.

The OSS brief was now to collect and analyze such "strategic information" as required by the Joint Chiefs of Staff. Working directly under Donovan was Brigadier General John Magruder, who directed the four major intelligence branches of OSS: Secret Intelligence (SI), which obtained—by whatever means necessary—information about Axis and Axis-occupied countries; Counter-Intelli-

gence (X-2), which monitored the intelligence and espionage operations of other nations, fielded double agents, and vetted the reliability of foreign nationals who offered their services to the United States; and the Foreign Nationalities Branch (FN), which interviewed refugees and foreign citizens living in the United States. The fourth branch, Research and Analysis (R&A), was the largest. Directed by William L. Langer, a Harvard University historian, this branch employed academic scholars (including many recent European refugees) to create analytical reports on economic, political, geographical, and cultural topics relevant to all theaters, as well as the Soviet Union and Latin America.

In addition to the intelligence branches, the OSS included operational branches under the leadership of a deputy director for strategic services and operations. Special Operations Branch (SO) conducted subversion, including sabotage, support of resistance movements, raiding, and other irregular combat missions. Morale Operations (MO) conducted psychological warfare, including the dissemination of rumor, disinformation, leaflets, and covert radio broadcasts to the people of the Axis nations and those occupied by the Axis.

The OSS also had an extensive technical service, including a Research and Development group, which developed and built advanced communications equipment and weapons; a Field Photographic Unit, which produced materials for informational and foreign propaganda purposes; the Interdepartmental Committee for the Acquisition of Foreign Periodicals, which collected published documents from the Axis countries; the Presentation Branch, which prepared data and other exhibits for presentation to the president and other top officials. (This branch designed the chambers in which the Nuremberg War Crimes Tribunal sessions were conducted.)

Headquartered in Washington, D.C., OSS also had many offices abroad, the most important of which was maintained in London. Additionally, offices were established in neutral Sweden (Stockholm) and Switzerland (Berne) and, as the war progressed, elsewhere as well.

The guiding principle of the OSS was its freedom from politics and policymaking. It was subordinated not to politicians but to military theater commanders. While this imposed severe limitations on the agency's ability to influence diplomatic policy, it endowed the OSS with a reputation for objectivity that won for it a high degree of confidence in military as well as civilian government circles.

OSS worked extensively during the North African Campaign, gathering much valuable intelligence, identifying informants, drumming up popular political support, and establishing a communications network. At the same time, the agency developed the Enemy Objectives Unit (EOU), which consisted of economists who played a key role in formulating the objectives of the Allied strategic bombing campaign, focusing on the industrial targets the EOU determined to be the most important.

When Allied operations moved into Sicily and mainland Italy, OSS conducted missions throughout central and northern Italy to support local resistance, often coordinating with British Special Operations Executive (SOE) as well as MI6. By mid-1943, OSS teams attached to SOE missions entered Yugoslavia in support of partisans there.

The OSS played an important role in conjunction with British intelligence before and after the Normandy landings (D-day). So-called Jedburgh teams—each of which included an OSS man, a British SOE representative, and an agent of Free French Forces—were parachuted into France to coordinate resistance during the early phases of the Normandy operations.

One of the most important OSS operations was Operation Sunrise, led by Allen Dulles beginning in November 1942. Dulles worked out of the OSS mission in Berne under cover as Special Legal Assistant to the U.S. ambassador. Charged with conducting espionage operations against Germany as well as neutralizing Soviet influence during the immediate postwar period, Dulles created and managed a remarkable network of agents and informants, including those active in the anti-Nazi resistance in Germany.

By the end of 1944, OSS agents began to penetrate Germany itself. Germans and Austrians who had slipped into the West were trained and equipped for missions inside the Reich. Some operatives penetrated the very highest levels of government and the military, but most agents were assigned merely to report on general conditions within Germany, to evaluate the changing status of German forces, to identify important targets, and to facilitate or commit acts of sabotage and subversion.

As the European war neared its conclusion, OSS personnel participated in the planning for the occupation government of Germany and the German-occupied territories. As early as 1943, OSS researchers had begun compiling and composing handbooks and guides for the eventual use of occupation authorities. The OSS also planned—and in large measure executed—programs of postwar de-Nazification. These programs employed political and legal theorists who worked in cooperation with the War Department as well as the U. S. Department of Justice and were instrumental in creating the guidelines used by American prosecutors at the Nuremberg War Crimes Tribunal.

In the Pacific and Asian theaters, the OSS encountered resistance from both General Douglas MacArthur and Admiral Chester Nimitz, who were reluctant to give the agents free rein. Nevertheless, the OSS was especially important in the China-Burma-India theater, especially in coordinating Chinese resistance against the Japanese, as well as organizing guerrilla operations against the Japanese occupiers of Thailand and Burma.

Immediately after the war, President Harry S. Truman terminated the Office of Strategic Services as of September 30, 1945 by Executive Order 9620, signed 10 days earlier. The many intelligence functions of the OSS were widely dispersed until the Central Intelligence Agency (CIA) was created by the National Security Act of 1947.

See also resistance movements.

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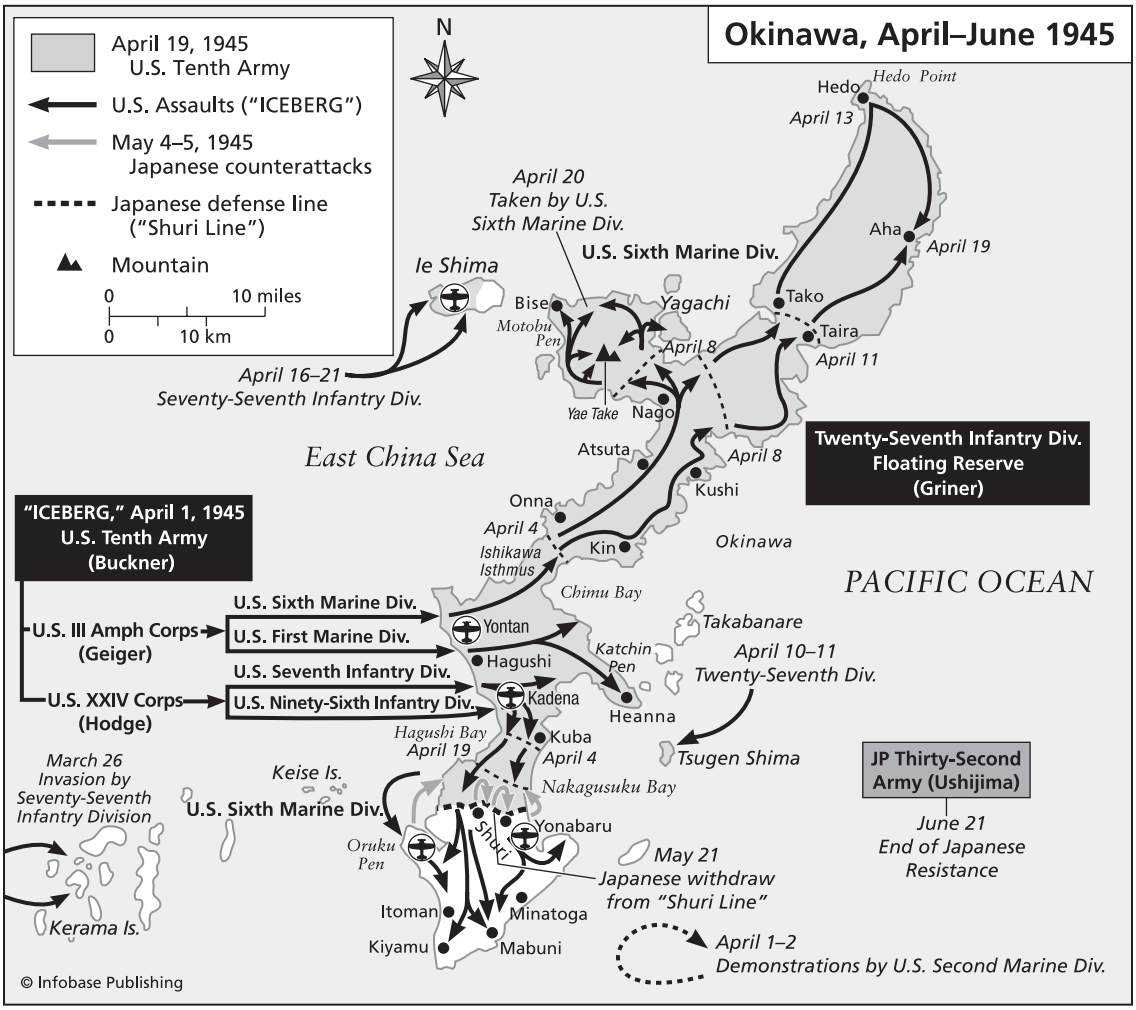
Okinawa Campaign

Okinawa was the culminating campaign of the Pacific war. The island, 794 square miles, was located some 400 miles below southern Kyushu, on the threshold of the Japanese homeland. U.S. planners intended to use Okinawa as the principal base from which the invasion of the home islands (beginning with Kyushu in November 1945) would be launched.

The Japanese recognized the last-ditch importance of Okinawa and defended it with more than 100,000 troops belonging to the Thirty-second Japanese Army under General Ushijima Mitsuru. The bulk of these forces were deployed behind the Naha-Shuri-Yonabaru Line, a well-fortified entrenchment extending across the island's southern fifth. Here Ushijima intended to make an absolute stand, holding the invaders while kamikaze forces destroyed the Fifth U.S. Fleet under Raymond Spruance, which was assigned to cover the invasion.

The invasion was under the overall command of Admiral Chester Nimitz, and the assault troops—the Tenth U.S. Army under Simon Buckner Jr.—were transported under the command of Admiral Richmond Turner.

The initial assault came on March 26, 1945, when the 77th Infantry Division (Andrew Bruce) captured the Kerama and Keise Islands, off the southwestern coast of Okinawa. Six days after this, on April 1, the U.S. Marines, III Amphibious Corps (Roy Geiger), landed on Okinawa's western shore. The 6th Marine Division (Lemuel Shepherd) was on the left of the assault and the 1st Marine Division (Pedro del Valle) on the right, while the 2nd Marine Division (Thomas Watson) made a decoy landing on the southern tip of Okinawa. Simultaneously, Tenth Army formed the right (south) wing of the initial assault, with XXIV Corps (John Hodge), 7th Infantry Division (Archibald Arnold), and 96th Infantry Division (James Bradley) deployed left to right.



By nightfall of April 1, 50,000, U.S. troops were deployed along a beachhead eight miles long and three to four miles deep. By April 3, the 1st Marine Division established a passage clear through to the east coast across the island's 2.5-mile width. To the left of the 1st Marines, the 6th Marine Division moved north in an arc that swept up both coasts. It reached the Motobu Peninsula on April 8. This rugged area was strongly defended by well-dug-in Japanese forces and held out for a dozen days. Nevertheless, by April 20 the northern fourth-fifths of Okinawa were declared secure. That left the last-ditch troops to contend with.

While the northern component of the campaign proceeded apace, resistance was much fiercer on the southern end of the island. After moving east for the first two days, XXIV Corps turned 90 degrees to the south, the 7th Infantry Division on the left flank, the 96th on the right. On April 8, Japanese resistance sharply increased, and XXIV Corps was stalled at the periphery of the Naha-Shuri-Yonabaru Line. To break the deadlock, Hodge sent in the 27th Infantry Division (George

Griner) along the west coast to the right of the 96th.With this unit in place, XXIV Corps launched a major assault on April 19 across a five-mile front. Progress was heartbreakingly slow. In 12 days, fewer than two miles had been gained. The Marine III Amphibious Corps was called up on the right—the 6th Marine Division on the west coast, the 1st inland. On the left flank, the 7th Infantry held the east coast, while the 77th moved in on its right to relieve the beleaguered and exhausted 27th and 96th divisions.

Fighting continued and, on May 4–5, the Japanese launched a massive counterattack against the Tenth Army's left. This proved to be a catastrophic tactical error. Once out of their hardened entrenchments, the Japanese were exposed to the full force of the re-formed American forces. Some 6,227 Japanese troops were killed versus 714 battle deaths among members of the U.S. XXIV Corps.

The onset of monsoonal rains interfered with the rest of the U.S. offensive, but General Buckner resumed the assault, despite the rains, on May 11. The two sides pounded each other until, on May 23, the 6th Marine Division broke through into Naha and turned the Japanese west flank. On May 29, the 1st Marine Division, occupying the center position in the attack, captured Shuri Castle. With the Japanese lines crumbling, XXIV Corps, on the right, drove southward and outflanked the line on the east.

On June 4, the 6th Marine Division made a shore-to-shore amphibious assault against Oroku Peninsula, in the southwest. After 10 days of continuous fighting, the peninsula was cleared. At the same time, the 8th Regiment of the 2nd Marine Division reinforced the main body of attackers advancing to the southern tip of Okinawa. During this culminating phase of the campaign, General Buckner was killed in an artillery barrage on June 18. Geiger then assumed command of both the marine and the army forces (the only time in World War II that a marine officer commanded army forces), and, on June 21, the Tenth Army attained the southern coast of Okinawa. Elements of the army wheeled about to conduct mop-up operations before the island was declared secure on July 2, 1945.

Virtually the entire Thirty-second Japanese Army was dead: 100,000 killed and about 10,000 captured. U.S. casualties were 2,938 marines killed or missing and 13,708 wounded. Army dead or missing numbered 4,675, with 18,099 wounded.

While the land battle raged, combat was under way at sea and in the air. On April 7, *Yamato,* pride of the Japanese Imperial Navy and the world's biggest battleship, was sunk by air attack in the East China Sea. Navy aircraft also sank a Japanese light cruiser, four destroyers, and nine other Japanese ships, essentially finishing off the Imperial Japanese Navy. Kamikaze attacks were heavy. Some 1,900 sorties sank 36 U.S. ships and damaged 368, killing 4,907 sailors and wounding another 4,824. However, the cost to the Japanese was much higher. In the space of three months, about 7,800 Japanese aircraft were destroyed—versus 763 U.S. planes. Japanese air power, like its naval force, was virtually at an end.

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Operation Anvil/Dragoon

Operation Anvil was planned as a nearly simultaneous complement to Operation Hammer. The former was the code name for Allied landings on the French Riviera, and the latter for the invasion of Normandy. Dwight D. Eisenhower and other American military planners saw the two operations as necessarily complementary—the means of invading Europe while crushing the enemy between two major forces. Operation Hammer was subsequently renamed Operation Overlord, however, and Operation Anvil was put on hold—delayed until after the Normandy landings had been completed and the advance across France (Operation Cobra) under way—in part because of a shortage of Landing craft and in part

because British prime minister Winston S. Churchill believe that Operation Anvil represented a diversion of resources that would be better used invading the oil-producing Balkans. Churchill and top British commanders also feared that the operation would divert resources from the ongoing Italian Campaign. Ultimately, the Balkan operation did not materialize, and Churchill was persuaded to allow the authorization of Operation Anvil, which, when it took place on August 15, 1944, between Toulon and Cannes, was renamed Operation Dragoon (because, it was said, Churchill claimed that he had been "dragooned" into agreeing to it).

As originally conceived, Operation Anvil/Dragoon was to land Free French and American troops in the south of France. Initially, the objective was Toulon, to which Marseille was soon added. Later, Saint Tropez became a third objective. These were to be captured simultaneously with the Normandy landings. The postponement of the operation threatened to become permanent, but the capture of Rome and the excellent progress made with Operation Cobra finally convinced the British to agree to the renamed Operation Dragoon.

On August 1, 1944, the U.S. 6th Army Group ("Southern Group of Armies" or "Dragoon Force") was activated in Corsica under Lieutenant General Jacob L. Devers. The army group included American and Free French Forces. The assault was carried out by three U.S. divisions of VI Corps, reinforced with a Free French armored division. The 3rd Infantry Division landed on the left at Cavalaire-sur-Mer (designated Alpha Beach), the 45th Infantry Division on the center at Saint-Tropez (Delta Beach), and the 36th Infantry Division on the right at Saint-Raphaël (Camel Beach). French commandos demolished German artillery emplacements at Cap Negre, west of the main invasion (this suboperation was code-named Operation Romeo). The commandos were supported by additional French commando units and by British and American airborne troops (in Operation Dove). In Operation Sitka, the U.S. 1st Special Service Force captured two small islands offshore to ensure the security of the beachhead. All of Operation Dragoon was covered by a deception and decoy operation (code-named Span). A large naval fleet provided heavy gunfire, and seven escort carriers launched close air support.

On the first day, more than 94,000 troops with 11,000 vehicles were landed. Because many German troops that had been in the area were sent north to resist the Normandy invasion, the landings met with light resistance, and the Allies penetrated inland 20 miles in just 24 hours. This remarkable movement inspired French resistance units to lead an uprising in occupied Paris—an event that made Paris an early priority target for liberation.

After the first day's landings, follow-on units landed, and the German Nineteenth Army rapidly retreated from the Riviera. Progress was much faster than the Allied planners had anticipated, so that the advance was limited not so much by German resistance as by Allied logistics: a shortage of gasoline. The Dragoon troops linked up with elements of Operation Overlord by mid-September, near Dijon.

Operation Dragoon liberated Marseille and the southern network of French railways. These became key to Allied logistics during the rest of the advance across France and into Germany.

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Operation Barbarossa

Operation Barbarossa was the German code name for the invasion of the Soviet Union, which began on June 22, 1941. The operation was named after the 12th-century German king and Holy Roman emperor who, for modern Germans, was a symbol of German conquest and unity.

Operation Barbarossa stunningly abrogated the German-Soviet Non-Aggression Pact, but this should have come as no surprise to Joseph Stalin because Adolf Hitler had, as early as his *Mein Kampf* (1924), advocated conquest of the Soviet

Union, both to wipe out communism and to acquire *Lebensraum*.

The operational origin of Barbarossa may be traced to the summer of 1940, when, on Hitler's orders, the German military undertook a study of the prospects for invasion. The leading issue to decide was whether the principal thrust of the invasion should be against Moscow or divided between north and south flanks. Hitler favored a wheel north and south from the center, after breaking through the Soviet defensive line, whereas the army wanted to attack Moscow first and foremost. In the end, Directive No. 21, which described Operation Barbarossa (December 18, 1940), together with the Army High Command Deployment Directive (January 31, 1941), specified a "swift campaign" to crush the Soviet Union by means of offensive operations to destroy forces in the western part of the country. Army high command believed it would quickly defeat the Red Army west of the Dvina and Dnieper Rivers, then capture the industrialized Donets basin as well as Moscow.

Hitler gave the go order—in the form of the single code word "Dortmund"—on June 20, 1941, and the surprise attack was launched on a broad front between 3 and 3:30 A.M. on June 22. Barbarossa mounted a force of nearly 3.6 million German and other Axis soldiers, with some 3,600 tanks and more than 2,700 aircraft. It was the greatest invasion force ever assembled in European military history.

The border crossing was between the Baltic and the Black Seas under the overall command of Field Marshal Walther von Brauchitsch, who had three army groups. The North Army Group was commanded by Field Marshal Wilhelm von Leeb, the Center Army Group by Field Marshal Fedor von Bock, and the South Army Group by Field Marshal Gerd von Rundstedt. The air component was divided into three tactical air forces under General Alfred Keller, Field Marshal Albert Kesselring, and General Alexander Löhr.

Red Army formations in the west included 140 divisions and 40 brigades—some 2.9 million men, with as many as 15,000 tanks (many obsolescent) and 8,000 aircraft (again, many of them obsolescent). The invaders quickly defeated the ground forces, and the German air force achieved air supremacy in a matter of days.

See also Soviet Union, invasion of the.

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Operation Cobra

The Normandy landings (D-day) proceeded even better than expected, with all beachheads established at a lower cost than predicted. However, the subsequent progress inland was unexpectedly slowed by increasingly heavy German resistance and the nature of the terrain in the *bocage,* the landscape of ancient hedgerows that crisscrossed pastoral Normandy, forming obstacles both to visibility and to advance. The key to the Allied invasion of Europe was speed, and now, after so promising a beginning, First U.S. Army Group commander Omar Bradley found himself confronting the possibility of a deadly war of attrition through France. Each initial attempt to break out of the *bocage* was checked by the Germans. After a month of frustration, Bradley then revived a plan originally proposed by Third U.S. Army general George S. Patton Jr. As Bradley reformulated it, Operation Cobra was intended as nothing more than a limited attack to punch through the German defenses west of Saint-Lô. If this succeeded, Bradley planned to make a deeper penetration using a large armored force as a follow-up on the initial advance. It would be Bradley's third attempt in a month to move out of the Cotentin Peninsula.

Operation Cobra had been planned to step off on July 24, 1944, but bad weather forced delay until July 25. Some of the bombers, however, did not get the postponement order and were launched on the

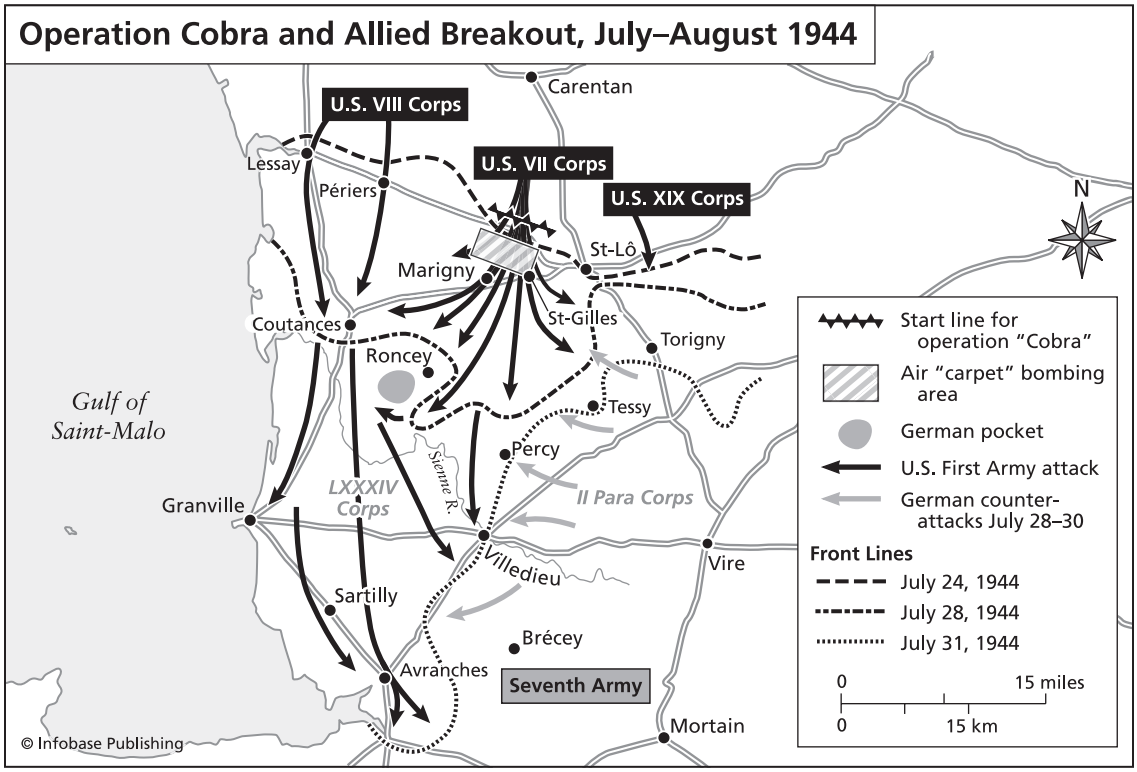
24th. The result was catastrophic, as bombs were rained down on American infantry. To compound the friendly-fire tragedy, more bombs were dropped on American infantry on the actual day of the attack because targets were poorly marked. Refusing to be disheartened, however, Bradley and Patton pressed on with the operation, even though the premature bomb drop had sacrificed the element of surprise.

Despite the bombing errors, the massive carpet bombing raids, followed by a two-thousand-bomber attack on German troops outside of Saint-Lô, was a stunning success. It weakened the German front so badly that the enemy was unable to counterattack the breakthrough. Bradley managed to mass his 15 divisions and 750 tanks against all the Germans could muster, nine divisions, with 150 tanks. Early on the morning of July 26, U.S. medium bombers attacked German lines, then the 1st Armored Division advanced, the advance protected on its flanks by tanks positioned to the east of the columns during the night of the 25th.

The Allies pushed through Saint-Lô, routing the Germans, whose retreat—uncharacteristically—was disordered. This hacked out a base from which the First and Third Armies drove out in opposite directions, toward Brest and toward Paris.

By the end of the day on July 27, the German lines had fallen back 15 miles. This was the victory

George S. Patton Jr. (center) confers with General Hugh J. Gaffey (seated) and Colonel M. C. Helfers of the 5th Division, August 26, 1944, during Operation Cobra, which Patton's Third U.S. Army spearheaded. *(Virginia Military Institute Archives)*



Bradley had hoped for with Operation Cobra. But Patton and his Third U.S. Army amplified the original intention of Cobra by exploiting the breach in German defenses with a violent, high-speed march. On July 30, the 6th Armored Division (of Patton's Third Army) crossed Bréhal and drove past Granville. Simultaneously, Avranches fell to Third Army infantry, which advanced on July 31 to secure a bridgehead over the Sélune River at Pontaubault, thereby putting the U.S. Army in Brittany.

After a month of costly heartbreak in the *bocage,* Bradley and Patton had, in the space of a week, broken through a distance of nearly 40 miles, capturing 18,000 prisoners in the process. There was no longer the danger of stalemate and attrition. Now the Allied armies—Patton's Third in particular—were poised to transform the invasion of Europe into a war of remarkably rapid movement.

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Operation Dragoon

See Operation Anvil/Dragoon.

Operation Husky

Operation Husky was the code name for the Allied invasion of Sicily from North Africa, following the successful completion of the North African campaign. The operation grew out of a decision made at the Casablanca Conference in January 1943.

Overall command of the invasion was the responsibility of General Dwight D. Eisenhower,

with operational command under British general Harold Alexander, heading the newly created Fifteenth Army Group, which consisted of the Eighth British Army (Bernard Law Montgomery) and the U.S. I Armored Corps (George S. Patton Jr.), which, after landing on Sicily, was redesignated the Seventh U.S. Army. The Fifteenth Army Group fielded a total of eight divisions, including airborne, commando, and Ranger units. Naval support was under the command of British admiral Andrew Cunningham and air support under British air marshal Arthur Tedder.

Planning Operation Husky was hampered by inter-Allied squabbling, despite Eisenhower's best efforts to compel the British and American planners to work together harmoniously. As originally conceived, Husky had Montgomery and Patton landing on opposite sides of the island with the object of making a large-scale pincer attack. Fearing this would fatally divide the invading forces, however, Montgomery insisted on changing the plan, so that Patton's Seventh U.S. Army was to do no more than protect the coastwise advance of Montgomery's Eighth British Army to Messina, stepping-off place to mainland Italy. As the campaign played out, however, Montgomery became bogged down, leaving Patton to make the spectacular advance that took both Palermo (the Sicilian capital) and Messina and that proclaimed to the British, the Germans, and the rest of the world that the U.S. Army was a force to be reckoned with.

The landings were launched before dawn on July 10, 1943, and would be eclipsed in size and scope only by Operation Overlord, the Normandy landings (D-day). The Sicilian landings involved 180,000 Allied troops and 2,590 ships. Although the landings succeeded, inadequate air support (coupled with unfavorable winds) seriously jeopardized that success. Fortunately, a program of Allied deception and decoy (Operation Mincemeat), which preceded the invasion, worked so well that German strength at the points of landing was weak.

See also Sicily campaign.

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Operation Market-Garden (Battle of Arnhem)

British commander Bernard Law Montgomery, commander in charge of Allied ground forces following the Normandy landings (D-day), conceived Operation Market-Garden as a means of hastening the end of the war in Europe by outflanking the "West Wall" German defensive line and establishing a bridgehead across the lower Rhine at Arnhem, Netherlands. This would put the Allied armies at the doorstep of the Ruhr River Valley, thereby gaining early and expeditious entry into the German industrial heartland.

The supreme Allied commander, Dwight D. Eisenhower, approved Market-Garden on September 10, adding to Montgomery's Twenty-first Army Group the First Allied Airborne Army (Lewis Brereton) and then diverting much-needed supplies to the operation. It was a bold gamble.

Under the tactical command of British lieutenant general Frederick Browning, Market-Garden was a twofold operation. The "Market" portion was an airborne assault to capture bridges across eight key waterways; "Garden" was the ground advance of the British XXX Corps (Brian Horrocks) across those bridgeheads.

Market-Garden depended wholly on speed, and this was both its great boldness and terrible vulnerability. XXX Corps was expected to advance nearly 60 miles in three days, from the Meuse-Escaut Canal to Arnhem. The Dutch government in exile, broadcasting from London, called for a railway strike to impede the Germans' ability to resist this movement. The strike was effective in interdicting the flow of German military supplies, but it triggered reprisals in the form of a stoppage of all canal traffic, which created acute food shortages that brought on a winter famine throughout the Netherlands.

Operation Market-Garden was launched on September 17, 1944, when the U.S. 101st Airborne Division landed between Eindhoven and Veghel,

the U.S. 82nd Airborne Division landed around Grave and Groesbeek, and the British 1st Airborne Division dropped near Arnhem. The first drops, 16,500 paratroopers and 3,500 glider troops, were accomplished with great accuracy, and the two American divisions landed quite near their bridgehead objectives. The British airborne troops, however, did not land near enough Arnhem to take the vital bridges there—and on this failure turned the failure of the entire operation. Portions of two SS Panzer Divisions, the 9th and 10th, were being refitted near Arnhem. During the four hours it took the British troopers to reach the Arnhem bridges on foot, German resistance was built up in the area. The Germans quickly blew up the railway bridge and pinned down the British paratroops. Reinforcement from the Polish Parachute Brigade might have enabled a breakout, but a siege of bad weather delayed their arrival, then forced them to drop at Driel, where the Germans bottled them up.

In the meantime, gathering German resistance slowed the land assault as well. British XXX Corps was late linking up with 101st Airborne Division near Eindhoven. The delay was compounded by the necessity of erecting a temporary bridge (Bailey bridge) at Zon to replace the bridge the Germans had destroyed. This put Horrocks nearly a day and a half behind schedule. The delay menaced the 101st Airborne, which was exposed to flank attacks that cut the Eindhoven-Nijmegen road so frequently that the troopers dubbed it "Hell's Highway." At first, the 82nd Airborne Division fared better, taking the Groesbeek bridge, thereby blocking German counterattacks. On September 20, after elements of the British corps finally began arriving, a battalion of the 82nd embarked across the Waal River in assault boats and took both Nijmegen bridges. After this, however, like the 101st, the 82nd was forced to wait for the arrival of the main body of XXX Corps, which was unable to commence its march to Arnhem for 24 hours after the 82nd had secured the bridges. This final delay proved fatal to Operation Market-Garden.

By the time the main body of XXX Corps was on the move, the Germans had driven the British airborne troops from the Arnhem bridgehead. German artillery then crossed the bridge and checked the advance of XXX Corps at Ressen. Despite last-minute maneuvering, it was no longer possible to organize sufficient strength to overcome the German defenses.

On September 25, a retreat was ordered. Nearly 2,300 British and Polish paratroops were able to withdraw from the Arnhem area, but more than 6,000 were captured—about half of them wounded. The U.S. 101st and 82nd airborne divisions, loath to relinquish ground gained, remained in contact with the enemy for another two months and suffered a combined total of 3,532 casualties, killed and wounded. This action allowed the Allies to hold on to a salient from which a later advance into Germany (Operation Veritable) was launched in February 1945. In all other respects, Operation Market-Garden was a costly and heartbreaking failure.

See also NETHERLANDS.

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Operation Overlord

Operation Overlord was the code name for the Allied invasion of German-occupied northwest Europe. The NORMANDY LANDINGS (D-DAY)—the first critical stage of Overlord—were code-named Operation Neptune, a suboperation of Overlord.

The Overlord concept was a product of the CASABLANCA CONFERENCE of January 1943, which authorized the creation of an invasion planning staff (called COSSAC, after the acronym for *C*hief *o*f *S*taff to the *S*upreme *A*llied *C*ommander) and also authorized a buildup of American troops in Great Britain for use in a cross-Channel invasion (this buildup phase was code-named Operation Bolero).

The first task of planning was to determine an appropriate landing area either in the Low Coun-

tries or France. Requirements were severely limiting: the landing place had to be within the range of Allied fighters, had to be defended by German positions that could feasibly be knocked out, and had to offer logistics that would enable a rapid and massive buildup of landing troops that would outpace the Germans' ability to move in defenders. Ultimately, COSSAC planners decided that the chief requirement was the proximity of a major port and the ability to supply troops on an adequate beachhead for a 90-day interim period, which was considered sufficient time to capture and repair the required port. Moreover, the troops would need to land in a place well served by a road network, lest they become trapped between the sea and the interior. After much study, COSSAC determined that the Baie de la Seine, between Le Havre and the Cherbourg peninsula, met the necessary criteria better than any other place: Cherbourg offered a major port, which (it was mistakenly believed) could be captured quickly, and supplies could be landed in the interim by means of unique artificial MULBERRY HARBORS while fuel was pumped all the way across the English Channel via a pipeline system dubbed "Pluto" (*P*ipe *L*ine *U*nder *t*he *O*cean).

The initial COSSAC plan was presented at the Allies' Quebec Conference in August 1943. WINSTON CHURCHILL, burdened by memories of the catastrophic Dunkirk and the harrowing DIEPPE RAID, called for a 25 percent increase in the initial assault force. Ultimately, in January 1944, the decision was made to expand the assault force even further, from three to eight divisions, including three AIRBORNE ASSAULT divisions. The problem with this expansion was not manpower but a chronic shortage of LANDING CRAFT.

One month after the decision to expand the force was taken, Supreme Headquarters Allied Expeditionary Force was created under DWIGHT D. EISENHOWER as supreme Allied commander, Europe. Under Eisenhower's direction, BERNARD LAW MONTGOMERY (as commander in charge of the invasion's ground component), TRAFFORD LEIGH-MALLORY (commander in charge of air forces), and Sir Bertam Ramsay (commander in charge of the naval component) drew up the initial plans for Operation Neptune, the actual landing and assault phase of the invasion. At this point, the landing craft shortage became the critical factor, and proposed simultaneous landings on the French Riviera (Operation Anvil, later called Operation Dragoon) had to be delayed until after Operation Neptune—which was itself delayed.

Scheduling, timing, and coordinating the Neptune phase of Operation Overlord proved to be extraordinarily intricate. Despite the advantages of operating under cover of darkness, so many ships and aircraft were involved that it was decided to make the landing assault after dawn. Moreover, the actual landings had to be carried out no more than about one hour after low tide, so that German coastal obstacles (including mines) would be visible and accessible to engineers. To complicate matters further, airborne troops who were to be dropped just prior to the landings required a full moon. All of these prerequisites narrowed the window of the invasion to June 5–7. June 5 was chosen, but the landings had to be delayed for a day because of severe storms. At that, June 6 offered only marginally acceptable weather.

Operation Overlord and Operation Neptune were cloaked in the most stringent secrecy of the war. Extreme restrictions were placed on military movements as well as civilian travel, and all diplomatic travel was temporarily frozen. An elaborate program of deception was launched before the invasion, including the dissemination of disinformation through a network of double agents, the creation of phony radio traffic, and the erection of decoy camps and equipment, all intended to suggest to the Germans that an invasion was set to land not in Normandy but at the Pas de Calais, which, geographically, was the most logical invasion point.

Also preparatory to the invasion, between April 1 and June 5, 1944, more than 11,000 Allied aircraft flew in excess of 200,000 sorties, dropping 195,000 tons of bombs on rail and road networks, on airfields and other military facilities, on factories, and on coastal batteries and radar outposts, all to weaken the so-called Atlantic Wall, by which ADOLF HITLER defended what he called Fortress Europe

(*Festung Europa*). These missions were carried out at great cost (almost 2,000 Allied aircraft were lost), but they proved highly effective not only in damaging the military infrastructure in occupied France, but also in winning air supremacy against the Luftwaffe before the invasion. Additionally, many of the bombing missions were deliberately diverted to the area near Pas de Calais in a bold effort to enhance the impression that this is where the landings would be made.

Operation Overlord and Operation Neptune also relied heavily on preparatory work done by the French resistance, which operated in conjunction with the British Special Operations Executive and the American Office of Strategic Services to supply on-the-ground intelligence, to undermine German defenses, and to commit acts of sabotage, especially against rail lines.

The course and outcome of Operation Neptune is discussed in Normandy landings (D-day) and those of Operation Overlord are discussed in that entry and other entries devoted to operations and leaders in the European theater.

See also Dunkirk evacuation; resistance movements.

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Operation Sealion

Called *Seeltiwe* in German, Operation Sealion was the code name for one of the most consequential operations of World War II that never happened: the planned German invasion of England.

Very early in the war, Adolf Hitler was confident that Great Britain would come to favorable terms with Germany. When it did not, he decided that invasion would force a negotiated peace. On July 16, 1940, Hitler issued Directive No. 16, relating to preparations for landings against England. Hitler's number-one priority preparatory to invasion was the neutralization of the RAF. This concern reflected only one of many doubts Hitler had about the feasibility of an invasion—doubts that were echoed by his top army and navy commanders. Hitler seems never to have had the unambivalent will to drive the invasion. He told his commanders that if invasion preparations could not be completed by the start of September 1940, other operations would have to be undertaken, most notably an attack on the Soviet Union. Admiral Erich Raeder, commander in chief of the German navy, voiced grave doubts as to the feasibility of landing—citing difficulties in attaining air supremacy, carrying out adequate minesweeping operations, and deploying so large a transport fleet—and told Hitler that navy preparations could not be completed before September 15. Hitler decided that this would be the deadline for all preparations and that, furthermore, the final decision to invade would depend on victory in the Battle of Britain—the contest for supremacy in the skies above the British Isles. Thus, it was on the outcome of this campaign that the question of invasion—at least in 1940—would hang.

The defeat of France in the Battle of France in June 1940 positioned the Luftwaffe perfectly for operations against England. Had Hitler wholeheartedly pushed for an invasion, preparations would have proceeded apace; however, he continued to vacillate. Nevertheless, air supremacy continued to be a goal for the German air force, and certain other invasion preparations were made, including a survey of all available sea and river craft in Germany and the occupied countries, training and exercises in embarkation and disembarkation, and the creation of occupation authorities. Yet German air marshal Hermann Göring delayed *Aldertag* (Eagle Day)—the commencement of the air campaign against England—until August 13, 1940, a full seven weeks after the fall of France. This

hiatus gave the British valuable time to prepare and strengthen air defenses, which were already extensive, and to marshal all RAF assets. Despite its geographical advantages, the Luftwaffe found itself going up against a very strongly and skillfully defended target. Thus, on September 14, when Hitler met with his commanders to tell them that the navy had completed its preparations for Operation Sealion, he still could not order the invasion to proceed because the Luftwaffe was far from having achieved air supremacy.

Yet even as Hitler temporized, he refused to cancel Sealion outright. He believed that the continued threat of invasion, combined with the unremitting air raids on English cities, would in and of themselves drive the British to seek a negotiated peace.

In the meantime, Admiral Raeder proposed October 8 as a new date for a landing. Hitler countered by ordering preparations for September 27, noting that September 17 would be the decision date. If conditions were judged unfavorable at that time, he would accept the October 8 alternative.

In the end, all of this proved to be empty posturing on Hitler's part. Göring refused to cooperate fully with the demands of preparing for Operation Sealion, and on September 19, the German high command ordered the assembled transport fleet to disperse, because it had become too vulnerable to British air attacks. On October 2, recognizing the toll taken by British air attacks, Hitler himself ordered that Sealion be shelved, perhaps to be rescheduled for the spring of 1941. In December 1940, Hitler redirected the German war effort to planning for the INVASION OF THE SOVIET UNION.

See also OPERATION BARBAROSSA.

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Operation Torch

Operation Torch was the code name for the Anglo-American landings in French Morocco and Algeria that began the NORTH AFRICAN CAMPAIGN on November 8, 1942.

Operation Torch was strongly endorsed by British prime minister WINSTON CHURCHILL and his high command, but only grudgingly accepted by the U.S. military, whose high command wanted to concentrate on immediate operations against the European continent. Although JOSEPH STALIN continually pressured the Western Allies into opening a second European front, Churchill and other British planners believed that an invasion of the Continent would be premature and that first invading North Africa was far more feasible—especially inasmuch as it would provide the American troops, who had just joined the war, with an easier baptism of fire.

Despite the lukewarm attitude of the U.S. high command, Operation Torch was primarily a U.S. operation directed by DWIGHT D. EISENHOWER, who was named commander in charge of the Allied Expeditionary Force. Eisenhower and his British colleagues hoped that the VICHY GOVERNMENT administrators of French North Africa would side with the Allies or, at least, offer no substantial resistance. Germany and Italy were sufficiently formidable adversaries without having to face the French as well.

Operating directly under Eisenhower were U.S. major general MARK CLARK, deputy commander of Torch, and U.S. brigadier general JAMES DOOLITTLE, Western air commander. The other operational commanders were British, including Lieutenant General KENNETH ANDERSON (operational ground commander), Admiral ANDREW CUNNINGHAM (commander in chief of naval support), and the Eastern Air Commander, Air Marshal William Welsh. Operation Torch was thus the Allies' first great experiment in the concept of unified or single command: the command and coordination of an Anglo-American force under one supreme commander. Despite many problems created by this concept, unified command would become the model for every other phase of Allied operations in World War II, and it would prove far more successful than the approach taken by the Germans and Italians, who were often at bitter odds in the conduct of the war.

Operation Torch was the first step in carrying out the mission assigned to Eisenhower: to conquer all of Axis-occupied North Africa, beginning with Algeria and French Morocco. The Torch landings were preceded by the covert landing of General Clark near Algiers on October 22, 1942, to meet the French Major General Charles Mast, chief of staff of the French IXX Corps and known to have pro-Allied sympathies. Clark negotiated Mast's promise that, given four days' notice of the landings, he would ensure that the French army and air force would offer no more than token resistance—a demonstration sufficient to satisfy French military honor. As for the French navy, Mast could make no guarantees.

Operation Torch consisted of three landings: at Casablanca (the Western Force, under U.S. major general George S. Patton Jr.), at Oran (the Central Force, under U.S. major general Lloyd Fredendall), and at Algiers (the Eastern Force, under U.S. major general Charles Ryder). Air support would be provided for the two western landings by the Western Air Command, while the Eastern Air Command would cover the vicinity of Algiers.

The total Allied troop strength of the landings, 65,000, represented only a bit more than half the strength of the French forces in North Africa. About 650 warships supported the landings, which took place early on November 8, 1942. Algiers fell immediately and Oran just two days later. French resistance at Casablanca was stiffer, but on November 10, the principal French authority in North Africa, Admiral Jean-François Darlan, agreed to order a general cease-fire, and Casablanca accordingly capitulated.

With the success of the landings and the attainment of the major objectives in French North Africa, Operation Torch gave way to the rest of the North African Campaign.

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Oppenheimer, J. Robert (1904–1967)

director of the Los Alamos laboratory (1943–1945), which developed atomic weapons

Born in New York to the family of a German immigrant who built a fortune as a textile importer, Oppenheimer early on showed evidence of genius. During a brilliant undergraduate career at Harvard University, he studied Greek and Latin as well as Asian philosophy and published poetry, in addition to pursuing the study of physics and chemistry. In 1925, after graduation, he was awarded a research grant to study in England at the famed Cavendish Laboratory of Cambridge University. There he worked with the legendary physicist Lord Ernest Rutherford. In England, Oppenheimer became increasingly interested in advanced atomic research.

At the invitation of another great physicist, Max Born, Oppenheimer studied in Germany at Göttingen University with the likes of Niels Bohr

J. Robert Oppenheimer with Albert Einstein *(U.S. Department of Energy)*

and Paul Dirac. It was from Göttingen, in 1927, that Oppenheimer earned a doctorate, after which he returned to the United States, where he joined the faculties of the University of California at Berkeley and the California Institute of Technology. There he conducted advanced theoretical work based on the implications of quantum mechanics and relativity theory. Oppenheimer was especially interested in the energy processes of subatomic particles, including electrons, positrons, and cosmic rays.

Like many American intellectuals in the 1930s, Oppenheimer was deeply disturbed by the ascension in Germany of Adolf Hitler and became active in various antifascist and anti-Nazi organizations. The inheritance into which Oppenheimer came following the death of his father in 1937 allowed him to contribute generously to these organizations, and although Oppenheimer drifted toward the Communist Party, he did not join it, nor was he ever seduced into overlooking the enormity of the oppression perpetrated by Joseph Stalin. Ultimately, in protest against Stalinism, he severed all ties with the Communists.

Oppenheimer was one of a group of scientists—including, most prominently Leo Szilard and Albert Einstein—who were alarmed by the probability that German physicists were at work developing nuclear weapons for Hitler. After the invasion of Poland began World War II in September 1939, Oppenheimer commenced research to find a process for the separation of fissionable uranium 235 from natural uranium and to determine just how much fissionable U-235 was required to make an atomic bomb. In August 1942, the U.S. Army inaugurated the Manhattan Project, the massive government effort to create nuclear weapons, and Oppenheimer, recruited for the project, was charged with creating and administering a laboratory to carry out the major research. As a boy, he had spent time in a boarding school near Santa Fe, New Mexico, and he now chose the remote Los Alamos plateau near that school as the location for the laboratory.

Oppenheimer drew to Los Alamos a team of scientists that was unprecedented in scope and depth. Working in an often tense and difficult collaboration with Major General Leslie R. Groves, the military director of the Manhattan Project, Oppenheimer oversaw the research that produced the first nuclear device, which was successfully tested at the so-called Trinity Site, near Alamogordo, New Mexico, on July 16, 1945. The following month, two bombs were used against Japan, prompting that nation to surrender, thereby ending World War II.

In October 1945, Oppenheimer resigned as director of Los Alamos and, in 1947, was appointed to head the Institute for Advanced Study at Princeton University. Concurrently, from 1947 to 1952, he also served as chairman of the General Advisory Committee of the Atomic Energy Commission, which under his leadership announced its opposition in October 1949 to the development of the hydrogen bomb. Oppenheimer had profound reservations about nuclear weapons and regarded thermonuclear—or hydrogen—weapons, which were far more powerful, as immoral and certainly capable of ending civilization.

At the height of the cold war, Oppenheimer's opposition to the hydrogen bomb created enormous controversy, and on December 21, 1953, he learned of a military security report that accused him of having had Communist ties in the past, of having interfered with the investigation of Soviet espionage agents, and of opposing the building of the hydrogen bomb not on moral grounds but in a deliberate effort to undermine national security. Although a subsequent hearing cleared him of treason, it ruled that his access to military secrets should be terminated, and he was removed as adviser to the Atomic Energy Commission. Oppenheimer became a cause célèbre and an icon of the fate of the scientist in the modern age: the man whose work creates a weapon with profound moral consequences and who is subsequently condemned when he makes his moral convictions public. Oppenheimer was widely regarded as a haunted genius, a modern Prometheus punished for the great force he brought into the world, the wizard who liberated the atomic genie then struggled futilely and tragically to put that genie back into the bottle.

Oppenheimer spent his later years immersed less in theoretical physics than in the moral and philosophical questions relating to the place of science in society. He received the Enrico Fermi Award of the Atomic Energy Commission in 1963, retired from Princeton in 1966, and succumbed in 1967 to cancer of the throat.

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ORANGE (Japanese code)

In 1930, the Japanese Foreign Office began using a rotor-based cipher machine similar to Germany's famous Enigma, which American cryptanalysts code-named RED. A U.S. Army Signals Intelligence Service cryptanalyst team broke the RED ciphers before World War II; however, in 1939, the Japanese began using a new cipher machine, code-named by U.S. analysts PURPLE. The advanced device employed telephone stepping switches in place of mechanical rotors. The Japanese believed that the PURPLE machine was essentially immune from cryptanalysis. But as Polish and British cryptanalysts cracked the Enigma ciphers, U.S. cryptanalysis succeeded in cracking the PURPLE ciphers and the even more important ORANGE ciphers. The latter were essential to the Allied conduct of the Pacific war because the ORANGE ciphers were extensively used by the Imperial Japanese Navy as well as the Japanese merchant marine.

U.S. analysts recognized five major ORANGE naval cryptographic systems, including an Administrative Code system, which employed a cipher that changed every 10 days; the Merchant Ship Code system; the Materiel Code system, which had cipher changes at irregular intervals of from 10 to 30 days and was vital in signaling the movement of war matériel; the Operations Code system, which was used to transmit fleet operational commands; and the Intelligence Code system, which was considered of relatively minor importance.

ORANGE decrypts provided vital tactical and strategic information to the Allies, especially the U.S. Navy, throughout World War II. The Japanese never discovered that their "unbreakable" ciphered messages were being read regularly.

See also Enigma cipher and machine and Ultra.

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Ozawa Jisaburo (1886–1963) *last commander in charge of the Combined Fleet of the Japanese Imperial Navy*

Ozawa had commanded the Malaya Force (Southern Expeditionary Fleet) during the Malayan Campaign and was a brilliant advocate and practitioner of naval air power. On December 10, 1941, aircraft of his command sank Britain's Force Z (the *Prince of Wales* and *Repulse*) off the coast of Malaya. Ozawa was also in command during the invasion of the Netherlands East Indies and was instrumental in action on the Indian Ocean.

During the Battle of the Philippine Sea in June 1944, Ozawa played a key role and also fought in the Battle of Leyte Gulf in October 1944. It was the carriers under his command that drew Admiral William "Bull" Halsey's Third Fleet away from the U.S. invasion forces, thereby imperiling the invasion of the Philippines.

Ozawa was one Japan's ablest sea commanders and one of the great admirals of World War II.

See also Malaya, fall of; Netherlands East Indies, action in.

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P

"Pact of Steel"

The "Pact of Steel" was the familiar name Adolf Hitler and Benito Mussolini applied to the treaty concluded by their representatives, German foreign minister Joachim von Ribbentrop and his Italian counterpart, Count Galeazzo Ciano, at Berlin on May 22, 1939, formalizing the Rome-Berlin Axis, the ideologically based military alliance between Germany and Italy.

The Pact of Steel acknowledged Italy's hegemony over Ethiopia, which it had annexed in 1935, and cited the "close relationship of friendship and homogeneity . . . between National Socialist Germany and Fascist Italy" as the basis for the alliance outlined in "this solemn pact." The pact spoke of the "inner affinity between . . . [the] ideologies" of the two nations and of their joint resolution to "act side by side and with united forces to secure their living space and to maintain peace." In contrast to most military alliances, which typically specify that one nation will come to the other's aid if it is attacked, the Pact of Steel stipulated that the military alliance would become active if a signatory "became involved in warlike complications with another Power or Powers." Thus, the alliance covered not merely defensive action, but military aggression as well. In this, the Pact of Steel proclaimed to the world that Germany and Italy were poised to conquer—and intended to do so.

See also Lebensraum.

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Palestine

At the outbreak of World War II, Palestine was a British mandate on which about 1 million Arabs and nearly a half million Jews—the former indigenous, the latter predominantly immigrants—lived in chronic conflict. The British were obligated by the Balfour Declaration of 1917 to acknowledge Palestine as the rightful homeland of the stateless Jews. Shortly before the beginning of World War II, in July 1937, the British Peel Commission divided Palestine among the Arabs, the British, and the Jews, thereby provoking the Arab Revolt led by Hadj Amin el-Husseini, the mufti of Jerusalem. The revolt was crushed before the outbreak of World War II, Husseini fled, and the British administrators interned the other Arab leaders. This essentially forced the Palestinian Arabs to suspend political agitation for years, including the war years. Nevertheless, seeking to appease the Arabs as the war approached—and wanting above all to ensure access to oil in the region—Britain rescinded the partition of Palestine in May 1939, announcing its intention to create within a decade a single independent nation-state, which would include Arabs

and Jews. Preparatory to the creation of the new state, Britain barred the sale of Palestinian land to Jews and capped Jewish immigration at 75,000 over the next five years. At the end of this period, no more Jewish immigration would be permitted without Arab agreement.

The new British policy did appease Arabs in Palestine even as it put the Jews in a corner. If they objected and opposed the British, they would be giving aid to the Nazis. Having little choice, therefore, the Jewish Agency—the political organization that worked toward the establishment of a Jewish homeland in Palestine—chose to cooperate with the new British policy and even mobilized agricultural and industrial resources to help Britain in its war effort. Jewish-owned war-production factories in Palestine became very important, and the rapid growth of this industry extended Jewish settlement, including irrigated and cultivated land, throughout the region. Although the British had sought to limit Jewish growth and influence in Palestine for the coming decade, its encouragement of Jewish war industries actually promoted the permanent establishment of Jews throughout the area.

At the outbreak of the war, some 136,000 Jewish men and women volunteered to join the British armed forces, and some even agreed to serve with Arabs in mixed companies. Jews fought in British units during the Western Desert Campaign and served with the Eighth British Army, primarily against the Italians. During March through September 1944, 32 Jewish parachutists from Palestine were dropped behind enemy lines in Europe to assist Jews in escaping the reach of the Final Solution.

Despite the large number of Jewish volunteers, it is estimated that only 30,000 Palestinian Jews actually served in the British armed forces, along with about 9,000 Palestinian Arabs. Palestine itself had little tactical or strategic significance in the war.

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Papagos, Alexandros (1883–1955) *Greek minister of war and chief of staff*

Born in Athens, Alexandros Papagos was commissioned an officer in the Greek army in 1906 and fought in the Balkan Wars during 1912–13, then against Turkey during 1919–22. Promoted to major general in 1927, he rose to become minister of war in 1935 and chief of staff in 1936.

In response to the Italian invasion of Greece in October 1940, Papagos led an uninspired, highly conventional defense. Despite this pedestrian approach, his forces drove the Italians back into Albania, from which they had launched the invasion. Against the Germans, however, who invaded in April 1941, Papagos did not stand a chance. Greece was quickly overrun and occupied. Papagos himself was interned in Germany as a hostage.

Papagos was liberated by the Allies in 1945 and assumed leadership of Greek government forces operating against communist guerrillas and insurgents. In 1949, he was promoted to field marshal. He retired from the army in May 1951 to found a new political party, the Greek Rally, which rapidly became a powerful force in Greek politics. Papagos was elected Greek premier in November 1952 and died in office three years later.

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Papen, Franz von (1879–1969) *engineer of the* Anschluss*—the German annexation of Austria*

Papen was born in Wirl, Germany, to a prosperous, land-rich Catholic family. He set his sights on a career in the military and, at the outbreak of World War I, was serving as German military attaché in Washington, D.C. His involvement in espionage and sabotage prompted the U.S. government to demand his recall in 1915, whereupon Papen served as chief of staff of the German-administered Fourth Turkish Army in Palestine.

At the end of World War I, Papen returned to Germany, where he entered politics as a monarchist in opposition to the Weimar Republic. Elected to the Reichstag (parliament) as a candidate of the extreme rightist Catholic Center Party, Papen served as a deputy for 11 years, from 1921 to 1932, when, acting on the advice of General Kurt von Schleicher, his adviser, President Paul von Hindenburg elevated Papen to the chancellorship. Papen put in place a rightist government and sought to placate the Nazis (who formed the second-largest party in the Reichstag) by lifting a ban earlier imposed on the Storm Troopers, or Sturmabteilung (SA), and by removing the Social Democratic government of Prussia. Papen also engineered what amounted to the cancellation of Germany's catastrophic war reparations obligations imposed by the Treaty of Versailles.

Despite Papen's efforts to appease him, Adolf Hitler opposed him. Moreover, Papen's extreme reactionary bias soon alienated Schleicher as well, who believed him incapable of creating a genuinely broad national front. Thanks to Schleicher, several cabinet ministers rejected Papen's policies, forcing him to step down on December 4, 1932. He was succeeded as chancellor by Schleicher.

Papen's ouster drove him into the arms of Hitler, and, on January 4, 1933, Papen persuaded German president Paul von Hindenburg to remove Schleicher and replace him with Hitler as chancellor. Papen assumed the post of vice chancellor. Because he managed to place his political allies—all nationalists but not Nazis—in most of the ministerial positions, Papen assumed that he would be able to control Hitler as well as keep a tight rein on the Nazi Party. It did not take long for Papen to realize his error, but by that time, he had apparently decided to remain loyal to Hitler.

Papen was nearly purged (murdered) during the "Night of the Long Knives," Hitler's action against the SA on June 30, 1934. Three days after this event, Papen prudently stepped down as vice chancellor and accepted an ambassadorship to Austria. He served in this post from 1934 to 1938, and was instrumental in engineering the *Anschluss,* or annexation of Austria to the German Reich.

In 1939, Papen was appointed ambassador to Turkey. He served in that post until 1944, working vigorously to prevent the Turks from entering into an alliance with the Allies.

At the end of the war in Europe, the Allies arrested Papen, who was tried by the Nuremberg War Crimes Tribunal as a war criminal. He was one of a handful of defendants acquitted by the tribunal (on a count of engaging in conspiracy to prepare aggressive war), but a German court subsequently tried him for his major role in the Nazi Party. Sentenced by the German court to eight years in prison, he was released on appeal in 1949, but was compelled to pay a fine. He retired from public life and published his memoirs in 1952.

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Paris, occupation and liberation of

In the culmination of the Battle of France, Paris fell on June 14, 1940. In contrast to the heroic defense of the capital during the early weeks of World War I, in which the Germans and French fought it out on the nearby Marne, Paris in World War II was undefended and was proclaimed an open city, thereby avoiding artillery and aerial bombardment.

Although Paris became a center for French resistance activity, it was not the hotbed of subversion and sabotage often portrayed in postwar romantic fiction. Despite the heroism of a few notable individuals—especially Jean Moulin and his circle—recent scholarship suggests that relatively few Parisians were members of the Resistance. For the great majority of the city's inhabitants, life went on under German occupation much as it had before the war—albeit with many wartime shortages. Most Parisians cooperated with the Germans politically and also did profitable business

with the occupiers. In contrast to the people of Danish, Dutch, and even Italian cities, they rarely took a stand against the arrest of Jewish citizens, and the French police often collaborated openly in the round-ups and deportations that were part of the Final Solution and the Holocaust.

In Paris, the Germans refrained from the pillage, rape, and murder often associated with conquest and rampant in German actions in the east. The Paris press was even complimentary in many of its remarks concerning the soldiers of the occupation, whom papers routinely described as decent and even polite. Although newsreels carried footage of a German column marching under the Arc de Triomphe, Adolf Hitler issued personal orders forbidding large-scale victory parades for fear that such displays would alienate the Parisians and make them less cooperative. After the initial shock of the German entry into the capital had passed, schools, cafés, theaters, newspapers, trains, and most other public services were operating on a virtually normal basis. The Paris police force, an armed body that outnumbered the German occupation troops, remained cooperatively on duty throughout the entire occupation and generally did the bidding of the German occupation authorities. Even among the intellectual elite and other high-profile cultural figures, life under German occupation went on. The likes of Jean-Paul Sartre, Coco Chanel, Louis-Ferdinand Céline, Christian Dior, Yves Montand, Maurice Chevalier, Pablo Picasso, and Albert Camus lived and worked in Paris quite openly and quite productively during the occupation. To be sure, there were arrests—but relatively few. The occupation of Paris was by no means characterized by the barbarism of the Warsaw occupation.

In one important sense, the relatively easy relations between the German occupiers and the citizens of Paris did have a positive effect on the Allied war effort. Instead of rapidly consolidating their remarkably swift victory in the fall of France, the German occupiers reveled in the comforts and distractions of Paris, and this led to nearly two months of complacency in which the British prepared superb air defenses to resist German invasion. The seductions of Paris were far more effective in undermining the German war effort than any organized resistance movement.

If most Parisians did not actively resist the occupation, many actively protested Resistance and other partisan activity, fearing reprisals. Many of the Communist partisans, who became active after the invasion of the Soviet Union in June 1941, were not native Frenchmen, and the majority of Parisians did not sympathize with them or with their motives—which included the deliberate provocation of German reprisals in the hope and expectation that these would alienate and rally the French populace against the occupiers.

Only after the war turned decidedly against the Germans did large numbers of Parisians begin to be stirred by the London-based broadcasts of Charles de Gaulle, urging active resistance. In the lead-up to the Normandy landings (D-day), the work of the U.S. Office of Strategic Services, British Special Operations Executive, and French Resistance teams began to organize indigenous resistance groups for truly effective military service. After D-day, as the Allies drew near Paris, resistance to the occupiers intensified. French rail workers went on strike on August 10, 1944, and, on August 15, so did the police. French postal workers walked off their jobs on August 16. The object of these strikes was to make the movement and communication of German troops difficult and thereby encourage the Allies to liberate the city.

At this point in the war, Paris was occupied by just 20,000 troops, mostly second-line garrison soldiers (albeit stiffened somewhat by the inclusion of a few armored Waffen SS units) under the command of General Dietrich von Choltitz, who had earlier overseen the outright destruction of Rotterdam (May 1940) and Sevastopol (1942). As the Allies approached, the still deeply divided French Resistance differed sharply on the question of what to do next. The Communists wanted an all-out uprising, whereas those aligned with de Gaulle called for caution. The latter group was in contact with the Allies, who made it known that they did not intend to enter Paris before the second week in September. Dwight D. Eisenhower, the

supreme Allied commander, was far more intent on destroying the German armies in the field than on diverting forces to liberate Paris. Despite this, the Communists, who had majorities on the local Paris Resistance committees, decided to take immediate action.

Henri Rol-Tanguy, Communist leader of the Parisian liberation committee, announced that the time for action had come. No sooner did he make this proclamation, however, than he was shocked to discover, as he bicycled past *police headquarters* in Paris on the morning of August 19, that the Tricolor had been raised above the building and the "Marseillaise" was being sung inside. Learning that the Communists were about to act, de Gaulle had suddenly ordered preemptive action by the Resistance members loyal to him. Thus it was a threat from the Communists, not the Nazis, that initiated the liberation of Paris.

For the first time during the occupation, large-scale if sporadic fighting broke out in the streets of Paris. A truce was arranged on the evening of the 19th, so that both sides could collect their wounded, but by the evening of the 20th, the truce had broken down. Although the police continued officially to collaborate with the Germans, most Parisian officers now defected to the Resistance. Barricades went up on many streets throughout the city, but the uprising was most intense on the east side of Paris, which was working class and dominated by the Communists. Resistance members continually sniped at German soldiers, who had long been accustomed to easy duty in the capital.

Choltitz received Hitler's orders to defend Paris at all costs and ultimately to demolish the city—using explosive charges against key landmarks and the Seine bridges—rather than relinquish it. Believing the war to be lost, the German general was reluctant to carry out the order of destruction, and his reluctance was encouraged by Raoul Nordling, the Swedish consul-general, who appealed to Choltitz's sense of duty as a European and a Christian to preserve a city that was a monument both to European civilization and to Christian culture. The desire to preserve Paris, especially at this late stage in the war, was shared by the more moderate members of the Resistance as well. They well knew of the devastation that was even then being visited upon Warsaw by its occupiers. In the meantime, however, Eisenhower still declined to issue the liberation order. At last, the British forced his hand. On August 23, 1944, the BBC broadcasted that Paris had already been liberated. Understanding that the failure to liberate the capital *in fact* would now create a potentially disastrous collapse in Allied morale—and would give aid and comfort to the enemy—Eisenhower and Third U.S. Army commander George S. Patton Jr. released the 2nd French Armored Division from Third Army control. The division's commander, Jacques-Philippe Leclerc, sent a small number of tanks into Paris, then followed up with rest of the division. Under Captain Raymond Dronne, the first tanks—a token liberation force—reached the Place de l'Hôtel de Ville after sunset on August 24. He met with no significant resistance, and the rest of the division arrived on the next morning, along with elements of the U.S. forces. With Paris jubilant, Choltitz signed a surrender document. On the French side, significantly, Rol-Tanguy signed first, Leclerc second.

Outwardly, there was much joy and celebration on the streets of Paris, and all supporters of the Allied cause were greatly heartened by the liberation. As the Germans began to withdraw from France, however, retribution against collaborators and suspected collaborators brought a new reign of terror throughout the country including Paris, in the immediate aftermath of the liberation. Between June 1944 and February 1945, it is believed that Frenchmen executed some 105,000 of their own countrymen, either in summary fashion or after one-sided tribunal proceedings. This number almost certainly exceeded the number of French citizens who died at the hands of the German occupiers as hostages, deportees, and slave laborers.

See also resistance movements and Operation Sealion.

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Patch, Alexander McCarrell, Jr. (1889–1945) *American general in both the Pacific and in Europe*

Patch, the son of an army captain, was born at Fort Huachuca, Arizona Territory, and raised in Pennsylvania, where he attended a year of Lehigh University before entering West Point in 1909. After graduating in 1913, Second Lieutenant Patch served on the Mexican border during 1916–17. Promoted to captain on May 15, 1917, he shipped out to France during World War I and commanded the Army Machine Gun School there from April to October 1918. While in France, Patch also fought at Aisne-Marne (July 18–August 5), at the Saint-Mihiel salient (September 12–16), and in the Meuse-Argonne offensive (September 26–November 11). After the armistice, he served in Germany with the army of occupation through 1919. During his war service, he was promoted to temporary lieutenant colonel, but like many other officers, he reverted to his peacetime rank—captain—on his return to the United States.

Promoted to major on July 1, 1920, Patch served in training positions through 1924. He graduated with distinction from the Command and General Staff School in 1925 and from the Army War College in 1932. During 1925–28 and 1932–36, he taught as professor of military science and tactics at Staunton Military Academy, Virginia.

Promoted to lieutenant colonel on August 1, 1935, Patch was appointed to the Infantry Board at Fort Benning, Georgia, the following year. In this post, he tested the new three-regiment "triangular" division the army had adopted in an effort to make movement and command more efficient. Thanks in part to Patch's work, the streamlined triangular division would become the foundation of army organization during World War II.

In August 1939, Patch was promoted to colonel and assigned command of the 47th Infantry. On August 4, 1941, he was promoted to brigadier general and given command of the Infantry Replacement Center at Camp Croft, South Carolina. After the United States declared war on Japan on December 8, 1941, Patch, in January 1942, was sent to New Caledonia in the Pacific with the remnants of units left over after the "triangularization" of the 26th and 33rd Divisions. After his promotion to major general on March 10, his units became the core of the Americal Division—"American troops on New Caledonia"—activated on May 27, 1942. Patch led the Americal Division in the Guadalcanal campaign, relieving the 1st Marine Division there on December 9. He commanded mop-up operations on Guadalcanal from December 1942 to February 7, 1943, then, from January to April 1943, served as commander of XIV Corps. In April 1943, Patch was called back to the United States to assume command of the IV Corps area. He was responsible for troop training from April 1943 to March 1944, when he was sent to Sicily in command of the Seventh U.S. Army there. He then led the Seventh Army in Operation Anvil-Dragoon, the invasion of southern France (the French Riviera), beginning on August 15. Three days into the operation, Patch was promoted to lieutenant general.

Patch led the Riviera invasion with efficiency and rapidity, so that on September 11, 1944, he was able to link up with the Third U.S. Army under George S. Patton Jr. at Dijon. His Seventh Army next became part of the Sixth Army Group and advanced into Alsace. Patch took Strasbourg in November, then participated in the defense against a German counteroffensive in January 1945 and the reduction of the Colmar Pocket in February. From Colmar, Patch led the Seventh U.S. Army through southern Germany and into Austria, where he linked up with elements of Mark W. Clark's Fifth U.S. Army at the Brenner Pass on May 4.

After the German surrender, Patch returned to the United States in June to command the Fourth Army at Fort Sam Houston, Texas, again taking responsibility for troop training. In October, he was

assigned to a special group formed to study postwar defense reorganization, but succumbed to pneumonia shortly after completing this assignment.

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Patton, George Smith, Jr. (1885–1945) *U.S. field commander in Europe*

Although he never attained top strategic command, Patton may well be the most famous American general of World War II, and, because of his abrasive leadership style, flamboyance, and almost atavistic ferocity, perhaps the most controversial as well. Beyond question is what he achieved with his Third U.S. Army, breaking out of the *bocage* at Normandy and sweeping through France and Germany and into Czechoslovakia. He spearheaded the advance of the Allied western front.

Born in San Gabriel, California, George S. Patton Jr. was the son of a family with a strong military tradition. Longing to gain admission to West Point, Patton decided to hone his weak academic skills (he suffered lifelong from dyslexia) by enrolling for a year at Virginia Military Institute (1904). He then entered West Point and graduated in 1909. A superb horseman, Patton was commissioned a second lieutenant in the cavalry and served with distinction in a number of army posts. A fine athlete, he was selected to represent the U.S. Army on the U.S. pentathlon team at the 1912 Stockholm Olympics.

Young Patton was honored by an appointment to study at Saumur, the prestigious French cavalry school. On his return to the States, he attended the Mounted Service School at Fort Riley, Kansas (1913), then served as an instructor at the school from 1914 to 1916. In addition to his equestrian prowess, Patton was an expert swordsman and earned appointment as the army's Master of the Sword—a title specially created for him. He also composed the official saber manual for the service and designed the "Patton saber" still worn by army officers. In 1916, Patton was assigned to General John J. Pershing's Punitive Expedition against the Mexican revolutionary Pancho Villa and was promoted to captain at the conclusion of the assignment in 1917. Patton greatly admired Pershing, whom he regarded as *the* model military officer, and was thrilled to be appointed to his staff when Pershing led the American Expeditionary Force (AEF) to France in May 1917 after the United States entered World War I.

George S. Patton Jr. strikes a well-deserved pose as conqueror of Sicily, August 1943. *(Virginia Military Institute Archives)*

In Europe, Patton became the first American officer to receive tank training. He became an enthusiastic convert to the potential of armor and mechanized warfare generally. He learned all that he could from French and British armor commanders, then established the AEF Tank School at Langres, France, in November 1917. Promoted to temporary lieutenant colonel, then temporary colonel, he organized the 1st Tank Brigade, which he led in the assault on the Saint-Mihiel salient during September 12–17, 1918. In this critical engagement, Patton was seriously wounded, but he recovered

quickly and fought at Meuse-Argonne (September 26–November 11). Like most other U.S. Army officers, Patton reverted to his prewar rank on his return to the United States after the Armistice, but was soon promoted to major (1919) and given command of the grandiosely misnamed 304th Tank Brigade (it was really only a battalion), based at Fort Meade, Maryland. Here he did much to formulate, hone, and perfect the tactics of mechanized war during 1919–21.

Patton was posted to Fort Myer, Virginia, during 1921–22 and served with the 3rd Cavalry Regiment. In 1923, he graduated at the top of his class from the Command and General Staff School, then served on the Army General Staff from 1923 to 1927. From 1928 to 1931, Patton was chief of cavalry. After attending the Army War College, he was appointed executive officer of the 3rd Cavalry and promoted to lieutenant colonel in 1934. Returning to the general staff in 1935, he was promoted to colonel in 1937.

After commanding 3rd Cavalry from December 1938 to July 1940, Patton took over the 2nd Armored Brigade during July–November 1940. Promoted to temporary brigadier general on October 2, 1940, he moved up to acting commanding general of the 2nd Armored Division in November, an appointment that was made permanent on April 4, 1941, when Patton was promoted to temporary major general.

In command of the 2nd Armored Division, Patton distinguished himself in the massive war maneuvers conducted in Louisiana and Texas during the summer and fall of 1941, and, soon after U.S. entry into World War II, he was named commander of I Armored Corps (January 15, 1942). Patton was assigned to create and command the Desert Training Center at Indio, California, during March 26–July 30, 1942 in preparation for the North African campaign. Patton played a leading role in the final planning for Operation Torch (July 30–August 21), the Allied landing and invasion of North Africa, and he commanded the Western Task Force in landings there on November 8, 1942. Patton was named to replace Major General Lloyd R. Fredendall as commander of U.S. II Corps on March 3, 1943, after Fredendall encountered disaster against Panzer general Erwin Rommel at the Battle of Kasserine Pass. The American defeat there had greatly demoralized the army, and it was largely thanks to Patton that II Corps was transformed from a gun-shy and inefficient unit into a victorious force.

Patton was promoted to temporary lieutenant general on March 12, 1943, then days later, he turned over II Corps command to Omar N. Bradley. Patton next assumed command of I Armored Corps, which became the Seventh U.S. Army on July 10, 1943. He led this army with great boldness in Operation Husky and the rest of the Sicily Campaign from July 10 through August 17, beating British commander Bernard Law Montgomery by taking both Palermo and Messina.

Twice during his command in Sicily, Patton slapped and verbally abused soldiers suffering from battle fatigue. After these incidents were publicized, the American public as well as Patton's superiors were scandalized, and Patton, heretofore recognized as the most dashing, brilliant, and effective of American tacticians, was effectively banished from the front on January 22, 1944, and sent to England in disgrace, where he was temporarily sidelined. The planners of the upcoming Normandy landings (D-day) decided to use Patton's presence in England in a campaign of disinformation to mislead the Germans into thinking that he was going to lead an invading army to Pas de Calais (the most logical point of departure for an invasion) and not Normandy. Only after the initial landings was Patton given a new command, that of the Third U.S. Army, which had been created especially for him. Patton arrived in France with it on July 6, 1944.

It is for his leadership of the Third Army that Patton is remembered as one of the great heroes of World War II. He led the Third Army during Operation Cobra, the breakout from Normandy, and drove this force of nearly half a million men in a lightning advance across France through the summer of 1944, collecting retroactive promotions to brigadier general and to major general in the process. During a period of nine months and eight days, beginning on July 6, 1944, and ending with

the surrender of Germany, Patton's Third Army liberated or gained 81,522 square miles of France, 1,010 square miles of Luxembourg, 156 square miles of Belgium, 29,940 square miles of Germany, 3,485 square miles of Czechoslovakia, and 2,103 square miles of Austria. Some 112,000 cities, towns, and villages were liberated or captured, and 1,280,688 prisoners of war taken. At a cost of 160,692 casualties, killed or wounded, Patton's Third Army inflicted a total of 1,443,888 enemy casualties, including killed, wounded, and captured. As if this were not achievement enough, when the Germans launched their desperate surprise offensive in the Ardennes (December 16, 1944–January 1945), Patton performed a tactical miracle by wheeling the entire Third Army, exhausted from months of forced marching and battle, 90 degrees north and launching a bold counterattack into the southern flank of the German penetration. By this action, he relieved Bastogne on December 26, 1944, ended the Battle of the Bulge, rescued the besieged 101st Airborne Division, then positioned his army for its final push into Germany.

After encountering stiff resistance during January–March 1945, the Third Army crossed the Rhine at Oppenheim on March 22 and advanced into central Germany and northern Bavaria by April. Units reached Linz, Austria, on May 5 and Pilsen, Czechoslovakia, on May 6—even before the Germans surrendered.

With the war in Europe won, Patton's absence of political tact once again became a major issue. While serving as military governor of Bavaria, he acted in defiance of official denazification policies by retaining former Nazis in certain civil service and administrative positions. He did this, he explained, because no other qualified personnel were available. Allied authorities, however, yielded to public and diplomatic pressure and relieved Patton from command of the Third Army and from the governorship of Bavaria.

Although he desperately wanted to be sent to the Pacific to fight in the war against Japan, Patton was assigned to command the Fifteenth Army, which was essentially a "paper army," an administrative unit set up to collect records and compile a history of the war. On December 9, 1945, in a relatively trivial automobile accident near Mannheim, Patton sustained a severe injury. His neck broken, the general was paralyzed from the neck down. Pulmonary edema and congestive heart failure developed, and George S. Patton Jr. died on December 21, 1945.

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Paulus, Friedrich von (1890–1957)

commander of the German Sixth Army in the invasion of the Soviet Union

Paulus was born at Breitenau in Hesse, Germany, the son of a school administrator. His first military ambition was to become an officer in the Imperial German Navy, but when he was unable to secure a cadetship, he turned to the law instead, which he studied at Marburg University. In February 1910, he left the university to enter the 111th ("Markgraf Ludwig's 3rd Baden") Infantry Regiment as an officer-cadet. At the outbreak of World War I in August 1914, Paulus fought through September with his regiment (as part of the Seventh German Army) in the Battle of the Frontiers on the western front. He also served at Arras, France, following the Battle of the Marne during September-October. In November, illness sent him back home until 1915, when he returned to active duty with an assignment in the Alpenkorps—the mountain troops—as a staff officer. He fought in Macedonia during 1915. Promoted to Oberleutnant, he went with the Alpenkorps to the western front, fighting during June 23–30, 1916, at Fleury, and, from February to November 1916, in the Battle of Verdun. During April 9–17, 1918, Paulus fought in Erich Ludendorff's attack on the Lys and in the defense against the British Somme-Lys offensive as well as the Battle of Saint-Quentin during August 22–September 4.

By the armistice, Paulus was a captain in the Alpenkorps. He served between the wars in the Reichswehr, the small German military force authorized under the terms of the Treaty of Versailles, as a company commander in the 13th Infantry Regiment at Stuttgart from 1919 to 1921. Through 1934, he served in staff posts, then was assigned command of a motorized battalion. In 1935, he was assigned as chief of staff for the new Panzer headquarters, and in 1939, promoted to major general, he was named chief of staff for the Tenth German Army under General Walther von Reichenau. He was with the Tenth Army during the Blitzkrieg invasion of Poland (September 1–October 5, 1939) and remained with this army after it was redesignated the Sixth German Army in Holland and Belgium during May 10–28, 1940.

Paulus was one of the principal planners of Operation Sealion, the contemplated but never executed invasion of Britain. He was elevated to deputy chief of staff of the Operations Section of the German High Command (Oberkommando des Heeres, or OKH), a post in which he played an important role in planning Operation Barbarossa, the invasion of the Soviet Union.

In January 1942, Paulus replaced Reichenau as commander of the Sixth German Army and repulsed a Soviet offensive at the First Battle of Kharkov in February. He next led the Sixth German Army toward the Volga during June 28–August 23 and approached Stalingrad in late August. Uniting with elements of the Fourth Panzer Army, he began to slog out the battle for the city. But it was here that the Red Army decided to make its most resolute stand, and Paulus was unable to advance. He was plagued by tenuous and overlong supply lines—and by the worst Russian winter in decades. In November, the Red Army initiated a counteroffensive, which encircled the battered Sixth Army during November 19–23. Paulus became wholly dependent on Hermann Göring's promise to supply the isolated and starving Sixth Army by air. The promised support never materialized, and on January 15, 1945, when Adolf Hitler promoted Paulus to field marshal, awarding him the Oak Leaves grade of the Knights Cross, he and his army were clearly doomed. Nine days later, the last of the German wounded were evacuated by air. On February 2, Field Marshal Paulus surrendered the 91,000 survivors of his army to the Soviets.

Paulus was held under house arrest in Moscow until 1953, when he was released with 6,000 other long-incarcerated survivors of the Battle of Stalingrad. The Soviets permitted him to reside exclusively in East Germany. He developed a degenerative neuromuscular disorder soon after his release and died at a Dresden clinic two years later.

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Pearl Harbor, Battle of

At 6 a.m., local time, air forces of the Japanese Imperial Navy were launched in a preemptive surprise attack on the U.S. Navy's Pacific Fleet at Pearl Harbor, Hawaii. The attack was planned by Admiral Yamamoto Isoruko, despite his personal belief that it would provoke the United States to an all-out war against Japan. The Japanese intention was to begin the actual bombardment of Pearl Harbor immediately after a severance of diplomatic relations, to follow the anticipated collapse of negotiations with the United States over (among other things) a U.S. trade embargo against Japan and Japanese aggression in China; however, delays in communication between the Japanese government and its representatives in Washington, D.C., and time consumed in the laborious process of decrypting diplomatic communications meant that the attack began before the severance of diplomatic relations, let alone a declaration of war. This fact alone—an unprovoked "sneak" attack—did more than any other aspect of the Pearl Harbor operation to galvanize American political and popular resolve to strike back at Japan and bring about its total defeat.

Gun crew of the U.S. destroyer *Ward,* which sunk a Japanese midget submarine just before the Battle of Pearl Harbor *(National Archives and Records Administration)*

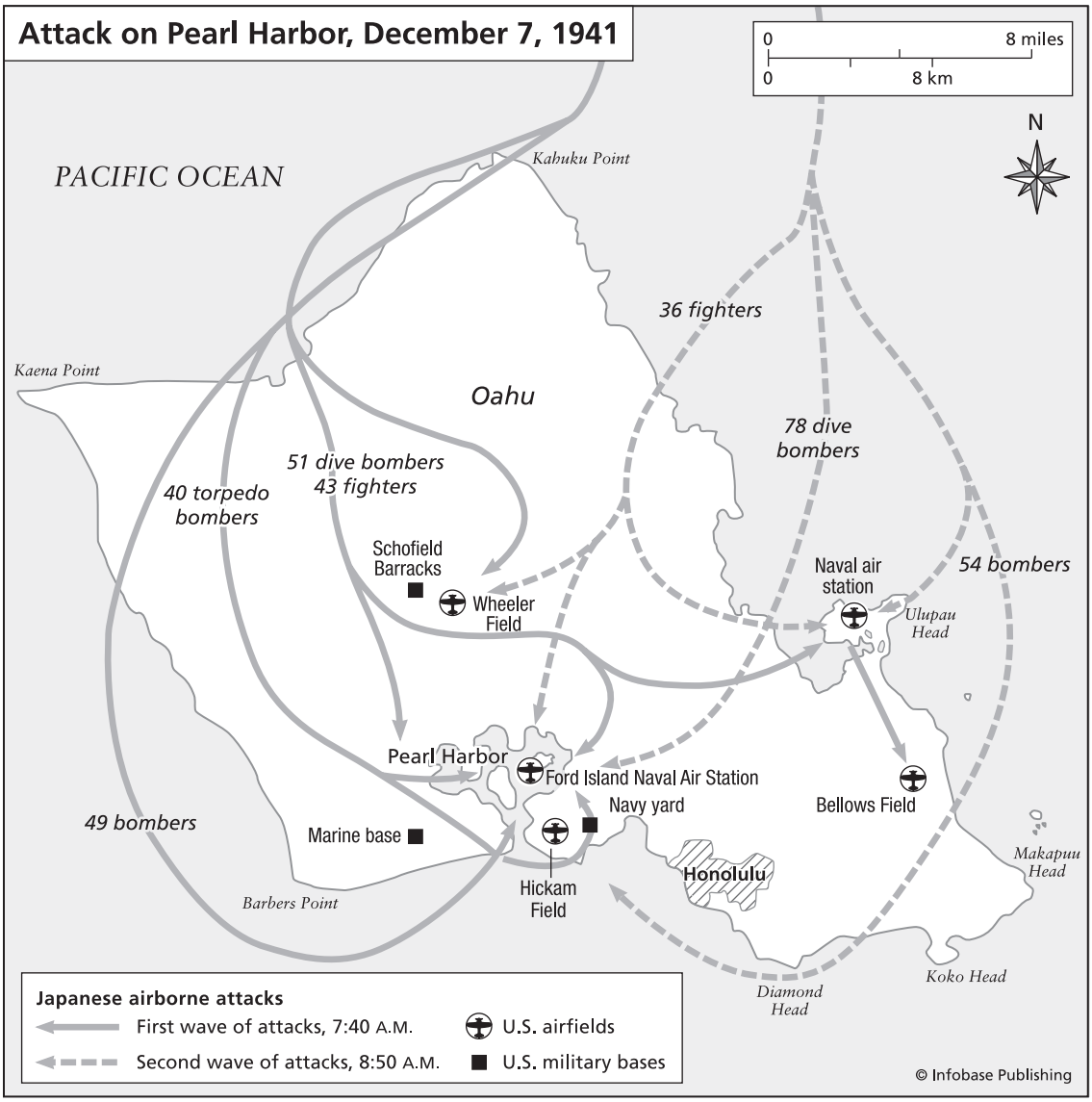
The Japanese striking force, led by Vice Admiral Nagumo Chuichi, consisted of two fleet carriers, two light carriers, a carrier that had been converted from a battleship, a carrier converted from a cruiser, two battleships, two cruisers, a screen of destroyers, and eight support vessels. This fleet departed the Kure naval base during November 10–18, observing throughout its voyage strict radio silence, which, in conjunction with decoy radio messages ("signals deception"), effectively prevented U.S. forces (in particular, Pacific Fleet commander Husband E. Kimmel) from determining the location of the Japanese striking force. Compounding the absence of intelligence was the failure of U.S. planners to anticipate a first strike against Pearl Harbor from Japan. They assumed that any Japanese attack would have to originate from the Japanese-governed Marshall Islands, the Japanese territory closest to Hawaii. With limited numbers of reconnaissance aircraft, Kimmel concentrated on patrolling the Marshalls, whereas Nagumo's striking force approached from the opposite direction, the north. Even more egregious was the American tendency to discount the likelihood of an attack on Pearl Harbor—from *any* direction. It was simply assumed that a Japanese first strike would be against the Philippines. There was, however, a fear that Japanese nationals and/or Americans of Japanese descent living in Hawaii would perpetrate acts of sabotage against the air and naval facilities at Pearl Harbor or that the harbor would fall prey to submarine attack. It seemed highly unlikely that the Japanese would mount an air assault—not only because of the distances involved, but because it was believed that the waters of the harbor were too shallow for torpedoes dropped by torpedo bombers. So confident were American planners that torpedoes could not be used at Pearl Harbor, that they neglected to employ torpedo nets to protect the fleet. Indeed, Pearl Harbor was too shallow for conventional torpedoes; however, after observing the successful British raid against the Italian fleet at the Battle of Taranto in 1940, the Japanese created a new type of torpedo designed to operate in shallow water. Another consequence of discounting an air attack was Kimmel's transfer of many of his P-40 fighters from Hawaii to Wake and Midway islands to provide cover for bombers being flown to reinforce the Philippines.

If an air attack seemed highly unlikely, sabotage loomed as a high-priority probability. For this reason, when Kimmel and his army counterpart, Lieutenant General Walter Short, received (along with all other major U.S. commanders) a war warning on November 27, Short put his troops on high alert—for sabotage. He communicated this to Washington and, receiving no reply, assumed that high command concurred with his understanding that the only likely threat was sabotage. This persuaded him not to stock his antiaircraft batteries with ready ammunition, and it further prompted him to order all U.S. Army Air Forces planes to be grouped together, wingtip-to-wingtip, so that they could be more easily guarded. This, of course, rendered them all the more vulnerable to air attack. For his part, Kimmel also made preparations chiefly to thwart saboteurs. Only every fourth navy machine gun was manned, and all ammunition was locked up to secure it from saboteurs. Antiaircraft batteries were unmanned, and no special air reconnaissance was ordered. About one-third of the fleet's captains

were ashore, along with many other officers, rather than standing by on their ships.

In the aftermath of the battle, most of the blame for the lack of vigilance and preparation at Pearl Harbor was directed at Kimmel and Short. To a significant degree, they were indeed culpable. But the failure at Pearl Harbor was also a symptom of failures at higher levels of command. Interservice rivalry, a lack of initiative and imagination, as well as general incompetence prevented key intelligence from being disseminated to the commanders in Hawaii.

The Japanese striking force rallied at Etorofu in the Kurile Islands on November 22. From here, on November 26, it sailed toward Pearl Harbor, taking advantage of the cover provided by a weather front,



Destroyer USS *Shaw* explodes during the Battle of Pearl Harbor. *(National Archives and Records Administration)*

which moved at approximately the speed of the fleet. The fleet took up its attack position just 275 miles north of Hawaii without being detected. From here, Nagumo launched his aircraft on December 7, 1941.

Nagumo's first wave consisted of 49 bombers, 40 torpedo bombers, 51 dive-bombers, and 43 fighters. This was followed by a second wave, made up of 54 bombers, 78 dive-bombers, and 36 fighters. As the weather had served the attackers for cover, so the clouds that shrouded Hawaii that morning suddenly parted to reveal the target with perfect clarity. To the Japanese, this seemed nothing less than evidence of divine intervention.

At 6:45 that morning, a U.S. destroyer on patrol attacked and sank a Japanese midget submarine as it tried to enter Pearl Harbor. As it turned out, this was one of several midget submarines (which had been deployed by larger I-type submarines) that Yamamoto intended to use to sink any ships that escaped the air attack. Although the submarine had been sighted three hours before its sinking, the U.S. destroyer skipper did not report its presence until it was sunk. Worse, the navy never passed on this report to the army. Thus a valuable opportunity for advance warning of the attack was lost. (In the end, the submarines—there were 16 I Types in all and numerous midget subs—failed to sink any American ships at Pearl Harbor.)

Between 6:45 and 7:00 A.M., the newly installed Opana Mobile Radar Unit made contact with a Japanese reconnaissance float plane and duly reported its presence. No action was taken on the report. Of three operating radar, two were shut down at 7:00 A.M. so that the operators could eat breakfast. The truck delivering breakfast to the third set of operators was late, so they continued operating their single radar, which detected the approach of the carrier aircraft of the first wave. The operators reported this but did not specify the number of aircraft detected. As a result, the duty officer who received the report assumed the targets were a flight of USAAF B-17 bombers, whose approach was expected. Yet again, advance warning of the impending attack was ignored.

The first wave of Japanese aircraft initially homed in on Pearl Harbor by following the signal of commercial radio broadcasts from Honolulu, then, as they neared their target, the pilots followed a bombing grid drawn up by the Japanese consul general stationed in Honolulu. Moored in the harbor that sleepy Sunday morning were 70 U.S. warships, including eight battleships and 24 auxiliaries. As luck would have it, the heavy cruisers and fleet carriers were at sea.

The first wave of torpedo and dive-bombers attacked the battle fleet and bombed and strafed the airfields from 7:55 to 8:25. Fifteen minutes after this, high-level bombers attacked. At 9:15, the dive-bombers of the second wave attacked, withdrawing at 9:45. In all, some 360 Japanese planes were involved in the operation. The toll they took was terrible: the battleship *Arizona* was completely destroyed and the *Oklahoma* capsized; the battleships *California, Nevada,* and *West Virginia* sank in shallow water. Three cruisers, three destroyers, and four other vessels were damaged or sunk. One hundred sixty-four aircraft were destroyed on the ground and another 128 were damaged. Casualties included 2,403 service personnel and civilians killed and 1,178 wounded. Japanese losses amounted to 29 aircraft and 6 submarines—one I-Type and five midget subs.

Except for the unanticipated absence of the U.S. carriers and heavy cruisers, the attack succeeded beyond Japanese expectations, but Nagumo, an overly cautious commander, decided against launching a third wave of aircraft, because he feared a counterattack. If the third wave had concentrated on the base's repair facilities and fuel installations, Pearl Harbor could have been knocked out of the war for a long time, if not permanently. As it was, the base returned to service quickly. As for the fleet's losses, they were severe but not fatal. The damaged battleships were repaired, and those that had sunk in shallow water were later refloated, so that six of the eight battleships attacked at Pearl Harbor eventually returned to service, along with all but one of the other ships sunk or damaged. There was, however, no salvaging the careers of Kimmel and Short, both of whom soon resigned.

Many commentators have described the attack on Pearl Harbor as a spectacular tactical victory for Japan, even as it was a monumental strategic blunder that, in provoking a great industrial power to a massive and united war effort, ensured Japan's ultimate defeat.

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Peenemünde (V-1 and V-2 base)

Peenemünde is a village on the Baltic island of Usedom in northeastern Germany. During World War II, it was the site of German rocket research on the so-called V-weapons, the V-1 BUZZ BOMB and the V-2 ROCKET, conducted by the Heeresversuchsanstalt, the organization created in 1937 to study and implement rocket development. Before 1937, the lead German rocket scientist, WERNHER VON BRAUN, had been working at Kummersdorf, near Berlin, but facilities there proved too small for test-firing.

At Peenemünde, both before and during the war, the foundations of practical rocketry were laid and two weapons produced, the V-1 and the V-2. The V-1 was test-fired early in 1942, and the V-2 test-fired on October 3, 1942. Peenemünde scientists also developed advanced night-navigation and radar systems.

Peenemünde was the target of a number of Allied bombing raids, the biggest of which was a night attack by nearly 500 RAF heavy bombers during August 16–17, 1943. The raid prompted the Germans to move V weapons production into hardened underground bunkers.

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Peiper, Joachim (1915–1976) *German SS commander associated with the Malmédy Massacre*

Joachim Peiper was recruited out of college by the WAFFEN SS and was soon serving in the elite Liebstandarte-SS ADOLF HITLER division. Peiper was a born military leader who achieved the rank of colonel before he turned 30. He was a very able armor tactician.

During the Soviet campaign, Peiper's command was dubbed the "Blowtorch Battalion" because it compiled a record of great savagery, including against civilians. During the BATTLE OF THE ARDENNES (BATTLE OF THE BULGE), all German units were explicitly ordered to fight with the utmost brutality. In particular, they were instructed to take no prisoners, lest this slow the German advance. Peiper was singled out even among the general horror for the MALMÉDY MASSACRE, the machine-gun murder of 86 U.S. POWs. Although this was the most notorious of the atrocities com-

mitted by Peiper's SS unit, it was hardly an isolated incident. These same troops had cut down 19 disarmed American prisoners at Honsfeld. After Malmédy, the unit executed 50 Americans at Büllingen.

After the war, Peiper was tried with others for the Malmédy Massacre. Found guilty, he was sentenced to death. The sentence was later commuted to life imprisonment, then reduced. After serving 11 years in prison, Peiper was paroled in December 1956. He spent the rest of his life in France as a translator and was killed when his home was firebombed in July 1976. No one was ever apprehended for the fire bombing, and no individual or group claimed responsibility for it; however, it is generally believed that the attack was in retaliation for the atrocities committed under Peiper's command.

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Peirse, Richard (1892–1970) *British air marshal*

Richard Peirse was born in Croydon, England, the son of a Royal Navy admiral. From King's College, London, he enlisted in the Royal Flying Corps during World War I and was decorated with the Distinguished Service Order in 1915. He flew on the western front as well as at Gallipoli and in Italy.

After World War I, Peirse joined the newly created Royal Air Force (RAF) and rose to command British forces in Palestine and Transjordan (modern Jordan) from 1933 to 1936. In 1937, he was promoted to vice air marshal and named director of Operations and Intelligence in the Air Ministry. Concurrently, he also served as deputy chief of Air Staff. Peirse was elevated to command of Bomber Command in October 1940, but failed to produce results sufficient to satisfy Charles Portal, air chief of staff. In January 1942, Portal replaced Peirse with J. E. A. Baldwin. Peirse was given command of the Allied air forces in Southeast Asia. Friction with Louis Mountbatten, supreme commander of the theater, resulted in his resignation in November 1944. With the end of the war, Peirse retired from the RAF, holding the rank of air marshal.

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Peleliu, Battle of

In the U.S. Pacific campaign, military planners saw the Japanese-held islands as so many stepping stones leading toward the Philippines and Japan. Following American triumphs in the Mariana Islands campaign and the Battle of the Philippine Sea, Admiral Chester Nimitz targeted the Palau Islands in the western Carolines. Take these, and U.S. forces would be ready to launch against the Philippines.

The U.S. Marines' III Amphibious Corps (under the temporary command of Julian Smith) was poised by September 1944 to invade Peleliu and the smaller island of Angaur just to the south. Peleliu was only six miles long and two miles wide, but it was garrisoned by more than 10,000 Japanese troops (under Inoue Sadae), who were lodged in some 800 highly fortified caves and other strong points. Their defenses were largely interconnected by tunnels.

Marines at Peleliu *(National Archives and Records Administration)*

The 1st Marine Division (William Rupertus) landed in southwest Peleliu on the morning of September 15 following an intensive air and naval bombardment. The dug-in Japanese held on for four days before this corner of the island, which included the airfield, was taken. Having accomplished this, the marines directed their attack to the north and began an advance up the island. From Japanese positions on Umurbrogol Mountain (dubbed Bloody Nose Ridge by the marines) came heavy artillery fire as well as intense small-arms fire. This was sufficient to arrest the marines' advance.

While the marines were thus engaged, the army's 81st Infantry Division (Paul Mueller) landed at Angaur Island on September 17. This smaller island was garrisoned by about 1,400 Japanese soldiers, who resisted for three days before most of the Angaur was secured—even at that, some resistance continued through October 13.

In the meantime, Roy Geiger, permanent commander of III Corps, resumed his command and sent the 321st Regiment to Peleliu, while the 323rd occupied Ulithi unopposed. On September 24, the 321st augmented the ongoing marine attack by hitting Bloody Nose Ridge from the west, so that, within three days, the Japanese position here had been encircled. On October 15, General Mueller assumed command of operations on Peleliu as the 321st reduced resistance at Bloody Nose Ridge practically on an inch-by-inch basis. Later, the 323rd Regiment joined the 321st, but, even thus augmented, it was November 25 before the Japanese defenders were wiped out here.

Peleliu and the associated battles exacted the highest casualty rate of any amphibious assault in American history: a staggering 40 percent.

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Percival, Arthur (1887–1966) *British general who surrendered Singapore*

Percival was born in Aspenden Lodge, Aspenden near Buntingford, Hertfordshire, England. His father was the land agent of the Hamel's Park estate, and his mother belonged to a prosperous Lancashire cotton family. Educated locally and at Rugby, Percival enlisted as a private during World War I. He rose to the rank of captain by October 1916 and compiled a superb combat record. By the beginning of World War II, he was a brigadier general. After the Dunkirk evacuation, he was assigned to protect the English coast in anticipation of a German invasion, then in the spring of 1941, he was promoted to acting lieutenant general and named general officer commanding British forces in Malaya.

Percival had fewer than three divisions in Malaya. He called for six more to be sent to him, but no additional forces could be spared. During the night of December 7, 1941, Japanese forces landed at Kota Bharu—a feint to draw attention from the main assault landings at Singora and Patani on the northeast coast of the Malay Peninsula on December 8. Two days later, the *Prince of Wales* and *Repulse* were sunk by Japanese aircraft off the Malayan coast, thereby giving the Imperial Japanese Navy control of the sea, enabling it to supply an invading force.

Percival ordered a general retreat across the Johore Strait to the island of Singapore on January 25, 1942. On February 8, 13,000 Japanese troops landed in northwest Singapore. On the 9th, 17,000 more landed on the west. Percival retreated to the southern tip of the island, but surrendered on February 15. He turned over 138,000 soldiers to the much smaller but better equipped and better supported Japanese force. It was a staggering humiliation for British arms. Percival and his troops were held as prisoners throughout virtually the entire war. As far as Prime Minister Winston Churchill and many other Allied officials were concerned, Percival was chiefly to blame for the ignominious defeat; however, he suffered no official censure and was present at the Japanese surrender aboard the USS *Missouri* on September 2, 1945. In 1949, he published his memoir, *The War in Malaya.*

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Pétain, Henri-Philippe (1856–1951) *French hero of World War I who headed the Vichy government after the fall of France*

Pétain was born in Cauchy-à-la-Tour, Pas-de-Calais, France. Although his background was that of a peasant, he showed such early promise that he was enrolled at Saint-Cyr, the French military academy, where he excelled. In 1876, he was commissioned an officer of the *chasseurs alpines* (mountain troops) and began a slow rise through the ranks. In 1906, he was appointed to the faculty of the École de Guerre, where his conservative and methodical approach to strategy and tactics, which emphasized the importance of defense and the exploitation of artillery firepower, put him at odds with prevailing war policy, which advocated a vigorous offensive. This was sufficient to retard Pétain's career, and at the outbreak of World War I in August 1914, he was no more than a colonel, commanding the 33rd Regiment.

In combat, Pétain quickly distinguished himself, achieving promotion to brigadier general within the first month of the war. His performance at the Battle of the Marne (September 4–10) earned him promotion to general of division, and by October 25 he was in command of XXXIII Corps in Artois. In June, he rose to command of the Second Army, and in February 1916, when the physically and symbolically crucial fortress of Verdun was under heavy attack, it was upon Pétain that France called. In response, he pronounced the phrase that made him a popular hero of the war: *"Ils ne passeront pas!"*—"They shall not pass!"

Pétain's fierce defense against the long siege of Verdun was costly to the French as well as to the Germans, but it was a victory. Nevertheless, it was a victory of defense—and that did not sit well with high command. The aggressive Robert Nivelle was effectively jumped ahead of Pétain, but when Nivelle failed disastrously in his Chemin-des-Dames offensive, Pétain was called in to relieve him and to assume supreme command of all the French armies.

Pétain's first crisis was a mass mutiny of the war-weary ranks. He vigorously prosecuted the ringleaders of the mutiny, even as he sought to act swiftly to address the soldiers' grievances, enacting reforms to humanize the French army and improve the treatment of the common soldier. By the end of the war, Pétain was elevated to marshal of France and in 1920 was appointed vice president of the Supreme War Council. In 1922, Pétain was made inspector general of the army, then, after retiring from the army, he served as minister of war during the brief government of Gaston Doumergue in February–November 1934.

Through the 1930s, Pétain became increasingly disdainful of liberalism and turned to advocacy of autocratic government. He was appointed ambassador to Spain in March 1939, but was recalled to France in May 1940 during the Battle of France. By this time, Marshal Pétain was an old and tired man, perhaps verging on senility. Nevertheless, French President Albert Lebrun decided to call on the hero of Verdun to save France once again. He asked Pétain to form a new government, and on June 22, 1940, as titular head of that government, Pétain negotiated an armistice with Germany.

Pétain was given emergency powers that made him, in effect, a dictator. He resolved to retain for himself and for France as much independence from German domination as possible, and in December 1940 he went so far as to dismiss Pierre Laval, the unabashedly collaborationist foreign minister who had been instrumental in bringing Pétain to power in the first place. Yet it was a losing battle. Increasingly, Pétain was forced to be little more than a puppet of the Reich, and he was well on his way to being remembered as the man who sold out his nation to the Nazis.

Under unrelenting German pressure, Pétain repeatedly yielded, even recalling Laval to office in 1942. In November of that year, the Germans occupied Vichy, the seat of the Pétain government, and in August 1943, they arrested Pétain himself, eventually interning him in Germany.

Pétain was returned to France in April 1945, just before the German surrender. Tried for treason, he was found guilty and sentenced to death. Charles de Gaulle, as provisional president of the republic, chose to remember the heroic Pétain under whom

he had served during World War I. De Gaulle commuted the sentence to life imprisonment, and Pétain was incarcerated in a fortress on Île d'Yeu. After he fell ill, he was transferred to a villa at Port-Joinville, where he died on July 23, 1951.

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Philippine Constabulary

The Philippine Constabulary was created in 1901 by U.S. administrative authorities as one of the Philippines' two national police forces. In 1935, under the Philippine National Defense Act promulgated by Douglas MacArthur, who was serving as head of the Philippine military, the Philippine Constabulary was reconstituted as the core of the Philippine Regular Army, which MacArthur was in the process of organizing.

As MacArthur shaped it, the Philippine Constabulary was modeled after the U.S. Army as a small, professional force of about 10,000 regulars who, in time of war, were to function as the nucleus around which a reserve force would be mustered. MacArthur planned for a total strength, as augmented by mobilized reserves, of about 400,000 men. The constabulary was nowhere near this size at the outbreak of World War II; however, it functioned well and in close cooperation with the U.S. Army when the Japanese invaded. After U.S. forces withdrew or were captured, constabulary troops retreated into the jungles and hills, from which they fought a continuous guerrilla action against the Japanese invaders until the Philippines were liberated in 1945.

See also Philippines, fall and reconquest of.

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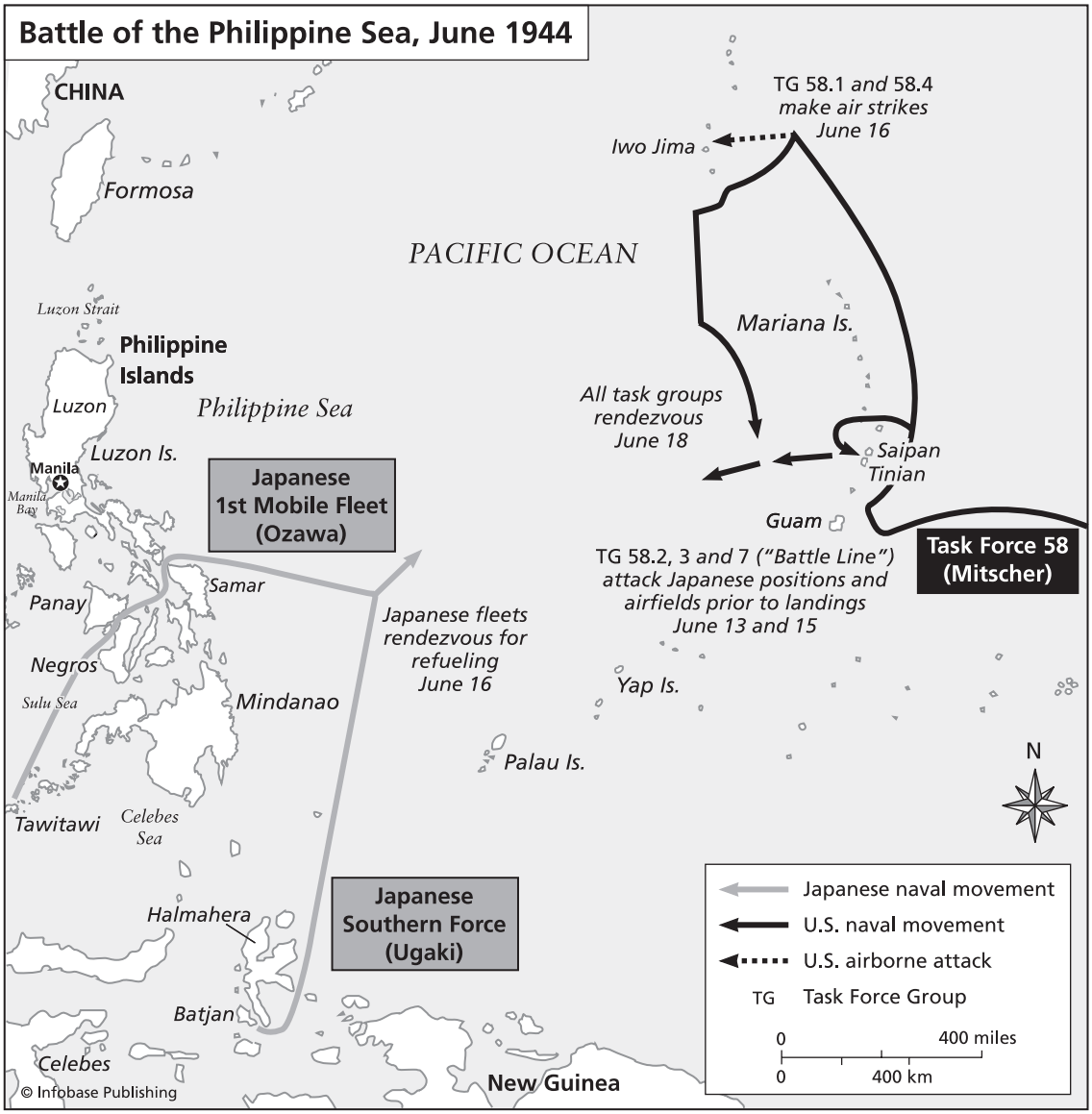
Philippine Sea, Battle of the

The U.S. invasion of the Marianas in the Mariana Islands campaign, beginning on June 15, 1944, lured the Japanese fleet into a fight for the first time since the naval battles that had accompanied the Guadalcanal campaign during the autumn of 1942.

Japanese admiral Toyoda Soemu was desperate to force a make-or-break battle and therefore committed a force of nine aircraft carriers and 18 battleships and cruisers against the American ships covering the landings during the Battle of Saipan. To counter Toyoda, U.S. admiral Raymond Spruance, commanding the Fifth Fleet, dispatched 15 fast carriers of Task Force 58 (under Marc Mitscher) to meet and intercept the Japanese attack fleet when it was still some 90 miles distant from Saipan. The result was the Battle of the Philippine Sea, between the Marianas and the Philippines.

The battle commenced on June 19, 1944, when Japanese land-based planes launched from Guam and Truk hit Task Force 58. Mitscher launched his carrier-based Hellcats, which shot down 35 Japanese fighters and bombers. The air battle continued, pitting some 430 Japanese carrier-based planes against 450 U.S. aircraft over the course of eight hours. In the end, all but 100 of the Japanese aircraft were lost. U.S. aviators dubbed their victory the "Great Marianas Turkey Shoot," and it is considered the most decisive air combat of World War II—perhaps even in the entire history of aerial combat. Only 30 U.S. aircraft were lost, and damage to the ships of the Fifth Fleet was inconsequential. During the air combat, a pair of American submarines managed to slip through the screen protecting the Japanese carriers. Firing a single torpedo, the USS *Albacore* sank the 33,000-ton *Taiho,* Japan's largest aircraft carrier, with the loss of 1,650 Japanese sailors and airmen. USS *Cavalla* fired three torpedoes into the 22,000-ton carrier *Shokaku,* sinking it.

During the night of June 19, the surviving ships of the Japanese fleet withdrew to the northwest as U.S. carriers gave chase. After nightfall on June 20, Mitscher launched a new attack of 209 aircraft against the fleeing Japanese some 300 miles away.



This attack sank the aircraft carrier *Hiyo* and shot down 40 of the 75 Japanese planes launched against the attackers. The cost to U.S. fliers was 20 aircraft shot down and another 80 lost while attempting to return to their aircraft carriers in the dark. Although, then 100 aircraft were lost, 51 pilots were rescued.

The Battle of the Philippine Sea ended on the night of June 20. The cost to the Japanese was staggering and irrecoverable. Although six aircraft carriers escaped destruction, the vast majority of Japan's veteran aviators had been killed and their aircraft lost. As for the U.S. landings at Saipan, they continued unhindered.

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Philippines, fall and reconquest of

No objective in the Pacific was more hotly or intensively contested than the Philippine Islands. At the outbreak of the war, the Japanese targeted the Philippines, beginning with Luzon, the largest and most important island in the Philippine archipelago, in an invasion assault launched on December 8, 1941.

On Luzon, U.S. general Douglas MacArthur commanded the bulk of the U.S. Far East forces: about 11,000 U.S. soldiers and marines, 8,000 U.S. Army Air Force personnel, 12,000 Filipino Scouts (who were incorporated into the regular U.S. Army), and more than 100,000 other Filipino troops—most of whom were untrained and either poorly equipped or altogether without arms. Manila Bay was a major U.S. Navy facility and home to the U.S. Asiatic Fleet under Admiral Thomas Hart. Army Air Forces assets on the Philippines were not extensive. Major General Lewis Brereton had about 275 aircraft, but many were obsolete—except for 35 B-17s and 107 P-40s.

Although MacArthur and his command had received a war warning from Washington and were on a war footing, they were taken by surprise when the Japanese aircraft raided the principal air base, Clark Field, about noon on December 8. The attack was devastating, destroying on the ground 15 of 17 B-17s parked here. Under cover of darkness, Admiral Hart steamed out of Manila Bay and sailed south to Borneo to protect his ships from the Japanese bombers. This saved the fleet, but left the Philippines largely without naval assets.

The invasion proper began on December 10, two days after the initial raids, when 4,000 men landed at Aparri and Vigan, at the northern end of Luzon. A second landing was made on December 14, at Legaspi, on the southern end of the island. These were pilot or probing attacks intended to assess U.S. defenses. The principal invasion assault came on December 22, when 43,000 men of General Homma Masaharu's Fourteenth Japanese Army landed at Lingayen Gulf on Luzon's west coast, 125 miles north of Manila. Thanks to the early raids, Homma enjoyed total air superiority and quickly linked up with the first invaders who had landed at Aparri and Vigan. The link-up completed, he advanced southward toward Manila, the islands' capital.

Overwhelmed by the assault, MacArthur ordered U.S. and Filipino forces to withdraw to the Bataan Peninsula on December 23, on Luzon's west coast, between Manila Bay and the South China Sea. Under the circumstances, it was the only viable move. On December 24, another 9,500 Japanese troops landed at Lamon Bay, 60 miles southeast of Manila, which, with Homma's massive force pushing in from the north, placed Manila in a vise from which there would be no escape.

Japanese planners believed that the conquest of the Philippines would be rapid and relatively easy; however, MacArthur's troops made a fighting withdrawal, which proved very costly to the invaders and bought time for the general withdrawal, largely intact, to Bataan. In the meantime, from December 24 to December 26, Manila was subject to intensive air raids, prompting MacArthur to abandon its defense and declare it an open city in the hope that it would be spared further destruction. That hope proved forlorn—as the Japanese, who occupied Manila on January 2, 1942, treated the city and its citizens with utmost brutality.

The principal U.S.-Filipino force, under Lieutenant General Jonathan Wainwright, and the smaller southern force unit (under George Parker, later replaced by Albert Jones) completed their withdrawal to Bataan by January 1, 1942. MacArthur saw to the destruction of the bridges over the Pampanga River, to slow the Japanese advance, and he and Philippine president Manuel Quezon set up their headquarters on Corregidor Island, a hardened natural fortress known as "the Rock," off the southern coast of Bataan. Although many would criticize MacArthur's poor preparation for the

invasion, the massive withdrawal was a brilliant feat, which greatly frustrated the Japanese and substantially delayed all their offensive operations. With combat losses and desertions (mainly from the Philippine army), casualties amounted to 13,000, leaving MacArthur about 80,000 troops, whose most immediate problem, besides holding out against incessant Japanese bombardment and shelling, was a shortage of food, ammunition, and equipment.

In the meantime, the invasion continued. During the initial phase of the Luzon assault, 5,000 Japanese troops were diverted to landings on Mindanao, at the southern end of the archipelago, on December 20. These invaders took the important port of Davao, then advanced south to Jolo Island and North Borneo. This action severed communication between the Philippines and the Allied base in Australia. Aside from this, however, the Luzon defenders repeatedly frustrated further conquest.

MacArthur held out hope that major reinforcements would be dispatched to the Philippines. This was deemed impossible by U.S. military planners, however, and President Franklin D. Roosevelt personally ordered MacArthur to evacuate with his family to Australia. This he did on March 11, 1942, leaving Wainwright in overall command and instructing him not to surrender. Wainwright stayed on Bataan for another month, but on April 10, he deemed the U.S.-Filipino position to be untenable and evacuated his remaining troops to Corregidor. The invaders now overran and occupied all of the strategic coastal positions throughout the Visayan Island group in the central Philippines.

Under continual bombardment and with his troops near starvation, Wainwright held out on Corregidor until May 6, when he finally surrendered. Four days later, on May 10, Major General William Sharp surrendered his troops on Mindanao. A guerrilla force under Colonel John Horan, which had withdrawn to the mountains of northern Luzon, gave up on May 18. With this, the Philippines was turned over to the Japanese.

The Japanese occupiers never had an easy time of it. Continuous Filipino and American guerrilla activity—from units that had refused to heed the order to surrender—harassed the occupation forces, tying down large numbers of troops. These guerrillas also served important intelligence functions, continually supplying information to Allied commanders operating in the region.

When MacArthur, having left the islands, reached the safety of Australia, he broadcast the famous pledge, "I shall return." While various resistance groups continued to fight, the occupiers treated the Philippine population with the utmost brutality. When, in July 1944, as the Allies steadily closed in on the Japanese homeland, Admiral Ernest J. King, chief of naval operations, proposed accelerating the campaign by bypassing the Philippines to attack Formosa directly. MacArthur, aching to make good on his pledge of 1942, objected, arguing not only that the Philippines were strategically critical, but that the United States was morally obligated to liberate the Filipino people. Roosevelt agreed, and the recapture of the Philippines became a major objective of the Pacific war.

In September, U.S. aircraft launched from aircraft carriers bombed Japanese airfields in central Luzon, damaging or destroying some 400 Japanese aircraft. Within a short time, the Americans claimed air superiority—although not air supremacy. By the middle of the following month, MacArthur supervised the assembly of a massive amphibious force east of the Visayan Islands to invade Leyte. Ultimately, the force consisted of more than 700 ships, hundreds of aircraft, and about 160,000 men. A naval barrage commenced at dawn on October 20, 1944, followed at 10 a.m. by the landing of four divisions. Initial resistance was light, and the troops secured both a beachhead and an airstrip by nightfall. This allowed for the landing of more troops and equipment and for the expansion of the beachhead.

In the meantime, on October 24, U.S. and Japanese ships fought the Battle of Leyte Gulf, the biggest naval battle in history. It was a desperate Japanese bid to destroy the U.S. fleet covering the invasion and thereby cut off the landed troops; however, the Japanese were decisively defeated, all but ensuring the success of the U.S. liberation effort.

As usual, despite suffering major reversals, the Japanese refused to give up. General YAMASHITA TOMOYUKI, who had recently assumed command of the Japanese forces in the Philippines, reinforced Leyte with 50,000 troops and summoned aircraft from Japan and Formosa. With these fresh forces, he attacked U.S. positions throughout Leyte. Instead of responding with mere defense, MacArthur landed more troops, at Ormoc, on the west coast of the island. This unexpected move outflanked Yamashita's newly arrived forces, splitting them in two. For all intents and purposes defeated, the Japanese nevertheless fought to the death. Some 80,000 Japanese died within the space of weeks. U.S. forces took fewer than 1,000 prisoners.

Leyte was secured by the end of December. The next objective was Luzon, across the San Bernardino Strait. MacArthur first dispatched a task force to Mindoro, quickly capturing it, along with airfields that would be invaluable for operations against Luzon. MacArthur planned to surprise Yamashita by circling to the north rather than attacking directly from the south, as he assumed Yamashita expected. In fact, brilliant Japanese reconnaissance detected MacArthur's maneuver, but, outgunned by the U.S. fleet, the Japanese were unable to interdict the advance, and the U.S. landings proceeded.

Essentially, MacArthur's forces recapitulated what the Japanese had done in 1941–42. Whereas the Americans had given up Manila, however, Yamashita defended it fiercely in a month-long battle, which razed much of the city. It was March 3, 1945, before Manila was liberated—a city largely reduced to ashes. The Battle of Manila cost about 1,000 American lives and 16,000 Japanese. Filipino casualties—mostly civilian—amounted to at least 100,000.

Simultaneously with the Battle of Manila, U.S. forces carried out the grim work of eradicating Japanese resistance on Bataan and Corregidor, a bloody slog that was not completed until the end of February 1945. Sporadic fighting continued through the very end of the war. Although the islands were declared secure by June, holdouts continued to resist through August.

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Phony War

"Phony War" was a term coined by U.S. newspapers to describe the period of relative military inactivity that followed the Anglo-French declaration of war against Germany on September 3, 1939, after Nazi Germany's INVASION OF POLAND. British Prime Minister WINSTON CHURCHILL called it the "Twilight War," and the British man in the street often referred to it as the "Bore War." The French referred to the period as *la drôle de guerre,* and the Germans as *Sitzkrieg,* a play on "blitzkrieg."

The Phony War was essentially a period of Allied timidity and inactivity, during which Hitler completed his BLITZKRIEG campaign against Poland, which Britain and France had been obligated by treaty to defend (but did not). Only the BATTLE OF THE ATLANTIC, destined to span almost the entire war, was hot during the balance of 1939. Most historians deem the German NORWEGIAN CAMPAIGN, which began on April 9, 1940, as the end of the Phony War.

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pillbox

In World War II, a pillbox was a small, low fortification housing antitank weapons, machine guns, and the like. The pillbox was usually made of concrete or steel or of steel-reinforced concrete; however, improvised pillboxes might be made of nothing more than filled sandbags. Pillboxes were intended to provide cover and blast protection; they were not intended for long-term occupation—they were not miniature forts—and offered no living accommodations.

The term "pill-box" (the word was often hyphenated in World War II), first used in World War I, referred to the shape of the typical pillbox structure: circular or octagonal and always low and flat, suggesting the shape of a tin box commonly used to contain pills.

Pillboxes were employed extensively in the European theater of the war as well as by the Japanese on some Pacific islands. A network of pillboxes was rapidly constructed in England in anticipation of a German invasion.

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Pius XI (1857–1939) *pope who made controversial prewar agreements with Benito Mussolini and Adolf Hitler*

Born Ambrogio Damiano Achille Ratti in Desio, Lombardy, Pius XI was pope from 1922 to 1939. His pontificate coincided with the rise to power of Benito Mussolini, with whom Pius XI concluded the Lateran Treaty on February 11, 1929, by which the Italian government recognized the sovereign existence of Vatican City in return for the papacy's recognition of the kingdom of Italy and its pledge that the pope and the Vatican would remain neutral in all military and diplomatic conflicts of the world. Further, by the Lateran Treaty, Pius agreed that no pope would intervene in Italian foreign affairs as a head of state—although he might voice an opinion as head of the church. Pius also concluded a concordat at this time, acknowledging the validity of church marriage in Italy, providing for compulsory religious instruction for Catholic schoolchildren, and declaring Roman Catholicism Italy's exclusive state religion. In 1933, Pius XI concluded an agreement with the Nazi German government of Adolf Hitler, seeking to protect the rights of German Catholics.

Although some historians have viewed Pius XI's agreements with Mussolini and Hitler as improper and even craven, his intentions clearly seem to have been to preserve peace and promote tolerance. During 1933–36, Pius repeatedly protested Third Reich ethnic and racial policies, and beginning in 1938, when Mussolini also introduced policies of racial supremacy into fascist life, Pius protested.

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Pius XII (1876–1958) *pope during World War II*

Born Eugenio Maria Giuseppe Giovanni Pacelli in Rome, Pius XII reigned as pope from 1939 to 1958, leaving behind a heritage of controversy over his conduct of church policy during the war.

Ordained in 1899, Pacelli rose rapidly through the Church hierarchy and was an archbishop by 1917, when he was sent as a papal nuncio to Bavaria to negotiate a concordat with the Bavarian government, recognizing certain rights of the Church. From 1925 to 1929, he served as nuncio in Berlin, then returned to the Vatican, where he served as papal secretary of state until his elevation to the papacy. Clearly, Pius XII came to the throne with a background as a papal diplomat, his business having been the negotiation of concordats, which guaranteed the Church its traditional rights even in nations ruled by regimes whose policies and actions ran counter to Christian principles.

Under Pius XI, Pacelli's brother, an attorney, was instrumental in hammering out the concordat and Lateran Treaty with Benito Mussolini. Pius XII believed he could come to similar accommodations with Adolf Hitler's Germany. Indeed, Pius XII was not only a fluent German speaker, but a great admirer of the German people and German culture. He was eager to come to terms with Hitler, not just to protect the Church, but out of his admiration for Germany.

As secretary of state under Pius XI, he fashioned the 1933 concordat with Hitler's regime, which, he later said, was a compromise intended to preserve some modicum of Catholic life in what had become a hostile society. While many have seen the concordat as an unacceptable bargain with the devil, it is also true that, again as secretary of state, he was instrumental in composing the anti-Nazi encyclical *Mit brennender Sorge* ("With Burning Sorrow") issued by Pius XI in 1937. Also as secretary of state, he wrote frequent protests to the German government and openly reproached the Austrian cardinal Theodor Innitzer for his passivity during the *Anschluss*. It must also be observed that Pacelli voiced disapproval of the Appeasement Policy in general and of the Munich Conference and Agreement in particular. He exercised his influence in an attempt to keep Italy neutral as war came to seem increasingly inevitable.

Once war broke out, Pacelli—now Pius XII—cleaved to the neutrality pledged in several concordats. He largely refrained from protesting Nazi and fascist persecution, and—critics have pointed out—was most profoundly silent on the subject of the Holocaust. While apologists claim that Pius XII covertly aided Catholic activists who attempted to shield Jews or aided in their evacuation and further point out that any overt protest would merely have resulted in the persecution of Catholics, the most severe critics of Pope Pius XII suggest a degree of complicity in Nazi persecution and even excoriate Pius as "Hitler's pope."

Pius XII and the Catholic Church survived World War II, Pius reigning until his death in 1958. While most of the world mourned respectfully on that occasion, there was little enthusiasm associated with this pope's memory, his papacy forever clouded by compromises (for better or worse) with absolute evil.

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Ploeşti raid

Located north of Bucharest, Romania, Ploeşti supplied perhaps 60 percent of Germany's crude oil during World War II. Additionally, the city's 40 refineries turned out about 400,000 tons of gasoline yearly. Its strategic importance was not lost on the Allies.

On June 23, 1941, Soviet bombers attacked Ploeşti. A year later, on June 12, 1942, a dozen U.S. bombers raided it. A year after that, on August 1, 1943, came the largest and most famous raid, by 178 B-24 Liberators of the Ninth U.S. Army Air Force.

By the time of the 1943 raid, Ploeşti was among the most heavily defended targets in Europe. The mission depended on the element of surprise, which was compromised because the Germans had intercepted Ninth Air Force radio traffic and had cracked the cipher used. Worse, the two principal pathfinder navigators were shot down en route to the target, and this created great confusion. Despite all the setbacks, the raid was pushed forward and destroyed 42 percent of Ploeşti's production capacity. The cost, however, was staggering: 54 bombers were lost, 41 of them shot down. Among the crews, 532 men became casualties, killed, wounded, or taken prisoner. The raid occasioned the award of no fewer than five Medals of Honor—a record for a single action.

Within weeks, Ploeşti had recovered and was producing at a rate even higher than that before the raid. Nevertheless, it continued to loom as a target, and in April 1944, the Italian-based Fifteenth USAAF began a full-scale campaign against it. By the end of the war, all of the Ploeşti facilities had been destroyed.

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pocket battleship

"Pocket battleship" was the British and American term for the Panzerschiff (armored ship) class of warships built by the German navy between the wars in accordance with the restrictions on German naval building stipulated in the Treaty of Versailles.

Smaller than standard battleships, pocket battleships displaced a tonnage equivalent to that of a heavy cruiser—but they carried guns significantly larger than those carried on the heavy cruisers of other nations. *Deutschland,* launched in 1931, was the first of the class (it was renamed *Lützow* in 1939 because Adolf Hitler did not want to risk the loss of a ship bearing the name of Germany) and was followed by *Admiral Scheer* and *Admiral Graf Spee* by 1934.

The pocket battleships were marvels of innovative engineering. To enable ships of this size to carry armament suited to a battleship, the Germans developed techniques of large-scale welding rather than riveting to join hull components. The ships also refined the use of triple-gun main armament turrets and employed modern diesel engines. The 11-inch guns of the pocket battleships easily outgunned enemy cruisers and outran enemy battleships of the post–World War I era; by the beginning of World War II, however, the top speed of the class—28.5 knots—was no longer fast enough to outrun adversaries capable of matching the ships gun for gun.

The Panzerschiff-class ships were built mainly as commerce raiders, and they performed this duty early in the war. *Admiral Graf Spee,* the most famous of the pocket battleships, sank nine British merchant ships before it was scuttled to avoid capture on December 17, 1939. *Admiral Scheer* and *Deutschland* survived through the war, but after the opening months of the conflict, neither ship was exposed to the high seas.

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Poland

World War II began with the German invasion of Poland on September 1, 1939. Poland fell quickly and remained occupied throughout the war. In proportion to its population of 35 million at the outbreak of hostilities, it suffered the highest rate of casualties among all combatants: 6 million killed—about 17 percent of the population. In addition to deaths, many hundreds of thousands of Poles were made refugees, and it is estimated that 500,000 homes were destroyed.

The invasion of Poland was part of Adolf Hitler's aggressive expansion of Germany in search of *Lebensraum*, living space, for the German people. After annexing Czechoslovakia, Germany demanded the incorporation of Danzig (Gdańsk) into the Third Reich, along with a road and rail link to East Prussia. As Hitler expected, Poland rejected these incursions into Polish sovereignty. What Hitler did not expect was that the British government would guarantee Poland's independence and conclude a Mutual Assistance Pact with Poland. This prompted Hitler to denounce Germany's 1934 Non-Aggression Pact with Poland and to conclude the German-Soviet Non-Aggression Pact with Joseph Stalin on August 23, 1939. The pact made certain territorial

concessions to the Soviet Union in return for Stalin's pledge that he would not ally the Soviet Union with Poland to resist Hitler's expansion there; indeed, he would participate in and benefit from the invasion. With the way prepared—and despite the British guarantee—Hitler ordered the invasion to proceed.

The Blitzkrieg advance was a one-sided battle between a highly mobile modern army and a gallant but outnumbered and outgunned force of defenders. To make a desperate situation utterly hopeless, on September 17, the Red Army also invaded Polish territory; however, Hitler quickly altered the terms of his original agreement with Stalin, which had divided Poland along the Vistula River, putting the western portion under German control and making the eastern portion a puppet of the Soviets. Now that the invasion was an accomplished fact, Stalin was compelled to cede a large portion of Poland to Hitler, and the dividing line was placed at the Bug River.

During the period before the outbreak of war, the Polish government was ostensibly a democracy, although it was dominated by followers of Marshal Jósef Piłsudski, the strongman-cum-dictator who had governed the nation since its independence in 1918 until his death in 1935. The president in 1939, Ignacy Mokicki (1867–1946), who had been a close associate of Piłsudski, maintained an authoritarian government with a strong military air. Dissent was not tolerated, and the government moved steadily toward a monolithic one-party system. The repressive climate gave rise to various rebellious undercurrents; however, once the invasion began, Poles universally rallied to the defense of their nation. The resulting unity was short-lived. With the rapid collapse of the Polish military, recriminations against the Mokicki government came in abundance.

The government fled south to Romania on September 18, and was interned there. Marshal Edward Smigly-Rydz, commander in chief of the Polish armed forces, interned with other officials, ordered all military personnel to seek sanctuary in neutral states and then move on to France, where the Polish army would be re-formed.

With the government interned, leadership of Polish resistance to the invasion was temporarily suspended. On September 30, Mokicki officially transferred his powers to Władysław Raczkiewicz, former interior minister and marshal of the Senate who happened to be in France at the outbreak of the war. Raczkiewicz turned immediately to General Władysław Sikorski and charged him with forming a government in Paris. Sikorski had been a close associate of Piłsudski, but had fallen from grace and lived mainly in the French capital. His distance from the late regime gave him a certain credibility that enabled him to create a coalition government in exile that included representatives of the parties that had been suppressed by Mokicki. France recognized the new government instantly, and the Polish cause was thereafter identified with Sikorski.

Although Sikorski assumed a great deal of authority, he also authorized the creation of a National Council (Rada Narodowa) in December 1939, which functioned as a kind of parliament in exile. Members were not elected, however, but chosen from 20 prominent Polish politicians who happened to be in France. The council was advisory in nature and had no legislative authority. Nevertheless, thanks to its first president, the charismatic Ignacy Paderewski, a world-famous pianist and composer as well as a Polish nationalist and patriot, the council wielded considerable moral force. This did not mean that Poland enjoyed much practical influence in the conduct of the war. Sikorski understood that his exile government existed at the sufferance of France and, after the fall of France in June 1940, of Britain and (later) the United States and the Soviet Union as well. Unfortunately, most of the Polish army in France was lost in the Battle of France before it could be evacuated to England. Indeed, Sikorski fell under heavy criticism for his inept handling of the crisis attendant on the fall of France, especially his acquiescence in the deportation of Poles to the Soviet Union. President Raczkiewicz called for the dismissal of Sikorski, but the British stood by him, and Poland, weak as it was, stood as Britain's only ally against Hitler's Germany after the fall of France and until the German

invasion of the Soviet Union on June 22, 1941, which propelled the USSR into the fight against the Germans.

The entry of the Soviets into the war against Germany motivated the Polish government in exile to sign a treaty with the USSR on July 30, providing for full military cooperation against Germany. Despite the treaty, Poland's military (except for forces that had fled to England) was under virtually total control by the Soviet Union during the rest of the war.

On July 4, 1943, Sikorski was killed in an aircraft accident. The result was a division within the ranks of the Polish government in exile that greatly diminished Poland's voice in its own postwar fate and ensured that its future would be dominated by the Soviets.

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Poland, air force of

At the time of the German invasion of Poland in September 1939, the Polish air force had 400 operational aircraft. In terms of numbers and types, the Polish air force was no match for the German Luftwaffe.

After the invasion, the Polish air force consisted of several squadrons formed in France and Britain. Poland operated two fighter squadrons, two reconnaissance squadrons, and one bomber squadron in France. After the Battle of France, Polish air units expanded in Britain under the command of the Royal Air Force (RAF). The RAF used Polish pilots against German air attack in the Battle of Britain, in which Polish airmen compiled a superb record. Of 1,733 German aircraft downed in that campaign between July 10 and the end of October 1940, 203 were shot down by Poles. By the end of the war 15 Polish squadrons were operational under RAF command, with a total of 19,400 personnel.

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Poland, army of

At the time of the German invasion of Poland in September 1939, the regular Polish army consisted of 280,000 men divided into 30 infantry divisions, 11 cavalry brigades, and two mechanized brigades. Reservists accounted for another 3 million men.

The Polish army was quickly defeated, but by the end of September 1939, about 90,000 Polish troops fled Poland to escape capture and to reform elsewhere to continue the war. About 70,000 troops crossed the southeastern border into Hungary and Romania; most of the rest made it into Lithuania and Latvia. Ultimately, during 1939–40, 43,000 troops reached France from Hungary or Romania. Here the French government formed them into Polish military units. They were based in Brittany at Coetquidan. Command headquarters was in Paris, at the Hotel Regina. Tragically for the Poles, during the Battle of France virtually all of the Polish forces in the country were dispersed among French defensive units and about half were lost in battle, piecemeal; some 20,000 were removed during the Dunkirk evacuation and were taken to Scottish ports, from which they were sent to camps on the east coast of Scotland, where they were used in coastal defense.

During the Battle of Narvik in Norway, troops of the Polish Highland (Podhale) Brigade were landed, but were soon ordered to return to Brittany because of the grave situation in France. The brigade was captured by the Germans.

On August 5, 1940, an Anglo-Polish Military Agreement was concluded to regulate Polish forces stationed in Britain as well as Polish formations outside of Britain, the most important of which

were the Carpathian Brigade (which fought in the Western Desert Campaigns) and Władysław Anders's Army, which, designated as II Polish Corps, fought alongside the Eighth British Army in the Italian Campaign.

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Poland, invasion of

World War II began at 4:30 in the morning (local time) on September 1, 1939, when purportedly responding to a Polish attack on a German border radio station (the attack was fabricated by the Germans), the German Luftwaffe began bombing Polish airfields even as ground forces began to surge across the border and a German battleship "visiting" the Polish port of Danzig (Gdańsk) opened fire on Polish fortifications there.

Germany—and the Soviet Union, which cooperated in the invasion—had far greater military strength than Poland: more than 100 active and reserve divisions and a cavalry brigade (in all, some 2,500,000 active and reserve troops) versus 30 infantry divisions, 11 cavalry brigades, two mechanized brigades, and supporting units in the Polish army (about 280,000 men—with a potential semitrained but virtually unequipped reserve pool of 3,000,000). Even more significant than mere numbers was the fact that the German military was a very modern force, whereas the Polish military relied on largely obsolete or obsolescent equipment. For instance, whereas the Luftwaffe had more than 3,600 operational aircraft available, the Polish Air Force had about 1,900, all of which were outclassed by the German aircraft. On the ground, the German army was equipped with the most advanced tanks of the era, while the Poles still relied on cavalry for mobility. On the sea, the German Baltic fleet included two modern battle cruisers, three pocket battleships, two heavy cruisers, six light cruisers, 22 destroyers, 43 U-boats, and two older Dreadnought battleships, whereas the Polish navy had four destroyers and five submarines.

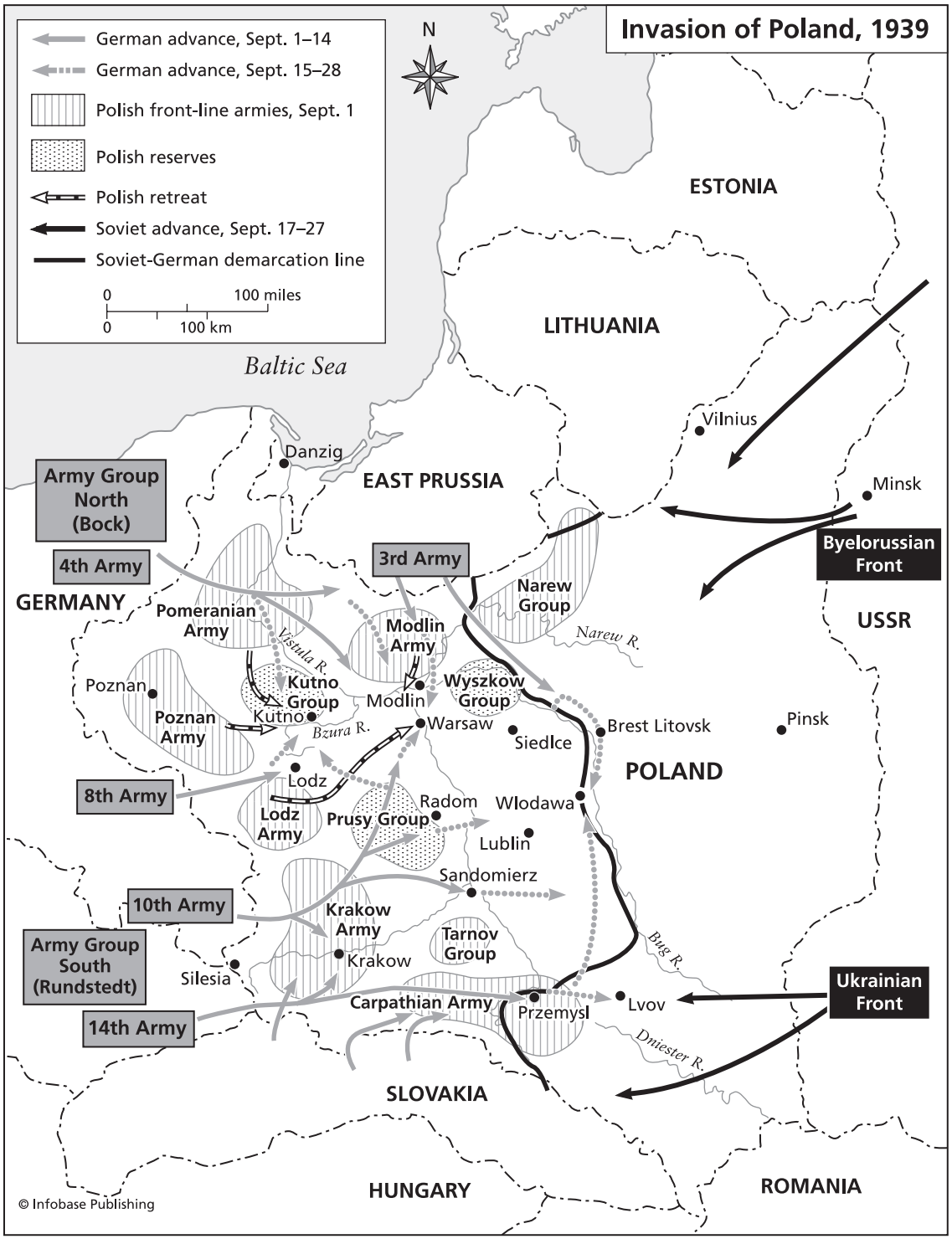
As overwhelming as German superiority of arms was in September 1939, the German military went into the invasion with something equally important: the Blitzkrieg, a combined-arms approach to highly mobile, very swift, very violent combat intended to overwhelm enemy defenses, then disrupt the rear echelons, especially logistics.

The overall German invasion plan was known as "Fall Weiss" (Operation White) and called for the complete destruction of the Polish army west of the Vistula-Narew-San River line with an attack via Silesia in the south and Pomerania–East Prussia from the north. Army Group South contained the bulk of the German forces deployed in the Polish campaign. Under the command of General Gerd von Rundstedt, it comprised Eighth Army, Tenth Army, and Fourteenth Army. Tenth Army advanced on Warsaw while the Eighth and Fourteenth Armies protected its flanks.

Fall Weiss was an ambitious maximum-effort operation, which committed more than 60 divisions—nearly two-thirds of the entire German army—to the Polish campaign. All that was left in the west was a screening force. Success depended on a very rapid victory against Poland, so that forces could be speedily transferred to the western front. Adolf Hitler gambled that neither France nor Britain would be able to mobilize rapidly enough to come to the defense of Poland or to menace Germany's western frontier. He was right.

Whereas the Germans planned Fall Weiss thoroughly, the Polish high command did relatively little to plan an effective defense against invasion. Plan Z called for a cordon defense concentrated in the west and assuming the timely aid of allies—namely, France and Britain. Entirely unanticipated was the complicity of the Soviet Union in the invasion. Per Plan Z, defensive units were parceled out thinly along the entire length of the Polish frontier with Germany and Slovakia.

The air attacks that opened the invasion achieved almost instant air superiority. German aircraft were quickly able to penetrate deep into Polish territory, disrupting rear areas even before the front echelons became fully engaged on the ground. The German army broke through Polish


Invasion of Poland, 1939
German advance, Sept. 1–14
German advance, Sept. 15–28
Polish front-line armies, Sept. 1
Polish reserves
Polish retreat
Soviet advance, Sept. 17–27
Soviet-German demarcation line
0 100 miles
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N
Baltic Sea
ESTONIA
LITHUANIA
Vilnius
Minsk
Danzig
EAST PRUSSIA
Army Group North (Bock)
4th Army
3rd Army
Byelorussian Front
GERMANY
Pomeranian Army
Vistula R.
Modlin Army
Narew Group
Narew R.
USSR
Poznan
Kutno Group
Modlin
Wyszkow Group
Poznan Army
Kutno
Bzura R.
Warsaw
Siedlce
Brest Litovsk
Pinsk
POLAND
8th Army
Lodz
Radom
Wlodawa
Lodz Army
Prusy Group
Lublin
Sandomierz
10th Army
Krakow Army
Tarnov Group
Army Group South (Rundstedt)
Krakow
Bug R.
Silesia
Ukrainian Front
Carpathian Army
Przemysl
Lvov
14th Army
Dniester R.
SLOVAKIA
HUNGARY
ROMANIA
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defenses in the initial battles, progressing with great rapidity through three phases: the battles on the frontier, the advance to Warsaw, and the mop-up of remaining pockets of resistance.

As early as September 3, the German Third and Fourth Armies in the north linked up, thereby cutting the Polish corridor at its base. The Polish Pomorze Army was destroyed, and the Modlin Army was forced to withdraw. In the meantime, advancing from Silesia, German Army Group South broke through against the Łodz and Kraków armies, so that the Polish position was virtually hopeless by September 5.

During September 6 through 10, the Third and Fourth German Armies pressed in from the north while Army Group South moved up from the south against Warsaw. The Fourth Army and the Tenth (which was part of Army Group South) were the most thoroughly equipped with motorized and panzer divisions, and it was these that carried out the full force of blitzkrieg.

Polish forces mounted only one significant counterattack when the retreating Poznan Army launched an assault on September 9 against the flank of the advancing German Eighth Army. In the ensuing three-day battle of Kutno, the Poznan Army annihilated an entire German division before air attacks and elements of the German Tenth Army ended the counterattack. Elsewhere, the blitzkrieg came so fast and so overwhelmingly that no adequate defense could be mounted. As the rear echelons fell into confusion, the entire Polish command structure disintegrated, and by the middle of September, elements of Army Groups North and South linked up near Brest-Litovsk, thereby surrounding Warsaw, along with most of the surviving Polish army. This brought on the final phase of the campaign and the collapse of Polish resistance, which was hastened by the invasion of the Red Army into eastern Poland on September 17.

Surviving Polish forces continued stubbornly to defend Warsaw and the fortress of Modlin north of the capital; however, Warsaw surrendered on September 27, and Modlin on the 28th. The very last organized resistance was mopped up by October 5.

German forces lost 8,082 killed, 27,278 wounded, and 5,029 missing, whereas Polish losses included 70,000 killed and some 130,000 wounded. About 90,000 Polish troops escaped to Hungary, Latvia, Lithuania, and Romania, and about half this number made their way west to France and Britain to fight on behalf of the Polish government in exile.

The German invasion was followed by nearly six years of brutal occupation founded on terror. *Einsatzgruppen* units of the Schutzstaffel (SS) quickly followed the invasion troops and made mass arrests and executions of political activists and others, including Jews. All acts of resistance were crushed by means of overwhelmingly disproportionate reprisals. In some parts of Poland, notably Wartheland, the population was ordered to be "Germanized." All traces of Polish culture were eradicated. A million Poles deemed unsuitable for Germanification were expelled in the depths of the winter of 1939–40, and ethnic Germans were moved in. Many of those expelled were sentenced to slave labor, whereas many Poles who remained in areas annexed to the Third Reich were typically forced into German military service. Some 200,000 children deemed to have "Aryan" characteristics were forcibly removed to the Reich in the Lebensborn program, in which such children were adopted by the families of SS men and raised as Germans. The object was to increase rapidly the Aryan population.

Throughout Poland, privation and semistarvation became universal. The Warsaw food ration as early as 1941 was cut to a mere 669 calories per day. Jews were starved, allotted no more than 184 daily calories. Additionally, German authorities raised the minimum age for marriage in an effort to lower the birthrate, even as they stepped up the rate of deportation of men and women to the Reich for forced labor.

The German occupation authority established some 300 forced-labor and concentration and extermination camps throughout Poland, including (most notoriously) the Auschwitz extermination camp. Housed in these camps were Jews, Poles, and prisoners from all over Europe; however,

it was in Poland that among the worst crimes of the Holocaust were perpetrated. Among the first regulations introduced by the German occupiers was compulsory labor for Jews between 14 and 60 years of age. This was followed by the restriction and then elimination of Jewish property rights and the confiscation of Jewish property. Beginning in January 1940, Jews were increasingly confined to ghettos in principal Polish cities, where overcrowding, starvation, and disease rapidly reduced the Jewish population.

Almost immediately after the German invasion of the Soviet Union in June 1941, all of Poland fell under direct German rule. About 30.8 percent of Poland was absorbed into the Reich, 38.8 percent was designated as part of the General Government (essentially a Polish reservation), and 30.3 percent as part of the eastern Reichskommissariats. Before 1941 ended, Hitler decreed that the General Government would become a German region, which meant that 80 percent of the Polish population would be expelled. As for the Jews, they were condemned to extermination, mostly in death camps.

Polish resistance to the German occupation developed rapidly. In Warsaw, the leading underground organization was called Service for the Victory of Poland and was led by General Michal Tokarzewski-Karasiewicz, who maintained communications with the government in exile based in France. In January 1940, General Władysław Sikorski, head of the exile government, ordered the creation of an underground army, the Union for Armed Struggle (Związek Walki Zbrojnej, or ZWZ), which absorbed Service for the Victory of Poland. Many Polish officers were involved in the ZWZ, which mounted acts of sabotage against the Germans. ZWZ operatives also played a crucial role in gathering intelligence for the Western allies. The underground also created a Committee for Aid to Jews, and it was active in preserving the Polish educational and cultural activities the Germans had sought to eradicate. On February 14, 1942, the ZWZ became the Armia Krajowa, the Polish Home Army, its activities increasingly coordinated by the Polish government in exile in cooperation with British Special Operations Executive.

See also Poland; Warsaw Ghetto Uprising; Warsaw Rising.

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Poland, navy of

At the outbreak of World War II, the Polish navy, commanded by Rear Admiral Józef Swirski, consisted of four modern destroyers, five modern submarines, and 23 naval aircraft in addition to a diminutive coastal defense force.

During the German invasion of Poland, naval ships and personnel (as well as ships and personnel of the Polish merchant marine) were highly successful in avoiding capture by the Germans. Many ships, pursuant to agreements with the British, actually left port before the outbreak of war and sailed for Britain.

By the Anglo-Polish Naval Accord, the escaped Polish warships and personnel agreed to submit to British admiralty control. Most Polish warships performed convoy escort duties during the war or patrolled the British coastline, although the Polish destroyer *Piorun* participated in the sinking of the *Bismarck* in May 1941.

After the Battle of France, the Polish navy and merchant marine were merged under British admiralty control. The service actually grew during the war through recruitment. Some 1,500 Polish naval personnel made their way to Britain at the outbreak of the war. By 1945, the service had expanded to some 4,000.

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Polish Home Army

General Władysław Sikorski, commander of the Polish army in exile, assumed command of the Związek Walki Zbrojnej (ZWZ), the "Union for Armed Struggle," the Polish underground resistance network that had been created from Służba Zwycięstwu Polski (SZP), "Service for Poland's Victory," which had come into being immediately after the collapse of the Polish army during the German invasion of Poland. On February 14, 1942, Sikorski changed the name of the ZWZ to Armia Krajowa (AK), or "Home Army," under the leadership of its commander in chief, General Tadeusz Komorowski. During World War II it was heavily involved in the resistance to German occupation.

During 1942–43, various resistance groups were unified under the Home Army, which by 1943 claimed 300,000 members or more. The Home Army planned for an uprising and set up secret training schools as well as secret factories for the manufacture of weapons and ammunition. Working in conjunction with Britain's Special Operations Executive, the Home Army operated an extensive intelligence network that reported on German troop and supply movements. Of especially great significance was intelligence concerning German rocket research at Peenemünde (V-1 and V-2 base), which led to successful air raids on the site. The Home Army also planned and executed various sabotage operations and, by the end of 1942, guerrilla operations, which increased in scope as the Soviet Red Army turned the tide against the Germans on the eastern front. This phase of Home Army operations was dubbed Operation Tempest and involved units as large as battalion and regimental size.

By the summer of 1944, the Soviet Union began operations preparatory to the occupation of Poland. The Red Army now turned against the Home Army and set about dismantling it. When at the end of July 1944, the arrival of Soviet troops in Warsaw seemed imminent, the Home Army decided to liberate the capital before the Red Army reached the city. The resulting Warsaw Rising, which began on August 1, ended in defeat on October 2, 1944, with the surrender of some 20,000 Home Army soldiers. The Red Army had deliberately refused to come to the aid of the Home Army. Surviving Home Army units continued fighting elsewhere in Poland until January 1945, when Soviet armies occupied most of the country. The order to disband the Home Army came from the government in exile on January 19, 1945.

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Portal, Charles (1893–1971) *British air marshal and Air Staff chief*

Born in Chichester, Sussex, Portal was educated at Winchester School and at Christ Church College, Oxford. He joined the Royal Engineers during World War I and was commissioned in the Royal Flying Corps in 1915. Portal rapidly distinguished himself as a pursuit pilot, earning the Distinguished Service Order and Bar as well as the Military Cross.

He was variously posted with the Royal Air Force (RAF) between the wars, and in 1940 briefly served as air officer commander in chief, Bomber Command, before being elevated to chief of the Air Staff, the most senior RAF post, which he held throughout the war. As the leader of RAF policy and operations, Portal was present at all of the major Allied conferences as a member of the Chiefs of Staffs Committee.

After the war, from 1946 to 1951, Portal directed the British atomic research facilities at Harwell. In 1945, he was created a baron, and then a viscount the following year.

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Portugal

A traditional ally of Great Britain, Portugal remained neutral throughout World War II. Its wartime president, General Antonio Carmona, appointed Antonio Salazar as prime minister. Both men were rightists who admired Adolf Hitler and the Nazis; however, the Portuguese working class tended to favor the Allies.

In March 1939, Portugal and Spain signed a Treaty of Friendship and Non-Aggression (Pacto Iberico); nevertheless, despite Salazar's right-wing orientation, he did not approve of the Nazis and was instrumental in dissuading Spain's Francisco Franco from joining the Axis. At the outbreak of the war on September 1, 1939, both Portugal and Spain declared their neutrality. Whereas Spain frequently aided Germany, Portugal maintained very strict neutrality—until October 1943, when it permitted the Allies to establish air bases in the Azores and therefore became a cobelligerent of the Allies. Even this, however, was tinged with ambivalence. After Hitler's suicide, Salazar ordered flags to be flown at half-staff as a sign of respect.

Portugal's Atlantic possessions—the Azores, Cape Verde Islands, and Madeira—were strategically situated, and Portugal was also a key producer of tungsten, an important strategic metal. As a neutral, Portugal traded with the Allies as well as the Axis, and only after intense pressure was applied in June 1944 did Salazar agree to end exports of tungsten to Germany.

Lisbon, the Portuguese capital, was an international city in World War II, which served as the distribution port for International Red Cross Committee relief supplies to prisoner-of-war and internment camps and also as a center of espionage for both the Allies and the Axis.

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Potsdam Conference

This was the last of the major Allied conferences of World War II. Held from July 17 to August 2, 1945, in the Berlin suburb of Potsdam, its principal participants were President Harry S. Truman, Soviet premier Joseph Stalin, and (at the beginning of the conference) British prime minister Winston Churchill, whose place was later taken by Clement Attlee, when he replaced Churchill as prime minister.

The major subjects of the conference were the European peace settlements; the urgently pressing issue of administering a defeated and substantially destroyed Germany; the determination of Polish boundaries; the terms of the occupation of Austria; the Soviet role in Eastern Europe; reparations; and, not least, the continued prosecution of the war against Japan.

The conference produced the Potsdam Declaration. With regard to Germany, the declaration asserted the Allies' intention to give the "German people . . . the opportunity to prepare for the eventual reconstruction of their life on a democratic and peaceful basis." Four zones of occupation were demarcated in Germany, each to be administered by military governments under the commanders in chief of the U.S., British, Soviet, and French armies of occupation. Austria was also divided into four zones of occupation, as were the capital cities of Berlin and Vienna. Coordination among the occupation zones was to be handled by an Allied Control Council. The conference agreed that occupation policy would embody the principles stated in the Yalta Agreement, including demilitarization, denazification, democratization, decentralization, and deindustrialization.

Regarding the issue of reparations, each Allied power was to recover reparations from its own zone of occupation, with the proviso that the Soviet Union was entitled to recover 10 to 15 percent of the industrial equipment in the western zones of Germany in exchange for agricultural produce and other natural products from its zone.

With regard to the settlement of the Polish border, this was fixed at the Oder and Neisse Rivers in the west, and the country absorbed a portion of

what had been East Prussia. This settlement required relocating millions of Germans from these areas.

The settlement of the Soviet role in Eastern Europe was highly contentious, as Stalin refused to permit Western intervention in those Eastern governments already controlled by communists.

At Potsdam President Truman revealed to Stalin the existence of the atomic bomb and that he intended to use it against Japan. Stalin hardly reacted to this revelation—because (as it turned out) his espionage network had already informed him of the existence of the bomb. However, because of the weapon, the conferees were emboldened to issue an ultimatum to Japan on July 26 demanding unconditional surrender. After Japan rejected the ultimatum the United States dropped atomic bombs on Hiroshima and Nagasaki.

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prisoners of war

All of the major combatants in World War II were parties to the Hague Conventions of 1899 and 1907, and all but two—Japan (signed but did not ratify) and the Soviet Union (neither signed nor ratified)—were parties to the Geneva Conventions. The Hague documents laid down the principle that prisoners of war were to be treated humanely. The subsequent Geneva Conventions specified standards of humane treatment, including speedy removal of POWs from the combat zone, adequate medical care for the wounded, and the provision of shelter and food equal to that received by garrison troops of the captor's side. The conventions also governed the rules of interrogation, specifying that prisoners had the right to refuse to give any information except for their name, rank, and service number. Prisoners were to be permitted to practice their religion and to correspond with family and friends. Attempted escape was to be punished by nothing more severe than a month's solitary confinement. The Geneva Conventions provided for inspection of permanent POW camps by the Committee of the International Red Cross.

Even with the best of intentions, it would have been difficult if not impossible for some combatants to observe the Hague and Geneva rules. The number of prisoners was often so great that POW facilities were overwhelmed. At the beginning of the war, for example, the Germans very quickly acquired some 2 million Polish and French prisoners. In any event, intentions were not always of the best, and poor treatment, including deliberate abuse, was not uncommon. On the eastern front of the European war, the Waffen SS was notorious for taking no prisoners; those who surrendered were shot. For the most part, the regular German army (Wehrmacht) and the German air force (Luftwaffe) treated British and American prisoners decently, but were deliberately abusive to Red Army prisoners, of whom only one in six survived incarceration. Soviet prisoners were given little in the way of food and shelter and were often shot after

This Japanese submarine crew member is on his way to a POW camp. *(National Archives and Records Administration)*

U.S. POWs celebrate the Fourth of July—in captivity. *(National Archives and Records Administration)*

interrogation. Disease, especially typhus and dysentery, were common causes of death.

Of all combatants, the Japanese were the most notorious for ill treatment of prisoners. The Japanese warrior code (*bushido*) held that surrender was dishonorable and that a dishonored soldier did not deserve to be treated honorably. Neglect, beatings, and torture were the rule in Japanese prisoner of war camps. The Allied death rate in Japanese prison camps was 27 percent versus 4 percent for Allies held by the Germans or Italians.

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propaganda

Propaganda—which may be broadly defined as the dissemination of ideas and points of view that promote one's cause or damage that of one's enemies—was widely employed by virtually all combatants in World War II. Propaganda was directed against enemies and also used to shape the sentiment of a combatant nation's own population, as well as the population of its allies.

Most authorities distinguish two types of propaganda. "White propaganda" is based on fact, which is portrayed to best advantage to report and enhance one side's victories and the other side's defeats. "Black propaganda" is essentially fabrication used to undermine enemy morale or in some other way to hamper enemy military operations.

During World War II, mass media—including magazines, newspapers, radio, and movies—were exploited as the vehicles for disseminating propaganda. Internally, commercial radio networks, newspapers, and movie studios often produced propaganda for domestic consumption, whereas government-controlled media outlets—most notably the British Broadcasting Company (BBC) in Britain and the Voice of America (VOA) in the United States—transmitted propaganda to enemy nations with the purpose of countering enemy "lies," undermining the morale of the civilian population, and in some cases broadcasting instructions to members of RESISTANCE MOVEMENTS.

ALLIED PROPAGANDA AGENCIES AND PROGRAMS

Great Britain

British Broadcasting Corporation (BBC). This government-controlled radio broadcasting entity broadcast war information to Europeans living under Nazi German occupation. The BBC sought to counter Nazi propaganda, and millions relied on it (listening surreptitiously and often at great risk) for accurate news—as well as for entertainment. During the NORMANDY LANDING (D-DAY), the BBC broadcast coded instructions to Resistance operatives in France to coordinate their activities with the needs of the invasion force.

Department of Propaganda to Enemy Countries. The straightforward name of this agency accurately described its mission, which was to disseminate propaganda to Europeans in German-occupied countries. Radio broadcast and airborne leaflet drops were used.

Ministry of Information (MOI). MOI had responsibility for the production and dissemination of domestic propaganda. Led by Duff Cooper and Brendan Bracken, MOI was essentially an educational effort that sought to explain and keep uppermost in the public mind the reasons "why we fight." A large part of MOI's task was to justify the many sacrifices the civilian population was required to make. MOI operated through all media, including popular films.

United States

Bureau of Motion Pictures (BMP). The BMP advised commercial Hollywood film studios on how they should portray the war to promote the war effort. The agency had no enforcement authority.

Hollywood. Long the world capital of moviemaking, Hollywood eagerly contributed to the war effort by making films that portrayed the war—both at the front lines and on the home front—in a favorable light.

Office of War Information (OWI). This was the central U.S. agency responsible for propaganda, both for domestic distribution and for distribution abroad. Modes of dissemination ranged from aerial leaflets to radio broadcast to propaganda films.

Psychological Warfare Division (PWD). Operating under the OWI, the PWD focused on propaganda directed at the populations of Germany and Japan.

Voice of America (VOA). Another OWI agency, the VOA broadcasted to occupied Europe in an effort to counter Nazi propaganda and provide reliable war information.

AXIS PROPAGANDA AGENCIES AND PROGRAMS

Germany

General entertainment. Nazi Germany developed propaganda to a very high state, so that it pervaded all aspects of German popular culture beginning in the 1930s and extending throughout the war years. The evil genius behind the German propaganda effort was Joseph Goebbels, the Third Reich's official propaganda minister and a member of Adolf Hitler's innermost circle. Radio broadcast and film production were the leading media, which Goebbels strictly controlled. Leni Riefenstahl was preeminent among German filmmakers in creating effective propaganda films for popular consumption. Goebbels was also a master at staging live spectacles, including massive torchlight parades and rallies, and at directing the creation of graphically powerful posters and symbols.

German-American Bund. Various pro-Nazi organizations came into existence in Britain, France, the United States, and elsewhere during the years leading up to the war. The German-American Bund was never large (it may have had 8,000 members during its 1930s peak), but it staged numerous highly visible rallies before the war. U.S. authorities outlawed and disbanded the organization during the war.

Hitler Youth. This organization is covered in a separate entry.

Ministry of Public Enlightenment and Propaganda. Headed by Goebbels, this agency controlled all news and public information. Through the ministry, Goebbels did not so much manipulate facts as he created them to suit the purposes of the Reich's war effort. It was standard practice for the ministry to present even the worst military defeats as victories, and when the war had clearly become a lost cause, Goebbels disseminated rumors of "wonder weapons," about to be introduced, which would instantly reverse the course of defeat.

Ministry of Science, Education, and Popular Culture. This agency ensured that propaganda was thoroughly integrated into every aspect of German life. It controlled the educational system of the nation, introducing Nazi ideology (especially anti-Semitism and Aryan racial theory) into virtually every subject. The ministry also oversaw civilian military training.

Reich Chamber of Culture. Another of Goebbels's agencies, the chamber oversaw virtually all cultural activity in the Reich, including the fine arts, music, theater, literature, the press, radio, and film. All creative artists in these fields had to register with the chamber, the approval of which was required before any work could be published or

exhibited. Works by Jews were banned, as was, generally, all art classified as "modern," largely because Hitler considered it degenerate.

Reich Press Law. Promulgated on October 4, 1933, this law was the chief vehicle by which the German press was subordinated to the will of the government. Newspaper editors met daily with Goebbels or his designated lieutenants to receive their marching orders, all aimed at promoting the Nazi party line.

Lord Haw-Haw. William Joyce was a pro-Nazi British subject who collaborated with the enemy by broadcasting anti-Allied propaganda aimed especially at undermining the morale of Allied troops. British listeners christened him Lord Haw-Haw, because of his aristocratic accent and as an expression of the skepticism with which they received everything he said. Born in 1906, Joyce was hanged as a traitor by the British on January 3, 1946.

Italy

Benito Mussolini. A journalist by trade, the dictator of Italy was a master at the creation and dissemination of propaganda and took a personal hand in crafting the ongoing image of fascist Italy. As Hitler often evoked a mythic Aryan past as the foundation on which the present glories of the Third Reich were founded, so Mussolini built upon the bygone glories of the ancient Roman Empire to enhance the prestige of Fascist Italy.

Ministry of Popular Culture. Created in 1937, the ministry ensured that all entertainment produced in Italy promoted fascist ideals.

Undersecretariat for Press and Propaganda. Established in 1933, this ministry controlled the reporting of news in Italy.

Italian educational system. Before he became a politician, Mussolini had been a journalist; before this, he was a schoolteacher. After he became dictator of Italy, he personally oversaw the redesign of the Italian educational system, including the parochial system run by the Catholic Church, so that its curriculum would embody fascist doctrine and ideals.

Japan

Greater East Asia Co-Prosperity Sphere. Perhaps the boldest stroke of Japanese propaganda was the invention of the Greater East Asia Co-Prosperity Sphere, the concept that the nations of Asia and the southwestern Pacific were united by a common interest both racially and economically. In reality, the concept was a fiction created to justify Japanese conquest and subjugation of the region.

Militarist propaganda. Beginning in the 1920s and intensifying through the 1930s, the Japanese government was increasingly controlled by militarists who sought to indoctrinate the entire country with military values based, ultimately, in myths of a Japanese warrior tradition, which included *bushido,* the warrior code of the Samurai that exalted conquest and self-sacrifice.

Tonarigumi. In addition to large-scale propaganda efforts controlled through the central government and including extensive press censorship, the Japanese government encouraged the creation of neighborhood groups, or *tonarigumi,* consisting of 10 to a dozen households united behind the war effort and dedicated to domestic surveillance. Each of these cells was pledged to live by seven virtues—early rising, thankfulness for what you have (however little), cooperation with the government in everything, public service, punctuality, frugality, and the development of physical and spiritual strength—and to be vigilant against any evidence of disloyalty, noncooperation, or defeatism. It was on this micro level that the Japanese central government made itself most thoroughly felt.

Tokyo Rose. Born in Los Angeles in 1916, Iva Toguri was in Japan visiting relatives when the United States entered World War II. As "Tokyo Rose," she made broadcasts beamed at American G.I.s intended to undermine their morale. Tokyo Rose broadcast classic "black propaganda," ranging from false news of catastrophic American defeats to stories about the mass infidelity of girlfriends and wives while their "soldier boys" were away. Her program featured popular American music and was widely listened to as entertainment. In reality, several English-speaking women assumed the identity of Tokyo Rose to make propaganda broadcasts, but Toguri was the only U.S. citizen to do so. After

the war, she claimed that she had been forced to make the broadcasts. Nevertheless, she was convicted of undermining the morale of American troops and sentenced to 10 years imprisonment and a $10,000 fine. After her release, she labored for vindication and to prove her innocence. President Gerald R. Ford pardoned her in 1977.

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PT boats

The PT (Patrol Torpedo) boat was a small, fast, plywood-hulled craft used by the U.S. Navy against larger surface ships. The U.S. Navy PTs were modeled after the British Motor Torpedo Boats and were manufactured mainly by Elco (Electric Launch Company) of Athens, New York. Elco built 399 80-foot PT boats during the war.

PT 333 under way off New York, August 20, 1943 *(National Archives and Records Administration)*

Prior to U.S. entry into the war, Elco built 70-foot PT Boats that were found to be too light for the open sea. Elco then built 24 77-foot boats for the navy. After a design competition in 1944 (nicknamed "The Plywood Derby"), the navy let more contracts for the 77-foot Elco boats, but also commissioned the Higgins company to build a number of its 76-foot designs and the Huckins firm to build some 72-foot boats. Fairly early in the war, an Elco 80-foot design and the Higgins 78-foot design became the standard U.S. Navy PT boats.

The Elco boats were plywood-hulled, 80 feet long with a beam of 20 feet 8 inches. They were powered by three 12-cylinder gasoline engines, which were built by Packard, based on the company's 3A-2500 V-12 liquid-cooled aircraft engine. PT boats cruised at a brisk 23 knots and had a top speed of 41+ knots. At top speed, their endurance was severely limited to about six hours of sailing time. The boats were crewed by three officers and 12 to 14 sailors and displaced 56 tons fully loaded.

Elco boats were variously armed. Early models carried a single 20 mm Oerlikon cannon, four M-2 .50-caliber machine guns or four .30-caliber Lewis guns, and two or four 21-inch torpedo tubes launching Mark 8 torpedoes. Some also carried two or four Mark 6 depth charges in roll-off racks. Later in the war, boats mounted a 40 mm Bofors gun aft and four 22.5-inch Mark 13 torpedo launching racks, two along each side. A few boats were equipped with rocket launchers capable of launching 16 rockets. The PTs operated chiefly at night and relied heavily on radar for navigation and target detection.

The New Orleans–based Higgins company produced 199 78-foot boats, many of which were sent to the Soviet Union and Great Britain. Those used by the U.S. Navy were employed in the north Pacific and in the Mediterranean, whereas the Elco boats were most extensively used in the south and central Pacific.

The primary mission of PT boats was to attack larger surface ships, but they were also used to lay mines and generate smoke screens for convoys. PTs

often did rescue patrol, recovering downed aviators, and they carried out intelligence and raider operations. It was a PT boat that evacuated Douglas MacArthur and his family from the Philippines in 1942, but certainly the most famous PT boat of the war was PT-109, commanded by Lieutenant (junior grade) John F. Kennedy, who performed heroically after his boat was run down and cut in two by the Japanese destroyer *Amagiri* on August 2, 1943, in the Solomon Islands. Kennedy led the survivors to deserted Plum Pudding Island, from which they were later rescued, and received the Navy and Marine Corps Medal. The story of this exploit helped win Kennedy victory in his first congressional campaign and was also publicized during his successful campaign for the White House in 1960.

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"Chesty" Puller, USMC *(U.S. Marine Corps)*

Puller, Lewis B. "Chesty" (1898–1972)

one of the great U.S. Marine heroes of World War II

Born in West Point, Virginia, Puller enlisted in the Marine Corps during World War I in August 1918. He earned a reserve commission as second lieutenant in 1919, but was almost immediately inactivated when the corps was reduced in size during the rush to demobilize following the Armistice. Undaunted, Puller reenlisted as a noncommissioned officer. He served in Haiti with the ambiguous rank of USMC sergeant but as *captain* of the Haitian Gendarmerie. Puller served for five years in the turbulent island nation.

In 1924, Puller returned to the United States and received an officer's commission. After service at Norfolk and Quantico (both in Virginia), he took flight training at Pensacola Naval Air Station in 1926, then shipped out to Nicaragua in 1928 as an instructor assigned to train the U.S.-supported Nicaraguan National Guard in its fight against rebels led by Augusto Sandino. During his tour in Nicaragua, Puller was awarded the Navy Cross.

After returning to the United States in 1931, Puller attended a company officers' course, then returned to Nicaragua to resume work with the National Guard. During this second tour, he received a second Navy Cross.

After leaving Nicaragua, Puller was assigned to the Marine Corps legation detachment (embassy guard) in Peking (Beijing) in 1933, then served a stint at sea. In 1936, he became an instructor at the basic school in Philadelphia, returned to sea duty in 1939, and was attached to the 4th Marines in 1940, soon becoming commanding officer of this unit.

At the outbreak of World War II, Puller was assigned command of 1st Battalion, 7th Marines, which he led to Samoa and then in the Battle of

Guadalcanal. Seriously wounded in this engagement, he refused evacuation until the defense of Henderson Field was complete. For this, he was awarded his third Navy Cross.

While convalescing from his wounds, Puller toured U.S. posts, then rejoined the 7th Marines as executive officer of the division. He participated in the landings at Cape Gloucester and led a 1,000-man patrol on New Britain Island, for which he earned a fourth Navy Cross. He commanded a regiment in the Battle of Peleliu, sustaining 50 percent casualties.

Following World War II, Puller commanded the training regiment at Camp Lejeune, then was assigned as director of the 8th Reserve District. In 1950, he once again assumed command of the 1st Marines and led this regiment in the Inchon landing during the Korean War. During action in Korea, he was awarded a fifth Navy Cross and in January 1951 was promoted to brigadier general and assigned as assistant division commander.

Returned to the United States, Puller was given command of the 3d Brigade and became assistant commander after the unit was upgraded to a division. Assigned to direct marine training at Coronado, California, Puller was promoted to major general in 1953 and was assigned to command the 2d Division, headquartered at Camp Lejeune. He retired on November 1, 1955, with the rank of lieutenant general and is celebrated as one of history's greatest marines.

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PURPLE (Japanese diplomatic cipher)

"PURPLE" was the code name U.S. cryptanalysts assigned to the Japanese diplomatic cipher, which was used on messages encrypted on a cipher machine known as Alphabetical Typewriter 97. This machine consisted of two typewriter keyboards connected by circuits, a plugboard, and switches. The machine encrypted messages through stepping switches (similar to telephone stepping switches). When the operator pressed a plain-text letter on one keyboard, an electric current passed through the plugboard, which provided letter substitutions that served as the code's key for the day. From the plugboard, the current passed through the stepping switches, which continually changed the substitution for each plain-text letter pressed. A combination of four stepping switches was used, which ultimately passed the current to the second typewriter keyboard, depressing a key, which printed out the substituted letter. Because of the multiplicity of stepping switches, the encryption was quite deep and very difficult to decipher. However, the Japanese diplomatic departments often repeated certain formulaic words and phrases, which gave U.S. cryptanalysts clues to the cipher. Moreover, cipher keys, although they were changed every 10 days, were changed in a predictable manner. The PURPLE cipher was broken by September 25, 1940, and the flow of U.S. decrypts of PURPLE messages continued through the end of the war. The Japanese never discovered that their diplomatic cipher had been compromised.

See also Enigma cipher and machine; Magic (Japanese code); Orange (Japanese code); and Ultra.

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pursuit aircraft

See fighter aircraft.

Pyle, Ernie (1900–1945) *most famous of U.S. war correspondents*

Ernest Taylor Pyle was born near Dana, Indiana, and enrolled at Indiana University to study journalism. He left without a degree when he was hired by a small-town newspaper. After working for various papers, he found his niche as a columnist-at-large for the Scripps-Howard newspaper chain, writing stories based on his daily encounters and experiences, which were syndicated in some 200 newspapers.

Pyle truly came into his own as a journalist during World War II, when he served as a correspondent covering campaigns in North Africa,

Ernie Pyle in a 1945 news clipping, which appeared shortly after his death *(Author's collection)*

Sicily, Italy, and France. He became famous for his upfront, uncompromising portraits of the day-to-day life of the ordinary GI, the American infantry rifleman. Pyle was the voice of the "dogface" soldier, sharing his dangers, hardships, terror, loneliness, boredom, and, ultimately, indomitable spirit. There was never a trace of propaganda or cant about Pyle's reporting, which earned him a Pulitzer Prize in 1944, among other awards.

Pyle's enormously popular columns were collected during World War II in *Pyle in England* (1941), *Here Is Your War: The Story of G.I. Joe* (1943), and *Brave Men* (1944). Hollywood depicted Pyle's coverage of the Italian campaign in a 1945 film, *G.I. Joe* (1945).

After the end of the European war, Ernie Pyle covered the Battle of Iwo Jima and the Okinawa Campaign. He was killed on April 18, 1945, on the island of Ie Shima by Japanese machine-gun fire.

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Q

Q-ship

Q-ships were armed U.S. merchant vessels disguised as unarmed ships and intended to lure German U-boats into surfacing for an attack. Once surfaced, the Q-ship would open fire with its hidden guns.

Q-ships were debuted in World War I and had a degree of success. They were deployed again during World War II in 1942, but did not sink any U-boats. One Q-ship was torpedoed and sunk with the loss of 141 crew members. British Q-ships were called decoy ships. The Royal Navy deployed eight in 1939–40 without successfully attacking any enemy vessel. Two were hit by torpedoes. The decoy ships were withdrawn from service in December 1940.

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Quisling, Vidkun (1887–1945) *Nazi collaborator who aided the German invasion of Norway in 1940*

Born on July 18, 1887, in Fryesdal, Norway, Vidkun Quisling served as an officer in the Norwegian military, passing the War College examination in 1911 and gaining promotion to assistant to the general staff in 1916. Commissioned a captain in 1917, Quisling served as military attaché in Petrograd (modern St. Petersburg), Russia, and later, from 1918 to 1921, in Helsinki, Finland.

In 1931, Quisling was promoted to major of field artillery and also served on many international committees in the League of Nations. The same year in which he advanced in military rank, he became minister of defense in the Karlstad cabinet. An arch-conservative, he was virulently anticommunist and believed that the labor wing in Norway was under the influence of the Bolsheviks and was plotting revolution. This extreme position put him at odds with the rest of the cabinet. Finally disgusted with what he deemed his colleagues' liberalism, Quisling founded his own political party, the National Union Party—essentially the Norwegian Nazis—on the platform of

Vidkun Quisling *(Mailhuagen Museum, Oslo)*

suppressing "revolutionary" parties and "freeing" labor from union control.

The National Union Party was badly defeated in the 1933 elections, garnering only 2 percent of the vote. In the next two elections, the party's power base was successively halved, so that by 1939 it was virtually extinct.

Publicly rebuked, Quisling became an associate of Alfred Rosenberg, a leading German ideologue of National Socialism. Through this connection he attracted the attention of Adolf Hitler, who was especially interested in the defenses of Oslo Fjord and the inner harbor areas of the capital city. On the night of April 5, 1940, Quisling was in Berlin at the Reich Chancellery; three days later, German war ships, led by U-boat wolfpacks, steamed into Oslo and, armed with the necessary intelligence concerning coastal and harbor defenses, easily penetrated them and quickly overran Norway.

With neither the consent nor official support of the Nazis, Quisling proclaimed himself premier of Norway simply by announcing it over the air. The Nazis were engaged in trying to compel the abdication of King Haakon, who also refused to recognize Quisling. Reasoning that if they forced Quisling on Norway, the people would likely rally to the side of their king in opposition to the Nazis, the Germans continued to withhold support from Quisling, who was at last compelled to resign after a week in office. Nevertheless, the invaders put him in charge of Norwegian demobilization, and he traveled to Berlin. After his return to Norway on August 20, 1940, he made another attempt to build a following. He enjoyed no success until the Norwegian parliament refused to bow to German demands to set up a puppet government. When Nazi patience wore sufficiently thin, Hitler simply installed Quisling as premier and outlawed all political parties except for his National Union Party.

Propped up by Germany, Quisling remained in office throughout the war. After the German surrender and withdrawal from Norway, Quisling was arrested on May 9, 1945. Convicted of treason on September 10, he was executed on October 24, 1945. His name survived him as a synonym for *traitor:* quisling.

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R

Rabaul, Battles of

The Japanese attacked the Australian base of Rabaul on northern New Britain Island early in 1942, during Japan's initial sweeping advance across the Pacific. After launching air attacks from Truk (in the Caroline Islands) and from aircraft carriers under the command of Admiral Nagumo Chuichi (whose fleet had just returned from the Battle of Pearl Harbor), Japanese troops landed at Rabaul and at Kavieng on New Ireland Island on January 23, 1942. The outnumbered Australian garrisons were quickly defeated and the Japanese built Rabaul (and, on a smaller scale, Kavieng) into its principal naval and air bases in the southwest Pacific.

Rabaul loomed large in Allied plans for a Pacific counteroffensive; however, as part of the U.S. Island-hopping strategy, Rabaul was initially bypassed to isolate it from other Japanese-held objectives.

During June 22–30, 1943, the U.S. 112th Cavalry and 158th Infantry regiments landed on and seized the Woodlark and Trobriand islands in the Solomon Sea, south of Rabaul. These toeholds, plus airfields acquired elsewhere in the course of the Solomon Islands campaign, served as bases from which air attacks were finally—and repeatedly—launched against Rabaul. Naval aircraft from the U.S. Third Fleet (William H. "Bull" Halsey) supplemented the land-based air attacks over a period that extended through most of 1943.

On December 15, 1943, the U.S. 112th Combat Team landed on the southwest coast of New Britain as a preliminary attack in preparation for a major amphibious assault by the 1st Marine Division (William Rupertus) at Cape Gloucester, on December 26, 75 miles to the northwest of the December 15 landings. On December 30, the Cape Gloucester airstrip was in marine hands, and by January 16, 1944, the marines had created a strong defensive perimeter around the field, so that it was ready to accommodate U.S. aircraft for further operations against Rabaul.

From Cape Gloucester, the 1st Marine Division leapfrogged to Talasea, which fell during March 6–8. Half of the 10,000-man Japanese garrison on New Britain was killed in this operation, which gave General Douglas MacArthur's Southwest Pacific Command access to the straits separating New Britain and New Guinea, completing the isolation of Rabaul and rendering it vulnerable to further assault. In the meantime, the 3rd New Zealand Division took the Green Islands, 115 miles east of Rabaul, on February 15. Early in March, the U.S. 1st Cavalry Division landed at Los Negros in the Admiralties to the west, then advanced to Manus and occupied it, thereby gaining control of the Admiralty Islands and severing Japanese communications with Rabaul to the southeast. In this way, the Japanese base was entirely surrounded.

On March 20 the U.S. 4th Marine Regiment invaded Emirau Island in the Bismarcks, 70 miles

north of Kavieng. An airstrip was built here, which, with those already constructed on the other captured islands, completely neutralized Rabaul and Kavieng as military bases. At this point, Rabaul still had some 100,000 Japanese troops manning the bases. Cut off now, they were useless in the war, and the Allies simply moved on to more objectives in the west and the north. The battles of Rabaul embodied the essence of the island-hopping strategy, by which even very large numbers of the enemy could be disposed of without direct confrontation.

The battles of Rabaul were also notable because of the exploits of Marine Corps aviator Major Gregory (Pappy) Boyington, who downed 28 enemy planes, becoming the top marine air ace of World War II. His streak ended on January 2, when he was shot down and captured near Rabaul.

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Raczkiewicz, Władysław (1885–1947)
president of the Polish government in exile during World War II

Born in Russia into the family of a judge, Władysław Raczkiewicz studied in St. Petersburg, became active in the Polish Youth Organization, then graduated with a law degree from the University of Dorpat. He practiced law in Minsk and joined the underground Polish independence movement during World War I. He enlisted in the private army of Józef Piłsudski and, in 1914, fought alongside the Austrians against the Russian army. The onset of the Russian Revolution of 1917 resulted in Raczkiewicz's arrest and imprisonment in July 1917. He was released the following year, after Piłsudski became provisional head of the Polish state and commander in chief of the Polish army. In 1921, Piłsudski appointed Raczkiewicz his minister of internal affairs. Subsequently, he rose to become Speaker of the Senate.

During the German invasion of Poland in September 1939, Raczkiewicz fled with other government officials to London, where he joined with Władysław Sikorski and Stanislaw Mikołajczyk to establish the Polish government in exile. Raczkiewicz served as the president of the London-based government. In February 1945, pursuant to the Yalta Conference, the Western Allies, yielding to Joseph Stalin's claim that only a pro-Communist Polish government could guarantee the security of the Soviet Union, withdrew recognition of the Polish government in exile. Raczkiewicz effectively ceased to exercise presidential authority at this point; however, he retained his title until his death in 1947.

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radar

"Radar" is an acronym for r*adio* d*etection* a*nd* r*anging*. As the name suggests, it is a system that uses radio waves to detect the presence of remote objects and to measure their location (range). As an adjunct to weapons systems, radar came into its own during World War II and figured as a crucial technology.

Radar emerged independently in France, Germany, the Netherlands, Italy, Japan, Great Britain, and the United States between 1934 and 1936 and continued to develop in the lead-up to the war and during the war. The single most important center of the development of radar as a military technology was the Radiation Laboratory of the Massachusetts Institute of Technology, especially beginning in November 1940. The United States, Britain, and Germany were the leaders in the development of military radar, with Japan (among the

major combatants) somewhat lagging in the field and the Soviet Union quite far behind.

UNITED STATES

The earliest experiments in radar technology took place in 1930 at the Naval Research Laboratory, which led to the development, in 1934, of a pulse radar set—a radar system in which a brief radar signal pulse (about a millionth of a second) is broadcast, followed by silence for some thousandths of a second, during which time the radar receiver "listens" for a return echo of the pulse. By 1939, a practical military version of the system was ready, and 20 sets were installed on battleships, aircraft carriers, and cruisers by 1940.

The U.S. Army developed radar systems independently of the navy beginning in 1933. A prototype radar set was ready by May 1937, and a long-range radar system was completed and in service by 1940. The army maintained radar warning systems to protect the U.S. coast throughout the war. Relatively early in the war, the United States also developed radar sets small enough to be carried on board aircraft.

GREAT BRITAIN

Motivated by a desire to improve its antiaircraft defenses, British scientists developed Radar Direction Finding, a primitive radar system, by May 1935. Later in the year, a chain of radar stations (code named Chain Home, or "CH") was designed; 18 of the CH stations were operational on September 3, 1939, when Britain entered the war. Chain Home was expanded and improved between 1940 and 1943.

The British developed airborne radar as early as 1937, and the Royal Navy began shipboard experimentation in 1935, deploying Air Warning Set Type 79 in its larger ships in 1939. The army also worked intensively on radar, beginning in 1936.

GERMANY

Radar research got under way in Germany in 1934, with ship-borne radar prototypes emerging by 1936. Although antiaircraft radar was being used in Germany by 1939, the German radar program as a whole was not as well organized as programs in the United States and Britain. During the summer of 1940, radar was incorporated into what the Allies called the Kammhuber Line, the German air defense system created by General J. Kammhuber, consisting of overlapping defensive zones equipped with searchlights and radar.

OTHER COMBATANTS

France. Radar chains were operational at naval bases along the English Channel, the Atlantic, the Mediterranean, and the northeastern approach to Paris by 1939. During the Battle of France, mobile radar sets were used for early warning and for gun laying (artillery direction).

Japan. Radar research began in Japan in 1933, but the first practical military radar sets were not put into operation until 1941. The army and navy worked on radar independently, and so intense was the rivalry between these two services that the development as well as the deployment of the technology was significantly retarded, much to the detriment of the Japanese war effort.

Netherlands. The Phillips Physics Laboratory and the physics laboratory of the Dutch armed forces worked on radar independently during 1936. Only a few prototypes had been built and deployed by the outbreak of the war.

Italy. Radio inventor and pioneer Guglielmo Marconi built a radar system in 1933 and demonstrated it two years later to Benito Mussolini and members of the Italian general staff. Development of a military model was turned over to Ugo Tiberio, who produced the EC-3 in 1941. About 100 radar sets were deployed before Italy surrendered to the Allies in September 1943.

Soviet Union. The Soviets developed an air-defense radar system by August 1934, but the Soviet government failed to promote the further development of radar, and it was not in general usage until 1942.

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Raeder, Erich (1876–1960) *admiral instrumental in creating Germany's World War II navy*

Born in Wandsbek, a suburb of Hamburg, Raeder enlisted in the navy in 1894 and was commissioned an ensign in 1897. After service during World War I at the fleet and staff level and in mine-laying operations and raids along the British coast, Raeder remained with the navy after the armistice and was promoted to vice admiral in 1925. In 1928, promoted to admiral, he was appointed chief of the Naval Command.

Raeder directed the expansion and modernization of the German navy, transforming it from the coastal defense fleet it had become following the Treaty of versailles into a major blue-water force. Adolf Hitler personally promoted Raeder to a rank created expressly for him, Generaladmiral, in 1935, ratifying his position as commander in chief of the navy. Raeder now drew up a grand plan for naval expansion, Plan Z, which called for the construction of a fleet of six battleships, three battle cruisers, two aircraft carriers, and a massive force of cruisers and destroyers, all to be completed by 1944 or 1945. Raeder was promoted to Grossadmiral on April 1, 1939.

Hitler's haste in committing Germany to war prompted Raeder to shelve his plans for a large surface fleet and embark instead on a crash program of submarine construction and a naval strategy that relied almost totally on submarine warfare.

As World War II developed, Raeder experienced sharp strategic differences with his colleagues and with the Nazi leadership. Personally, he remained loyal to Hitler, but he disapproved of prosecuting a two-front war. As this was added to other differences, he was ultimately pressured to resign on January 30, 1943. He was replaced by Karl Dönitz.

Even though he was out of the war by early 1943, Raeder was tried after the German surrender by the Nuremberg War Crimes Tribunal and was convicted of war crimes by reason of his endorsement of unrestricted submarine warfare. On October 1, 1946, the tribunal sentenced Raeder to life imprisonment, but he was paroled on September 26, 1955.

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Rangers, U.S. Army

In World War II, the U.S. Army's special forces were the Rangers. The first battalion of Rangers was created by Brigadier General Lucian Truscott, who modeled the unit on the British commandos. Truscott raised the unit in mid-1942 from troops already stationed in Northern Ireland. Fifty of these soldiers participated in the ill-fated Dieppe raid.

In December 1942, the 29th Ranger Battalion (Provisional) was formed in Britain, and other Ranger battalions (the 3rd and 4th Battalions) were created in Morocco during the North African Campaign in May 1943. Rangers fought in the Sicily Campaign, in the Battle of Salerno, and in the Anzio Campaign. In these Italian operations, the Rangers were used as conventional infantry—despite their special forces training.

Two Ranger battalions, the 2nd and 5th, were raised in the United States and took part in the Normandy landings (D-day). One Ranger battalion, the 6th, was formed in the Pacific theater, in New Guinea in September 1944. This unit was employed in special forces operations, including raids on the Philippines.

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Rashid Ali el-Ghailani (Rashid Ali al[el]-Kaylani, Rashid Ali al[el]-Gillani) (1882–1965) *Iraqi prime minister who cooperated with the Axis against the British*

Rashid Ali el-Ghailani was an Iraqi lawyer and nationalist who cofounded the Muslim Brotherhood, a political party that opposed the 1930

Anglo-Iraqi Treaty, protesting that it compromised Iraqi sovereignty after Iraq became nominally independent in 1932. After briefly serving as prime minister in 1933, he was reappointed to the post in 1940. Early in World War II, Rashid Ali made common cause with four colonels in the Iraqi army, who, aligning themselves with the Axis, were known as the Golden Square. Wishing to block the election of pro-British candidate Nuri al-Said as prime minister, the Golden Square backed the third-term reelection of Rashid Ali in April 1941. In return for this support Rashid Ali abrogated the 1930 treaty by refusing the British permission to transit Iraqi territory. After this, it became increasingly clear that Rashid Ali was receiving material support from Germany via the VICHY GOVERNMENT that held sway over colonial Syria. Indeed, in May 1941, partisans of Ali Rashid attacked a British air base at Habbaniya. These troops were repulsed and suffered a decisive defeat, which prompted Rashid Ali himself to flee to Persia (Iran). From here, he journeyed to Germany, where he set up as the most important pro-Nazi voice from the Arab world. After the war, he remained in European exile until 1958.

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refugees

No one knows for certain how many refugees World War II produced, but the most widely accepted estimate is approximately 30,000,000—more than any other war in history. The refugee crisis was primarily a European phenomenon. In the years leading up to the war and during the early part of it, tens of thousands of Jews and other ethnic and political refugees fled Germany and, later, German-occupied countries before escape was cut off. During the war, invasion sent many people into flight, and the effects of total war, especially the devastation created by STRATEGIC BOMBING, left hundreds of thousands homeless.

The first major refugee exodus came during the BATTLE OF FRANCE, as the people of such cities as Brussels, Lille, and Paris fled southwest, so clogging the roads as to make the movement of French and British troops all but impossible. The German INVASION OF POLAND also created many refugees, and, as a result of ADOLF HITLER's political realignment of Poland during the German occupation of that country, massive numbers of Poles were forced to move from western to eastern Poland. By the winter of 1944–45, it was the turn of massive numbers of German citizens to flee. Very large numbers sought to escape the onslaught of the Soviet counterinvasion by escaping to the West, even into the arms of the Western allies.

As the war in Europe approached its end, the newly founded UNITED NATIONS created UNRRA, the United Nations Relief and Rehabilitation Administration, which sought to provide resettlement and relief for the refuges, who were officially designated "Displaced Persons," or DPs. UNRRA created DP camps throughout western and central Europe and worked to reunite families torn apart by the war. In the Soviet Union, most DPs were held out of the reach of UNRRA and were typically forced to subsist and work in labor camps.

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Reichenau, Walther von (1884–1942) *field marshal in command during the early German conquests of World War II*

Born in Karlsruhe, Germany, to the family of an artillery general, Reichenau was commissioned in an artillery unit in 1903, and by the time of World War I he was an officer on the general staff. In January 1933, he headed the Wehrmachtamt (armed

forces office) of the German Ministry of Defense and enjoyed rapid promotion, becoming a lieutenant general by 1935. He emerged as one of Adolf Hitler's most trusted military commanders and led the Tenth Army (subsequently renamed the Sixth Army) in the invasion of Poland in September 1939. He was then transferred to the western front, where he took a leading role in the Battle of France, personally accepting the surrender of Belgium's King Leopold in May 1940.

In July 1940, he was promoted to field marshal and was again sent to the east with his Sixth Army, where he was initially successful in the Ukraine Campaign during the fall of 1941, taking Kiev in September. However, in November, he was defeated by forces under Marshal Semyon Timoshenko and was forced to withdraw from Rostov. On January 17, 1942, while being evacuated from the front after having suffered a heart attack or stroke, Reichenau died.

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Remagen Bridge

The Ludendorff Railway Bridge over the Rhine River at Remagen, near Bonn, was captured on March 7, 1945, by an armored unit of the First U.S. Army (Courtney Hodges). It was one of the few Rhine bridges that the retreating Germans had failed to destroy.

The taking of the Remagen bridge gave the Americans their first passage across the Rhine and was, therefore, a milestone in the war against Germany and a great boost to Allied morale. About 8,000 troops, together with tanks and self-propelled guns, crossed the bridge in the space of 24 hours.

Although the capture of the bridge at Remagen figured as a psychological triumph, the bridgehead was not exploited into a general breakthrough. As for the bridge itself, it collapsed on March 17, after five divisions had crossed, killing 26 G.I.s. By this time, however, army engineers had built pontoon bridges at this crossing.

Whatever the U.S. shortcomings in exploiting the capture of the bridge, it made a deep impression on Adolf Hitler, who relieved Gerd von Rundstedt and replaced him with Albert Kesselring. One officer and four German soldiers who had been assigned to destroy the bridge were summarily executed. Desperate to bring the bridge down—after the U.S. crossings had already begun—German commanders unsuccessfully attempted to destroy it with V-2 rockets; this was the only instance in which these strategic weapons were employed tactically.

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resistance movements

Every Axis-occupied country responded to occupation with some degree and some form of resistance. Although such Allied governmental and military organizations as Britain's Special Operations Executive (SOE) and the U.S. office of Strategic Services (OSS) attempted with varying degrees of success to organize and coordinate foreign resistance activity, there was never a unified European continental resistance movement (as was frequently rumored to exist during the war), and throughout the conflict resistance movements remained primarily local and indigenous. The one characteristic all resistance movements shared was that their membership tended to become larger as the approach of liberation became increasingly likely.

Resistance may be classed into two broad categories: active and passive. Active resistance encompasses three principal activities—espionage and intelligence gathering; assisting in escape (helping POWs and downed fliers to get across hostile borders, rescuing Jews and other "enemies of the Reich," and so on); and sabotage, which ranged

from isolated acts (the proverbial monkey wrench covertly cast into a vital machine at a war plant), to the ambush of occupying troops, to full-scale partisan military action. Another form of sabotage widely practiced by resistance movements might be called moral sabotage and included the circulation of PROPAGANDA, disinformation, demoralizing rumors, and news furnished by Allied sources.

Passive resistance was nonviolent and more civilian in nature. It included labor strikes, organized slowdowns of war production assembly lines, general noncooperation, the maintenance of underground information networks, and escape assistance.

Resistance work could be very lonely, the activity of a few individuals operating in isolation; however, in some places, such as France, resistance organizations, such as the Maquis, were quite large. Resistance organizations were typically motivated by patriotism and other idealistic impulses, but these organizations were not above collaborating with criminal elements in a city, town, or village. After all, resistance work often required the services of forgers, thieves, murderers, and black marketers.

NORWAY

Following the German invasion of April 1940, the Norwegian resistance was led by two organizations: Milorg, which focused on obtaining military supplies, training operatives, and cooperating with Allied military forces; and Sivorg, which focused on passive resistance—clergy, teachers, and others of influence in the community led noncooperation movements to undermine the occupation administration.

DENMARK

After it was occupied beginning in April 1940, Denmark was often swept by strikes and other anti-occupation demonstrations. Resistance operatives engaged in many acts of sabotage. Danish resisters focused much attention on protecting Jews from the HOLOCAUST, most famously in October 1943, when the resistance managed to send most of Denmark's Jewish population to Sweden.

NETHERLANDS

Most Dutch resistance was passive, and there was little sabotage or armed action. Workers engaged in mass strikes: in February 1941, to protest the arrests of Jews; in spring 1943, to protest the use of former prisoners of war as forced labor; and in September 1944, to disrupt railroad transportation to prevent the Germans from rushing reinforcements to meet the NORMANDY LANDINGS (D-DAY). The German occupiers typically made disproportionately harsh reprisals for resistance activity. In the Netherlands, after the 1944 rail strikes, the occupation government cut off the shipment of food to the civilian population, creating a severe famine.

FRANCE

France saw a combination of active and passive resistance. While the Maquis and other active resistance organizations are best known—especially for their activity in association with the liberation of Paris—ordinary French railway workers were extremely successful in disrupting rail service used by the German military before and during the Normandy landings.

NOTABLE ACTS OF RESISTANCE

Resistance movements are discussed in more detail in entries devoted to the major combatant nations of World War II. The following is a survey of some of the most notable acts of resistance during the war:

August 1941: Resistance gunmen shoot and wound Vichy foreign minister PIERRE LAVAL and a German newspaper editor near Versailles. The assassination fails, but demonstrates the vulnerability of the Vichy government to attack.

October 1941: Maquis members assassinate the German commander in Nantes. In reprisal, German authorities execute 50 French hostages.

May 1942: The SOE infiltrates Czech resistance operatives into Prague, who assassinate the Reich's Protector REINHARD HEYDRICH (the "Butcher of Prague"). The Nazi reprisal is

horrific: the total destruction of the village of Lidice and the murder of all its male residents, the "deportation" of women to the Ravensbrück concentration camp, and the dispersal of most of the children into Germany, where they were raised as Germans.

November 1942: Greek resistance operatives, coordinated by the SOE, demolish a viaduct on the Athens–Salonika railroad at Gorgopotamus, thereby cutting the main German supply line to North Africa.

February 1943: Norwegian resistance paratroops are flown in from England to sabotage the Norsk hydro power station near Ryukan, a source of "heavy water" (deuterium) vital to German nuclear weapons research.

June 1943: French Maquis and SOE agents sabotage the Michelin tire plant at Clermont-Ferrand.

July 1943: French resistance fighters destroy six locomotives and damage another six in a roundhouse at Troyes.

September 1943: Neapolitan resisters fight their German occupiers for three days as the Allied army approaches.

November 1943: French resistance fighters bomb the Peugeot factory at Sochaux, where tank turrets and aircraft engine assemblies are made. The Germans quickly replace the machinery, which is almost immediately sabotaged again.

January 1944: French Maquis and SOE agents blow up the Ratier aircraft plant near Figeac, France, temporarily halting production of propellers for the Luftwaffe.

June 1944: French resistance fighters destroy a train carrying tanks through Toulouse. By way of reprisal, the Waffen SS kills 800 residents of Oradour-sur-Glane.

June 1944: In coordination with the Normandy invasion, French resistance agents cut telephone lines, block roads, blow up bridges, destroy canal locks, set fire to fuel dumps, and sabotage railroad lines in a successful effort to slow the German response to the invasion.

August 1944: In Paris, resistance fighters begin full-scale street warfare against the occupying garrison as the Allied armies approach.

See also Belgium; Czechoslovakia; France; French resistance and underground movements; German resistance to Nazism; Germany; Greece; Hungary; Italy; Moulin, Jean; Netherlands; Norwegian Campaign; Poland, invasion of; and Soviet Union, invasion of.

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Reynaud, Paul (1878–1966) *French premier whose attempt to avert German occupation failed*

Reynaud was born in Barcelonnette, France, became a lawyer, then served in the army during World War I. Following the war, he entered politics in the Chamber of Deputies representing his home district during 1919–24 and, from 1928, a Paris constituency. He was appointed minister of finance, of colonies, and of justice, serving in these posts from 1930 to 1932, when he lost his seat in the government.

During most of the 1930s, as a private citizen, he campaigned for French resistance to German expansionist aggression and backed Colonel Charles de Gaulle 's recommendations for military preparedness to defend against a mechanized, air-supported attack (Blitzkrieg). His calls fell on deaf ears, but Reynaud was appointed minister of justice in April 1938 and used his position to protest the French government's approval of the appeasement policy introduced by British prime minister Neville Chamberlain. After the leader of his parliamentary bloc went so far as to congratulate Adolf Hitler after the Munich Con-

ference and Agreement, Reynaud resigned in protest. He was subsequently appointed minister of finance in November 1938 and served until March 1940, leading France in the direction of austerity in an effort to gear up the economy for war.

Once World War II began, Reynaud became premier on March 21, 1940, and appointed de Gaulle his undersecretary of state for war. As France collapsed in the Battle of France, Reynaud did his best to rally resistance, but Marshal Henri-Philippe Pétain—whom Reynaud had named vice premier in a bid to strengthen his cabinet—led other ministers in a call for capitulation to and an armistice with Germany. Unable to block the armistice and unwilling to be a party to it, Reynaud resigned as premier on June 16, 1940. He was promptly arrested and held in custody throughout the war.

After the liberation Reynaud was elected to the Chamber of Deputies, in which he served from 1946 to 1962. He broke with de Gaulle in 1962 over a constitutional issue.

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Rhine crossings

The Rhine River figured as the final natural obstacle the Allies had to overcome in their advance into Germany in 1945. It was also an objective of great symbolic and psychological importance, both for the Allies and for the Germans, for whom it was a powerful national symbol.

Dwight D. Eisenhower, supreme Allied commander, decided on crossing the Rhine along a broad front—over the objection of one of his two principal field commanders, Bernard Law Montgomery, who favored a sharp, concentrated thrust. As Eisenhower planned it, the Twenty-First Army Group (Montgomery) would cross in the north, the Twelfth Army Group (Omar N. Bradley) in the center, and the Sixth Army Group (Jacob Devers) in the south. Preparatory to these crossings, Twenty-first Army Group had to implement Operation Veritable and Operation Grenade, and the First U.S. Army had to complete Operation Lumberjack, all of which were intended to clear the Rhine approaches. These operations were under way by February; however, progress was slower in the south, where the Third and Seventh U.S. Armies had not yet closed in on the Rhine region.

Elements of the Ninth U.S. Army were the first to reach the west bank of the Rhine, opposite Düsseldorf, on March 2. Their crossing was delayed, however, because the Germans had destroyed all the bridges. Elements of Courtney Hodges's First US Army discovered the Remagen Bridge intact on March 7, seized it, and began crossing.

On March 10, Montgomery's Twenty-First Army Group reached the Rhine and prepared to cross it at Wesel, north of the Ruhr. In the meantime, the Third U.S. Army (George S. Patton Jr.) and the Seventh U.S. Army (Alexander McCarrell Patch Jr.) cleared the region between the Moselle and the Rhine. Simultaneously, the First French Army (Jean-Marie de Lattre de Tassigny) addressed resistance in the Colmar Pocket.

Eisenhower held back on a full-scale crossing of the Rhine until several bridgeheads had been established in addition to that at Remagen. On March 22–23, Patton established one at Oppenheim, south of Mainz, and Montgomery crossed at Emmerich, Rees, Wesel, and Rheinberg on the 24th. Over the following days, Patton made additional crossings at Boppard and near St. Goar between Koblenz and Mainz. The Seventh U.S. Army crossed near Worms on March 26, and the French at Germersheim and Speyer, between Mannheim and Karlsruhe, on March 31, followed by another crossing at Leumersheim on April 2. Combined, these crossings gave the Allies a 200-mile front across the Rhine.

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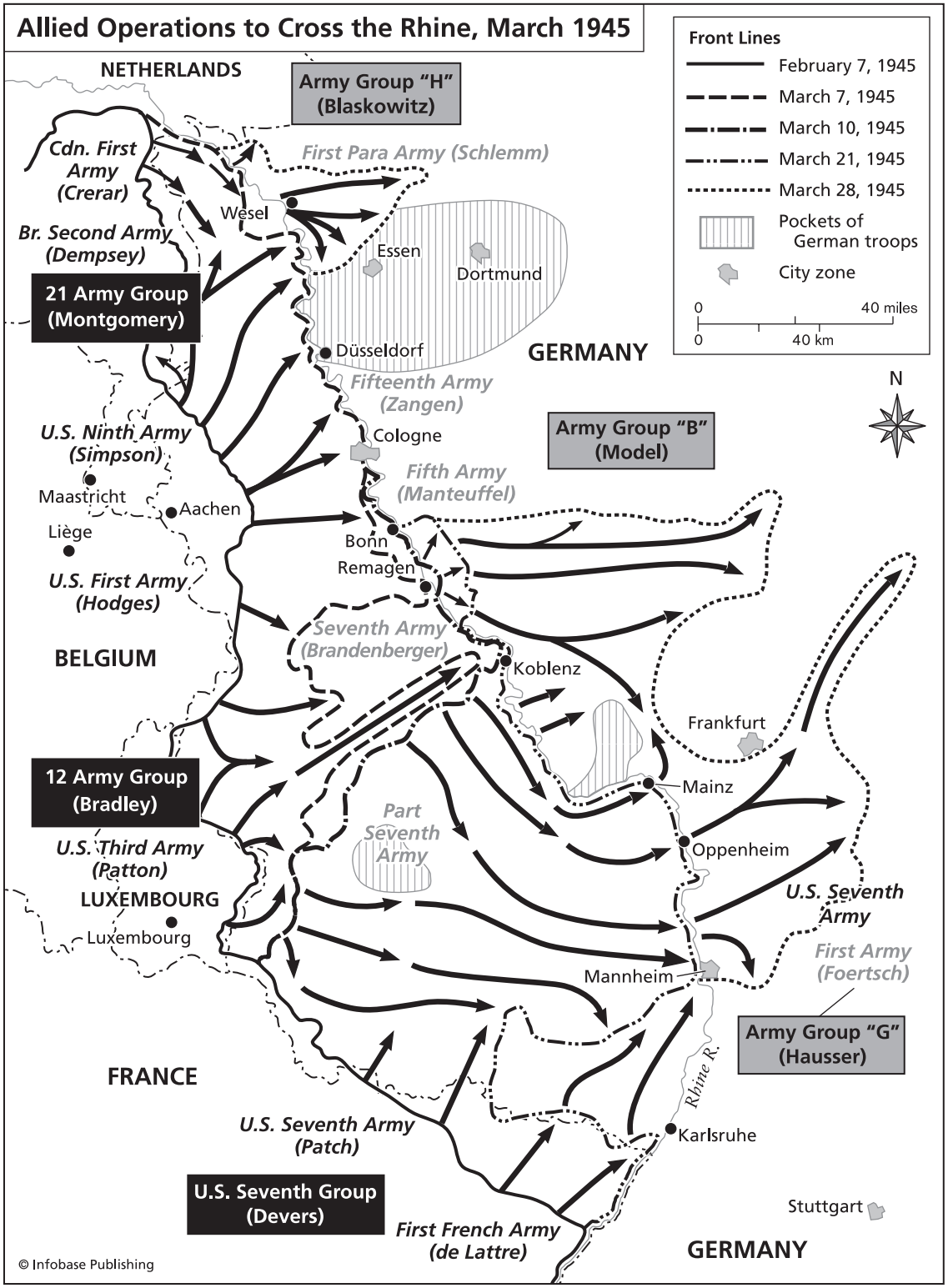
Allied Operations to Cross the Rhine, March 1945
Front Lines
February 7, 1945
March 7, 1945
March 10, 1945
March 21, 1945
March 28, 1945
Pockets of German troops
City zone
0
40 miles
0
40 km
N
NETHERLANDS
Army Group "H" (Blaskowitz)
Cdn. First Army (Crerar)
First Para Army (Schlemm)
Wesel
Br. Second Army (Dempsey)
Essen
Dortmund
21 Army Group (Montgomery)
Düsseldorf
GERMANY
Fifteenth Army (Zangen)
U.S. Ninth Army (Simpson)
Cologne
Army Group "B" (Model)
Fifth Army (Manteuffel)
Maastricht
Aachen
Liège
Bonn
Remagen
U.S. First Army (Hodges)
Seventh Army (Brandenberger)
BELGIUM
Koblenz
Frankfurt
12 Army Group (Bradley)
Mainz
Part Seventh Army
Oppenheim
U.S. Third Army (Patton)
U.S. Seventh Army
LUXEMBOURG
Luxembourg
First Army (Foertsch)
Mannheim
Army Group "G" (Hausser)
FRANCE
Rhine R.
U.S. Seventh Army (Patch)
Karlsruhe
U.S. Seventh Group (Devers)
Stuttgart
First French Army (de Lattre)
GERMANY
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Operation Plunder and Varsity: The British and Canadian Rhine Crossing. London: Pen and Sword, 2006.

Ribbentrop, Joachim von (1893–1946)

Nazi German foreign minister (1933–1945)

Ribbentrop was born in Wesel, Germany, the son of an army officer. He was educated in Germany, Switzerland, France, and England, then lived for a time in Canada (1910–14), returning to Germany at the beginning of World War I, in which he fought on the eastern front before being attached to the German military mission in Turkey.

After the Armistice, Ribbentrop returned from Turkey to Germany and mustered out of the army, becoming a salesman of sparkling wine (*Sekt*). In 1920, he married the daughter of a wealthy producer of Sekt and thereby became financially independent. Seeking to rise in society, he prevailed upon a distant relative, who was ennobled, to adopt him so that he could add "von" to his own name.

In 1932, Ribbentrop met Adolf Hitler and joined the Nazi Party. He rose rapidly in the party, entering Hitler's inner circle as his adviser on foreign affairs after Hitler became chancellor on January 30, 1933. In 1934, Ribbentrop was appointed Reich commissioner for disarmament at Geneva, where he negotiated (in June 1935) the Anglo-German Naval Agreement, which abrogated the Treaty of Versailles to the extent of allowing German naval rearmament.

Ribbentrop was named ambassador to Great Britain in 1936 and served until 1938. He encouraged Hitler's expansionist ambitions by reporting that the British were in no position to render military aid to Poland. While he was serving as ambassador to Britain, Ribbentrop also negotiated the Anti-Comintern Pact with Japan in 1936, and after he became Reich minister of foreign affairs (February 1938), he negotiated the "Pact of Steel" with Italy (May 22, 1939), which allied Italy's fascist dictatorship with Germany's Nazi dictatorship. On August 23, 1939, Ribbentrop went on to negotiate the German-Soviet Non-Aggression Pact (August 23, 1939), which cleared from Hitler's path the final obstacle to war—the prospect of Soviet opposition—enabling him to carry out the invasion of Poland on September 1, 1939.

The German-Soviet Non-Aggression Pact proved to be the high-water mark of Ribbentrop's influence with the government of the Third Reich. Although he signed the Axis (Tripartite) Pact with Japan and Italy on September 27, 1940, the role—or even pretense—of diplomacy necessarily faded into insignificance as the world was plunged more deeply into universal war. Thanks to the sufferance of Hitler, Ribbentrop maintained his post, but he exerted little actual influence. When some Foreign Office officials were implicated in the July Plot (to assassinate Hitler) (July 20, 1944), Ribbentrop was further marginalized.

The Allies arrested Ribbentrop in Hamburg on June 14, 1945, and bound him over to trial by the Nuremberg War Crimes Tribunal. Convicted, he was hanged on October 16, 1946. Before his death, while in prison, he wrote a memoir entitled *Zwischen London und Moskau* (*Between London and Moscow*), which was published in 1953.

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Ridgway, Matthew B. (1895–1993) *U.S. Army general who led the airborne assault on Sicily*

Ridgway was born at Fort Monroe, Virginia and enrolled in West Point, graduating in 1917. He served on the U.S.-Mexican border with the 3rd Infantry and in September 1918 returned to West Point as instructor in French and Spanish. He graduated from Infantry School in 1925 and, from 1925 to 1930, served in China, Texas, Nicaragua, the Canal Zone, and the Philippines. After returning to the United States, he graduated from the Infantry School advanced course in 1930, then from the Command and General Staff School in 1935.

Ridgway served on the staffs of VI Corps and Second Army, then attended the Army War College,

graduating in 1937. After brief service with the Fourth Army based in San Francisco, he came to Washington, D.C., where he was attached to the War Plans Division of the War Department in September 1939. Following a series of promotions, he was appointed assistant division commander of the 82nd Infantry Division based in Louisiana in March 1942. He directed the 82nd's conversion to the 82nd Airborne Division, which was completed in August, and, promoted to temporary major general, he accompanied the division to the Mediterranean early in 1943, where he planned and executed the U.S. Army's first-ever airborne assault, parachuting a portion of the 82nd into Sicily during July 9–10, 1943. Later, during the Italian Campaign, Ridgway led elements of the 82nd Airborne into combat in the Battle of Salerno. He also parachuted with members of the 82nd into France in the airborne assault preceding the Normandy landings (D-day), before dawn on June 6, 1944. During breakout operations from Normandy, in August, his command was expanded to the XVIII Airborne Corps (the combined 82nd and 101st Airborne divisions), and he led the airborne contingent of the failed Operation Market-Garden in September.

At the Battle of the Ardennes (Battle of the Bulge), the 101st Airborne held Bastogne against a massive German counterattack in the last great German offensive of the war during December 16, 1944–January 15, 1945.

From January to April 1945, Ridgway fought in the Rhineland and Ruhr, then was promoted to lieutenant general in June 1945 and given command of the Mediterranean region from November 1945 to January 1946, when he was appointed to the United Nations Military Staff Committee. From July 1948 to August 1949, Ridgway headed the Caribbean Defense Command, then accepted appointment as deputy chief of staff of the army.

During the Korean War, Ridgway took over command of the Eighth U.S. Army in Korea shortly after General Walton H. Walker was killed in an automobile accident. After President Harry S. Truman relieved General Douglas MacArthur as UN commander and commander in chief Far East on April 11, 1951, Ridgway replaced him. In May 1952, Ridgway left Korea to succeed Dwight David Eisenhower as NATO supreme Allied commander Europe. He was promoted to general.

In 1953, Ridgway returned to the United States as army chief of staff, stepping down in June 1955 and retiring from the army. He subsequently worked in the private sector.

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Riefenstahl, Leni (1902–2003) *German director of Nazi propaganda films*

Born Berta Helene Amalie Riefenstahl in Berlin, Riefenstahl took the name Leni when she became an actress in German cinema. Before beginning her film career, she had studied painting and ballet and, during 1923–26, appeared as a dancer throughout Europe.

As a film actress, Riefenstahl specialized in "mountain films," a genre popular in Germany during the late 1920s and early 1930s, emphasizing the beauty of nature and "physical culture" (a cult of physical fitness). She moved on to become a director of such films and, in 1931, founded Leni Riefenstahl-Produktion. Her 1932 *Das blaue Licht* (*The Blue Light*) earned her a reputation as a fine director.

Riefenstahl's expertise in the mountain film genre drew the attention of the Nazi Party, which subsidized a series of movies celebrating physical culture and the superiority of the "Aryan" racial type. Most notable among these films were the 1933 *Sieg des Glaubens* (*Victory of the Faith*) and *Triumph des Willens* (*Triumph of the Will*), a 1935 documentary covering the 1934 Nazi Party convention at Nuremberg. *Triumph of the Will* was a masterpiece of propagandistic filmmaking and is still studied as an important milestone in the documentary genre. It played a key role in popularizing

the Nazi Party, portraying it as an irresistible movement and introducing to the German people—and, to the rest of the world—the leaders of the party. Many film historians consider it one of the most important cinematic works of the 20th century.

In 1938, Riefenstahl released *Olympische Spiele* (*Olympia*) a documentary covering the Olympic Games held in Berlin in 1936 and incorporating highly sophisticated production techniques, including a magnificent score commissioned expressly for the film.

After the war, Riefenstahl was considered a controversial figure at best. Many frankly denounced her for the role she had played in promoting the Nazi Party and Nazi ideology. Allied authorities arrested and detained her, but she was subsequently cleared of involvement in war crimes and was never prosecuted. Despite this, no film studio would hire her—although she managed in 1954 to complete one project, *Tiefland* (*Lowland*), which she had started during the war.

With her film career ended, Riefenstahl turned to still photography, becoming especially well known for her underwater work. A final movie, *Impressionen unter Wasser* (*Impressions Under Water*), was released in 2002, the year before her death.

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Rio Conference

Held in Rio de Janeiro, Brazil, during January 1942, the conference, sponsored by the United States, called together the foreign ministers of all American states (including the U.S. secretary of state) with the main purpose of obtaining a joint pledge to declare war against the Axis. Although many Latin American countries had already declared war, some had not. In the end, Chile and Argentina objected to the resolution, which was subsequently diluted to a joint pledge recommending that all nations sever relations with the Axis.

The Rio Conference also created the Inter-American Defense Board, which gave Latin America a voice in the defense of the hemisphere, and an Emergency Advisory Committee for Political Defense, which monitored pro-Axis activity in the hemisphere. This committee was probably the most effective agency to emerge from the conference, since its investigations compelled Chile to sever relations with the Axis in 1943.

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Ritchie, Neil (1897–1983) *British general defeated by Erwin Rommel*

Educated at Lancing College and at the British military academy Sandhurst, Ritchie was commissioned in the Black Watch in 1914. He fought during World War I both on the Western Front and in Mesopotamia. He continued in service between the wars and, at the outbreak of World War II, was a brigadier general.

Ritchie served as a staff officer under Archibald Wavell, Alan Brooke (1st Viscount Alanbrooke), and Claude John Eyre Auchinleck, all of whom found him invaluable. Auchinleck assigned to him field command of the Eighth British Army in November 1941. The assignment was intended to be temporary until a permanent field commander could be found. As it turned out, Ritchie held the command when the Eighth Army and British forces in general were still undermanned and underequipped. At the time, the Eighth Army stood alone in North Africa against the German and Italian forces and, indeed, the Eighth was the only British land force fighting the Germans in any theater so early in the war.

Although the Eighth under Ritchie enjoyed some successes against Italian units, it was forced into retreat by the Afrika Korps under Erwin Rommel.

At the Battle of GAZALA during May–June 1942, Ritchie was unable to exercise the kind of command that might have at least allowed Eighth Army to hold its own. Rommel scored a stunning victory, which resulted in the loss of the key port of Tobruk. In June 1942, Auchinleck removed Ritchie from command. Ritchie subsequently took over command of the 52nd Division and then, in 1944, XII Corps, which he led during the NORMANDY LANDINGS (D-DAY).

Ritchie did not retire after World War II, but served during the postwar years as commander in chief of British forces in the Far East. When he did leave the service, he accepted appointment as chairman of a Canadian insurance company and spent the remainder of his life in Toronto.

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River Kwai Bridge

In 1939, even before Japan entered World War II, Japanese planners plotted a Thailand-Burma rail line to transport 3,000 tons of supplies daily in support of troops in remote Burma. Considering the formidable terrain and harsh tropical climate, the Japanese engineers projected that five years would be required to complete the 257-mile line. The biggest obstacles were the gorges and mountain cuts, which would require a multitude of bridges—some 600, total—most of them in Thailand.

Actual construction of the railroad was put off until September 16, 1942. Converging lines were begun, emanating from two existing terminals, at Thanbyuzayat, Burma, and at Nong Pladuk, Thailand (some 25 miles west of Bangkok). The lines were to be advanced toward one another. Construction crews consisted of about 61,000 Allied prisoners of war, among them 30,000 British prisoners, 18,000 Dutch, 13,000 Australian, and 700 U.S. soldiers. In addition, 250,000 Malays, Chinese, Tamils, and Burmese were used as slave labor. Of the POWs, it is estimated that 16,000 died, most of them from diseases endemic to the region and from malnutrition, abuse, and sheer exhaustion. In particular, beginning in January 1943, during an accelerated period of construction—which the labor camp authorities called the "speedo"—the prisoners were literally worked to death. Among the Asian slaves, mortality was even higher than among the POWs. It is believed that more than 80,000 died.

Work was completed on the railway not in five years, but in 16 months, the two lines meeting 23 miles south of Three Pagodas Pass in April 1943. The Japanese operated the line for 21 months before it was badly damaged by Allied air attacks, including those using a new type of radio-controlled "AZON" bomb. Except for 80 miles of track in Thailand between Nong Pladuk and Tha Sao, which operates today, the railroad was abandoned before the war ended.

The River Kwai Bridge is the most famous of the 600-plus bridges over which the tracks once ran. It spans 1,200 feet over the Kwai at a place the prisoners called Hellfire Pass because, at night, from the top of the mountain ridge, flickering torches along the construction site and camps looked like the fires of hell. The bridge took a full nine months to build, with prisoners and others working 18-hour shifts. Construction of the bridge was the subject of a famous 1957 film directed by David Lean and starring Alec Guinness, *The Bridge over the River Kwai.* Although the movie is considered a masterpiece of cinema, it has very little basis in the reality of the POW experience at Kwai or elsewhere along the Burma-Thailand Railway.

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River Plate, Battle of

This early naval battle of World War II was fought off the River Plate (Río de la Plata) on the south Atlantic coast of Uruguay and Argentina on December 13, 1939, between the German POCKET

BATTLESHIP *Admiral Graf Spee* and an Allied naval task force.

Admiral Graf Spee (Captain Hans Langsdorff) was one of the German navy's most modern ships, mounting six 11-inch guns. By the time of the battle, the *Graf Spee* had sunk nine Allied ships in the Indian Ocean and South Atlantic. Engine trouble prompted its return to Germany, but Captain Langsdorff decided to return by an indirect route, via the River Plate, in order to intercept an Allied convoy known to be in the area. Commodore Henry Harwood, commanding British Force G (the British light cruisers *Ajax* and the New Zealand light cruiser *Achilles,* as well as the British cruiser *Exeter*—the *Cumberland,* another British cruiser, arrived after the battle), anticipated Langsdorff's intentions and set up an ambush.

When Langsdorff sighted Harwood's ships, he assumed they were the convoy and headed for them. The battle that developed as a result lasted one hour and 20 minutes. Harwood attacked from two directions, but instead of attempting to defend against both attacks, Langsdorff poured his formidable fire on *Exeter,* which was forced to withdraw to save itself. *Ajax* and *Achilles* also took heavy fire and were damaged, prompting Harwood to break off the attack. Apparently fearing for his malfunctioning engines, Langsdorff chose not to press the fight, but entered the port of Montevideo in neutral Uruguay.

The Uruguyan government gave him no more than 72 hours to leave the port or suffer internment for the duration. Although British reinforcements were dispatched, they were not due to arrive until December 19, which should have given *Graf Spee* an opportunity to escape. Langsdorff, however, was deceived by false British signals. Worse, his gunnery officer reported sighting the approach of the battle cruiser *Renown.* Assuming, then, that the British reinforcements had already arrived, and knowing that he was absolutely forbidden to accept internment, Langsdorff acted on orders he had been given to scuttle his ship if he believed he could not fight his way to Buenos Aires. On December 17, 1939, he scuttled the *Admiral Graf Spee,* then committed suicide.

The British celebrated the battle as a major victory—one they badly needed during the bleak early days of the war.

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Rokossovsky, Konstantin (1896–1968) *one of Zhukov's most brilliant subordinate officers; like Zhukov, a marshal of the Soviet Union*

Rokossovsky rose rapidly in the Red Army through 1936, when he became a corps commander, but, like so many other officers of the period, he fell into disfavor with JOSEPH STALIN before World War II, and his career was effectively suspended. Rokossovsky was luckier than many, however, in that he was merely imprisoned and tortured for a time but was spared execution. Released in 1940, he was a corps commander during the German invasion of the SOVIET UNION in June 1941. In July, GEORGI KONSTANTINOVICH ZHUKOV raised him from corps to army command. Zhukov had once served under Rokossovsky and had great respect for him. He championed his former commander, and in September 1942 persuaded Stalin to turn over to him the Don front ("front" was the Red Army term for what the Western allies called an army group) between the Volga and Don Rivers during the Battle of STALINGRAD. Thus, in January 1943, Rokossovsky led the culminating operation against the "Stalingrad pocket" and had the honor of receiving the German surrender.

After Stalingrad, Rokossovsky transported his entire staff and a single army by rail to the Kursk sector. After receiving reinforcements, his force was redesignated the Central front and held the north face of the Kursk salient until after the conclusion of the Battle of KURSK in July.

After Kursk, Rokossovsky advanced toward the Dnieper, which he crossed during November 1944, having in the process amalgamated the Central and Briansk fronts to form the massive Belorussian front. Rokossovsky extended his lines westward through the Pripet marshes until his Belorussian front (later called the First Belorussian front) reached across all the southern half of the salient occupied by German Army Group Center. This allowed him to envelop and destroy that force in July.

Rokossovsky continued his advance, reaching the Vistula north and south of Warsaw by September 1944, whereupon Stalin promoted him to marshal of the Soviet Union. Despite this promotion, Stalin turned the First Belorussian front over to Zhukov and transferred Rokossovsky to the Second Belorussian front. Presumably, Stalin wanted to deny Rokossovsky—whom he had, after all, once purged—the honor of conquering Berlin.

As commander of the Second Belorussian front, Rokossovsky advanced across Poland in January 1945 and, after conducting various operations in West Prussia and Pomerania, supported Zhukov's advance to make contact with U.S. troops at Wismar, 124 miles west of the Oder River on May 2.

After the war, Rokossovsky, who had been born in Poland but had lived most of his life in the Soviet Union, remained in command of Soviet forces in northern Poland and Germany. In 1949, he was appointed Polish minister of national defense and marshal of Poland. In 1952, he became deputy chairman of the Council of Ministers of the People's Republic of Poland. After Poland was somewhat liberalized by reformers in 1956, Rokossovsky returned to the Soviet Union. In July 1957, he was named deputy minister of defense and commander of the Transcaucasian Military District. The following year he became chief inspector of the Ministry of Defense, the post he held until his retirement in April 1962.

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Romania

"Greater Romania," a nation expanded to encompass virtually all Romanians in the Balkans, was created by the Treaty of Versailles, and it was strongly aligned with the West until the Munich Conference and Agreement, after which it fell increasingly into the German orbit. This realignment was formalized by a German-Romanian economic agreement of March 23, 1939, which gave Germany great influence over the Romanian economy. Out of this agreement grew another, signed on December 4, 1940, by which Germany effectively made Romania its economic puppet. What Germany most wanted from Romania was exclusive access to its rich oilfields—especially in the Ploeşti area—on which it came increasingly to rely. By 1941, Germany took in 47 percent of its crude oil supply from German-owned companies based in Romania.

In the years before the outbreak of World War II, Romania, suffering during the worldwide economic depression, increasingly gravitated toward right-wing, fascist political movements, the most important of which was the Iron Guard, which imitated the German Nazi Party in many particulars, especially in its highly organized anti-Semitism. By 1938, King Carol II abandoned all semblance of parliamentary monarchy and created a personal dictatorship, bolstered by growing connections with Germany. Carol was especially concerned about the military threat represented by the Soviet Union and Hungary; during the period of early German triumph in Europe, he and his ministers formally allied the nation with Germany on May 27, 1940. In June, Carol yielded to German "advice" that he cede Bessarabia and Northern Bukovina to the Soviet Union, which was at the time a German military ally by virtue of the German-Soviet Non-Aggression Pact. Next, in June, Germany prompted Romania to cede northern Transylvania to Hungary and, in September, to return Craiova (South Dobruja) to Bulgaria. In return for all these cessions, Adolf Hitler pledged Germany's protection of Romanian sovereignty—or what was left of it. The cessions proved so unpopular with the Romanian people, however, that Carol abdicated on September 6, 1940, in favor

of his son Michael. General Ion Antonescu was named prime minister.

A German military mission was sent to Romania beginning on October 12, charged with the task of building up the Romanian army. Simultaneously, a German economic mission began work to ensure that the Romanian economy was tailored to serve Germany's wartime needs. When the Iron Guard, seeking ever more power, slipped the short leash on which he had kept it, Antonescu received Hitler's blessing to disarm the Iron Guard on the one hand and strengthen the army on the other. On January 21, 1941, this provoked the so-called Iron Guard Uprising against the Antonescu government. Antonescu responded by dissolving the Iron Guard completely and, on January 27, forming a new cabinet made up of military officers. Romania was now undeniably a military dictatorship. This was sufficient to persuade Hitler to permit Romania to enjoy nominal sovereignty within the Nazi orbit; Hitler's greatest concern was to preserve Romania's stability, so that its oil production would be unhindered and so that the country would be available to him as an advance base from which to mount operations against the Soviet Union.

Antonescu led Romania in a full military alliance with Germany beginning with the invasion of the Soviet Union in June 1941, a move that created much dissension within the Romanian government and general population. Great Britain declared war against Romania on December 7, 1941. On December 12, Romania followed Germany's lead and declared war on the United States.

Until the Red Army began to turn the tide against the German army at the Battle of Stalingrad in January 1943, Antonescu stubbornly resisted calls from within his own government to withdraw from fighting in the Soviet Union. As the German situation deteriorated, however, he sent out peace feelers, proposing to Benito Mussolini that Italy and Romania jointly seek a separate peace with the Allies. Rebuffed by Mussolini, Antonescu made several attempts to contact the Allies directly. Each time, he stumbled against the Allied insistence on unconditional surrender. Antonescu believed that to surrender in this way would ensure the ultimate absorption of Romania into the Soviet Union or, at least, its sphere of influence. At last, King Michael acted, arresting Antonescu on August 23, 1944, and ordering the surrender of all Romanian forces opposing the Red Army. Romania then concluded an armistice with the Soviet Union on September 12—a document that (as Antonescu had feared) gave the Soviets a dominant political and economic interest in the country.

Romania suffered mightily in World War II. Its casualties in the German invasion of the Soviet Union were estimated (in 1946) at 625,000; half this number were troops listed as missing. By the terms of the Soviet-Romanian armistice of September 12, 1944, Romania was obliged to provide at least 12 infantry divisions to fight in conjunction with Soviet forces. The Romanians actually provided significantly more than this number—perhaps the equivalent of 20 divisions—in aid of the Red Army's campaign to eject the Germans from Romanian territory and from Hungary and Czechoslovakia. During these campaigns, Romania contributed the fourth-largest Allied force in Europe (behind the Soviet Union, the United States, and Great Britain). Fighting for the Allies, the Romanian army suffered 160,000 casualties, including 111,000 killed or severely wounded.

See also Ploeşti raid.

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Rome-Berlin-Tokyo Axis *See* Axis (Tripartite) Pact.

Rommel, Erwin Johannes Eugen (1891–1944) *Germany's legendary "Desert Fox," commander of the Afrika Korps and of the Atlantic Wall defenses*

Born in Heidenheim, Württemberg, Rommel was the son of a schoolteacher and joined the German

Erwin Rommel *(National Archives and Records Administration)*

Army in 1910 as an officer-aspirant. In January 1912, he was commissioned a second lieutenant and was assigned to a field artillery regiment in March 1914, shortly before the outbreak of World War I. He fought on the western front and was twice wounded. After recovering from his second wound, he transferred to the Württemberg Mountain Battalion and served in the Vosges, then on the Romanian and Italian fronts during 1917–18. He exhibited a marked talent for tactics, which he demonstrated by a bold infiltration during the Battle of Caporetto in the Italian campaign.

By the end of World War I, Rommel had risen to the position of staff officer, and in the much-reduced post–Treaty of Versailles army, he commanded an internal security company during 1919–21, then took charge of a company in the 13th Infantry Regiment headquartered at Stuttgart. In October 1929, Rommel was appointed an instructor at the Infantry School in Dresden; as a result of this assignment, he wrote what became the standard text on infantry tactics, *Infanterie Greiftan* (*Infantry Attacks*), which was published in 1937.

In October 1935, Rommel assumed command of a *Jaeger* ("hunter" or elite) battalion of the 17th Infantry Regiment, then in 1938 was assigned to command the War Academy at Wiener Neustadt. During 1938–39, Rommel was given the signal honor of commanding the Führerbegleitbataillon, Adolf Hitler's personal bodyguard. Hitler developed a high regard for Rommel, and during the invasion of Poland he appointed him his chief for personal security.

In February 1940, Rommel assumed command of the 7th Panzer Division and was a key field commander during the Battle of France in May–June, 1940. Having demonstrated that he was one of Germany's leading exponents of armored warfare, Rommel was dispatched to Libya following the fall of France to command the Afrika Korps beginning in February 1941. In this command, he earned the sobriquet "Desert Fox" as he twice pushed British forces back across the Egyptian-Cyrenaican frontier in a spectacular series of large-scale armored battles. After the British surrendered at Tobruk in June 1942, Rommel was promoted to field marshal.

But even Rommel's genius could not compensate indefinitely for chronic problems of supply and general deficiencies of logistics. Moreover, in Bernard Law Montgomery, he encountered an adversary far more skilled and determined than earlier British generals. In October–November 1942, Rommel suffered a severe defeat at the second of the two Battles of El Alamein and was recalled to Europe in March 1943. This was not to punish Rommel for his defeat, but to save him from further defeat. Hitler did not want the German people to see his favorite general in anything other than the context of victory.

Rommel was assigned to command Army Group B in northern Italy, then, in January 1944, was named to command of German forces in the Low Countries and northern France. In this role he oversaw the general rehabilitation and reinforcement of the "Atlantic Wall" defenses in anticipation of an Allied cross-Channel invasion. It would be Rommel's Army Group B that would bear the initial brunt of the Normandy landings (D-day) in June 1944.

Despite brilliant preparations for the invasion, Rommel proved unable to check the Allied onslaught; he was hampered in no small part by Hitler's refusal to allow him to deploy armored forces in the early stages of the fighting. Rommel

mounted a fierce defense against the Allied breakout from Normandy, but failed here as well.

On July 17, 1944, Rommel was wounded in an Allied air attack, then, following the JULY PLOT (TO ASSASSINATE HITLER) three days later, he was implicated in the assassination conspiracy. Although Hitler arrested and executed some 5,000 persons suspected of complicity in the plot, he did not want the popular Rommel to be formally charged. Instead, the field marshal was given the option of ending his own life—and thereby saving his family from Nazi retribution. On October 14, 1944, he took cyanide. The Nazi propaganda machine reported that he had died a hero of the Reich, having succumbed to war wounds. Erwin Rommel was given a full state funeral.

See also TOBRUK, BATTLES OF.

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Roosevelt, Franklin Delano (1882–1945)

America's wartime president and key Allied leader

Roosevelt was born to genteel privilege in Hyde Park, New York, and educated at Groton Preparatory School (Groton, Massachusetts) and at Harvard University. Although his academic record was undistinguished, Roosevelt was influenced during his college years by the Progressive political philosophy of his fifth cousin, President Theodore Roosevelt, and also fell in love with TR's niece, Eleanor Roosevelt, herself a passionate advocate for the poor. Franklin Roosevelt's marriage to Eleanor on March 17, 1905, increasingly developed in him an awareness of and concern for social issues.

Roosevelt attended Columbia University Law School but did not graduate, although he passed the New York bar and entered a Wall Street law firm. In 1910, he won election to the New York State Senate and was reelected in 1912. He left office to become assistant secretary of the navy in March 1913 under President Woodrow Wilson and, after the outbreak of World War I in Europe, was an eloquent advocate of U.S. military preparedness.

In 1920, Roosevelt was nominated as running mate to Democratic presidential candidate James M. Cox and vigorously campaigned for U.S. entry into the League of Nations, but, as expected, the pair lost in the Republican landslide that put Warren G. Harding and Calvin Coolidge into office. Roosevelt then pursued a business career, awaiting his next political opportunity. Polio struck him in August 1921, however, leaving him paralyzed from the waist down. The disability created by the disease seemed certain to end his political prospects. But thanks to the encouragement of his wife and of other close associates, Roosevelt remained politically active, and his 1924 and 1928 appearances at

President Franklin D. Roosevelt *(Franklin D. Roosevelt Presidential Library)*

the Democratic conventions to nominate Alfred E. Smith for president kept him before the public eye. At Smith's urging, he ran for governor of New York in 1928 and, a brilliant and charismatic campaigner, won. During his two gubernatorial terms, FDR introduced significant social reforms and, after the onset of the Great Depression, bold relief legislation. His performance as governor catapulted him to the Democratic presidential nomination in 1932.

In the depths of the Depression, FDR brought the hope and optimism of his sweeping New Deal program of social and economic legislation. Although the New Deal by no means succeeded in ending the Depression, it did offer urgently needed emergency relief to millions and renewed the American faith in democracy during an era when, in Europe, many nations (led by Italy and Germany) were becoming right-wing totalitarian dictatorships in opposition to the left-wing totalitarian dictatorship of the Soviet Union.

FDR was reelected in 1936 and to an unprecedented third term in 1940. As war threatened and then erupted in Europe and Asia, FDR aligned American neutrality increasingly to favor the Allies—the nations opposed to the Axis (chiefly Italy, Germany, and Japan). He established an especially strong personal relationship with British prime minister Winston Churchill and created a partnership with Britain, which since the fall of France in 1940, stood alone against Nazi aggression, which was just short of a formal military alliance. Roosevelt pushed through Congress a massive budget for war preparedness and weapons production—he pledged to make the United States the "arsenal of democracy"—and ushered in the nation's first peacetime military draft. When the United States finally entered the war after the Japanese attack on Pearl Harbor (December 7, 1941), it did so better prepared for war than ever before in its history.

Like Churchill in Britain, FDR took an intense hands-on role in leading the nation through World War II. He acquired a strong and competent grasp of strategy, but most of all was a figure to whom the American people eagerly looked for leadership through a crisis unparalleled in U.S. or world history. Elected to a fourth term in 1944, he served only until April 12, 1945, when he was felled by a cerebral hemorrhage less than a month before victory came in Europe. He was succeeded by his vice president, Harry S. Truman.

See also Pearl Harbor, Battle of.

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Rosenberg, Alfred (1893–1946) *leading ideologist of Nazism*

Born into a shoemaker's family in Reval, Estonia (at the time a part of the Russian Empire), Rosenberg enrolled as a student of architecture in Moscow until the Russian Revolution of 1917 drove him out of the country. He settled in Munich in 1919, where he fell in with Adolf Hitler, Ernst Roehm, and Rudolf Hess and thereby became one of the creators of the Nazi Party (NSDAP).

Rosenberg edited the party newspaper, *Völkischer Beobachter,* and used its pages to define the Nazis as the valiant foes of a worldwide Jewish plot to dominate the world. In this way, he cemented in the public mind the role of anti-Semitism in Nazi doctrine. When Hitler was imprisoned after the Munich Beer Hall Putsch of November 1923, he named Rosenberg to lead the Nazi Party in his absence. In fact, Hitler counted on Rosenberg's complete incompetence as a politician and organizer to ensure that he would be nothing more

than a caretaker of the party and would be both disinclined and unable to create for himself a power base by which he might wrest the party from his control. Hitler's instinct proved correct, and when he was released from prison, Rosenberg readily yielded leadership of the party back to him.

In the meantime, Rosenberg turned to his real talent, which was the formulation of party doctrine and the articulation of its ideology. In 1927, he published *Der Zukunftsweg einer deutschen Aussenpolitik* (*The Future Direction of a German Foreign Policy*), in which he set forth the German conquest of Poland and the USSR not only as military and political necessities, but as the moral and ideological means of saving the world from Bolshevism and Jewish domination. In 1934, Rosenberg published *Der Mythus des 20. Jahrhunderts* (*The Myth of the 20th Century*), an essay on German racial purity and the destiny of the German race—which Rosenberg theorized was descended from ancient Nordic ancestors—to dominate Europe and destroy the chief opposing races, the "Russian Tartars" and the "Semites" (Jews, Latin peoples, and even Christians—in the form of the Catholic Church). In that same year, his collected writings and speeches began to appear in a series titled *Blut und Ehre* (*Blood and Honour*), which culminated in a final volume published in 1941.

Beyond providing an expression of Nazi ideology, Rosenberg, early in World War II, also introduced Hitler to Vidkun Quisling, the Norwegian traitor who facilitated a Nazi coup in his native country. After this, however, Rosenberg receded into insignificance within the party and the German government. He was put in charge of transporting looted European artworks to Germany and, from July 1941, served in the largely honorific office of Reichsminister for the occupied eastern territories.

After the war, Rosenberg was convicted as a war criminal by the Nuremberg War Crimes Tribunal and sentenced to death. He was hanged on October 16, 1946.

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Rotterdam air raid

The air raid on the Dutch port city of Rotterdam was carried out on May 14, 1940, to force the city into an immediate surrender during the invasion of the Netherlands. A German airborne assault had deployed paratroops to seize and seal off all bridges into Rotterdam. In view of this and the imminence of an overwhelming invasion force, the Dutch agreed to discuss surrender terms; accordingly, the raid was cancelled—but the abort order arrived too late to stop 57 of 100 bombers launched from attacking. Although the bombs were aimed primarily at military targets, more than a square mile of Rotterdam's central city was flattened and nearly 1,000 civilians killed. Within hours of the raid, the Dutch government surrendered—having barely committed its army to combat.

The Allies used the Rotterdam raid as justification for their own strategic bombing policy, which targeted German cities and civilians. Indeed, the British RAF raided the Ruhr on the very day following the Rotterdam attack.

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Rudel, Hans Ulrich (1916–1982) *legendary German air ace of World War II*

Born in Konradswaldau, Germany, the son of a Protestant minister, Hans Ulrich Rudel left school before the outbreak of World War II to join the Luftwaffe. During the invasion of Poland, he flew reconnaissance missions, earning on October 11,

Hans Ulrich Rudel wearing his Knight's Cross with Golden Oakleaves and Diamonds *(National Archives and Records Administration)*

1939, an Iron Cross 2nd Class. At his request, he was enrolled in Ju-87 Stuka dive-bombing training in May 1940 and participated in the AIRBORNE ASSAULT during the invasion of Crete in May 1941. Later in the year, he flew on the eastern front, providing close ground support in the invasion of the SOVIET UNION. He was awarded the Iron Cross 1st Class on July 18, 1941. In January 1945, Rudel was awarded the Golden Oakleaves and was promoted to colonel, having flown 2,530 sorties over the USSR, in which he claimed to have destroyed 519 Soviet tanks. In this hazardous work, he was shot down no fewer than 30 times by antiaircraft fire.

On February 9, Rudel, shot down yet again, was seriously injured. He returned to flight duty six weeks after his leg was amputated. When Germany surrendered on May 8, 1945, Rudel flew his Stuka to the American occupation zone to avoid capture by the Soviets. He moved to Argentina after the war and was employed there by the State Airplane Works. An unapologetic Nazi militarist, he wrote two books after the war, *We Frontline Soldiers* and *Our Opinion on the Rearmament of Germany,* in which he proposed a new war against the Soviet Union for the purpose of obtaining LEBENSRAUM. A third book, *Daggerthrust* (also called *Legend*), condemned all members of the German military who had failed to give ADOLF HITLER their full support and loyalty. Rudel left Argentina in 1953 to return to West Germany, where he became active in the neo-Nazi German Reich Party. His memoir, *Stuka Pilot,* appeared in 1958, and he enjoyed success as a prominent German businessman.

See also CRETE, ACTION ON.

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Rundstedt, (Karl Rudolf) Gerd von (1875–1953) *one of Germany's most capable field marshals of World War II*

Rundstedt was born at Aschersleben, Germany, into a family with a Prussian military heritage. He was enrolled in the Oranienstein Cadet School from 1888 to 1891, then graduated from the Main Cadet School at Gross Lichterfelde in 1893 and was commissioned a second lieutenant that year in the 33rd Infantry Regiment. In 1902, he was sent to the prestigious Kriegsakademie, the German army's war college, from which he graduated with distinction, earning a promotion to captain and a slot on the General Staff in 1909.

At the outbreak of World War I, Rundstedt was chief operations officer of the 22d Reserve Division. He assumed command of the division after its regular commander was wounded at the battle of the Marne during September 5–10, 1914. Promoted to major in November 1914, Rundstedt was assigned to a number of staff posts in the course of the war, culminating in an appointment as chief of staff of the XV Corps in November 1918.

After the armistice, Rundstedt was among the elite cadre of 4,000 officers selected to lead the post–TREATY OF VERSAILLES army, the Reichwehr. He was promoted to lieutenant colonel and served as chief of staff of the 3rd Cavalry Division beginning in October 1920. In 1923, he was promoted to colonel and in 1922 commanded the 18th Infantry Regiment. Promoted to Generalmajor in November 1928, he assumed command of the 2nd Cavalry

Division. The following year, he was promoted to Generalleutnant, and in 1932 became General der Infanterie with command of First Army.

As a member of the Reichswehr's inner circle, Rundstedt was instrumental in the covert rearmament of Germany. He retired from active service with the rank of Generaloberst in October 1938, but was recalled to active duty on June 1, 1939 and assigned to command Army Group South during the Battle of France from May 10 to June 25, 1940. After his triumphal performance in this theater, he was promoted to field marshal on August 19, 1940, and commanded Army Group South in the invasion of the Soviet Union. Rundstedt led his army through the Ukraine, reaching the Don River on December 1, 1940.

Feeling the effects of age, he resigned his commission after the Ukraine campaign, only to be recalled yet again in March 1942 as commander in chief, west (OB West) and commander of Army Group B. His assignment was to make preparations against an anticipated Allied invasion of western Europe. In this mission, he fell into disagreement with Erwin Rommel over how best to deploy the mobile reserve force, and a month after the Normandy landings (D-day), Rundstedt was relieved of command (on July 6, 1944). Nevertheless, Adolf Hitler appointed him to the "Court of Honor" that tried the officers implicated in the July Plot (to assassinate Hitler).

As the western front continued to collapse, Rundstedt was recalled to duty for a third time, as commander of Army Group B, on September 5, 1944. He mounted the spectacular Ardennes offensive during September 16, 1944–January 16, 1945, the last-ditch German offensive of the war.

Rundstedt commanded the desperate defense of the Rhineland during January 1–March 10, 1945, and was personally dismissed from command by Hitler on March 9. Captured by U.S. forces in May, he was held in England from 1945 to 1948, then released to a quiet retirement in Hanover.

See also Ardennes, Battle of the (Battle of the Bulge).

Gerd von Rundstedt *(U.S. Army Command and General Staff College)*

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Russian summer offensive of 1943

By the summer of 1943, the tide had clearly turned against the Germans on the Soviet front. Adolf Hitler wanted at all costs to avoid retreat, but was willing to engage in what he called "strategic retrenchment," which, he hoped, would put his forces in a position to renew the offensive later, on a smaller scale. By 1943, Hitler had 3.07 million German troops in the Soviet Union, opposing 6.6 million Red Army troops. Moreover, he anticipated that the Western Allies would open up a second European front, which would call for the transfer of some troops from the east to the west.

Yet even as Hitler resolved to focus on defense on the Soviet front during the summer, German forces found themselves in a promising position at Kursk, where the Red Army bulge (or salient) was vulnerable to being pinched off by a timely attack. For their part, the Soviets also focused on this area. Instead of taking the initiative here, however, the Red Army waited for the Germans to act. In anticipation of possible German moves, Soviet planners prepared two operations: Operation Kutuzov, an assault against the German salient at Orel; and Operation Rumyantsev, an assault against the Belgorod-Kharkov salient. By the middle of May, the Soviets had five fronts (army groups) in readiness to carry out one of the two operations, depending on where the Germans made their move first. A sixth front was held in reserve in the Orel-Kursk-Kharkov sector.

On July 5, the Germans finally acted. Walther Model led his Ninth German Army in Operation Citadel, striking south while the Fourth Panzer Army advanced northward, toward Kursk. The Soviets moved quickly to contain these advances, narrowly preventing a Fourth Panzer breakthrough on July 12. On that date, Soviet Marshal Georgi Zhukov launched Operation Kutuzov, attacking the north face of the Orel salient. Simultaneously, the Fifth Guards Tank Army engaged the Fourth Panzer Division.

Just as Operation Citadel was getting under way, Hitler was faced with a crisis in Sicily as U.S. and British forces began their advance from the beachheads they had established. On July 13, Hitler summarily canceled Operation Citadel, claiming that he needed the SS panzer divisions to hold Italy. He gave Model command of the Second Panzer Division as well as Ninth Army and ordered him to defend the Orel salient with the object of restoring the front there. When Erich von Manstein protested that the sudden cancellation of Operation Citadel would appear to be a German defeat, Hitler authorized him to maintain the offensive long enough to claim some degree of victory. Four days later, however, he summarily ordered the SS panzer divisions out of the front.

Model in the meantime fought a fierce defense, which took a terrible toll on the Red Army. On July 25, however, Hitler, responding to the ouster and arrest of Benito Mussolini, warned Model that Army Group Center in the Soviet Union would have to yield no fewer than 24 divisions for redeployment in Italy. Model had no choice but to begin as orderly a withdrawal as possible. On August 5, Model abandoned Orel. At the same time, Belgorod was liberated by the Red Army. These events prompted Joseph Stalin to issue a "special order of the day" declaring an end to the "German legend" claiming that the Soviets were incapable of waging a summer campaign.

Stalin's "special order" notwithstanding, the Red Army had not yet mounted a full-scale summer offensive. The German withdrawal was orderly, and six entire Soviet fronts (army groups) were kept occupied defending against German units. An important Soviet breakthrough did come on August 23, when Manstein evacuated Kharkov, and at the end of the month eight Soviet fronts (army groups) began developing no fewer than 19 parallel advances toward the Dnieper River, the strongest being just west of Kursk and Kharkov. By September, Hitler reluctantly agreed to allow a limited withdrawal behind the Dnieper, but by this time the Red Army was able to force multiple crossings and pursue the retreating Germans. By December, the Soviets had gained substantial bridgeheads at key points on the river, dooming the Germans in the Ukraine.

See also Kursk, Battle of.

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Russian winter counteroffensive of 1941–1942

On October 2, 1941, the German Army Group Center began Operation Typhoon in an effort to capture Moscow. Despite progress made, the Soviets resisted doggedly, and by November the German advance was bogged down in the mud of a wet winter. A freeze beginning on November 15 gave new impetus to Operation Typhoon, which regained mobility, and by November 24, German forces were on the outskirts of the Soviet capital, but were again halted by the end of the month. Now the winter came in earnest, as temperatures dropped as much as 30 degrees below zero. Soldiers as well as vehicles suffered—the men freezing, the machinery grinding to a halt when lubricants froze.

With the Germans stalled, Marshal Georgi Zhukov counterattacked on the morning of December 6. The Germans found it impossible to dig into the frozen ground, nor could they gain sufficient mobility to close the many gaps in their lines. German commanders predicted the total collapse of their lines. In response, Adolf Hitler ordered on December 18 what he termed "fanatical resistance," and on December 19 he relieved Walther von Brauchitsch as commander in chief of the German Army and assumed personal command of all German forces.

Despite the "fanatical resistance" order, German Army Group North withdrew from Tikhvin and Army Group Center from its positions near Moscow. In the meantime, to the north, German positions around Leningrad were eroding. Marshal Zhukov sought to exploit the growing vulnerability of the German position by a counteroffensive to drive Army Group Center to the line from which Operation Typhoon had been launched. At the same time, after Army Group South had finished its retreat from Rostov, the Soviet Black Sea Fleet landed three armies on the Kerch peninsula in east Crimea beginning on December 26. Still intent on resisting the counterattack by means of "fanatical resistance," Hitler shook up his high command in the Soviet Union, sending Field Marshal Fedor von Bock home and relieving both Heinz Guderian and Erich Hoepner. All had dared to challenge the "fanatical resistance" order.

In the meantime, Joseph Stalin announced a grand counteroffensive that pitted nine Red Army fronts (army groups) against the invaders all along a line stretching from Leningrad to the Crimea. Stalin intended to liberate Leningrad in the north, and the Donets basin and the Crimea in the south. The counteroffensive would also prevent the Germans from making a new attempt against Moscow.

Zhukov was tasked with enveloping and destroying Army Group Center, and he did force the Germans to spread themselves very thin, but his subordinate commanders were unable to achieve the level of coordination necessary to drive off the German army group. Field Marshal Günther von Kluge held his lines outside of Moscow, as did commanders to the north and south. By March, when the spring thaw halted all operations for weeks, the German lines had been pushed back in places, but German forces were also able to maintain a series of salients along a very broad front. Thus the Soviet counteroffensive halted the German advance—and even gained some ground—but it would not prevent the Germans from mounting a new summer offensive.

Stalin announced that the Red Army would conduct an active defense, but he also insisted on certain actions he characterized as "preemptive blows." These failed miserably, allowing the Germans to score a number of highly visible successes, which gave at least the illusion of continued victory. Nevertheless, the Red Army's progress was real, and by the end of the winter of 1941–42, it was becoming clear that the German position in the Soviet Union was increasingly vulnerable.

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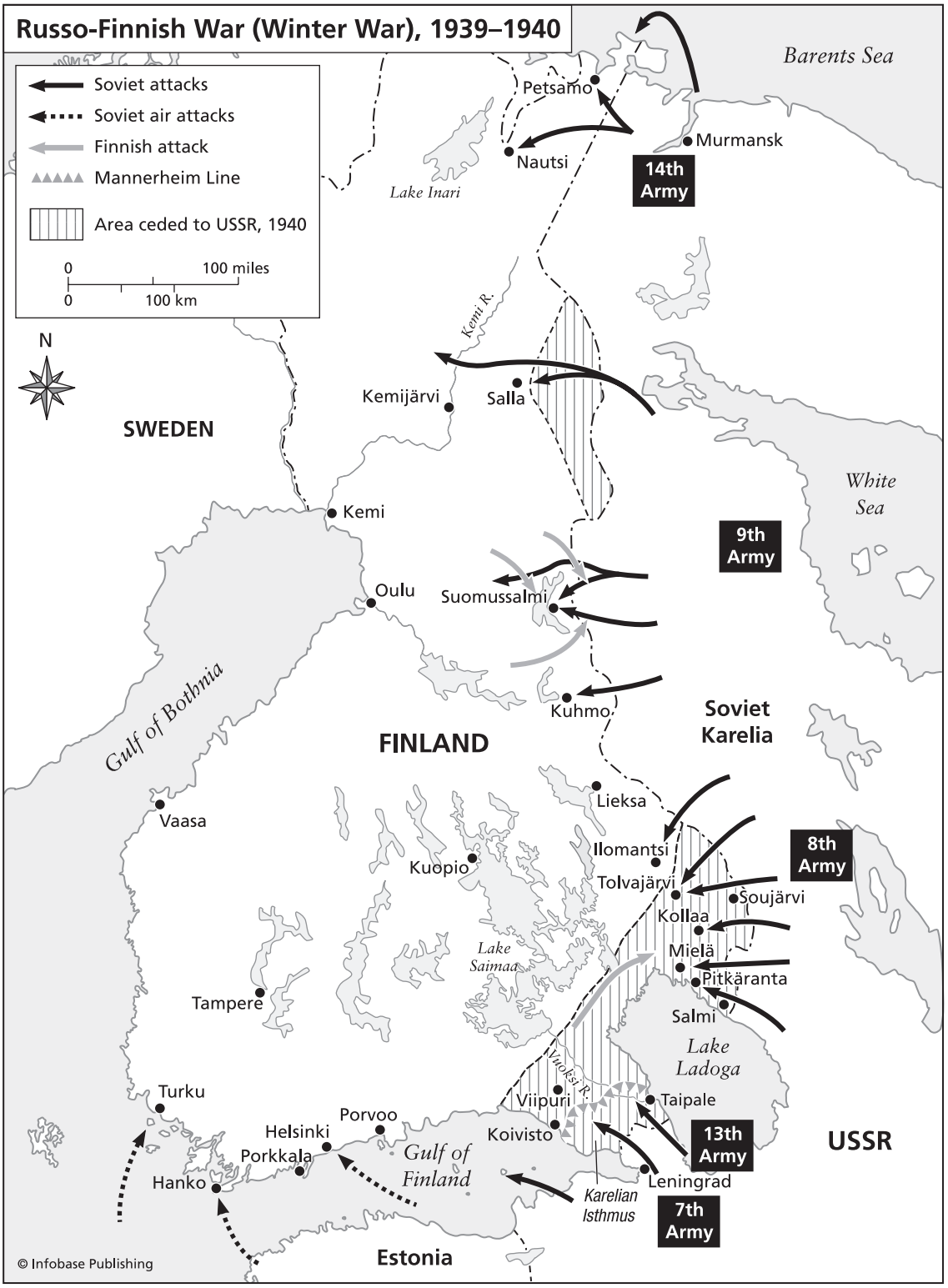
Russo-Finnish War (Winter War), 1939–1940
Soviet attacks
Soviet air attacks
Finnish attack
Mannerheim Line
Area ceded to USSR, 1940
0 100 miles
0 100 km
N
Barents Sea
Petsamo
Murmansk
Nautsi
14th Army
Lake Inari
Kemi R.
Kemijärvi
Salla
SWEDEN
White Sea
Kemi
9th Army
Oulu
Suomussalmi
Gulf of Bothnia
Kuhmo
Soviet Karelia
FINLAND
Lieksa
Vaasa
Ilomantsi
8th Army
Kuopio
Tolvajärvi
Soujärvi
Kollaa
Lake Saimaa
Mielä
Pitkäranta
Tampere
Salmi
Lake Ladoga
Vuoksi R.
Turku
Viipuri
Taipale
Porvoo
Helsinki
Koivisto
13th Army
USSR
Porkkala
Gulf of Finland
Hanko
Leningrad
Karelian Isthmus
7th Army
Estonia
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Russo-Finnish War (Winter War)

The Russo-Finnish War coincided with the early months of World War II and began when the Soviet Union invaded Finland on November 30, 1939, without a declaration of war. The primary object of the invasion was to acquire Finland as a buffer zone against the eventuality of German aggression, which Joseph Stalin feared, despite having concluded the German-Soviet Non-Aggression Pact on August 23, 1939. By invading and annexing the eastern third of Poland, as well as territory in small Baltic and Balkan states, the Soviets believed they could protect their western frontier; however, the Russo-Finnish border was well within reach of Finnish artillery. Soviet planners believed that Germany might land in Finland and use it as a base from which to invade the Soviet Union. After trying unsuccessfully to conclude a military alliance with Finland—the Finns rejected it in the name of preserving their neutrality—Soviet-Finnish negotiations broke down on November 26, 1939, after four Soviet soldiers were killed and nine wounded by artillery fire near the Soviet village of Mainila. The Soviets claimed that the shells had been fired by the Finns; however, the Finnish artillery was actually stationed so far behind its border that this was impossible. Clearly, the incident had been staged by the Soviets as an excuse to go to war with Finland. These so-called Mainila shots were the pretext for the Red Army's invasion of Finland on November 30, 1939.

The Soviets bombed Helsinki on the first day of the war and simultaneously launched a ground attack along the Mannerheim Line using seven Soviet divisions. Although the Finns were outgunned and outnumbered, they enjoyed the advantage of superior leadership and tactics, which exploited the snow and rugged terrain to advantage. At every point along the frontier, the Soviets were repulsed. As they withdrew, Colonel Paavo Talvela led a Finnish counterattack at Tolvajarvi. This effort faded by December 23, however, and was not decisive. Nevertheless, Soviet losses were heavy: 4,000 killed, 5,000 wounded. The Finns lost 630 killed and 1,320 wounded. The Red Air Force produced even more dismal results. Although aircraft flew more than 44,000 sorties and dropped 7,500 tons of ordnance, the bombardment produced no decisive effect.

Sensing that the Soviets had lost the initiative, the Finns staged a counterattack on the eastern border, where the 9th Finnish Division scored a great victory at Suomussalmi during December 11–January 8, destroying two entire Soviet divisions—killing some 27,500 Red Army soldiers. North of Lake Ladoga, separating the USSR and Finland, the Finns attacked at Kitela, destroying an entire Soviet division in January 1940 with "motti tactics." The Finnish word *motti* describes a pile of logs awaiting chopping or sawing. Finnish troops would surround the enemy column and block the road on which it advanced. They would then launch sharp attacks on the stalled enemy, splitting the column into isolated fragments, which would be starved, frozen, and finally "chopped" to death. The Finnish triumph at Kitela is often called the "Great Motti."

Despite their losses, the Soviets persisted. Whereas the Finns had better commanders and superior tactics, the Soviets had a virtually limitless supply of men, and Stalin was prepared to commit them to battle. Indeed, Soviet casualties were staggering: 126,875 killed out of 710,578 men ultimately deployed. Yet the Finns understood that they could not long hold out against such numbers. Finland sued for peace and on March 12, 1940, accepted installation of a Soviet-controlled puppet government. Finland also ceded the strategically valuable Karelian Isthmus and Viipuri.

Few in Finland were satisfied with the treaty of March 12, 1940, and, in June 1941, after Germany launched its invasion of the Soviet Union, Finland allied itself with Germany and participated in action on the Soviet front.

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S

St. Nazaire Raid

On the night of March 27–28, 1942, the *Campbeltown* (one of the obsolescent U.S. destroyers Britain acquired through the U.S. Lend-Lease program) boldly sailed past the defenses of the French port of St. Nazaire (St-Nazaire), deliberately rammed the outer caisson of the dock, then landed 268 British commandos, who destroyed dock machinery. The purpose of this daring raid was to destroy the only Atlantic dry dock available to the Germans that was big enough to accommodate the battleship *Tirpitz,* which could have been used to attack Allied convoys.

Many of the commandos were abandoned and were subsequently captured or killed. During the day on March 28, explosives in the *Campbeltown* were detonated, destroying the dock—and killing a number of German officers who were inspecting the ship. Two British commandos on board at the time remained silent about the explosion they knew to be imminent and therefore gave their lives to preserve the operation.

The raid was successful in that it destroyed the dry dock; however, its cost was great: 144 commandos and British naval personnel killed and more than 200 made prisoner.

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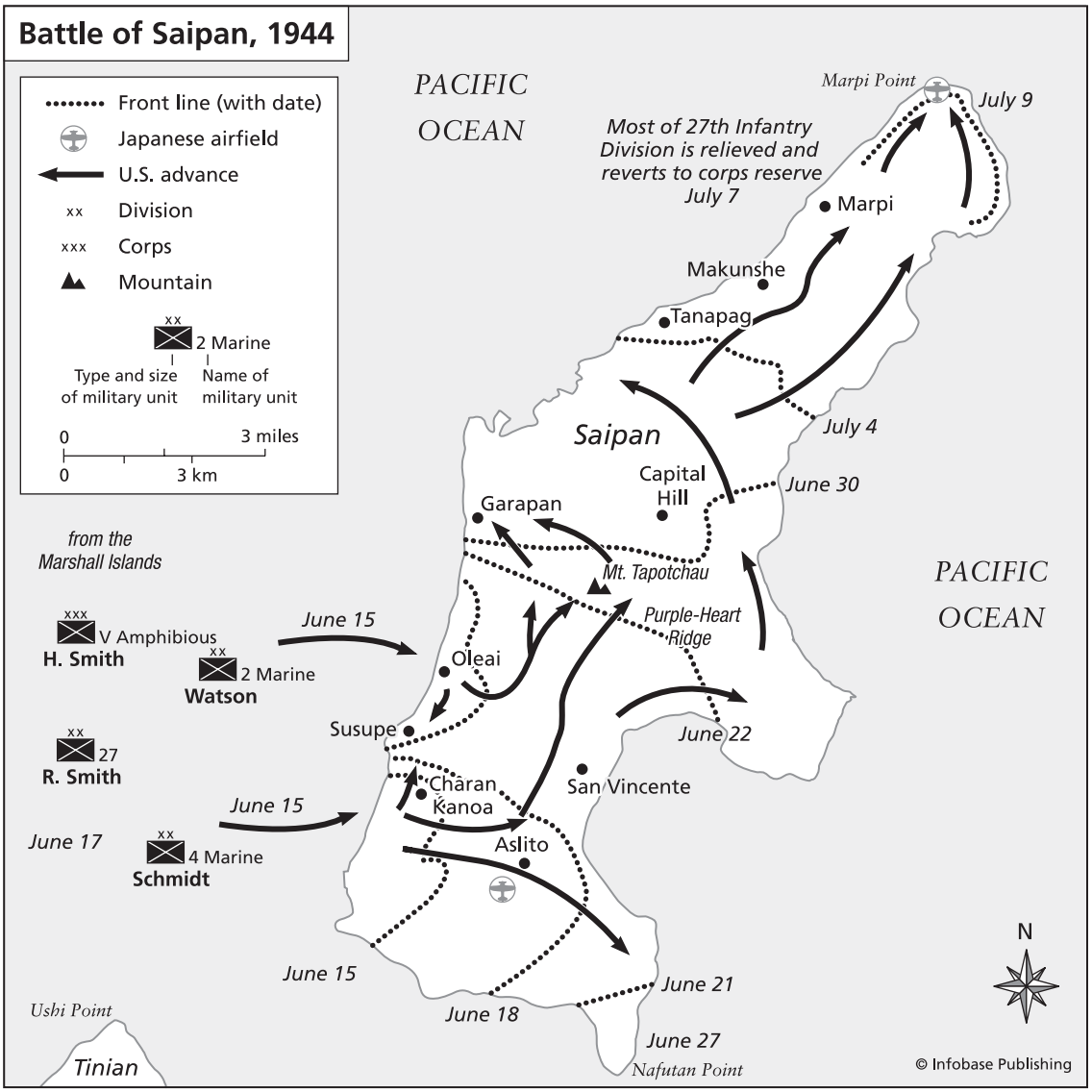
Saipan, Battle of

Saipan was the first island captured in the Mariana Islands campaign and was a major American victory in the Pacific war, bringing Japan within range of U.S. B-29 bombers and precipitating the downfall of no less a figure than Japan's prime minister and military dictator, Tojo Heideki.

Since the end of World War I, Saipan had been a Japanese mandate and was a major military and administrative base. The island was very well defended, offering high ground from which the western landing beaches would become killing fields. Moreover, Saipan was protected by coral reefs so formidable that U.S. Navy underwater demolition teams had to blast passages for the landing craft that landed the 77,000 men of the 2nd and 4th U.S. Marine Divisions of Lt. Gen. Holland "Howlin' Mad" Smith's 5th Amphibious Corps on June 15, 1944. As it was, the landing phase did not go well. Prelanding naval and air bombardment had been neither sufficient nor sufficiently effective, which meant that the marines were instantly met by fierce resistance from the island's 32,000-man Japanese garrison (elements of the Thirty-First Japanese Army under Lt. Gen. Yoshitsugu Saito). In the first 48 hours of battle, 4,000 marines were killed or wounded. That the Japanese managed so effective a defense is the more remarkable in that Yoshitsugu had actually expected the landings to come elsewhere on the island, yet was able to shift his defenses quickly.



Yoshitsugu was confident that he would be able to pin the marines down on their beachhead, rendering them vulnerable to the Japanese Mobile Fleet, which would bombard the beachhead as well as destroy the marines' landing craft. This would, indeed, have been catastrophic for the American forces, but it never happened. The Mobile Fleet was defeated in the Battle of the Philippine Sea, leaving Yoshitsugu no choice but to pull back to the center of the 14-mile-long island and fight as costly a delaying action as possible. Whereas USMC commanders had estimated a three-day battle to take Saipan, Yoshitsugu managed to hold them off for three bloody weeks.

The first milestone objective attained was Aslito airfield on the south end of Saipan, which

was captured on June 18. But an attempt to advance from this objective to the north was met by deadly resistance in the rugged terrain near Mount Tapotchau. The army's 27th Infantry Division, freshly landed, was sent into this sector and suffered severe casualties in a wooded patch dubbed Purple Heart Ridge. The advance of the 27th bogged down here until naval support fire battered Japanese defensive positions.

During the night of July 6–7, the Japanese mounted a desperate BANZAI CHARGE—the biggest and deadliest of the war—which nevertheless failed to throw back the U.S. soldiers. The charge, which cost the lives of at least 4,300 Japanese, was the last major Japanese operation on the island, although small bands of diehards continued to fight for months. The island was declared secure on July 9. On that day, many Japanese soldiers committed suicide rather than surrender, and even more civilians, who had been told that they would be raped, tortured, and even cannibalized by the Americans, also killed themselves, often by leaping to their deaths from Marpi Point.

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Salerno, Battle of

The principal Allied assault on mainland Italy during the ITALIAN CAMPAIGN was directed against Salerno on the west coast of Italy. From here, the Allies intended to take Naples, a major port city. Just before the September 9, 1943, landing, Marshal PIETRO BADOGLIO, who had become Italy's head of state after the removal and arrest of BENITO MUSSOLINI, surrendered to Allied supreme commander DWIGHT D. EISENHOWER, but Field Marshal ALBERT KESSELRING led German forces, which were deployed to all strategic points throughout Italy, in a determined resistance; the Germans rapidly moved south to engage the Allies.

The landing at Salerno, code-named Operation Avalanche, was carried out by the Fifth Army (MARK CLARK) at dawn on September 9. Landing on the right (southern flank) was the U.S. VI Corps (Ernest Dawley, subsequently relieved by JOHN LUCAS), whose 36th and 45th Infantry Divisions took Paestum within 72 hours and advanced inland 10 miles. Landing on the left (northern flank) was the British X Corps (56th and 46th divisions, Richard McCreery), which took Battipaglia and then Salerno itself.

On September 12, German forces counterattacked, recapturing Battipaglia and pushing back the Allies to within two miles of the coast in some places. To check the counterattack, Allied aircraft repeatedly struck at German positions on September 14. Aerial bombardment was supplemented by naval gunfire, and British general Sir HAROLD ALEXANDER, in overall command of Allied ground forces in Italy, sent the U.S. 82nd Airborne and the British 7th Armoured divisions to bolster the Fifth Army forces. This stopped the counterattack by nightfall on September 15, forcing Kesselring to retreat. On September 16, BERNARD LAW MONTGOMERY's British Eighth Army, up from southern Italy, joined the Fifth Army. With this, the Salerno landing was secured. Now reinforced by the U.S. 3rd Division, the Fifth Army broke out toward Naples, taking the city on October 1.

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Scapa Flow

Scapa Flow is a natural harbor located within the Orkney Islands off the northeast coast of Scotland. Its military significance has been recognized since the 13th century, and in World War I it was the

northern base of the British Grand Fleet. During World War II, it was the base of the Home Fleet, which participated in Arctic convoy operations as an escort.

Early in the war, in October 1939, German U-boat ace Günther Prien sailed U-47 into Scapa Flow and torpedoed HMS *Royal Oak,* which sank with the loss of 833 of its 1,400-man crew. The loss of *Royal Oak* prompted the British admiralty to set up an elaborate defense of Scapa Flow using anti-aircraft installations, minefields, and blockships. In 1940, by order of Prime Minister Winston Churchill, concrete blocks were erected between the islands on the eastern side of Scapa Flow, creating four causeways today known as the Churchill Barriers. Most of the work was done by Italian prisoners of war. The base was not attacked again.

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Schacht, Hjalmar (1877–1970) *Financial manager of the Third Reich*

Schacht was president of the Reichsbank from 1923 to 1930 and again from 1933 to 1939. He was Adolf Hitler's architect of the Nazi war economy and held plenipotentiary authority from 1935 to 1937. Officially, he occupied the post of minister of economic affairs from August 1934 to November 1937; from 1937 until January 1943, he served the Reich as minister without portfolio.

Although Schacht was instrumental in much of Germany's economic planning during the 1930s, he increasingly opposed Hitler's rearmament policies because they exerted severe inflationary pressures. Schacht was held in such high regard, especially by the international community, that Hitler was loath to remove him, even when his opposition became increasingly strident. In 1937, however, under pressure from Hitler, Schacht resigned, although not before making clear his negative views on Nazi production and financial policy.

Hermann Göring replaced Schacht, who quietly joined the resistance against Hitler. Following the July Plot (to assassinate Hitler) in 1944, Schacht was arrested and spent the rest of the war in concentration camps. Tried by the Nuremberg War Crimes Tribunal, he was acquitted of war crimes.

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Scheldt Estuary

During nearly three months, from September to November 1944, the Schledt Estuary became the object of an Allied campaign to open a supply from the Belgian port of Antwerp to serve invasion forces.

Bernard Law Montgomery's Twenty-First Army Group entered Antwerp on September 4, 1944. Montgomery's troops captured the port's extensive dock and lock systems intact. Now all that remained to be done was to connect these extraordinary port facilities via the Scheldt River with the Allied lines of advance through France and into Germany. The campaign for control of the estuary was critical to Allied logistics in its penetration of the countries occupied by Germany and Germany itself.

The fall of Antwerp to the Allies cut off the German Fifteenth Army (Lt. Gen. Gustav-Adolph von Zangen) on the west bank of the Scheldt. This afforded an opportunity for the Second U.S. Army (Miles Dempsey) to thrust between the German Fifteenth Army and the German forces defending the West Wall. Montgomery was absorbed in Operation Market-Garden, however, which he believed would expedite the Allied movement into Germany; he therefore initially neglected opening the Scheldt. The failure of Market-Garden denied the Allies the option of opening Rotterdam or Amsterdam as supply ports. Now Montgomery turned his attention to the Scheldt—but not before

the German Fifteenth Army had begun making its escape from isolation. British Bomber Command began bombing German defenses on Walcheren Island, which dominated the mouth of the Scheldt, in mid-September, and Henry Crerar drew up plans for landing his Canadian 1st Corps on Walcheren after its dikes had been blasted by aerial bombardment and the inland German defenses largely flooded or isolated. Crerar was obliged to return to England for medical treatment on September 26, and turned over command of 2nd Corps to Lt. Gen. Guy Simonds, who in October led the 2nd Canadian Division toward the South Beveland isthmus, preparatory to an amphibious assault on Walcheren Island. Simultaneously, Operation Switchback attacked the German defenses around Breskens—what the Germans called Scheldt Fortress South. On October 16, Simonds was given clearance by Montgomery to employ the entire First Army to clear both banks of the Scheldt. Accordingly, the 2nd Canadian Division launched Operation Vitality along the isthmus to clear South Beveland and the eastern bank. Augmented by two brigades from 52nd (Lowland) Division, the Canadians overran South Beveland by the end of October.

The Canadians were now faced with traversing a 1,200-yard causeway to reach Walcheren Island. Three times they attacked along the causeway, and three times they were repulsed. At last relieved by the two brigades of 52nd (Lowland) Division, the Canadians withdrew. Elements of the 52nd bypassed the causeway and advanced across the Sloe Channel to the island.

While operations to land on Walcheren continued, the 3rd Canadian Division took Breskens on October 21, 1944. On November 1, British commandos launched two amphibious assaults on Walcheren. They faced extraordinary defenses, including pillboxes, concealed flamethrowers, and antipersonnel mines. The commandos called in naval and aerial bombardment to neutralize these defenses. More commandos landed at Flushing and were followed by the 155th Brigade of the 52nd (Lowland) Division. After two days of house-to-house combat, the Germans surrendered. Following this, elements of the 155th Brigade made an amphibious crossing to Middleburg, Walcheren's capital, where the German commander capitulated on November 5. In the meantime, other commandos had captured all the batteries between Domburg and Flushing, which enabled minesweepers to begin clearing the Scheldt. All organized German resistance ended by November 8, 1944, and the Scheldt was pronounced clear of mines on November 26. On November 28, the first supply convoy arrived at Antwerp's docks.

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Schellenberg, Walter (1910–1952) *head of the German Foreign Intelligence Service*

Born in Saarbrücken, Germany, Schellenberg grew up in Luxembourg, to which his family moved after World War I. He returned to Germany to attend the University of Marburg and then the University of Bonn. Initially enrolling as a medical student, he switched to law. Schellenberg joined the Schutzstaffel (SS) in May 1933 and began working in counterintelligence. A meeting with Reinhard Heydrich brought him into the SS inner circle, and from 1939 to 1942 he served as aide to Heinrich Himmler and was promoted to deputy leader of the Reich Central Security Office (Reichssicherheitshauptamt, RSHA). Himmler had sufficient confidence in Schellenberg to add a third brief to his portfolio: special plenipotentiary (Sonderbevollmächtigter). This position effectively made him Himmler's deputy, and since Himmler was general plenipotentiary to the entire Reich administration (Generalbevollmächtigter für die Verwaltung), Schellenberg came to occupy a position of great power and influence.

By 1939, Schellenberg was head of the RSHA's counterespionage section. In this capacity, in November, he orchestrated the so-called Venlo Incident in the Netherlands, which led to the capture of two important British secret agents. The captures gained Schellenberg promotion to SS colonel and earned him the important assignment in 1940 of compiling a list of 2,300 prominent Britons who were to be targeted for arrest after Operation Sealion, the planned invasion of Britain. Also in 1940, Schellenberg traveled to Spain to abduct the Duke and Duchess of Windsor, who had just fled France during the Battle of France. Schellenberg's mission was to persuade the couple to work for Germany; however, he failed even to intercept them.

By the end of 1941, Schellenberg had advanced to acting chief of the entire RSHA Foreign Intelligence Service (he became chief formally in 1943) and turned his attention to countering the Soviet spy ring known as the Red Orchestra. In this he enjoyed significant success and was promoted to major general in the Waffen-SS. In 1944, he replaced Wilhelm Canaris as head of the espionage organization known as the Abwehr.

As the war drew to its close in April 1945, Schellenberg talked Himmler into attempting to negotiate peace with the Western Allies through the Swedish count Folke Bernadotte. Schellenberg traveled to Stockholm to arrange the meeting between Bernadotte and Himmler and was in Denmark, attempting to arrange his own surrender, when Allied troops arrested him in June 1945. He was called on during the Nuremberg War Crimes Tribunal proceedings to testify against fellow Nazis. In 1949, he himself was sentenced to six years' imprisonment. It was time he employed to write a memoir of his work in counterintelligence titled *The Labyrinth*. Released in 1951 because of an incurable liver ailment, he moved to Switzerland, then settled at Verbania Pallanza, Italy. He died the following year in Turin.

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Schindler, Oskar (1908–1974) *German industrialist who used his position to save some 1,300 Jews from certain death*

Schindler was an ethnic German of Catholic parentage born in Zwittau, Austria-Hungary (now part of the Czech Republic). Raised in wealth, he was a spoiled child and grew into a self-indulgent young man, notorious as a womanizer. Even after he married at the age of 19, he continued his multiple affairs and a life of general dissipation as a hard drinker and aggressive gambler. His financial recklessness destroyed his family's business, prompting him to exploit the exigencies of war after the invasion of Poland to become a master of the black market. He moved readily between the underworld and the realm of the German administration in Poland, liberally bribing the Gestapo and other officials. Using his influence, he acquired an enamelware factory in Poland, which he staffed with Jewish slave labor.

Up to this point, there was nothing especially unusual about Schindler, a corrupt war profiteer. Yet perhaps in spite of himself, he experienced an inner transformation and began to use his Emalia factory—producer of enamelware and munitions for the German army—to shelter his Jewish employees. The more he saw of the Final Solution and the Holocaust, the more Schindler became resolved to help as many Jews as possible, ultimately rescuing and protecting some 1,300 in a series of factories opened after the Emalia facility.

At the end of the war, Schindler fled to Argentina with his wife and a few of his workers. They lived together on a farm, which he left in 1958, abandoning his wife as well as his mistress to return to Germany. The rest of his life was spent shuttling between Germany and Israel, where some of the "*Schindlerjuden*" (Schindler's Jews, the men, women, and children he had saved) had gone to live. They cared for him and saw to it that the state

of Israel officially recognized his heroic work during the war.

Schindler's story was told in 1982 by the Australian writer Thomas Keneally in his fact-based novel *Schindler's Ark* (published in the United States as *Schindler's List*), which was made into a successful and important motion picture by director Steven Spielberg in 1993.

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Schlabrendorff, Fabian (1907–1980)

member of the German anti-Hitler resistance and would-be Hitler assassin

Fabian von Schlabrendorff was a lawyer who joined the German army during World War II and rose to the position of adjutant to Henning von Tresckow, a General Staff officer who also became a member of the anti-Hitler resistance. On March 13, 1943, Schlabrendorff planted a bomb on a plane carrying Adolf Hitler to his eastern front headquarters at Smolensk. The detonator failed, and the bomb did not explode. Schlabrendorff was not arrested until after the collapse of the July Plot (to assassinate Hitler). Although he was not implicated in that attempt, Gestapo agents tortured and interrogated him. When he refused to give any information, he was sent to Dachau concentration camp. In March 1945, shortly before the war in Europe ended, Schlabrendorff was acquitted of treason, but he was not released from the concentration camp until the German surrender in May.

After the war, Schlabrendorff resumed the practice of law and, from 1967 to 1975, served as a judge on the Constitutional Court of the Federal Republic of Germany.

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Schuschnigg, Kurt von (1897–1977)

Austrian chancellor who tried unsuccessfully to prevent the Anschluss *in March 1938*

Born in Riva del Garda, Trento, Austria-Hungary (now in Italy), Schuschnigg became a lawyer in Innsbruck and a monarchist politician associated with the Christian Social Party. Schuschnigg was elected to the Nationalrat (lower house of parliament) in 1927 and then, in the administration of Engelbert Dollfuss during 1932–34, served as minister of justice (1932) and minister of education (1933). He became federal chancellor after Dollfuss was assassinated in 1934. Schuschnigg opposed the extreme right-wing Heimwehr, a paramilitary "defense" force, which he succeeded in dismantling in October 1936. Although his suppression of the Heimwehr was a triumph against right-wing extremism, Schuschnigg was forced to relinquish much of Austria's sovereignty following

Kurt von Schuschnigg *(Library of Congress)*

a meeting with Adolf Hitler at Berchtesgaden in February 1938. Schuschnigg planned to reassert Austrian independence by means of a plebiscite scheduled for March 13, but the *Anschluss* of March 11–13 preempted this vote. Schuschnigg was forced into resignation on March 11. He was subsequently arrested and imprisoned by Nazi authorities and remained in custody until after the surrender of Germany to the Allies in May 1945.

After the war, Schuschnigg immigrated to the United States, where he lived from 1948 to 1967. He returned to Austria and wrote *Im Kampf Gegen Hitler* (1969; translated in 1971 as *The Brutal Takeover*).

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Schutzstaffel (SS)

No military organization was more feared in World War II than the Schutzstaffel, familiarly called the SS. Its name means "defense squadron," and it was created early in the history of the Nazi Party (NSDAP) as its paramilitary arm—the muscle behind its tactics of terror and intimidation. During the war, the Waffen SS—the fighting unit of the SS—became an elite army that operated outside of the regular German military (Wehrmacht) and sometimes at cross purposes with it.

Under the leadership of Heinrich Himmler (beginning in 1929), the SS evolved into an elite guard animated by the powerful ideological and racial mythologies inculcated by Himmler. Personnel were selected for their fanatical loyalty to the party and to the person of Adolf Hitler and (at least initially) for their racial purity as exemplars of German "Aryan" blood.

During the war, the Waffen SS fought as elite but essentially conventional soldiers, whereas the personnel of other SS classifications performed acts of outright atrocity on an organized and massive scale. The Sicherheitsdienst (SD)—Security Service—was a secret police force that terrorized occupied territories. The Einsatzgruppen—Special Action Groups—were principal agents of the Final Solution, largely responsible for the mass execution of Jews and other civilians in the field, shooting perhaps a million noncombatants. The SS Totenkopfverbände (SS-TV)—Death's Head Formations—provided the personnel who ran the concentration and extermination camps. Through the Einsatzgruppen and SS-TV, Himmler was the chief manager of Final Solution operations and was, therefore, one of the chief architects of the Holocaust. In addition to these units, which came directly under the control of the SS, the Gestapo—Geheime Staatspolizei, or Secret State Police—and the Reichssicherheitshauptamt (RSHA)—Reich Main Security Office—were extensively staffed by SS members and therefore connected to the SS.

The direct predecessors of the SS were the Sturmabteilung (SA) (Assault Division) and Stabswache (Staff Guard), both formed in 1923. The SA was the Nazi Party's strong-arm force, and the smaller Stabswache had the mission of protecting Nazi leaders at rallies and other events. Both groups were forced into disbandment following the failure of the 1923 Beer Hall Putsch, but were reestablished in 1925—the Stabswache renamed the Stosstrupp. Before the year was out, the Stosstrupp was expanded as a national force and became the Schutzstaffel (SS). Its mission was to protect Nazi Party leaders everywhere in Germany, and, numbering no more than 280 persons, it was considered subordinate to the SA.

On January 6, 1929, Hitler appointed Heinrich Himmler to lead the SS. Himmler built the organization into a powerful rival to the SA. By the end of 1932, the SS enrolled 52,000 members. Within another year, there were 209,000. Himmler's most immediate models for the evolving organization were the contemporary Italian Fascist squads known as the Blackshirts, but he also reached back into history and mythology and borrowed ritual and organizational practices from the Knights Templar and even the Jesuits. Of course, the SS also drew on the existing SA for its organizational pattern and, until

1932, wore the SA uniform distinguished only by a black tie and a black cap with a *Totenkopf,* or death's head insignia. Beginning in 1933, the SS adopted its own distinctive black uniform, which was exchanged for a dove gray uniform just before the outbreak of the war. (Waffen SS units wore field gray uniforms like those of the regular army and in combat wore camouflage battle dress.)

Himmler and his chief lieutenant, Reinhard Heydrich, built the SS into the powerful organization it was at the outbreak of World War II. Heydrich was responsible for creating the SS intelligence, the Sicherheitsdienst (SD). The Waffen SS was formed in December 1940.

In 1934, an Austrian SS was formed covertly to prepare the way for the *Anschluss,* which occurred in 1938. Nominally, the Austrian SS was under Himmler's command, but was, in practice, independently led by Ernst Kaltenbrunner and Arthur Seyss-Inquart. In contrast to the German SS, the Austrian branch was a covert organization until after the *Anschluss,* when it was simply incorporated into the German SS.

At the height of its development during World War II, the SS was a complex organization deemed by many to be a virtual "state within the state." The hierarchy flowed downward from Himmler to the Supreme Leaders, Higher Leaders, and Regular Leaders, all of whom reported directly to Himmler. Administratively, the SS was divided into a dozen principal offices, including the Personal Staff of the Reich Leader SS; the Main Administrative Office of the SS; the Administrative and Supply Department; the Office of SS Legal Matters; the Office of Race and Settlement; the Personnel Office; the Reich Central Security Office (RSHA); the Office of the Order Police; the Economics and Administration Office; the Education Office; the Main Office for Ethnic Germans (VOMI); and the Reich Commissioner for Germanic Resettlement. By 1944, the Gestapo, Sicherheitsdienst, Kriminalpolizei (Criminal Police), and the Einsatzgruppen were subordinate to the RSHA.

In terms of field organization the SS consisted of the following formations in Germany by the end of World War II:

Allgemeine SS: These were essentially part-time personnel who constituted a reserve force.

SS Cavalry Corps: This was mostly a ceremonial or honorific organization intended to draw the German upper class and nobility into the SS.

Germanic SS: This branch consisted of SS formations established in occupied countries as well as countries allied with Germany. Like the Allgemeine-SS, members were part-time.

Auxiliary SS: Created in 1945, the Auxiliary-SS consisted of conscripts who served as concentration camp guards and administrative personnel.

Waffen SS: This was the operational military component of the SS.

As already mentioned, the SS created a Totenkopfverbände (SS-TV) branch to administer the concentration and extermination camps and Einsatzgruppen to execute Jews and other targeted civilians in the field. Einsatzgruppen personnel followed close on the heels of the regular army as it invaded territory.

In 1936, the SS absorbed the regular German police forces and incorporated all local, state, and federal law enforcement agencies into the Ordnungspolizei, or Order Police, also known as the Orpo.

The SS created its own Medical Corps in 1930. Originally, the corps was a conventional medical service assigned to treat SS members; however, beginning in 1935, members of the SS Medical Corps served in the concentration camps and conducted human medical experiments, often of the most grotesque and sadistic nature. Doctor Joseph Mengele, chief medical officer at the Auschwitz extermination camp, became the most infamous of the SS doctors. Not only did he perform the daily selections—designating which incoming camp inmates would be sent to the gas chambers and which would be put to work—he performed many medical experiments, including surgery without anesthesia and procedures that deliberately created disability or death.

During the 1930s, the SS was, by law, removed from the jurisdiction of the civilian courts, thereby

giving SS personnel virtual carte blanche to act as they saw fit to carry out their mission. Even SS personnel were not entirely beyond the reach of the law, however; special SS and Police Courts were empowered to try SS personnel for criminal behavior.

The SS-Helferin Korps (Helper Corps) was an SS women's auxiliary. Personnel performed administrative and logistical functions. Most infamously, some served as female guards at concentration camps.

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Schweinfurt raids

On August 17, 1943, and on October 14, 1943, the Eighth U.S. Air Force flew two bombing missions to destroy five ball-bearing plants in Schweinfurt, Germany. By destroying these plants, which made parts necessary to operate virtually every vehicle and piece of machinery, Allied air planners reasoned that they could significantly cripple German war production.

A total of 376 bombers were launched from bases in England during the first raid: 230 to Schweinfurt and 146 to nearby Regensburg (146 aircraft). Of these aircraft, 147 were lost. On the second raid, 60 out of 291 were lost—and 142 damaged. Although the raids hit their targets, war production was not greatly affected. The Germans moved some of the plants and rapidly rebuilt others.

In February and April 1944, the British Royal Air Force also raided Schweinfurt, suffering substantial losses while inflicting no strategically significant damage to German war production capacity.

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Seeckt, Hans von (1866–1936) *German commander of the Reichswehr between the world wars*

Born in Schleswig the year before it became the capital of the Prussian province of Schleswig-Holstein, Seeckt began his military career in 1885 and rose rapidly, becoming an officer on the General Staff in 1889. During World War I, he served as chief of staff of the 11th Army and, subsequently, as chief of staff of the Turkish army.

Following the Armistice, he was appointed in November 1919 to head the Truppenamt (Troops Bureau), which succeeded the General Staff—outlawed by the Treaty of Versailles. Seeckt fashioned the diminutive army allowed by the treaty—a mere 100,000 men—into an elite force meant to serve as the core around which a very large army could be rapidly built. In this way, Seeckt made the most of the Versailles restrictions.

Seeckt recommended concluding the Treaty of Rapallo in 1922 to normalize relations between the Soviet Union and Germany. He believed that Germany should prepare the way for a Soviet-German alliance. In return for providing German training of the Soviet army and aid in heavy-industry construction, Seeckt was able to use Soviet territory for the covert training of tank and air crews and also to conduct weapons-development experiments. These expedients circumvented more of the Versailles restrictions.

Thanks to Seeckt, German military development was not greatly impeded by the Treaty of Versailles, and the small Reichswehr was readily transformed in the army with which Germany fought World War II. In the end, Seeckt did not overplay his hand with the Allied signatories of the Treaty of Versailles, but with the Weimar government of Germany. In 1926, the Prussian militarist approved and regularized dueling between officers,

and he authorized the participation of a Hohenzollern prince in maneuvers. These acts, suited to imperial Germany but not the republic, forced his resignation on October 8, 1926. Seeckt then entered politics, serving in the Reichstag during 1930–32 and working as an adviser to the Chinese Nationalist Army in 1934–35.

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Selassie, Haile (1892–1975) *emperor of Ethiopia who resisted Mussolini's 1935 invasion*

Haile Selassie was born Tafari Makonnen, the cousin of Emperor Menelik II. Menelik was succeeded in 1913 by his grandson Lij Yasu, who had been converted from Coptic Christianity to Islam and was now a zealous Muslim. In 1916, when he attempted to change the Coptic state religion of Ethiopia to Islam, Tafari Makonnen drove him from the throne and installed his aunt as Empress Zauditu, assuming for himself the regency as Ras Tafari and declaring himself heir to the throne. He was crowned King Ras Tafari in 1928 and, two years later, following the death of Zaudita (under suspicious circumstances), he became Emperor Haile Selassie I.

Haile Selassie was an absolute monarch but also a reformer who abolished slavery in his country. He came to be internationally respected as an early and heroic antifascist when he appeared before the League of Nations to seek aid against the Italian invasion of Benito Mussolini. The dignified emperor made a moving appeal, which, however, proved fruitless because the League lacked the military authority to intervene against the Italian aggression. Indeed, the Ethiopian episode demonstrated the ineffectualness of the League of Nations in preventing armed aggression.

After Italy invaded and then annexed Ethiopia, the emperor was forced into exile; in 1936, however, British forces liberated Ethiopia early in World War II, restoring Haile Selassie to the throne by 1941. He conducted himself throughout the war as an enlightened despot, refusing to relinquish any authority, but putting into operation long-range plans to modernize his nation. After the war, however, as Ethiopa emerged more fully into the modern world, resistance against the emperor's arbitrary autocracy grew. By the 1960s, he fended off a number of attempted coups d'état before he was finally deposed by the army in 1974.

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Sevastopol sieges

Sevastopol was the Soviet Union's principal Black Sea naval base and one of the most formidable fortresses in the world. Located on an eroded limestone promontory at the southwestern tip of the Crimea, the base was not readily approached by land. Lofty cliffs sheltered the anchorage in Severnaya Bay.

The forts at Sevastopol dated to the Crimean War of 1854–56 and were extensively modernized by the Soviet navy, which installed a dozen artillery batteries comprising a total of 42 guns in armored turrets and concrete emplacements. The fortress was garrisoned late in October 1941 by Major General I. Y. Petrov's Independent Maritime Army, 32,000 troops shipped in from Odessa. Petrov set up three lines of defense, the outermost extending in an arc some ten miles inland.

During September 26–November 16, the German Eleventh Army (with the Third Romanian Army subordinated to it) under Erich von Manstein swept through the Crimea, clearing it of Soviet resistance except for Sevastopol. Manstein was impeded by the rugged terrain of Sevastopol and torrential rains. While he struggled to deploy his forces for a siege, Petrov continued to prepare defenses, then yielded overall command to Black

Sea Fleet commander in charge Vice Admiral F. S. Oktyabrsky.

Manstein finally launched his assault on Sevastopol on December 17, preempting Oktyabrsky's plan to disrupt the attack with amphibious landings along the coast. By December 22, Manstein's infantry breached the first and second lines of defense and were well on their way to penetrating the third line by December 26. With victory within his grasp, Manstein suffered a Soviet attack near Kerch on the 26th. German forces were thinly deployed here and vulnerable. On December 28 an even stronger Soviet force landed at Feodosiya and cut off the entire Kerch peninsula. This forced Manstein to withdraw two divisions from the Sevastopol siege to ward off a Soviet breakthrough.

In January 1942, the Soviet high command ordered Major General D. T. Kozlov to dispatch three armies on the Kerch peninsula. In May, Manstein deployed five German and two Romanian infantry divisions plus a panzer division (180 tanks) against Kozlov's 21 infantry divisions and 4 tank brigades (350 tanks). On May 8, Manstein launched an amphibious assault that dissolved Kozlov's front. The Germans gathered up more than 170,000 Red Army troops—Joseph Stalin having stubbornly forbidden their evacuation.

Now in a position to conduct a major offensive on the Crimean mainland, Manstein no longer needed to capture Sevastopol; he merely had to neutralize it by holding it under siege. Hitler, however, wanted to demonstrate the German army's heaviest artillery, and 33 pieces were brought up, ranging from 10.9 to 23 inches in caliber. The very largest, called Dora, was capable of hurling a 31-inch projectile 31 miles.

By this time, Oktyabrsky and Petrov had 106,000 troops and more than 80,000 naval personnel to garrison Sevastopol. Despite the massive German artillery bombardment, which began on June 2, four of Manstein's divisions attacking from the north on June 7 could not find a vulnerable point of entry. On June 11, he attempted an attack on the southeast, but was equally unsuccessful. Although the fort was badly damaged by the artillery, the many caves that sheltered the Soviet guns were not harmed.

The attack on the fortress stalled; however, on June 28, Manstein mounted a surprise attack by boat, which prompted Oktyabrsky to organize an evacuation on June 30. For the most part, however, the evacuation failed to take place, and on July 4, the Germans took the fortress and captured 90,000 prisoners.

The second siege of Sevastopol occurred in the spring of 1944—this time with the Red Army laying siege to German defenders—the Seventeenth German Army, in full retreat, which took refuge at the fortress. The army's commander, Lieutenant General Erwin Jaenecke, intended to use Sevastopol as a point from which he could organize an effective evacuation; however, Hitler demanded that he hold the fortress lest the Soviets seize control of the Black Sea. The Red Army made a mass assault on May 5, and, the next day, Hitler at last approved an evacuation. German ships took 38,000 troops off Cape Kherson; Soviet sources claim that 100,000 Germans had been killed or captured.

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Seyss-Inquart, Arthur (1892–1946)
Austrian chancellor during the Anschluss

Seyss-Inquart was born at Stannern, near Iglau, Bohemia, in what was at the time Austria-Hungary and is now part of the Czech Republic. He fought during World War I in the Austro-Hungarian army, suffering a severe wound. He moved to Vienna after the armistice, where he began the practice of law in 1921. Seyss-Inquart was an early and ardent advocate of political union with Germany, and he formed an association with the Austrian Nazi Party, becoming a member and leader of the party's moderate branch, which, in contrast to the more radical faction, was tolerated by the Austrian government.

In June 1937, Seyss-Inquart was appointed to the Austrian Staatsrat (Federal Council of State) in

the hope that he would integrate the Nazis into the mainstream and coax the Nazi Party into cooperating with the government. Adolf Hitler used Seyss-Inquart as his inside man in the Austrian government and pressured Austria to appoint him minister of interior and security in February 1938. This put him in a position to replace the anti-Nazi, anti-*Anschluss* chancellor Kurt von Schuschnigg, which he did on March 11, 1938, just prior to the *Anschluss.*

Seyss-Inquart welcomed Germany's annexation of Austria, and the German government named him Reichsstatthalter (governor) of the Austrian provincial administration. He served until April 30, 1939, when he was named deputy governor of Poland and, later, Reichskommissar (commissioner) of the Netherlands. He served in that post until the surrender of Germany. Arrested by the Allies, he was tried by the Nuremberg War Crimes Tribunal and sentenced to death. Seyss-Inquart was hanged at Nuremberg on October 16, 1946.

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Shibasaki Keiji (d. 1943) *Japanese commander during the Battle of Tarawa Island*

Rear Admiral Shibasaki Keiji commanded the Japanese garrison on the Tarawa atoll island of Beito during the Battle of Tarawa, November 20–23, 1943. He took command September 1943 and had under him 1,122 Imperial Marines of the 3rd Special Base Force, 1,497 Imperial Marines of the 7th Sasebo Special Landing Force, 1,427 Korean and Chinese laborers (111th Construction Unit), and 970 laborers of the 4th Fleet Construction Department.

Shibasaki, who, as a veteran of landings in China during the Sino-Japanese War, was thoroughly familiar with Amphibious Warfare, conducted a fiercely brilliant defense from behind extensive fortifications that he built in preparation for the invasion. His boast to his troops that it would take 1 million men 100 years to conquer the island proved unfounded, and he was probably killed on the very first day of the battle, presumably the victim of U.S. naval gunfire.

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ships, British

As an island nation and the center of a vast empire, Great Britain had long depended on its navy for defense. Although post–World War I arms limitation agreements had capped the size of the Royal Navy and the maximum tonnage of its capital ships, the nation entered World War II with a large navy and a wide variety of ships. The most important British combatants are discussed in the following entries: aircraft carrier, battleship, corvette, cruiser, destroyer, landing craft, and submarine.

In addition to these major types of ships, the Royal Navy operated small, specialized aircraft carriers known as escort carriers, some built by British yards and some built in the United States. A typical British-built escort displaced 11,800 to 17,400 tons standard and was 512 to 594 feet in length. These ships accommodated about 15 aircraft and were crewed by 700 hands. The American-built escort carriers included the *Archer* Class (displacing 8,250 tons standard and accommodating 15 planes), the *Attacker* Class (11,400 tons standard, 18 aircraft), and the *Ruler* Class (11,400 tons standard and accommodating 22 aircraft).

In addition to large aircraft carriers and the small escort carriers, the Royal Navy operated CAM ships and MAC ships.

CAM ships were Catapult-Armed Merchantmen, merchant ships equipped with a catapult

capable of launching a fighter aircraft to shoot down enemy planes or hunt for submarines. The ships had no means of recovering the aircraft after launch. The pilot would have to ditch near the ship and await rescue.

MAC ships—Merchant Aircraft Carriers—were merchant vessels—mainly grain transports and tankers—fitted with flight decks. They carried both cargo and aircraft. The ships of the *Empire Mac* Dry Class displaced 7,930 to 8,250 tons gross and were about 450 feet long. They were driven by a single diesel engine delivering 3,300 bhp and making no more than 12.5 knots. They were armed with a single 4-inch gun and two 40-mm AA guns as well as smaller guns, and they could accommodate four aircraft. The ships were crewed by 110 hands. The *Empire Mac* Tanker Class vessels displaced as much as 9,250 tons gross and were about 485 feet long. They had the same power plant as the dry class ships, the same armament, and could accommodate the same number of aircraft. A third type of MAC, the *Shell* Class, displaced 8,000 gross tons and made 13 knots with a 3,750-hp diesel. It accommodated four aircraft and was armed similarly to the ships of the other two classes.

Although the destroyer and the corvette were the principal British convoy escort craft, the Royal Navy fleet included a number of smaller escort craft, intended mainly to combat submarines.

Isle Class. These small ships (together with the similar *Tree, Shakespeare,* and *Dance* classes) were based on the design of commercial fishing trawlers. Together, the four classes included 218 vessels. The *Isle* Class ships displaced 545 tons standard and were 145 feet long with a beam of 27.5 feet and a draft of 10.5 feet. A single steam engine delivered 850 hp for a top speed of 12 knots. The vessels were armed with a single 12-pounder and three 20-mm AA guns as well as depth charges. Crew complement was 40 officers and men.

Black Swan Class. These submarine hunters were built in a quantity of 24, each displacing 1,300 tons standard. The ships were nearly 300 feet long, 37.5 feet in the beam, and had a draft of 8.5 feet. They were driven by a pair of steam turbines producing 3,600 shp for a speed of 19.5 knots. Armament consisted of three twin 4-inch guns, one quadruple 2-pounder AA gun, and six twin 20-mm AA guns, as well as depth charges. The ships were crewed by 180 officers and men.

Hunt Class. Officially designated "Fast Escort Vessels" (FEVB), this class consisted of 83 vessels designed primarily for antisubmarine duty. Three types, designated I, II, and III, were produced, the Type III displacing 1,015 tons standard and 1,090 under full load. The ships were 281.25 feet long, with a beam of 31.5 feet, and a shallow draft of just 7.75 feet. They were driven by a pair of steam turbines, which made 19,900 shp and yielded a top speed of 25 knots. Armament consisted of a pair of twin 4-inch guns, one quadruple 2-pounder AA gun, and a varying number of 20-mm AA guns, as well as two 21-inch torpedo tubes and a full load of depth charges. The ship's crew consisted of 170 officers and men.

Castle Class. The 44 ships of this class were slow, suited to escorting slow convoys. They displaced 1,060 tons standard and were 252 feet long, with a beam of 36.75 feet and a draft of 10 feet. A single steam engine produced 2,950 hp for a top speed of 16.5 knots. The ships carried a single 4-inch gun and two twin and six single 20-mm AA guns as well as a full load of depth charges. Additionally, the ships were a platform for the "Squid" system of antisubmarine mortars.

Bangor, Bathurst, and *Algerine* Classes. The vessels of these closely related classes were officially designated "minesweeping sloops"; however, they were used far more for escort duty than for clearing mines. The ships were produced in quantity: 173 *Bangor* Class vessels, 56 *Bathurst* Class, and 101 *Algerines.* The *Algerine* Class ships displaced 850 tons standard and 970 under load. They were 230 feet long, with a beam of 35.5 feet and a draft of 9.5 feet. Two steam turbines or two triple-expansion steam engines produced 2,000 hp, making a top speed of 16.5 knots. Armament consisted of a single 4-inch gun and four to eight 20-mm AA guns as well as more than 90 depth charges. The ships were crewed by 105 officers and men.

River Class. Variously called twin-screw corvettes or frigates, these ships were built in a quantity

of 57 and displaced 1,370 tons standard. They were 301.5 feet long, with a beam of 36.5 feet and a draft of 12.83 feet. Two steam engines made 5,500 hp for a top speed of 20 knots. The ships were armed with two 4-inch guns, two 2-pounder AA guns, and two 20-mm AA guns. Antisubmarine armament consisted of a hedgehog and depth charges. The ship's complement was 107 officers and men.

Loch and *Bay* Classes. These frigates appeared late in the war as escorts. The *Bay* Class was very similar to the *Loch* Class and consisted of ships displacing 1,580 tons standard, with a length of 307.25 feet, a beam of 38.5 feet, and a draft of 9.5 feet. Two steam engines made 5,500 hp for a top speed of 19.5 knots. Armament consisted of two twin 4-inch guns, two twin 40-mm AA guns, two twin 20-mm AA guns, a hedgehog, and depth charges. The crew consisted of 157 officers and men.

COASTAL CRAFT

Smaller than the escort craft, coastal craft operated by the Royal Navy included 60-foot British power boats, 70-foot Vosper boats, Fairmile Motor Torpedo Boats (MTBs), steam gunboats, and harbor defense motor launches.

The 60-foot power boats and 70-foot Vosper boats were similar to the PT Boats operated by the U.S. Navy. They were fast boats used as torpedo-launching platforms. In short, they were small combatants deployed against much larger vessels. The typical 60-foot boat displaced 22 tons and was propelled by a trio of gasoline engines that delivered 1,800 hp for a top speed of 33 knots. The boats carried two 18-inch torpedoes and had eight 7.7-mm machine guns. There was a crew of 9.

The longer Vospers were 72.5 feet in length, displacing 36 to 49 tons. Beam was 19.5 feet and draft 5.5 feet. Three gasoline engines delivered 4,000 bhp for a top speed of 40 knots. They carried a pair of 21-inch torpedoes and a variety of guns, typically a 6-pounder or 20-mm cannon and several machine guns. Twelve to 13 officers and men manned these craft.

The Fairmile MTBs were produced in four types: A, B, C, and D. All were intended for coastal patrol. The A and C types were quite similar, displacing about 58 tons and measuring 110 feet in length, with a beam of 17.42 feet and a draft of six feet. Three gasoline engines made 1,800 bhp for a top speed of 22 knots. Armament consisted of a single 3-pounder gun and two 7.7-mm machine guns. Sixteen officers and men manned the craft.

B-type Fairmiles displaced 67 to 85 tons and were 112 feet long, with a beam of 18.25 feet and a five-foot draft. Their two gasoline engines produced 1,200 bhp for a top speed of 20 knots. Armament was a single 3-pounder and two 7.7-mm machine guns in addition to depth charges.

The D-type Fairmile craft were the heaviest, displacing 90 tons. Length was 110 feet, beam 21 feet, and draft 5.17 feet. Four gasoline engines delivered 5,000 bhp for a top speed of 29 knots. The craft carried two 6-pounder guns, one twin 20-mm cannon, two twin half-inch machine guns, and four 18-inch torpedoes. Crew complement was 30 officers and men.

The first of the British steam gunboats were launched in November 1941 and were produced in a small quantity of just seven. Displacing 165 tons, the boats were 145.75 feet long, had a 20-foot beam, and a 5.5-foot draft. Two steam turbines delivered 8,000 shp for a top speed of 35 knots. A three-inch gun, two 6-pounder guns, and two twin 20-mm cannon were the armament, and the boats were crewed by 27 officers and men.

The harbor defense launch was a humble craft used to defend the approaches to coastal ports. Displacing 54 tons, it was 72 feet long, with a beam of 15.83 feet and a draft of 5.5 feet. A pair of diesels made 320 bhp for a top speed of barely 12 knots. A single 3-pounder gun, one 20 mm cannon, and a pair of 7.7 mm machine guns constituted the armament. There was a crew of 10.

See also Great Britain, Navy of.

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ships, French

At the outbreak of the war, France had the fourth-largest navy in the world, including many modern vessels.

SUBMARINES

Saphir Class. These small submarines, designed primarily as minelayers, consisted of a half-dozen boats launched between 1925 and 1929. Two of the submarines operated for the duration of the war under the flag of Free France. The *Saphir* boats displaced 761 tons surfaced and 925 tons submerged. They were 216.21 feet long, had a beam of 23.36 feet, and a draft of 14.11 feet. Propelled by a pair of diesels delivering 1,300 bhp for a top speed of 12 knots surfaced, they were also equipped with two electric motors for underwater propulsion. These delivered a total of 1,100 bhp for a submerged speed of 9 knots. The boats were armed with a single 75-mm gun and three 21.65-inch torpedo tubes. Minelaying capacity was 32 mines. It was crewed by 42 officers and men.

Surcouf Class. Ordered in 1926, the *Surcouf* was to be the first of a class of three large "cruiser submarines," capable of long endurance and providing a platform for heavy surface guns. The *Surcouf* was seized at Plymouth, England, in July 1940 and was operated by a Free French crew until it sank in February 1942 in the Caribbean following a collision. Its displacement of 3,270 tons surfaced and 4,250 submerged made it the heaviest submarine of the war. It was 360.89 feet long, 29.53 feet in the beam, and had a draft of 29.76 feet. Two diesels made 7,600 bhp for a top surface speed of 18 knots. Two electric motors delivered 3,400 bhp total for a submerged speed of 8.5 knots. Armament consisted of two 8-inch guns and an array of torpedo tubes: eight 21.65-inch tubes and four 15.75-inch tubes, some in trainable mountings. It was crewed by 118 officers and men.

BATTLESHIPS

The two most important battleships of the French navy were the *Richelieu* and *Jean Bart.* The *Richelieu* became part of the British Home Fleet during the war. Both ships had similar specifications, displacing approximately 41,000 tons standard and 47,500 under full load. They were more than 813 feet long, 108 feet 3 inches in the beam, with a draft of almost 32 feet. Four turbines delivered 150,000 shp for a top speed of 30 knots. Each carried eight 15-inch guns, nine 6-inch guns, twelve 100 mm AA guns, and sixteen 37 mm AA guns, plus eight 13.2 mm AA guns. The ships could launch three Loire-Nieuport floatplanes and were crewed by 1,500 officers and men.

CRUISERS

The most important class of French cruisers was the *La Galissonnière* Class, consisting of six ships. Built in the 1930s, these modern ships displaced 7,600 tons standard and 9,120 tons with full load. They were 586 feet 3 inches long and 57 feet 4 inches in the beam. Draft was 17 feet 5 inches. Geared turbines delivered 84,000 shp for a top speed of 35.7 knots. The ships were fitted with nine 6-inch guns, eight 3.-inch guns, and eight 13.2 mm AA guns. The ships carried four 21.7-inch torpedo tubes and could accommodate two floatplanes. Crew consisted of 540 officers and men. Three of the cruisers came into Allied control during the war. The others were scuttled, two of which were salvaged by the Italians, then sunk by Allied bombs in 1943.

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ships, German

The most important German combatants are discussed in the following entries: CRUISER, DESTROYER, and SUBMARINE. Of these, the most important German warship in World War II was the submarine. Other significant German naval combatants include battleships, escort craft (in addition to destroyers), and certain coastal craft.

BATTLESHIPS

The provisions of the TREATY OF VERSAILLES put severe tonnage limits on German naval vessels. For

this reason, German naval architects developed the so-called Pocket Battleship, of which the *Scharnhorst* and *Gneisenau* were prime examples. By the provisions of the treaty, they were supposed to displace no more than 26,000 tons, although, as built, the ships actually displaced 32,000 tons standard and 38,900 tons under full load. Originally, four ships of the *Scharnhorst* Class were to be built, but only the *Gneisenau* was completed in addition to the *Scharnhorst.* The length of these vessels was 770 feet 8 inches, beam 98 feet 5 inches, and draft 29 feet 10 inches. Three steam turbines delivered 160,000 shp for a top speed of 32 knots. The ships were armed with nine 11-inch guns, twelve 150 mm guns, fourteen 105 mm AA guns, and sixteen 37 mm AA guns, as well as six 21-inch torpedo tubes. Two Arado floatplanes could be accommodated, and the ships were crewed by 1,840 officers and men.

Bismarck. One of the most famous—or infamous—ships of World War II, *Bismarck* was Germany's first post–World War I full-size battleship. It displaced 41,676 tons standard and 50,153 tons with full load. The ship was 823.5 feet long with a 118-foot beam. Draft was 30 feet 7 inches. Three steam turbines delivered 138,000 shp for a top speed of 29 knots. The ship had eight 15-inch guns, 12 150 mm guns, 16 105 mm AA guns, 16 37 mm AA guns, and 12 20 mm AA guns. It could accommodate two Arado floatplanes and carried a crew of 2,192. Launched early in 1939 and commissioned in August 1940, *Bismarck* sailed on its first combat mission in May 1941. On the 24th, it encountered the British battlecruiser *Hood* and battleship *Prince of Wales.* In the ensuing battle—the Battle of the Denmark Strait—*Hood* was sunk and the *Prince of Wales* seriously damaged. *Bismarck* was also damaged and was on its way to France for repair when it was sunk by a British task force on May 27 with the loss of all but 110 hands. The loss of *Bismarck* prompted Adolf Hitler to curtail all operations of the German surface fleet.

Tirpitz. Launched in April 1939, *Tirpitz* was similar to its sister ship, *Bismarck.* It displaced 42,900 tons standard and 52,600 tons under load. She was 821 feet 10 inches in length, had a 118-foot beam, and a 36-foot draft. Three steam turbines delivered 138,000 shp for a top speed of 29 knots. It was armed with eight 15-inch guns, 12 150 mm guns, 16 105 mm AA guns, and eight 21-inch torpedo tubes. The *Tirpitz* could accommodate four Arado floatplanes and was crewed by 2,530 officers and men. It was sunk on November 12, 1944, in Norwegian waters by British air attack with the loss of 1,000 of its crew.

ESCORT CRAFT

Germany did not rely on convoys to the extent that Britain did, so it developed few escort vessels. The *Wolf* and *Möwe* classes were in effect light destroyers tasked with protecting Germany's coastal merchant traffic. The six *Wolf* Class ships displaced 933 tons standard and 1,320 under full load. They were 305 feet long with a beam of 28.5 feet and a draft of 9.2 feet. Two steam turbines delivered 23,000 shp for a top speed of 33 knots. Armament consisted of three 105 mm guns or three 5-inch guns and four single 20 mm AA guns as well as two triple 21-inch torpedo tubes. The ships were crewed by 129 officers and men.

Another type of coastal escort craft was the Geleitboote, of which 10 (F1 through F10) were built. In addition to performing escort duty, they were used as minelayers. The ships displaced 712 tons standard and 833 tons under full load. They were 249.3 feet long with a beam of 28.9 feet and a draft of 8.2 feet. Two steam turbines delivered 14,000 shp for a top speed of 28 knots. Each shp carried two single 105 mm guns and two twin 37 mm AA and four single 20 mm AA guns. Ship's complement was 121 officers and men.

COASTAL CRAFT

German light coastal craft included, most importantly, the *Leicht Schnellboat*—light fast boat, or LS; the *Raumboot* (R-Boot), a minesweeper, minelayer, and coastal escort; and the *Schnellboot* (S-Boot), which the British called an E-boat, used as a light, fast torpedo boat.

LS. These boats displaced 11.5 tons and were 41 feet long. They were 10.83 feet in the beam, with a draft of 2.5 feet. Equipped with an aircraft-type

engine, they could attain a top speed of 42.5 knots. Armament consisted of a pair of 17.7-inch torpedoes and a 20 mm cannon. Complement was nine officers and men.

R-Boot. The standard R-Boot displaced 140 tons and was 131.23 feet long. Its beam was 18.37 feet, with a draft of 4.75 feet. Two diesel engines made 2,550 bhp for a top speed of 20.5 knots. Crewed by 38 officers and men, the boats were equipped with a 37 mm cannon and six 20 mm cannon.

S-Boot. These torpedo craft were speedy at 39.5 knots and carried two 21-inch torpedo tubes with four torpedoes. They were also equipped with a pair of 20 mm cannon. Displacement was 93 tons standard and 115 under full load. Length was 114.67 feet, beam 16.73 feet, and draft 4.6 feet. Three diesel engines produced 6,000 bhp. The crew complement was 21 officers and men.

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ships, Italian

Italy had a formidable modern navy at the outbreak of World War II. The nation's most important combatant ship types are discussed in CRUISER, DESTROYER, and SUBMARINE.

BATTLESHIPS

The pride of the Italian fleet were two modern battleships, the *Littoro* and *Vittorio Veneto,* completed in April and May 1940, respectively. Both ships, though badly battered, survived the war. *Vittorio Veneto* displaced 41,700 tons standard and 45,460 tons under full load. She was 780 feet long with a beam of 108 feet and a draft of 34 feet 5 inches. Four steam turbines delivered 128,000 shp for a top speed of 30 knots. It was armed with nine 15-inch guns, 12 6-inch guns, 12 3.5-inch AA guns, 20 37 mm AA guns, and 16 20 mm AA guns. The ship could accommodate three floatplanes and had a complement of 1,872 officers and men.

ESCORT CRAFT

In addition to destroyers for escort duty, the Italian fleet also included small escort vessels.

Spica Class. These 32 ships were small destroyers, often described as torpedo boats. They displaced just 795 tons standard and 1,020 tons under full load, and were nearly 274 feet long, 26.57 feet in the beam, and with a draft of 8.37 feet. Two steam turbines delivered 19,000 shp for a top speed of 34 knots. The *Spica* Class ships were armed with three 100 mm AA guns and four twin and two single 20 mm AA guns. There were also two single 13.2 mm AA guns. The ships carried four single or two twin 450 mm torpedo tubes and could lay up to 20 mines. Ship's complement consisted of 118 officers and men.

Gabbiano Class. The 60 ships of this class could be described as CORVETTES. They were designed expressly as submarine hunters and were unique in being equipped with two diesel engines for normal propulsion and two silent electric motors for stalking sonar- or hydrophone-equipped submarines. The diesels delivered a total of 4,300 shp and the electrics 150 shp. Top speed under diesel power was 18 knots. The ships displaced 670 tons standard and 740 under full load. They were 211.29 feet long and 28.54 feet in the beam, with an 8.3-foot draft. Armament consisted of a single 100 mm AA gun in addition to seven 20 mm AA guns. All carried a full load of depth charges, and some were equipped with two 450 mm torpedo tubes.

See also ITALY, NAVY OF.

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ships, Japanese

At the outbreak of World War II, Japan was the third-greatest naval power in the world. Some of its most important combatant ships are discussed in the following entries: AIRCRAFT CARRIERS, CRUISERS, DESTROYERS, and SUBMARINES. The Imperial Japanese Navy had the distinction of possessing the world's largest battleships, the *Yamato* and the *Musashi.*

BATTLESHIPS

Yamato Class. The *Yamato* and *Musashi* were ordered in 1937 and launched in 1941. The *Yamato* served as the flagship of Admiral YAMAMOTO ISORUKU. These were extraordinarily formidable vessels. The *Yamato* displaced 64,000 tons standard and 69,988 tons under full load. It was 863 feet long with a beam of 127.9 feet and a draft of 34 feet 3 inches. Four steam turbines delivered 150,000 shp for a top speed of 27 knots. The *Yamato* mounted nine 18.1-inch guns—the largest on any battleship in World War II—twelve 155 mm guns, 12 5-inch AA guns, 24 25 mm AA guns, and four 13 mm AA guns. It could accommodate six floatplanes and was crewed by 2,500 officers and men. Neither *Yamato* nor *Musashi* had much effect on the war at sea. *Yamato* never got within gun range during the pivotal BATTLE OF MIDWAY. Although it was present at the BATTLE OF THE PHILIPPINE SEA (June 1944), she did not fire its 18.1-inch guns for the first time until the BATTLE OF LEYTE GULF (October 1944). Bound for a spectacular KAMIKAZE mission during the BATTLE OF OKINAWA, it was sunk by U.S. aircraft on April 7, 1945, before it could get into action.

Kongo Class. These four ships were built between 1912 and 1915 and were modernized before World War II. Typical of the class was the *Kirishima,* which displaced 31,980 tons standard and 36,600 tons under full load. It was 728.5 feet long with a beam of 102 feet 4 inches and a draft of 31 feet 9 inches. Four steam turbines delivered 136,000 shp for a top speed of 30.5 knots. It was armed with eight 14-inch guns, 14 6-inch guns, eight 5-inch AA guns, and 20 1-inch AA guns. It accommodated three floatplanes and was crewed by 1,437 officers and men.

Nagato Class. The two ships of this class, *Nagato* (completed 1920) and *Mutsu* (1921), displaced 42,850 tons standard and were 725 feet 2 inches long. They were 113.5 feet in the beam and had a draft of 31 feet 2 inches. Top speed was 27 knots. Armament consisted of eight 16-inch guns, 20 5.5-inch guns, eight 5-inch dual-purpose guns, and up to 98 25 mm AA guns. The ships were crewed by 1,368 officers and men.

COASTAL CRAFT

The Imperial Japanese Navy was notoriously deficient in escort vessels (relying solely on destroyers for this function) and in coastal craft. Construction of small motor torpedo boats began only after the war was under way. The most numerous of these craft was the Type 14, which was built in a quantity of 49. These boats displaced 15 tons standard and were 49.2 feet long with a beam of 12 feet. Draft was 2.8 feet. A single gasoline engine made 920 bhp for a top speed of 33 knots in calm waters. The boats carried a single 25 mm cannon and two 18-inch torpedoes. The boats were crewed by seven officers and men.

See also JAPAN, NAVY OF.

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ships, Soviet

The Soviet navy was small compared with other Allied navies. It had three battleships and some 50 DESTROYERS, as well as a large submarine force of more than 200 boats. Coastal craft were important, and the Soviet fleet had about 300 torpedo boats.

Generally speaking, however, Soviet naval forces did not play a major role in the war.

SUBMARINES

Numerically, at the outbreak of World War II, the Soviet Union had the world's largest submarine fleet. But the boats were poorly commanded and inadequately crewed, most of the best officers having been purged by Joseph Stalin in 1937. The Soviet submarine fleet was also poorly armed, the Soviet navy never having developed a reliable torpedo. For this reason, the submarine fleet was used almost exclusively for defensive purposes. It is believed that the Soviet fleet lost one submarine for every enemy ship sunk.

K Class. This was the most important class of Soviet submarine. It displaced 2,095 tons submerged and could cruise at 18 knots surfaced and nine knots underwater. Armament consisted of six bow torpedo tubes and four stern torpedo tubes. These submarines had good endurance but were never deployed far from home because they were almost exclusively confined to defensive duty.

COASTAL CRAFT

The only truly distinctive vessels of the Soviet navy in World War II were the coastal craft, of which the most important and innovative was the G5 torpedo boat. Designed by famed aircraft designer A. N. Tupolev, the G5s were built in a quantity of nearly 300, of which 73 were lost in action. They displaced 16 tons and were 62.66 feet in length, with a beam of 11.15 feet and a draft of 3.28 feet. Two gasoline engines developed 2,000 bhp for a very fast top speed of 48 knots. The boats were armed with two 21-inch torpedoes and a pair of half-inch machine guns. The complement was seven officers and men.

See also Soviet Union, navy of.

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ships, United States

The principal U.S. Navy combatant ships of World War II are discussed in the following entries: aircraft carriers, battleships, corvettes, cruisers, destroyers, destroyer escorts, landing craft, minesweepers, PT boats, Q-ships, and submarines. Two other significant combatant types were the Patrol Craft (PC) and Patrol Craft Escorts (PCE) classes. These were intended as escorts to protect coastal traffic and to hunt submarines. The PC Class ships were 174.9-foot-long craft, prototypes of which were completed before the United States entered the war. They were used to patrol the eastern seaboard, which was subject to a great deal of German U-boat activity. The PCE Class, developed from minesweeper designs, was larger and heavier, and was designed to work close to shore as well as to pursue submarines or escort convoys farther out to sea. The PCE ships displaced 795 tons standard and 850 tons under full load. They were 184.5 feet long, with a 33-foot beam and a draft of 9.5 feet. Two diesels supplied 1,900 bhp for a top speed of just 16 knots. The ships were armed with one 3-inch dual-purpose gun and two or three 40 mm AA guns as well as four single 20 mm AA guns. A hedgehog and depth charges were used for antisubmarine patrol. Ship's complement was 100 officers and men.

See also United States, Navy of.

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Short, Walter Campbell (1880–1949)
general who commanded U.S. Army forces at Pearl Harbor on December 7, 1941

Born in Fillmore, Illinois, Short graduated from the University of Illinois in 1901 and was commissioned as an infantry second lieutenant in March 1902. Promoted to first lieutenant, he served in the Philippines in 1907, after which he was posted to Alaska. In 1913, he was an instructor at the Musketry School, Fort Sill, Oklahoma, and in 1916 participated in the Punitive Expedition against Pancho Villa under General John J. Pershing.

As a captain, Short was ordered to France with the 1st Division in June 1917, after the United States entered World War I. He served in Pershing's headquarters, then, as chief of staff of the Third Army, fought at Aisne-Marne during July 18–August 5, 1918, at Saint-Mihiel during September 12–16, and at Meuse-Argonne, September 26–November 11. Before the war was over, Short was promoted to temporary colonel, but reverted to captain when he returned to the United States. Promoted to major in 1920, he was assigned as an instructor at the General Staff School in Fort Leavenworth and wrote a textbook, *Employment of Machine Guns,* published in 1922. Promoted to lieutenant colonel in 1923, he graduated from the Army War College in 1925 and served with the 65th Infantry in Puerto Rico from 1925 to 1928. After another assignment as an instructor at Fort Leavenworth, he was assigned to the Bureau of Indian Affairs during 1930–34.

After promotion to colonel, Short was assigned to command the 6th Infantry at Jefferson Barracks in St. Louis. He left this post in 1936 to become assistant commandant of the Infantry School at Fort Benning, Georgia, and was promoted to brigadier general in December. He commanded a brigade of the 1st Division in New York in 1937, then the entire division from July 1938 to October 1940. He was assigned command of the Hawaiian Department in January 1941 and promoted to temporary lieutenant general the next month.

In retrospect, it is apparent that Short made many errors while commanding army forces at Pearl Harbor during the dangerous months preceding the outbreak of war in the Pacific. He failed to establish close, routine communication with his navy counterpart, Admiral Husband E. Kimmel, and he failed to establish a system for evaluating and sharing intelligence. Most notorious was his decision to park the aircraft of his command wingtip to wingtip on Hickam Field. Fearing ground-based sabotage, he grouped the planes together to guard them more effectively, but he failed to anticipate air attack. By massing the aircraft together, he offered the Japanese fliers an ideal target.

Lieutenant General Walter Short *(U.S. Army)*

Short was relieved of command almost immediately after the Battle of Pearl Harbor. He was retired on February 28, 1942, after a presidential commission—the Roberts Commission—concluded that he had been guilty of poor judgment and dereliction of duty. Subsequently, the joint Congressional Investigating Committee delivered a less harsh judgment, yet still cited Short for errors of judgment.

In civilian life, Short became an executive for the Ford Motor Company in 1942, but suffered ill health after the stress of Pearl Harbor and was forced to retire in 1946.

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Sicherheitsdienst (SD)

The Sicherheitsdienst (SD), "Security Service," was the intelligence service of the Nazi Schutzstaffel (SS). From 1933 to 1939, the SD was under the Sicherheitspolizei (Security Police), then was transferred to the Reichsicherheitshauptamt (Reich Security Service Office, RSHA).

The SD was created in 1932 by Reinhard Heydrich, who built it into a powerful organization that became the exclusive Nazi Party "information service" on June 9, 1934. In 1938, the SD was made the intelligence organization for the Reich as well as for the Nazi Party. It worked in parallel with the Gestapo, which it supported with intelligence information.

The mission of the SD was primarily to detect and eliminate those who would subvert or otherwise harm the Nazi Party and the Reich. The SD cultivated and managed a network of several hundred agents and thousands of informants throughout the Reich and, during the war, in the occupied territories as well. The SD was always primarily an intelligence-gathering agency serving the Gestapo, which was the executive agency. Ultimately, therefore, the SD came under the control of Heinrich Himmler, who, as chief of the German police, headed the Gestapo and was also the senior officer of the SS.

The SD developed out of an agency called the Ic-Dienst, which was established in 1931. In 1939, the SD was divided into the Inland-SD and Ausland-SD. The Inland-SD had charge of intelligence and security within Germany. The Ausland-SD was effectively the civilian foreign intelligence agency of the Third Reich. Separate offices within the Ausland-SD were devoted to espionage in the West; espionage in the Soviet Union and Japan; espionage "in the American sphere"; and espionage in Eastern Europe. The SD supplied most of the security forces personnel deployed in the occupied territories. SD battalions were assigned to SS and German police leaders. SD personnel also operated in all concentration camps and sometimes participated in SS Einsatzgruppen—the special units responsible for arresting and killing Jews and other "undesirables" in occupied countries. The SD was tasked with maintaining order and security in Poland's Jewish ghettos.

See also Final Solution and Holocaust, the.

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Sicily Campaign

Operation Husky was the code name for the Allied landings on Sicily, which were launched before dawn on July 10, 1943. This article covers the campaign that followed the landings.

Thanks to the Allies' skillfully executed program of decoys and deceptions (called Operation Mincemeat), only two German divisions were on site to oppose the landings on Sicily. Bernard Law Montgomery's two British Eighth Army corps, the X and XIII, landed between Pozallo and Syracuse on the east coast. XIII Corps took Syracuse on the very day of the landings. The three American divi-

sions that landed between Cape Scaramia and Licata on the southwest coast experienced adverse weather and greater German opposition, but nevertheless were all ashore by the end of the day. When German armor counterattacked on July 11 at Gela, U.S. warships unleashed a naval artillery bombardment that saved the landings.

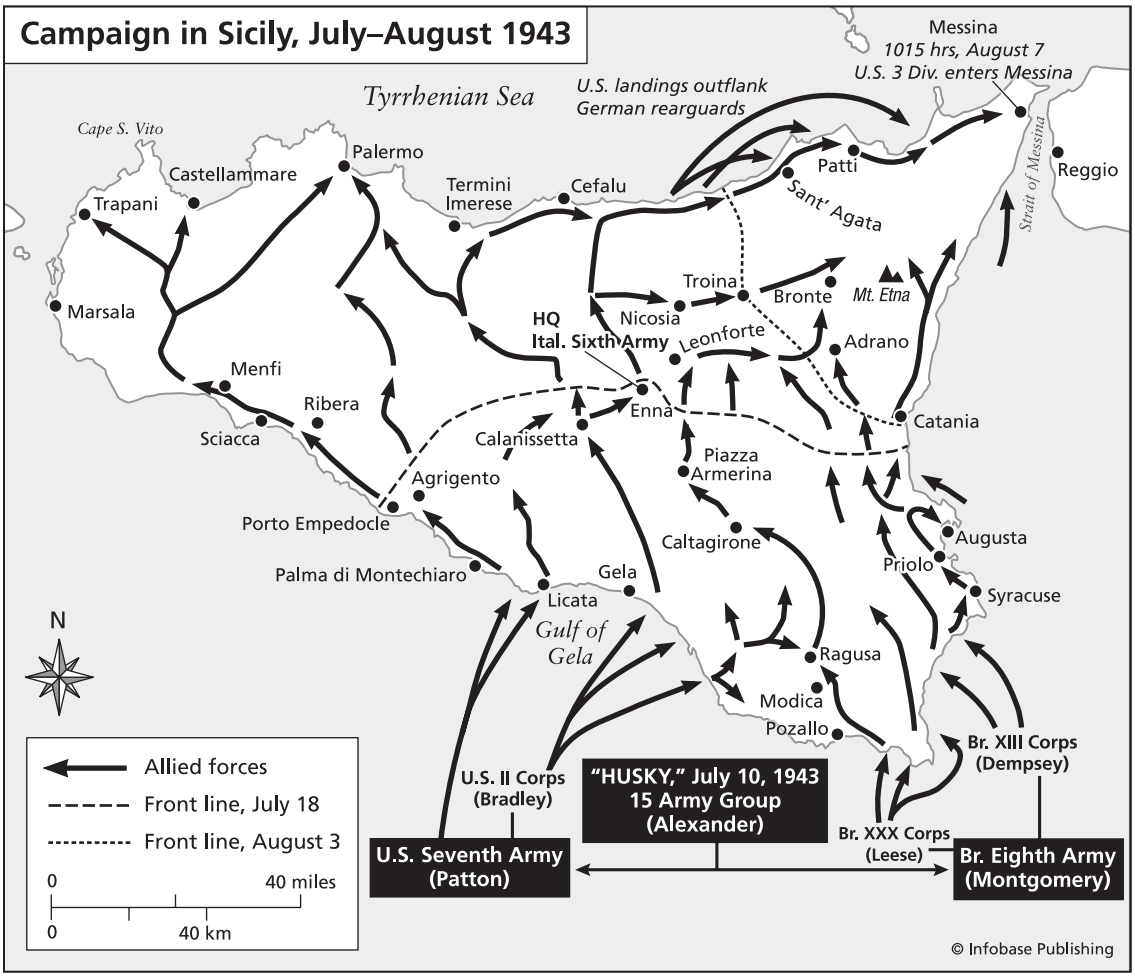
British general Harold Alexander, in overall command of the invasion, ordered the American commander, George Smith Patton Jr., to cover Montgomery's left flank as his British Eighth Army advanced against Catania (XIII Corps) and toward Leonforte and Enna (XXX Corps). This subordinate role frustrated U.S. Seventh Army Commander Patton as well as Omar Bradley, commanding the U.S. II Corps, who was in a position to trap the 15th Panzer Grenadier by cutting the island in half.

Eager for more positive action, Patton, on July 15, 1943, formed a provisional corps under Lt. Gen. Geoffrey Keyes to advance on Palermo. When Alexander ordered him to continue covering Montgomery's flank, Patton met with Alexander personally and persuaded him to allow Keyes to take Palermo, which fell on July 22. Although the capture of Sicily's biggest city had much psychological value—and although Patton collected a great many Italian prisoners of war as a result—the operation was not strictly necessary to conquer the island.

George S. Patton Jr. walks ashore on Sicily, July 11, 1943. Engineers have laid a steel mat on the sandy beach to facilitate motor transport. *(Patton Museum of Cavalry and Armor, Fort Knox, Kentucky)*

By July 17, the Germans had set up the first of three lines of defense, which extended from south of Catar across to San Stefano on the north coast. The mountainous Sicilian landscape greatly inhibited armored advance, which gave the defenders a great advantage. Montgomery soon bogged down. He did not take Catania until August 5.

In the meantime, on July 25, Benito Mussolini was removed from power. This prompted Adolf Hitler to authorize preparations for a possible evacuation of German forces. On July 27, the Germans began withdrawing from the first defensive line, all the while continuing to exploit the terrain of Sicily to slow Allied progress. Nevertheless, the U.S. 1st Division emerged victorious from the five-day battle at Troina, and the British pushed the Germans back on Adrano. The fall of Troina and Adrana, both major strong points, prompted Albert Kesselring, the German commander in charge, to begin an evacuation during the night of August 11–12. That the Allies allowed some 40,000 German and 62,000 Italian troops to withdraw intact was a major misstep in the conquest of Sicily. Belatedly, both the British and the Americans launched amphibious assaults in a hopeless effort to cut off the retreat.



General Harold Alexander (left) with George S. Patton Jr. and Rear Admiral Alan G. Kirk on a 1943 inspection tour during the Sicily Campaign *(National Archives and Records Administration)*

The failure to destroy more of the Axis army on Sicily was somewhat compensated for by Patton's spectacular liberation of Messina—stepping-off point to the Italian mainland—which he reached before Montgomery on August 16. This marked the end of the campaign, which was at best a deeply flawed Allied victory, since so many of Sicily's defenders lived to fight the Allies on the mainland.

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Sidi Rezegh, Battle of

The major action of the second British offensive in Libya, the Battle of Sidi Rezegh pitted British general Alan Cunningham and the British Eighth Army (118,000 men) against an Axis Panzergruppe under Erwin Rommel and including the three-division German Afrika Korps and eight Italian divisions, a total of 100,000 men.

The offensive, called Operation Crusader, was launched on November 18, 1941, by the British XIII Corps (infantry under A. R. Godwin-Austen) on the right along the Libyan coast, with XXX Corps (armor under Willoughby Norrie) making a wide swing on the left. XXX Corps occupied Sidi-Rezegh, which was the key to the relief of besieged Tobruk, on November 19. Rommel responded deftly, pushing back XXX Corps and thereby preventing its link-up with the Tobruk garrison. This accomplished, Rommel opened an intense counterattack on November 22, driving through to the British rear at the Egyptian frontier by November 25.

Cunningham asked for permission to withdraw to Mersa Matra, whereupon the theater commander in charge, Claude John Ayre Auchinleck, relieved him and appointed Neil Ritchie to command of the Eighth in his place. Under Ritchie for the next two weeks, the British units—though scattered—held against Rommel and even managed to open a corridor to Tobruk on November 29.

Rommel, always suffering from inadequate logistics, had no choice but to break off the attack. He fell back across Cyrenaica during the night of December 7–8, and, on the 15th, the British, in pursuit, occupied Gazala. They took Benghazi on December 25. The Eighth Army halted at El Agheila on January 6, having in the course of seven weeks of battle and pursuit killed more than 33,000 of the enemy for 17,700 Eighth Army losses.

Having achieved a magnificent victory, the British made the mistake of failing to follow up. This allowed Rommel to receive reinforcements, which he used to great advantage within two weeks.

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Siegfried Line

The Siegfried Line, or West Wall, was the system of prepared defensive positions along Germany's western frontier in World War II. After the Normandy landings (D-day) and the Allied advance across France, the retreating German forces devoted time and effort to reinforcing and hardening the already formidable series of defensive positions.

As the Allies neared the Siegfried Line, they encountered increasingly fierce German resistance, even as the Allies suffered from shortages of fuel and other supplies due to their lines of communication and logistics having been stretched to their limits. By the fall of 1944, the Allies had seven armies arrayed along a line from the North Sea to Switzerland. These included, from north to south, the Twenty-First Army Group (Bernard Law Montgomery), which consisted of the Canadian First (Henry Crerar) and British Second (Miles Dempsey) Armies; the Twelfth Army Group (Omar Bradley), consisting of the Ninth U.S. (Henry Simpson), First U.S. (Courtney Hodges), and Third U.S. (George S. Patton Jr.) Armies; and the Sixth Army Group (Jacob Devers), consisting of the Seventh U.S. (Alexander Patch) and First French (Jean de Lattre de Tassigny). Opposing the Allies in the West were 63 German divisions (six armies) under Field Marshal Gerd von Rundstedt. The Fifteenth Army (Gustav Adolf von Zangen), First Parachute Army (Kurt Student), and the Seventh Army (Ernst Brandenberger) were all under the command of Field Marshal Walther model. These forces held the line from the North Sea to the Moselle River. South of this, forward of the Siegfried Line in Alsace-Lorraine, were the First Army (Otto Knobelsdorff), Fifth Panzer Army (Hasso von Manteuffel), and the Nineteenth Army (Wiese), all under General Hermann Balck.

In the north, during the fall, with Operation Market-Garden, Montgomery attempted to establish a rapid bridgehead over the lower Rhine in order to flank the Siegfried Line at its northern end. The operation failed to establish the bridgehead, but was successful in taking South Beveland (October 30) and Walcheren Island (November 3) at the mouth of the Schelde River, which enabled the capture of the key port of Antwerp by November 26.

On the central sector of the front, the First U.S. Army reached the Siegfried Line at Aachen on September 12. The Battle of Aachen began on October 13 after the XIX and VII corps entered the city. This was the first German city to fall to the Allies. In November, the Ninth U.S. Army joined the First in an attack against the German defenses east of Aachen, an offensive that included the bloody fight for the Hürtgen Forest. By December 1, the First and Ninth Armies advanced to the small Roer River, 25 miles from Cologne. In the southern sector, the Third U.S. Army, having repulsed a counterattack by the German Fifth Panzer and First armies south of Metz (September 18–October 1), enveloped Metz on November 18, then pushed the Germans back to the Siegfired Line along the Saar River.

The Seventh U.S. Army drove to the Vosges Mountains, seized the Saverne Gap, then advanced into Strasbourg on November 23. After this, the army turned to the north, pushing against the Siegfried Line from Strasbourg past Karlsruhe, making contact with Third Army near Bitche. Simultaneously, the French First Army moved through Belfort and Mulhouse on November 22, reaching the Rhine River at the Swiss border. Despite this, the German Nineteenth Army continued to hold a salient known as the Colmar Pocket.

Despite advances all along the Siegfried Line front—and the capture of some 75,000 German prisoners by late fall—Allied progress had become frustratingly slow because of extremely tenacious and skillful German defense operations. Worse, the long offensive across so broad a front naturally left some weak points. The one at Ardennes the Germans would exploit with a massive offensive.

See also Ardennes, Battle of the (Battle of the Bulge).

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Singapore, fall of

Following the Fall of Malaya, British general Arthur Percival led his troops in a withdrawal across the Johore Strait to the island of Singapore. On January 31, 1942, after the last of the British forces had cleared the causeway to the island, Percival ordered it destroyed—a job that was never fully completed.

With him on Singapore, Percival had some 85,000 British, Indian, and Australian troops—of whom only about 70,000 were armed combat soldiers. His formidable task was to defend a 30-mile perimeter. Moreover, although Singapore was a great naval fortress, its big guns were designed to be used against attacking ships. Capable only of firing at a flat trajectory, the guns could not be employed effectively against a land attack.

The conquest of Singapore was under the command of Japanese general Yamashita Tomoyuki, fresh from the triumph of Malaya. He placed heavy siege guns at the southern tip of the Malay Peninsula and opened fire on Singapore beginning on February 5. Next, during the nights of February 8 and 9, Yamashita landed an amphibious force of about 5,000 men, who captured bridgeheads on the northwest and northern sides of the island. Japanese engineers made quick repairs to the causeway, sufficient to allow tanks and 25,000 more Japanese troops to invade.

While the Japanese ground forces advanced on Singapore City, artillery and aircraft continually attacked. On February 13, 3,000 British noncombatants were evacuated from Singapore in small boats, only to be intercepted by Japanese naval forces, which captured or killed the majority.

The unrelenting Japanese ground advance split and isolated the defenders, who were then defeated in detail. As the middle of February approached, the situation of the island, totally cut off, nearly without water, food, ammunition, or gasoline, seemed hopeless. Percival surrendered on February 15, 1942, yielding to the Japanese this strategically vital island, along with 32,000 Indian, 16,000 British, and 14,000 Australian troops as prisoners of war. Together, the defeats at Malaya and Singapore cost Great Britain 138,000 soldiers, of whom 130,000 became POWs.

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Sino-Japanese War

This conflict was one of the precipitating factors that propelled Japan into World War II. Since 1931, Japan had pursued a militant policy of imperial expansion at the expense of China, and in 1932 annexed Manchuria as Manchukuo. Japanese operations here erupted into a full-scale war on July 7, 1937, when Japanese troops stationed in north China fought with Chinese troops near the Marco Polo Bride at Lukouchiao, just outside of Peking (Beijing). Ostensibly, the Japanese troops were on night maneuvers, but it was clear the exchange was a deliberate Japanese provocation. What Japan called the "China Incident" became the pretext for a massive invasion.

The National Government Army of China, led by Generalissimo Chiang Kai-shek (Jiang Jieshi), mustered some 2 million troops, who, despite their numbers, were ill equipped and poorly trained. A Communist guerrilla army of 150,000 supported the Nationalist forces, electing to suspend their struggle for control of China to fight the invaders. The Japanese invasion force numbered about 300,000 augmented by 150,000 Manchurians and Mongolians. In contrast to the defenders, the invaders were highly trained and equipped with the most modern weapons. They were led very ably. Even the Manchurian and

Portrait of Chiang Kai-shek *(Harry S. Truman Presidential Library)*

Mongolian auxiliaries, not nearly as well equipped or led, were nevertheless superior to the Nationalist Chinese forces. In addition, the militaristic government of Japan had a vast reserve to call upon if necessary, and it had developed a massive industrial capacity for war production.

On July 28, 1937, Japanese forces quickly captured Peking. Tientsin followed the next day, after which the invaders relentlessly marched west and south, brushing aside almost wholly ineffectual Chinese resistance. The westward-bound forces quickly seized the province of Chahar and part of Suiyuan. The southward-moving force menaced Nanking, Hankow, and Sian, but met more effective resistance from the Chinese regular army as well as from partisan forces. Even more critical than the resistance was the tenuous condition of supply lines, which were stretched very thin. Nevertheless, by December 27, 1937, Japanese troops had taken Tsinan, capital of Shantung Province, which gave Japan control of the area north of the Yellow River.

While Japanese forces fought for the territory north of the Yellow River, an amphibious Japanese assault landed at Shanghai on August 8. Here Chinese defenders resisted with great tenacity, forcing Japan to pour in large numbers of reinforcements. Japanese aircraft heavily raided Shanghai, but the defenders nevertheless managed to pin the Japanese to their beachheads for two months—until the arrival of yet more reinforcements finally forced the fall of the city on November 8, 1937.

The Sino-Japanese War was largely an unbroken string of Chinese defeats, except for the September 25 Battle of P'ing-hsinkuan, in which the Japanese 5th Division was surprised and defeated in the Wutai Mountains, northern Shansi, by the Chinese 115th Division—a Communist unit of the Eighth Route Army. This was a signal victory against the Japanese, but it was of even greater value as political propaganda in that it allowed the Communists to take control of northwest China. Communist Chinese guerrillas established bases behind Japanese lines, which proved quite useful to the Allies during World War II.

Despite the defeat in Shansi, Japanese forces captured Nanking (Nanjing) on December 13 and embarked on an appalling orgy of murder, rape, and senseless destruction known to history as the Rape of Nanking.

A side event in the brutal invasion was the December 12, 1937, *Panay* Incident, in which Japanese aircraft attacked British and U.S. gunboats moored near Nanking. The *Panay,* a U.S. Navy gunboat, was sunk and a British boat severely damaged. Unwilling to provoke war with the United States, the Japanese apologized and paid an indemnity for the loss.

The second year of the Sino-Japanese War, 1938, began with a new offensive in northern China. The conquest of Shantung was complete before the end of January, and the Japanese continued to advance more forces toward Nanking and Hankow, slowed by attacks from the regular Chinese army and by guerrilla forces. By April, the Japanese had control

of the rail lines. In April, at Taiercwang, Gen. Li Tsung-jen led regular and guerrilla forces exceeding 200,000 in an envelopment of a Japanese army of 60,000. The Japanese managed to break out, but only after losing one-third of their force. The invaders quickly recovered and, during May and June, renewed the assault from the north. Hsuchow fell on May 20, followed by Kaifeng on June 6. By the end of the month, the vital Peking-Nanking railroad was entirely in Japanese hands. In the meantime, Nationalist leader Chiang Kai-shek made another bargain with the Communists, agreeing to support another Communist army, the New Fourth Army, which was led in battle through east-central China under Yeh T'ing.

From Kaifeng, Japanese forces marched west to capture the rail junction at Chengchow to enable an advance down the railroad to Hankow. To forestall this action, the Chinese purposely destroyed the dikes holding back the waters of the Yellow River, flooding the countryside, drowning many Japanese troops, destroying great quantities of equipment, and bringing the advance to a halt during June and July. Almost immediately, however, the Japanese army shifted southward and resumed the advance on Hankow. Although resistance by Chinese ground forces was determined, Japanese air attacks forced the surrender of Hankow, temporary capital of Chiang's Nationalist government. Chiang himself fled the city and reestablished his capital and headquarters at Chungking (Chongqing) in mountainous Szechwan (Sichuan) Province. While this was taking place, a new Japanese amphibious force landed near Hong Kong on October 12 and quickly marched inland to take Canton, which fell on October 21. China's two major seaports were now controlled by Japanese forces.

By the beginning of 1939, despite the devastation visited by the invaders, the war was proving inconclusive. Although vast tracts of China were occupied by the Japanese, popular resistance continued to take a heavy toll on the invaders. The Japanese high command therefore modified its strategy, shifting from a program of rapid conquest to a war of attrition. Before the end of 1939, Japanese forces captured all of China's remaining seaports in an effort to strangle the nation into final submission. Before the beginning of 1940, only two tenuous supply routes fed into China: the tortuous Burma Road, winding up from British Burma to Kunming, and a narrow-gauge railroad running from Haiphong, French Indochina, also to Kunming.

Although Chiang Kai-shek and his tenuous allies, the Chinese Communists, continued their resistance, the Japanese set up a puppet government for occupied China at Nanking. It was headed by a well-respected Chinese politician, Wang Chingwei, who, despite his popularity, proved unable to prompt the defection of any of Chiang's supporters.

With much of China occupied, the Japanese moved against Indochina in June 1940. Having surrendered to Germany, France was in no position to resist Germany's ally Japan, and the Vichy administrators of French Indochina yielded permission to the Japanese to land forces. This closed the supply route from Haiphong to Kunming.

Next to close was the Burma Road. At this point, Japan and Great Britain were not yet at war, and the British, under threat of invasion from Germany, had no desire to start a war against Japan now, so when the Japanese demanded that the British in Burma close the Burma Road, Prime Minister Winston Churchill agreed, thereby cutting off China from the rest of the world.

Despite this reversal, Chiang Kai-shek and Communist leader Mao Zedong refused to capitulate. Between August 20 and November 30, 1940, Mao led an intensive series of guerrilla raids in the provinces of Shensi, Chahar, Hubei, and Hunan, doing substantial damage to Japanese rear-echelon positions. Japan, in the meantime, occupied Indochina during September and established bases from which it could make additional air attacks on Chinese territory and pour in more land forces. Shortly after the occupation, on September 26, U.S. president Franklin Delano Roosevelt embargoed scrap iron and steel shipments to Japan, which precipitated a sharp decline in U.S.-Japanese relations, even as Japan formally concluded the Axis (Tripartite) Pact with Germany and Italy on September 27.

Beginning in 1941, Japanese forces conducted periodic punitive raids against Chinese Communist forces. Over the next three years, these raids would keep the Chinese Communist Eighth Route Army continually on the defensive and would cost it some 100,000 casualties. Worse, the Nationalist-Communist alliance began to disintegrate. When the Communist New Fourth Army, operating south of the Yangtze River in Anhwei (Anhvi), refused to cross the river to attack Japanese troops, Chiang Kai-shek moved Nationalist troops into the region. Responding to this, in late December 1940, the New Fourth Army began to cross the river, leaving only 10,000 troops and headquarters on the south bank. Nationalist forces attacked this element, destroying it and creating a crisis in relations with Mao and the Communists.

On April 13, 1941, Japan concluded a nonaggression treaty with the USSR. The United States froze Japanese assets in the United States on July 26, however, and in this hostile climate, the U.S. government quietly approved the formation of the American Volunteer Group, better known as the FLYING TIGERS, a mercenary air force of about 100 U.S. volunteer pilots led by retired U.S. Army captain CLAIRE L. CHENNAULT. The deployment of the Flying Tigers was complete by December 1941. In the meantime, in October, TOJO HIDEKI became Japan's premier, consummating the delivery of the Japanese government into the hands of the military. With the BATTLE OF PEARL HARBOR on December 7, 1941, the Sino-Japanese War merged into World War II.

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Sittang River Bridge, Battle of

During the BURMA CAMPAIGN, the Japanese 33rd Division outflanked Major General John Smyth's 17th Indian Division, prompting him to order the demolition of the Sittang River Bridge in an effort to delay the Japanese advance on Rangoon. The demolition was accomplished on February 23, 1942, and cost the Japanese at least 10 days, but it also trapped two of Smyth's three brigades on the eastern bank of the Sittang. Some 5,000 men were taken prisoner by the Japanese, and all of the division's artillery and transport vehicles were lost.

Despite the time it bought, the Battle of the Sittang River Bridge was counted a British disaster at the time, and Lieutenant General Thomas Hutton, commander in charge of Burma, was relieved, as was Smyth—who was also compelled to accept early retirement. In subsequent years, Smyth found many defenders of his action, and his decision at Sittang River has long been a subject of heated argument.

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Skorzeny, Otto (1908–1975) *commando leader*

Born in Austria, Skorzeny became a Nazi Party member in 1933 and served as a lieutenant colonel in the WAFFEN SS during World War II. He was commissioned to create special commando units in 1942 called the Friedenthal Hunting Groups (Friedenthaler Jadgverbände).

On September 12, 1943, he led 90 commandos in a glider and light-aircraft operation at Gran Sasso in the Abruzzi region of Italy. They snatched BENITO MUSSOLINI, who, having been ousted from power, was being held by order of the new Italian head of state, Marshal PIETRO BADOGLIO. Skorzeny's commandos transported Il Duce to Germany, and ADOLF HITLER set him up as the puppet ruler of northern Italy, which, at the time, was still occupied by the Germans.

The signal success of the Mussolini rescue earned Skorzeny a promotion and allowed him to expand his commando unit. In 1944, Hitler gave him the mission of rounding up and torturing those implicated in the July plot (to assassinate Hitler). On October 17, 1944, he commanded the SS unit that arrested Miklós Horthy de Nagybánya and removed him from power in Hungary. During the battle of the Ardennes (Battle of the Bulge), Skorzeny masterminded the infiltration behind American lines of hundreds of U.S.-uniformed English-speaking Germans.

After the war, in 1947, Skorzeny was tried by the Nuremberg War Crimes Tribunal, which acquitted him of war crimes largely because a senior British officer testified that Skorzeny had done nothing that Allied commandos would not also have tried to do. Despite his acquittal at Nuremberg, Skorzeny was still subject to a West German denazification trial. Unwilling to chance the outcome of that proceeding, he escaped from Darmstadt prison in 1949 and fled to Spain, where he lived for the rest of his life.

Otto Skorzeny *(Library of Congress)*

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Slim, Sir William Joseph (1891–1970)

British commander in Burma

Born near Bristol, England, Slim was educated at King Edward's School (Witley, Surrey) and was enrolled in the Officer Training Corps (OTC) there. After graduating, he taught school from 1909 to 1910, then worked as a bank clerk. In 1912, he continued OTC at Birmingham University and joined the army at the outbreak of World War I, serving as a second lieutenant in the 9th Battalion of the Royal Warwickshire Regiment. From July 13 to August 8, 1915, he fought in the disastrous Gallipoli campaign, suffering a severe wound on August 8, which laid him up until January 1916. He fought in France and in Mesopotamia, participating in the advance on Baghdad during December 10, 1916–March 11, 1917. He was then invalided to India (because he had never been officially certified as fit for duty after being wounded in Gallipoli), where he was appointed to the general staff and promoted to temporary major. At his own request, he was made a captain in the Indian army on May 31, 1919, and on March 27, 1920, he was assigned as captain of the 2/7 Gurkha Rifles, serving with them in the campaign against the Tochi Wazirs in October 1920.

After returning to England in 1924, Slim enrolled in the Staff College there, then returned to India in 1926, where he taught at the Staff College at Quetta. Returning again to England in 1929, he served at Army Headquarters until 1933 and was appointed an instructor at the Imperial Staff College, Camberley. In 1937, he taught at the Imperial Defense College and was promoted to lieutenant colonel the following year, when he also returned to India. He enrolled in the Senior Officer's School

at Belgaum and assumed command of the 2/7 Gurkhas in Assam during 1938–39. He returned to Belgaum as commandant of the Senior Officer's School and was promoted to the local rank of brigadier general.

At the outbreak of World War II, Slim was assigned to command the 10th Indian Brigade on September 23, 1939, which he prepared and trained for mechanized desert warfare. He led the brigade to East Africa as part of the 5th Indian Division, arriving at Port Sudan on August 2, 1940. Repulsed at Gallabat, Sudan, on November 6, 1940, due to poor air support and faulty reconnaissance, Slim was wounded late in January 1941 and was sent to India to recover.

Slim assumed command of the 10th Indian Division in Iraq on May 15, 1941. He captured Baghdad early in June, then pushed into Vichy-controlled Syria, where he captured Deir-es-Zor, using the slightest of resources. On August 25, Slim invaded Iran to open supply lines to the USSR. After this mission was accomplished, he returned to India in March 1942, where he took command of the newly created I Burma Corps (the 17th Indian and the Burma Divisions) on March 13 at Prome.

Fighting in a chronically undersupplied theater of the war, Slim conducted a determined delaying campaign against the Japanese, but was driven out of Burma by the end of April. He executed a skillful retreat across the Chindwin River, then directed the defense of India from June to December 1942. On April 14, 1943, he commanded the IV Corps as well I Burma Corps, which were pinned down at Arakan. After successfully extricating the corps, he was appointed to command the Eastern Army on October 16, 1943, transforming it into the Fourteenth Army and revitalizing its sunken morale. He led the Fourteenth in an operation that halted the Japanese offensives in Arakan during February 1944 and at Imphal-Kohima during March 6–July 15, then took charge of operations to liberate northern Burma during July–December 1944.

After northern Burma was cleared of Japanese, Slim commanded the British offensive of December–March 1945 that took Mandalay on March 20, 1945. He next advanced south along the Irrawaddy and Sittang valleys, taking Rangoon on May 2. After promotion to general on July 1, Slim was assigned command of Southeast Asian ground forces on August 16. He carried out pacification operations in Malaysia and Indonesia during August–November 1945—since, even after the Japanese surrender, diehards in these most remote corners of the war continued to fight.

Following World War II, Slim was appointed commandant of the Imperial Defense College, serving from 1946 to 1948. He then became chief of the Imperial General Staff on November 1, 1948, and was promoted to field marshal on January 4, 1949. In 1952, he was appointed governor-general of Australia, serving until 1960. Returning to England, he was named lieutenant governor deputy constable (1963–64), then governor and constable of Windsor Castle (1964–70).

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small arms and rifles, British

PISTOLS

The most important British pistols of World War II were the Enfield No. 2 Mk. 1 and the Webley Mk 4. Both were 6-round revolvers, and both used the same 0.380 SAA 9.65 mm ball. The Enfield was 10.25 inches long, with a 5-inch barrel. It weighed 1.7 pounds and had a muzzle velocity of 600 feet per second. The Webley was slightly longer at 10.5 inches, but also had a 5-inch barrel and delivered its round at 600 feet per second. Its weight was identical to that of the Enfield weapon.

RIFLES

The most important British rifle of World War II was the Lee-Enfield No. 4 Mk 1. It was designed in

1939 and produced throughout and after the war, from 1939 to 1956, remaining in service as late as 1990. A bolt-action service rifle, its caliber was .303 inches and it fired a .303-inch SSA Ball Mk VI and Mk VII from a 10-round magazine. The rifle measured 44.4 inches in length, with a barrel length of 25.2 inches. It weighed 9 pounds, 3 ounces and could fire 15 to 30 rounds per minute. Muzzle velocity was 2,539 feet per second and effective range about 2,625 feet.

For jungle combat, the Lee-Enfield No. 4 Mk I was judged too long and heavy. In 1943, the No. 5, Mk I was produced. Like the No. 4 Mk I, it was .303 caliber, but it was only 39.5 inches in length, with a barrel of 18.75 inches. It weighed 7.15 pounds and had a muzzle velocity of about 2,400 feet per second.

British commandos often used the De Lisle carbine, designed in 1943 by an aircraft engineer, William Godfray De Lisle. The 0.45-inch caliber weapon was 35.25 inches long, with a short barrel of 7.25 inches. It weighed in at 8.25 pounds and could deliver seven rounds from its box magazine at a muzzle velocity of 830 feet per second.

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small arms and rifles, French

PISTOLS

At the outbreak of World War II, the French were still issuing to officers the venerable pre–World War I Lebel Mle. 1892 revolver. The .275-caliber pistol held six rounds and had a barrel length of 9.37 inches. Muzzle velocity was 374 feet per second. The French also issued a modern semiautomatic pistol, the Mle. 1935S—first produced in 1935—which was a 7.65 mm caliber weapon holding eight rounds. It was 7.4 inches long, with a 4.1-inch barrel and weighed 1.75 pounds unloaded. Muzzle velocity was 1,132 feet per second.

RIFLES

At the outbreak of World War II, the French army fought with a miscellaneous array of rifles, some as old in design as the 1866 Chassepot. Three rifles, however, were the most important:

Lebel Fusil d'infanterie mle 1886/93. First issued in 1886, this 8 mm rifle was updated in 1893 and used in both world wars. The rifle was 51.3 inches long, with a 31.4-inch barrel. It weighed 9.35 pounds and delivered a round at 2,380 feet per second. The tube magazine held eight rounds.

Berthier Fusil d'infanterie mle 07/15. The Berthier had begun to displace the Lebel by the outbreak of World War II. The 7.5 mm weapon was 42.7 inches long with a 22.8-inch barrel. It weighed only 7.85 pounds and delivered a muzzle velocity of 2,700 feet per second. The magazine was a five-round box.

Fusil MAS36. The latest of the French World War II weapons, the MAS36 was slow to reach production, so was issued only to front-line units. Caliber was 7.5 mm, length 40.13 inches, and barrel length 22.6 inches. The rifle weighed 8.09 pounds and could deliver a muzzle velocity of 2,700 feet per second. The box magazine held five rounds.

Further reading: Hogg, Ian V. *The Encyclopedia of Infantry Weapons of World War II.* New York: Military Press, 1987; Suermondt, Jan. *Infantry Weapons of World War II.* Willingdon Drove, U.K.: Gardners Books, 2004; Weeks, John. *Infantry Weapons.* London: Pan Macmillan, 1972.

small arms and rifles, German

German infantry weapons were some of the best of World War II, in terms of reliability as well as performance.

PISTOLS

Luger. The so-called Luger is one of the iconic weapons of World War II. The most familiar model was officially designated Pistole P08 and grew out of a design originally produced by Hugo Borchardt in 1893 and refined by George Luger. Some 35 variants of the Luger were used by the armies of many nations. The standard P08 had a barrel 4.055 inches long and an overall length of 8.75 inches. It fired a 9 mm Parabellum cartridge from an 8-round box magazine. The pistol weighed 1.92 pounds and produced a muzzle velocity of 1,250 feet per second.

Walther PP. Pistols by the Walther firm were more modern than the Lugers and began to replace them early in the war. The Walther PP was first manufactured in 1929 as a police weapon. It is considered one of the finest small arms of World War II. Some variants fired a 9 mm short round, others a 7.65 mm round. Still others fired a 6.35 mm and 5.56 mm long round (0.22 LR). The overall length of the weapon was just 6.8 inches. Barrel length was 2.9 inches. The pistol weighed 1.5 pounds and delivered a muzzle velocity of 950 feet per second. Its magazine held eight rounds.

Walther PPK. This was a short version of the PP. Variants fired the same types of ammunition as the PP, but the overall length of the weapon was just 6.1 inches, whereas the barrel length was stretched to 3.39 inches. Weight was 1.25 pounds, muzzle velocity 920 feet per second, and the magazine held seven rounds.

Walther P38. Second only to the P08 Luger in fame, this weapons was designed to replace that earlier pistol. It was a superb weapon, although costly. The P38 fired a 9 mm Parabellum round and was 8.58 inches in overall length, with a barrel of 4.88 inches. It weighed in at 2.12 pounds, delivered a muzzle velocity of 1,150 feet per second, and had an eight-round magazine.

RIFLES

Karabiner 98k. At the outbreak of World War II, many German units went into combat with this modification of the World War I Gewehr 98. The Gewehr was an 1898 design, which fired a 7.92 mm round and delivered a muzzle velocity of 2,100 feet per second. It weighed 9.26 pounds and had an overall length of 49.2 inches, which German infantry experts regarded as too long for front-line use. The Karabiner 98k modification shortened the length of the barrel from 29.1 inches to 23.6 and the overall length from 49.2 to 43.6 inches. Weight came down to 8.6 pounds, and muzzle velocity rose to 2,477 feet per second. Both weapons had a five-round box magazine.

Gewehr 41 (W). This self-loading weapon was first produced in 1941. It fired a 7.92 mm round from a 10-round box magazine. The rifle was 44.25 inches long, with a 21.5-inch barrel. Weight was 11.09 pounds. The weapon produced a muzzle velocity of 2,546 feet per second.

Gewehr 43. The self-loading system of the Gewehr 41 (W) proved cumbersome and complex in combat, and when Germans fighting on the Soviet front discovered the Soviet Tomarev automatic rifles, they copied the self-loading mechanism for the Gewehr 43. Like its predecessor, it fired a 7.92 mm round from a 10-round box magazine. It was 44 inches in overall length, with a 21.61-inch barrel. Weight was down to 9.7 pounds, and it delivered the same muzzle velocity—2,546 feet per second—as the earlier weapon.

Fallschirmjägergewehr 42. This infantry weapon was produced exclusively for the Luftwaffe, the German air force, to equip paratroops. It was an early example of the assault rifle. The weapon fired a 7.92 mm round from a 20-round box magazine. It was just 37 inches long, with a barrel length of 19.76 inches. Weight was 9.9 pounds and muzzle velocity 2,500 feet per second. Cyclic rate of fire was between 750 and 800 rounds per minute.

Sturmgewehr 44. Originally designated the Maschinenpistole 43, the Sturmgewehr 44 was an early assault weapon, which fired 7.92 mm ammunition from a 30-round box magazine at a cyclic rate of 500 rounds per minute. It was 37 inches in length overall, with a 16.5-inch barrel. The rifle weighed 11.5 pounds and delivered a muzzle velocity of 2,132 feet per second.

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small arms and rifles, Italian

Italy's principal rifle was the bolt-action Carcano M91, which fired 6.5 mm rounds from a six-round magazine. Muzzle velocity was 2,296.5 feet per second. The rifle was 50.59 inches long overall, with a 30.7-inch barrel. Unloaded weight was 8.38 pounds.

The most important pistols were the Pistola Automatica Glisenti modello 1910 and the Pistola Automatica Beretta modello 1934.

Pistola Automatica Glisenti modello 1910. Originally known as the Brizia, this pistol was adopted by the Italian army in 1910 and was cordially despised by most officers. Its action was sloppy and did not inspire confidence in the shooter. The cartridge was a 9 mm Glisenti fired from a seven-round box magazine, Overall length was 8.27 inches, with a barrel length of 4.02 inches. The Glisenti weighed two pounds and delivered a muzzle velocity of 1,050 feet per second.

Pistola Automatica Beretta modello 1934. This weapon made a welcome contrast with the 1910 pistol. Beautifully made and finished to an exacting standard, this pistol fired a 9 mm short round and had a seven-round magazine box. Overall length was six inches, and the barrel was 3.4 inches long. The pistol weighed 1.25 pounds and had a muzzle velocity of 950 feet per second.

Further reading: Hogg, Ian V. *The Encyclopedia of Infantry Weapons of World War II.* New York: Military Press, 1987; Suermondt, Jan. *Infantry Weapons of World War II.* Willingdon Drove, U.K.: Gardners Books, 2004; Weeks, John. *Infantry Weapons.* London: Pan Macmillan, 1972.

small arms and rifles, Japanese

Japanese infantry weapons were of generally mediocre quality, especially as the war in the Pacific got under way in earnest and speed of production took precedence over considerations of workmanship.

PISTOLS

During the 1930s, the Imperial Japanese Army generally used 8 mm Pistol Type 14 (called by Westerners the "Nambu" pistol), which was a good weapon. To meet the demands of wartime production, however, an attempt was made to simplify the service revolver, and the result, Pistol type 94 (94 Shiki Kenju), is generally considered the worst small arm of the war. Not only did it handle poorly, it was inherently unsafe because part of the trigger mechanism protruded from the left side of the weapon. This meant that it was easily discharged by accident. In addition, manufacturing standards were lax and the quality of the materials poor. The pistol fired an 8 mm Taisho 14 cartridge and had a muzzle velocity of 1,000 feet per second. Overall length was 7.2 inches, barrel length 3.78 inches, and weight 1.52 pounds. The box magazine held six shots.

RIFLES

The most important Japanese rifle was the Type 38, which fired a 6.5 mm round from a five-round box magazine. The weapon was 50.2 inches long overall and had a 31.4-inch barrel. It weighed 9.25 pounds and delivered a muzzle velocity of 2,400 feet per second.

The Type 99 was a version of the Type 38 raised to 7.7 caliber and incorporating a monopod for improved accuracy.

In addition to the Type 38 and Type 99, the Carbine Type 38 was widely used. Some models of this shortened version of the Type 38 featured a folding butt for use by airborne troops. The Parachutist's Rifle Type 2 was not a carbine, but a version of the Type 99 that could be broken down into halves. Yet another Type 38 modification was the Sniper Rifle Type 97, which incorporated a provision for a telescopic sight and a redesigned bolt handle.

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small arms and rifles, Soviet

Soviet small arms and rifles were not pretty, but they were durable, and the Tokarev rifles were among the best infantry weapons of the war.

PISTOLS

The Red Army entered World War II with the M1895 Nagant, a 7.65 mm weapon with a seven-round revolver magazine. The weapon was nine inches long overall with a barrel length of 4.5 inches. Unloaded weight was 1.65 pounds, and its muzzle velocity was 889 feet per second.

In the course of the war, the venerable Nagant was replaced—albeit not entirely—by the Tokarev TT-33, which had gone into production in 1933. This semiautomatic pistol fired a 7.62 mm cartridge Type P (M30) from an eight-round box magazine. It had a muzzle velocity of 1,380 feet per second. Overall length was 7.68 inches, barrel length 4.57 inches. The weapon weighed 1.83 pounds.

RIFLES

Two rifle types were widely used in the Red Army, the Mosin-Nagant rifles and the Tokarev rifles.

Mosin-Nagant rifles. The Mosin-Nagant Model 1891 was carried by the soldiers of the tsar's army in World War I. The old rifles were modernized beginning in 1930, and the Mosin-Nagant Model 1891/30 became a mainstay of the Red Army during World War II. It fired a 7.62 mm round from a five-round box magazine. Overall, it measured 48.5 inches long, with a 28.7-inch barrel. Weight was 8.8 pounds. The weapon delivered a muzzle velocity of 2,660 feet per second.

Model 1938 Carbine. The carbine version of the Mosin-Nagent Model 1891/30 fired the same 7.62-mm round, but was reduced in overall length to 40 inches, with a 20-inch barrel. Muzzle velocity rose to 2,514 feet per second.

Tokarev SVT 40. This semiautomatic rifle was one of the best small arms of the war. It fired 7.62 mm rounds from a 10-round box magazine, delivering a muzzle velocity of 2,723 feet per second for impressive penetrating power and accuracy. The weapon was 48.1 inches long overall, with a 24.6-inch barrel. It weighed 8.58 pounds.

Further reading: Hogg, Ian V. *The Encyclopedia of Infantry Weapons of World War II.* New York: Military Press, 1987; Suermondt, Jan. *Infantry Weapons of World War II.* Willingdon Drove, U.K.: Gardners Books, 2004; Weeks, John. *Infantry Weapons.* London: Pan Macmillan, 1972.

small arms and rifles, U.S.

U.S. history is intimately bound up with the development and manufacture of firearms, and the nation went to war with excellent small arms and rifles.

PISTOLS

Colt M1911A1 Automatic Pistol. The U.S. Army went to France in World War I with the Colt M1911, which had been accepted into service in 1911. Experience with the weapons resulted in a few design changes, resulting in the M1911A1, which was the American officer's weapon of World War II. It fired a .45 ball (M1911) out of a seven-round magazine box and developed a muzzle velocity of 825 feet per second. Overall length was 8.6 inches, with a 5.03-inch barrel. The weapon was hefty at three pounds.

Smith & Wesson 0.38/200 Revolver. This U.S. design was built for British and Commonwealth forces. It was a straightforward, highly dependable revolver, holding six rounds in its cylinder and delivering a muzzle velocity of 650 feet per second with an 0.380 SAA ball (a 9.65 mm round). Overall length was 10.125 inches, with a five-inch barrel. Weight was 1.94 pounds.

Smith & Wesson M1917. Produced during World War I, this was the standard U.S. Army service revolver. It fired a .45 ball M1911 at 830 feet per second. The chamber held six rounds. Overall length was 10.8 inches, with a 5.5-inch barrel. Weight was 2.25 pounds. Colt produced a very similar weapon for the army, the Revolver, Caliber .45, Colt New Service, M1917.

Liberator M1942. The most unusual pistol ever produced by the United States (the contractor was the Guide Lamp Division of General Motors!), the Liberator was an assassination weapon. Cheap and simple in the extreme, this little pistol was packed into a clear plastic bag together with 10 rounds and a set of instructions in illustrated, wordless comic-strip format. Thus packaged, it was parachute-dropped into occupied Europe and in the Far East theaters to be picked up and used by resistance fighters, partisans, and guerrillas. The Liberator fired a single shot, but had space in the handle to carry five rounds. Ammunition was a .45 ball M1911, which was fired at a muzzle velocity of 1,100 feet per second. The overall length of the weapon was just 5.55 inches, with a four-inch barrel. It weighed one pound.

RIFLES

Rifle, Caliber .30, Model of 1903. Known universally as the Springfield rifle, the weapon was adopted in 1903 and was manufactured in several variations. At the outbreak of World War II, with the new M1 Garand not yet available in sufficient numbers, the Springfield was issued to many troops. It was a highly accurate weapon, but was not self-loading. Nevertheless, it was highly favored by sharpshooters and snipers. The weapon fired a 7.62 mm (.30) round from a five-round box magazine. Muzzle velocity was 2,805 feet per second. Overall, the rifle was 43.5 inches in length, with a barrel of 24 inches. It weighed nine pounds.

Rifle, Caliber .30, M1 (Garand). The standard U.S. infantry rifle of World War I, the M1 was also the first self-loading rifle to be accepted for military service. Five and a half million were produced during the war. The rifle fired a 7.62 mm (.30) round from an eight-round box magazine. Muzzle velocity was 2,805 feet per second. Overall length was 43.6 inches, with a 24-inch barrel. The rifle weighed 9.5 pounds.

Carbine, Caliber .30, M1. For troops who required a lighter, smaller weapon than the M1 rifle, the Winchester-designed M1 carbine was the weapon of choice. It fired a 7.62 mm (.30) round from a box magazine that held 15 or 30 rounds. The overall length was 35.6 inches, and the barrel length was just 18 inches. The rifle weighed 5.2 pounds and delivered a muzzle velocity of 1,970 feet per second. An M2 version of the carbine incorporated an automatic fire feature, which delivered a cyclic rate of fire of 775 rounds per minute. An M3 version was designed for night fighting and included an infrared night sight. These weapons were highly favored by the marines, who welcomed the easy handling in tough jungle environments.

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Smith, Holland M. "Howlin' Mad" (1882–1967) *U.S. Marine general commanding in the Pacific war, often called the father of modern amphibious warfare*

Born in Seale, Alabama, Smith graduated from Alabama Polytechnic Institute in 1901 and took a law degree at the University of Alabama in 1903. He practiced briefly in Montgomery, Alabama, before receiving a commission in the USMC in 1905. He served in the Philippines from 1906 to 1908, then, after a brief Stateside stint, he was posted to Panama. Returning to the United States in April 1910, he was stationed at Annapolis, Md.; Puget Sound, Washington; San Diego, California; and the Recruiting Station, Seattle, Washington. He rejoined the 1st Marine Brigade in the Philippines in 1912. In April 1914, he assumed command of the marine detachment aboard the USS *Galveston,* returned to the United States briefly, and was ordered to the Dominican Republic in June 1916, to fight against so-called "rebel bandits." He returned to the United States on May 30, 1917, and, within two weeks, was off to France as commander of the 8th Machine Gun Company, 5th Marines.

Holland M. "Howlin' Mad" Smith *(United States Marine Corps)*

On his arrival in France, Smith was detached from the 5th Marines and sent to the Army General Staff College at Langres, from which he graduated in February 1918. Appointed adjutant of the 4th Marine Brigade, he saw action in the Aisne-Marne Defensive, including at the Battle of Belleau Wood. After staff service during the Aisne-Marne, Oisne-Aisne, St-Mihiel, and Meuse-Argonne offensives, he served with the occupation forces following the Armistice. Smith was decorated with the Croix de Guerre with Palm by the French government and received a Meritorious Service Citation from the commander in chief, American Expeditionary Forces, for which he was subsequently awarded the Purple Heart medal.

Smith returned to the United States in April 1919 and enrolled in the Naval War College, Newport, Rhode Island, then served in the War Plans Section of the Office of Naval Operations, Washington, D.C. In May 1923, he served aboard the battleships *Wyoming* and *Arkansas* as fleet marine officer, U.S. Scouting Fleet. In February 1924, he was named chief of staff and officer in charge of operations and training for the Marine Brigade on expeditionary duty in Haiti. In 1925, he returned to the United States as chief of staff of the 1st Marine Brigade at Quantico, Virginia.

Smith enrolled in the Marine Corps Schools, Quantico, then was assigned as post quartermaster of the Marine Barracks, Philadelphia Navy Yard, from July 1927 to March 1931, when he served aboard the USS *California* as aide to the commander and force marine officer of the Battle Force, U.S. Fleet. In June 1933, he took command of the Marine Barracks at the Washington Navy Yard. Beginning in January 1935, he served two years at San Francisco as chief of staff, Department of the Pacific. In March 1937, he moved to Marine Corps Headquarters as director of the Division of Operations and Training. In April 1939, he was named assistant commandant of the Marine Corps under Major General Thomas Holcomb. He served until September.

On the brink of war, Smith directed extensive army, navy, and marine amphibious training, which proved crucial to U.S. landings during the war. Smith was also instrumental in preparing U.S. Army and Canadian troops for the Kiska and Attu landings in the Aleutians Islands campaign. Smith then led the V Amphibious Corps in the assaults on the Gilberts and in Marshall Islands Campaign, the Battle of Saipan, and Tinian in the Mariana Islands campaign. He had responsibility for all expeditionary troops in the Marianas. Following the Marianas campaign, Smith served as the first commanding general of Fleet Marine Force, Pacific, and headed Task Force 56 (Expeditionary Troops) at the Battle of Iwo Jima.

Smith received the Distinguished Service Medal in recognition of this work in training America's amphibious forces. He received a Gold Star in lieu of a second Distinguished Service Medal for planning and executing the Gilbert and Marshall Islands operations, and another Gold Star for his service in the Marianas. Yet another Gold Star was awarded for his role in the invasion of Iwo Jima.

Smith returned to the United States in July 1945 to head the Marine Training and Replacement Command at Camp Pendleton, California. He retired on May 15, 1946, with the rank of lieutenant general, but was subsequently promoted to general on the retired list.

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Smith, Walter Bedell (1895–1961) *Dwight D. Eisenhower's chief of staff for U.S. forces in Europe*

A native of Indianapolis, Smith enlisted in the Indiana National Guard in 1910 and served through 1915. When the United States entered World War I in April 1917, Smith was commissioned a second lieutenant of infantry in the regular army. He saw combat, then remained in the service after the Armistice, serving in several Stateside posts and in the Philippines. Smith was an instructor at the Infantry School.

Walter Bedell Smith *(Harry S. Truman Presidential Library)*

In February 1942, shortly after the U.S. entry into World War II, Smith, promoted to brigadier general, was appointed secretary of the Joint Chiefs of Staff and U.S. secretary of the Combined Chiefs of Staff. In September 1943, he was named chief of staff, European theater of operations, and chief of staff to Dwight D. Eisenhower. He held these posts simultaneously until Eisenhower returned to the United States after the war in Europe ended. It was "Beetle" Smith who negotiated both the surrender of Italian (1943) and German armed forces (1945) and, on behalf of the Allies, accepted those surrenders.

After Smith returned to the United States in 1945, he was appointed chief of the Operations and Planning Division of the War Department General Staff. He retired from active duty in 1946 and became U.S. ambassador to the Soviet Union, serving until 1949. Returning to active duty, he commanded the First U.S. Army from 1949 to 1950, then served as head of the Central Intelligence Agency (CIA) from 1950 to 1953, having been promoted to general in 1951. He stepped down from the CIA and retired from the army in 1953 to accept an appointment as undersecretary of state, but resigned a year later to enter the private sector.

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Smuts, Jan Christiaan (1870–1950) *Afrikaner general and prime minister who eschewed South African neutrality in World War II*

Born near Riebeeck West (near Malmesbury), Cape Colony, Smuts grew up on a farm but was educated in England at Christ's College, Cambridge, from

which he graduated in 1894. After passing the bar in 1895, he practiced in Capetown, South Africa. Smuts moved to Johannesburg in 1897 and became state's attorney for the Transvaal government in June 1898. After Pretoria fell to the British during the Second Boer War on June 5, 1900, Smuts was commissioned a general and fought at Diamond Hill during June 11–12. He then led the Boer offensive at Nooitgedacht/Magaliesburg on December 13, 1905, capturing Modderfontein in Transvaal on January 31, 1901.

On September 3, 1901, Smuts invaded the Cape Colony to stir up rebellion among the Cape Colony Boers. After defeating the 17th (British) Lancers at Elands River Poort on September 17, he was forced to withdraw in the face of British reinforcements, and his efforts to enlist the aid of the Cape Boers came to nothing.

Smuts was a principal at the peace conference at Vereeniging during May 15–31, 1902, and was instrumental in drawing up the Treaty of Vereeniging, which ended the war on May 31, 1902.

Smuts was appointed colonial secretary under Prime Minister Louis Botha in March 1907 and was one of the principal authors of the constitution of the Union of South Africa, enacted on May 31, 1910. During World War I, he sought accommodation with the British, and therefore suppressed Christian de Wet's anti-British Boer uprising during September–December 1914. Following this, he led South African forces in the conquest of German Southwest Africa (modern Namibia) from February to July 9, 1915. Smuts was put in command of East African operations during February 1916. After attending an Imperial war conference in London in 1917, Smuts was appointed a cabinet minister and privy councilor in March 1917. The British government invited him to sign the Treaty of Versailles, an honor he accepted although he believed the treaty too punitive.

On Botha's death in August 1919, Smuts became prime minister of South Africa. He never achieved popularity, and when his party lost the 1924 elections, he retired to private life for 10 years, reemerging in 1934 as deputy prime minister under J. B. M. Hertzog. Smuts differed sharply with Hertzog on the issue of South African neutrality in World War II. Hertzog favored it, Smuts did not, and Hertzog's government fell on September 5, 1939. Smuts again became prime minister and took command of the South African war effort, which was primarily directed at preventing Germany and Italy from conquering North Africa. British prime minister Winston Churchill regarded Smuts highly and frequently called on him for consultation. Smuts was promoted to field marshal in the British army in 1941—although he did not command in the field.

At the end of the war, Smuts participated in the San Francisco Conference and was among those who participated in drafting the United Nations charter in 1945. Despite his war service and international prestige, he was defeated in the 1948 elections and stepped down as prime minister, but retained a seat in parliament.

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Sobibór extermination camp

This camp, which the Germans opened near Chelm, Poland, in May 1942, is where 250,000 to 300,000 people were murdered.

On October 14, 1943, some of Sobibór's inmates revolted, killing several guards. About 600 prisoners escaped, of whom approximately half made it into the woods. There they found no succor from the local Poles, the overwhelming majority of whom were virulently anti-Semitic. Most of the escapees were apprehended by the locals and returned to face certain death.

The Germans closed Sobibór in November 1943, lest it inspire further acts of resistance there or elsewhere. All signs of its existence were obliterated.

See also concentration and extermination camps; Final Solution, the; and Holocaust, the.

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Somerville, James (1882–1949) *British admiral who worked closely with the U.S. Navy*

Born in Weybridge, Surrey, Somerville joined the Royal Navy as a cadet in 1898 and was serving as a lieutenant by 1904. Before World War I, he emerged as the Royal Navy's premier radio specialist. During the war, he served at Gallipoli and was decorated with the Distinguished Service Order.

Between the world wars, Somerville, promoted to captain in 1921, was director of Admiralty's Signal Department (1925–27) and served as an instructor at the Imperial Defence College (1929–31). Promoted to commodore in 1932, he was again promoted, to rear admiral, in 1933. He was assigned to command the Mediterranean Fleet destroyer flotillas from 1936 to 1938, and during the Spanish civil war helped protect Majorca from the Republicans. He served in the East Indies during 1938–39, then took a medical retirement—only to be recalled at the outbreak of World War II.

Somerville's early work during the war was in RADAR development. In May 1940, he served under Admiral Bertram Ramsay and was instrumental in organizing the DUNKIRK EVACUATION. After this, he was assigned to command HMS *Hood* and undertook the task of neutralizing the French fleet at the BATTLE OF MERS-EL-KÉBIR in French North Africa (now Algeria).

As commander of Force H, Somerville led a naval raid on Genoa on February 9, 1941, and took part in the sinking of the *BISMARCK* on May 26, 1941. Force H was also deployed to protect major convoys to Malta and Egypt. In March 1942, Sommerville was named to command the British Eastern Fleet, based at Ceylon (Sri Lanka), until the Japanese onslaught forced him to move his fleet to the Addu Atoll in the Maldives. He lost half of the fleet to Admiral NAGUMO CHUICHI in the successful Japanese Indian Ocean Raid of April 1942. In response, he attempted a counterattack, but was unable to intercept the Japanese fleet. This prompted him to withdraw to Kilindini, Kenya, and it was not until 1944 that, suitably reinforced, he was able to strike at Japanese-occupied Dutch East Indies.

In August 1944, Admiral Bruce Fraser replaced Somerville as commander of the Eastern Fleet. In October, Somerville was charged with leading the British Admiralty Delegation in Washington, D.C., which he did through December 1945. He worked extremely effectively with the Americans, especially Admiral ERNEST J. KING, despite King's reputation as an irascible man who was also an outspoken Anglophobe.

In May 1945, Somerville was promoted to admiral of the Fleet. He retired in December 1945 and was created lord lieutenant of Somerset in August 1946.

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SONAR

SONAR—Sound-Navigation, Ranging—was developed by the U.S. Navy during World War I, at about the same time that British and French scientists developed the Allied Submarine Detection Investigation Committee (ASDIC) system. Both technologies used sound to detect submerged submarines. In 1943, the British Royal Navy began calling their ASDIC system by the American acronym SONAR.

SONAR systems in World War II were of two major types. Active SONAR systems used an acoustic projector to generate a sound wave into the water, which was reflected back by a target. The reflected waves were detected by a SONAR receiver, which analyzed the signal to determine the range, bearing, and relative motion of the target. Passive SONAR employed only receiving sensors, which detected the noise produced by the target—a

submarine's engines, its rotating screw, or even the sound of its movement through the water. The received waveforms were analyzed for direction and distance.

Like RADAR, SONAR greatly extended the capability of combatants to detect the approach and movements of enemy forces. The technology was extremely important in antisubmarine warfare in all theaters of the war.

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Sonderkommando Elbe

The term *Sonderkommando* meant special detachment and was generally applied to units of the German SCHUTZSTAFFEL (SS) Einsatzgruppen assigned to murder Jews and other "undesirables" during German invasion operations. The term was also applied to squads of inmates at CONCENTRATION AND EXTERMINATION CAMPS who were used to dispose of the bodies of victims of the FINAL SOLUTION.

A special use of Sonderkommando was Sonderkommando Elbe, a unit of pilots and aircraft formed in April 1945 to ram incoming American bombers raiding German cities. The object was to inflict such high casualties on the bombers that the Americans would be forced at the very least to pause the bombing campaign, giving the Germans some time to recover and mount more effective antiaircraft defenses.

The ramming idea was, of course, the product of desperation. It was planned late in 1944 by Luftwaffe colonel Hans-Joachim Herrman, who proposed using some 800 high-altitude Bf-109G fighters entirely stripped of armor and armament to reduce weight sufficiently to enable them to operate at 36,000 feet. This would put them above the ceiling of American escort fighters and allow them to swoop down on the bombers. The ramming missions were not, strictly speaking, intended to be suicide attacks. Pilots were supposed to bail out immediately before impact. This was inherently impractical, however, and for all intents and purposes, the mission was perceived as one-way. Hermann predicted the loss of 300 pilots, which was no more than were lost in a typical month's combat.

Volunteers were recruited from training units, so as not to squander veteran pilots. Sonderkommando Elbe, formed in April 1945, was the first and last ramming unit. It consisted of 120 aircraft, flew a single mission, and managed to ram just 15 bombers, of which eight were destroyed.

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South Africa

At the outbreak of World War II, South Africa—officially the Union of South Africa—was a British dominion. It encompassed the provinces of Cape of Good Hope, Natal, Orange Free State, Transvaal, and the mandated territory of South-West Africa.

South Africa was a rich source of gold, diamonds, coal, iron, and other important raw materials, but its industrial capacity was largely undeveloped, and its contribution to the Allied war effort limited. Moreover, the vast majority of South Africans were black, of mixed race, or Indian (designated by the white government as "African," "Colored," and "Indian"); these groups were essentially disenfranchised within the dominant white government and felt that they had little or no stake in the outcome of the war.

Thanks to the efforts of JAN CHRISTIAAN SMUTS, narrowly elected prime minister in 1939 over Barry Hertzog, an advocate of neutrality, South Africa rejected a neutral stance in the war; however, Smuts did not attempt to contribute a large army to the war effort, nor did he introduce conscription. He had to take care not to alienate certain Afrikaners, whose sympathies lay not with the English but with the Germans, and who might

be pushed to rebel against his government. Nevertheless, Smuts did see to it that South Africa contributed raw materials and modest numbers of troops.

By September 1941, approximately 60,000 South African troops were serving in Egypt, including 16,000 blacks. This represented the peak of South Africa's manpower contribution to the ground war outside of South Africa's borders. At sea, the South African Naval Service patrolled the coast and was especially active in minesweeping. The South African Coastal Air Force augmented the efforts of the country's navy.

During the entire course of the war, 334,224 South Africans volunteered for service, a number that included 132,194 whites and 123,131 blacks. Casualties included some 9,000 killed, more than 8,000 wounded, and more than 14,000 made prisoner.

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Soviet Union

In connection with World War II, Americans and Britons identified the Soviet Union as one of the gallant Allied nations united in the struggle against Nazi German aggression. Indeed, it was certainly this—but it was also one of the aggressors.

By virtue of the German-Soviet Non-Aggression Pact, the Soviet Union was a collaborator in the inception of World War II and participated in the September 1939 invasion of Poland, which started the war. Adolf Hitler betrayed the Soviets, when he launched the June 22, 1941, invasion of the Soviet Union. At that point, Joseph Stalin and his propaganda machine transformed the conflict from World War II into the "Great Patriotic War of 1941–45." The other Allied nations—chiefly Great Britain and the United States—not only acquiesced in this transformation, they actively encouraged it to ensure that the war would continue to be interpreted unambiguously as a titanic contest between good and evil.

At the outbreak of World War II, the Soviet Union had a population of 170.5 million and a vast territory of 8.25 million square miles. Although the Soviet Union was under the brutally monolithic control of Stalin, it was, in theory, composed during the war of eleven major republics, the largest of which was the Russian Federation (RSFSR), which contained almost 64 percent of the Soviet population. Within the RSFSR were 14 "autonomous republics"—and this presence of subrepublics was typical of the other major Soviet republics as well.

In practice, none of the Soviet republics or subrepublics was in any real measure independent; however, their existence belied the image of a monolithic Soviet state. The nation actually encompassed a bewildering range of political divisions and was also ethnically diverse. Ethnic Russians—so called Great Russians—constituted the majority population of the USSR, amounting to 58.4 percent. When, as a result of the initial German-Soviet alliance, part of Poland, all of Moldavia, and the Baltic states were annexed to the Soviet Union, this percentage was effectively reduced to 52.7 percent. The largest minority in the Soviet Union at the outbreak of the war were Ukrainians, who constituted 16.6 percent of the population. White Russians, residents of Belorussia, made up 3.1 percent. In all, the USSR comprised about 14 nationalities that had a million or more members each. The diversity of languages was astounding. Some authorities report 80 mutually unintelligible languages as being spoken in the USSR in 1939; others report 120, and still others 170. It is not surprising, therefore, that even after the German invasion, the USSR was not entirely united against Hitler, and Stalin had to deal with entire populations that openly declared their allegiance to the invaders. Nevertheless, the war created, of necessity, much unity with the vast nation to an unprecedented degree.

POLITICAL BACKGROUND

The Soviet Union came into being as a result of two revolutions in 1917, the first of which overthrew

Tsar Nicholas II, ending the Romanov dynasty, and the second installed the Bolsheviks, Communists led principally by V. I. Lenin. The 1920s saw a bloody civil war between the Bolsheviks and those who opposed them. After the Bolsheviks prevailed, the regime of Stalin (Lenin's successor) instituted an accelerated program of industrialization, aimed at rapidly transforming the Soviet Union from a largely agricultural nation into a great industrial power. This program was driven by the forced collectivization of Soviet agriculture, which increased the urban population from 18 percent in 1929 to 33 percent by the outbreak of the war. The rapid expansion of the nation's industrial base was critical to ultimate victory in World War II; however, during the 1930s, the industrialization process was chaotic, and collectivization reduced agricultural output disastrously, creating privation and starvation on a massive scale. During the 1930s, at least 15 million peasants were swept away—killed—by famine.

In the meantime, Stalin ruled by a combination of brutal terror and the creation of a fanatical cult of personality. Moreover, the globalism of classic Marxism—as practiced by Lenin—was replaced by intense nationalism, in which Communist economic principles overlaid a return to a traditional Russian ethnic identity. As for the terror, Stalin institutionalized a kind of collective paranoia marked by periodic bloody purges of the Communist Party leadership. This included an extensive purge of the Red Army officer corps, which greatly weakened the military and made the country dangerously vulnerable to the German invasion that came in 1941.

SOVIET INDUSTRIAL MIGHT

Despite the famine and general hardship caused by forced collectivization and despite the weakening of the military by the purges of the 1930s, the rapid industrialization of the Soviet Union became the single greatest factor contributing to the Soviets' ability ultimately to turn the tide of the war against the German invaders.

Although industrialization was extensive by the outbreak of the war, industry was based disproportionately in the west. This made the sources of production especially vulnerable to destruction or capture by the invaders. Recognizing these dangers, on July 3, 1941, the State Committee of Defense created a Council for Evacuation, which executed the removal of much industry to the east in advance of the German invaders. Anywhere from 7.5 million to 25 million Soviet workers moved to new locations. A total of 2,593 industrial plants were evacuated in their entirety.

Evacuation proved critical in maintaining resistance against the German invaders. Despite this, the Soviets had to contend with major shortages of transport and fuel throughout the war, as well as shortages of iron and steel. Other strategic materials had to be mined as far east as possible. Remarkably, even with the disruption caused by evacuation and the necessity of exploiting new sources of many strategic raw materials, Soviet war production continuously grew and, even early in the war, outpaced German production. The Soviets produced 136,364 aircraft and nearly 100,000 tanks and other armored vehicles during 1941–45. The Soviets also benefited from the U.S. LEND-LEASE program, which shipped to the USSR 21,621 aircraft and 12,439 tanks and other armored vehicles during 1941–45. To accommodate war production, production for civilian needs was drastically reduced to a subsistence level.

WARTIME GOVERNMENT

Soviet government during the period of World War II was, on the one hand, intensely bureaucratic but, on the other, was subject to the absolute personal rule of Joseph Stalin. This bred a cult of personality around the dictator similar to those that grew up around Hitler and BENITO MUSSOLINI. Such a cult proved invaluable in rallying the Soviet people to follow Stalin as a war leader; however, the disadvantages of absolute rule were staggering. They included a general lack of initiative at all levels of Soviet government, administration, and the military.

In theory, the Soviet Union was not governed by Stalin, but by the Communist Party. In practice, Stalin administered the country through the party,

which entered into every aspect of Soviet life, both in the civilian and military sectors. Membership in the Communist Party—the only political party permitted to exist—was voluntary; however, it was virtually impossible to pursue a career in any significant field without being a loyal member of the party. In this way, the party permeated every factory and every institution.

As the party provided ultimate control of the Soviet citizenry, the apparatus of state administration—the Soviet bureaucracy—regulated the day-to-day operations of virtually every institution of civil and military life. Production, city management, and all other aspects of administration were conducted through People's commissariats, many of which were highly specialized. Although a system of representative government was in place—in the two houses of the Supreme Soviet, which provided one deputy for every 300,000 citizens—there was no democracy. The Supreme Soviet was, in practice, entirely subordinate to Stalin and the party, as were the various commissariats.

Perhaps the only governmental organization within the Soviet system that wielded a high degree of genuinely autonomous power was the People's Commissariat for Internal Affairs, which included the NKVD, or secret police, and which was headed by the ruthless Lavrenty Beria. Stalin gave Beria wide latitude in arresting and imprisoning those perceived as threats to the regime; however, Stalin personally authorized all executions. An independent judiciary did not exist in the Soviet system.

Another important institution in the wartime USSR was the State Committee for Defense (GKO), chaired by Stalin with Vyacheslav Molotov as vice chair. The GKO had unlimited authority, could override any other department or official, and issued decrees and directives that had the full force of law. The GKO did not hold regular meetings, but convened whenever Stalin thought necessary. No minutes were kept of its sessions.

CIVIL DEFENSE

Civil defense was handled by Local Air Defense (Mestnoe PVO), which administered air raid shelters, fire fighting, and defense against chemical weapons. The Mestnoe PVO came under the direction of the NKVD and regional military headquarters, and it worked in cooperation with local and city soviets (administrative committees), which had responsibility for organizing all citizens between ages 16 and 60 as civil defense aides. The Mestnoe PVO built air raid shelters for some 20 million people, fought more than 90,000 fires, and defused countless bombs and mines.

In addition to civil defense forces, local citizens were recruited for the Narodnoe Opolchenie (NO), the Home Guards. These units, variously armed and trained, were organized on an ad hoc basis and only during emergencies. Home Guards proved quite effective in the Battle of Moscow.

SOVIET LOSSES

Although Poland incurred a higher percentage rate of casualties in World War II, no nation suffered a higher toll in numbers killed than the Soviet Union. Nine million soldiers were killed or missing (and presumed killed). Twice this number was wounded. At least 20 million civilian deaths resulted directly from military action during the war; no one knows how many more died as a result of disease, starvation, and privation.

See also Soviet Union, air force of; Soviet Union, army of; Soviet Union, invasion of the; and Soviet Union, navy of.

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Soviet Union, air force of

The Soviet military had three air arms, the Red Army Air Force, Long-Range Bomber Aviation,

and the Naval Air Forces. The first two were administered by directorates of the People's Commissariat for Defense, and the last by the People's Commissariat of the Navy. In terms of operations, the land-based air forces were under the command of the relevant armies or fronts (army groups), and the naval air forces were subordinated to the relevant fleets.

At the time of the German INVASION OF THE SOVIET UNION, in June 1941, the Soviets had 8,105 combat aircraft, most of them obsolescent and outclassed by German planes, so that by the end of the year, their numbers had been decimated to 2,495. Production quickly made up these losses, however, and by January 1945, the Soviets had some 14,500 operational aircraft. Early catastrophic losses were due not only to poor equipment, but also to poor leadership and organization. In 1942, the Soviets introduced the "air army" system, which greatly streamlined command in the air force, so that one of 13 air armies had responsibility for supporting a particular front. Each air army typically consisted of a command staff, two or three fighter divisions, a "Shturmovik" (ground-attack) division, one or two night-bomber divisions, and reconnaissance and liaison units. The typical air army had 400 to 500 aircraft. Flexibility was built into the organization of the formation, which could, when necessary, draw on the Air Reserve for additional aircraft and pilots. By the end of the war, about 43 percent of all aircraft deployed by the Soviets belonged to the Air Reserve pool.

By the middle of the war, the Soviets were producing excellent fighters and well-trained pilots. Far less effective was Long-Range Bomber Aviation, which suffered catastrophic losses early in the war and never recovered as fully as the fighter and Shturmovik units did. In contrast to the American and British air arms, Soviet Long-Range Bomber Aviation did not engage in STRATEGIC BOMBING. Its missions were exclusively tactical, directed against Axis concentrations, railheads, depots, and the like.

Soviet naval air units were mainly equipped with conventional land-based aircraft and, although flown by naval officers, were used principally in support of land operations, typically guarding the flanks of large ground units. Nearly one-third of naval air sorties were flown on air defense missions. About a quarter of naval air missions were close ground support, and 14 percent of sorties were reconnaissance patrols. No more than 10 percent of naval air missions attacked Axis ships or naval bases.

See also AIRCRAFT, SOVIET; SOVIET UNION, ARMY OF; SOVIET UNION, INVASION OF THE; SOVIET UNION, NAVY OF; and SOVIET UNION.

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Soviet Union, army of

At the time of the German INVASION OF THE SOVIET UNION, the Red Army consisted of about 5.37 million officers and men. During the 10 days following the invasion, another 5 million were mobilized. Tanks and self-propelled guns in the Red Army numbered about 7,000 in June 1941 and reached a peak of 11,000 in January 1945. Artillery pieces numbered nearly 35,000 at the time of the German invasion and topped out at 98,700 in July 1943. Although these numbers are impressive, most forces were not fully equipped and few were adequately trained, especially in the opening months of the war. Vehicles and radio communications equipment were in especially short supply. Worst of all, in 1937 and 1938, JOSEPH STALIN conducted mass purges of Red Army officers, even though there was no evidence of disloyalty, let alone specific military plots against him. By 1938, about 35,000 officers out of an officer corps of 80,000 had been purged—many executed—including three of five marshals of the Soviet Union (the Red Army's most senior commanders), all 11 deputies of the commissar for

war, 75 of 85 corps commanders, and 110 of 195 divisional commanders. The willful destruction of the Red Army senior officer corps left the force in large measure bereft of leaders, rendering it highly vulnerable to the enemy.

By the time of the invasion, the high command of the Red Army was the responsibility of the Stavka, which Stalin controlled personally. Administratively, the Commissariat of Defense divided Red Army management into 14 military districts covering the entire Soviet Union. Operationally, the largest units in the Red Army were the fronts, which were the equivalent of Western army groups, each consisting of a number of armies. Each Soviet army, in turn, consisted of two rifle corps, one mechanized corps, and one cavalry corps (or cavalry division). A rifle corps was made up of three rifle divisions, two artillery regiments, one antiaircraft battalion, and support units. A mechanized corps encompassed two tank divisions and a motorized rifle division. A rifle division was made up of three rifle regiments, two artillery regiments, one antitank battalion, one antiaircraft battalion, and support units. A tank division had two tank regiments, one motorized rifle regiment, one artillery regiment, and one antiaircraft regiment. A motorized rifle division consisted of two rifle regiments, one tank regiment, and one antiaircraft and antitank battalion. A rifle regiment—the basic unit of the Red Army—consisted of three infantry battalions, four 76 mm field guns, four 120 mm mortars, and six 45 mm antitank guns.

Throughout the war—even in victory—the Red Army absorbed spectacular losses, largely due to poor tactics, including a battle doctrine that called for attacking without tanks—which were generally held back until the infantry had achieved a breakthrough. Despite the high cost of this tactic, it was adhered to throughout most of the war. The latest and least controversial figures available (1990) concerning Red Army losses fix the total of those killed in action, missing in action, and prisoners who never returned at 8,668,400. Despite these losses, the Red Army always maintained a substantial numerical superiority over the German invading forces, and it was this more than anything else that ultimately turned the tide against the invaders.

See also AIRCRAFT, SOVIET; SOVIET UNION, AIR FORCE OF; SOVIET UNION, INVASION OF THE; SOVIET UNION, NAVY OF; and SOVIET UNION.

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Soviet Union, invasion of the

The German invasion of the Soviet Union was launched as OPERATION BARBAROSSA on June 22, 1941. The plans for the invasion and the circumstances of its launch are discussed in that article. This article discusses the course of the invasion itself.

The Germans invaded with a force of nearly 3.6 million troops, 3,600 tanks, and more than 2,700 aircraft. Red Army formations available on the western front included 140 divisions and 40 brigades—some 2.9 million men. Although about 15,000 tanks and 8,000 aircraft were available, the vast majority of both were obsolescent and certainly inferior to the German weapons.

ADOLF HITLER had hoped to crush the Soviet Union quickly, and the opening weeks of the invasion were a devastating example of BLITZKRIEG warfare with the added dimension of genocide committed against Jews and local Soviet political leaders; the latter were summarily executed by SCHUTZSTAFFEL (SS) Einsatzgruppen units pursuant to Hitler's infamous COMMISSAR ORDER. Both sides employed a scorched earth policy. The invaders sought to deprive Soviet defenders and civilians of all sustenance and sources of supply; the Soviets, in turn, sought to deprive the invaders of the same. Soviet troops attempted to disrupt German lines of supply and communication and to prevent the invaders from living off the Soviet land. The result was hardly the quick hit-and-run invasion Hitler


Soviet Union in World War II
N
Industrial center
USSR, 1939
Land gained by USSR, 1939–40
Germany and Axis-controlled area, 1940
Political boundary, 1940
Major railroad behind front line
Front line, December 1941
Front line, November 1942
Population movement
Before German occupation
During German occupation
Barents Sea
Allied supply route
Murmansk
White Sea
Archangel
NORWAY
Gulf of Bothnia
FINLAND
SWEDEN
Helsinki
Lake Ladoga
Stockholm
Gulf of Finland
Tallinn
Leningrad
Vologda
Estonia
Novgorod
Kirov
Molotov (Perm)
Baltic Sea
Riga
Pskov
Yaroslavl
Latvia
Velikiye Luki
Gorki
Kazan
Ufa
Lithuania
Moscow
Ulyanovsk
Berlin
Danzig
Vitebsk
Smolensk
USSR
GERMANY
Białystok
Minsk
Bryansk
Kuibyshev
Oder R.
Warsaw
Pinsk
Gomel
Volga R.
Ural R.
Saratov
POLAND
Kursk
Voronezh
Kraków
Vienna
Kiev
Tarnopol
Dnieper R.
Kharkov
Stalingrad
SLOVAKIA
Lvov
Danube R.
Stanislau
Ukraine
Dnepropetrovsk
Voroshilovgrad
Budapest
Dniester R.
Krivoy Rog
HUNGARY
Bessarabia
Nikolayev
Zaporozhye
Rostov
Astrakhan
Odessa
ROMANIA
Kherson
CROATIA
Sea of Azov
Caspian Sea
Belgrade
Bucharest
Crimea
Sarajevo
SERBIA
Novorosslysk
Sevastopol
Yalta
Grozny
Sofia
Black Sea
CAUCASUS MTS.
ALBANIA
BULGARIA
Tbilisi
Istanbul
Baku
Allied supply route
Trebizond
Aegean Sea
Ankara
Erzurum
GREECE
Athens
Izmir
Tabriz
TURKEY
PERSIA
IRAQ
SYRIA
Crete
Mediterranean Sea
0 200 miles
0 200 km
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had hoped for. The Red Army, initially overrun and extensively defeated, rallied and ultimately turned the tide against the Germans, whose defeat was partially due to the Soviet military and partially due to the vastness of the Soviet landscape and the infinite harshness of the country's climate. Like Napoleon before him, Hitler was effectively swallowed up by the land he sought to conquer.

Joseph Stalin was initially stunned into a kind of paralysis by the surprise invasion, which abrogated the German-Soviet Non-Aggression Pact. Yet he soon recovered and proved to be an effective and inspiring leader in rallying both the civilian population and the military to great sacrifices in resisting and defeating the invaders. Stalin took a personal hand in the military leadership of the defense. Many mistakes were made. Many thousands died. Yet the invasion was ultimately turned back and the Germans defeated. (However, Stalin by no means totally unified the ethnically and nationally diverse Soviet Union in opposition to the Germans; in some areas, significant minorities within the population aided the invaders in the hope of throwing off the Soviet yoke.)

On July 3, 1941, Stalin defined the struggle against the invaders as a "great patriotic war." He called for limitless sacrifice, including a scorched earth policy and partisan resistance behind the rapidly moving German lines. For his part, Hitler, reveling in his early successes, planned for a victory parade through Moscow by the end of August. This would be followed by the total destruction of Moscow and Leningrad (St. Petersburg) and the death or resettlement of the cities' populations. Ultimately, Hitler planned to resettle some 30 million Soviet citizens to the east. They would be replaced in the west by Germans and Germanic peoples. The plan was for vast portions of the Soviet Union to become German—permanently. Jews in the conquered territory would be subject to the Final Solution and annihilated.

Despite early German successes at the battles of Białystok-Minsk and Smolensk, German field commanders began to realize that they had seriously underrated the Red Army, particularly its will to resist. Even when German commanders outgeneraled their Soviet counterparts, defeated Red Army forces withdrew, regrouped, and continued to fight. Moreover, the Red Army was rarely content to defend; even when battered, commanders ordered counterattacks, which took a steady toll on the invading forces. Worse for the invaders, who had intended quickly to wipe out Soviet industrial capacity, Stalin had overseen the mass evacuation of Soviet industry to the east of the Ural Mountains. War production proceeded at an astounding pace. Obsolescent equipment—especially aircraft—was largely destroyed in battle, only to be replaced by more modern and formidable equipment. Initially encountering mediocre aircraft and armor, the Germans were later stunned by the quality of new Soviet fighter aircraft and tanks.

The German plan called for the rapid occupation of Leningrad and Moscow, as well as the destruction of the industrial Donets Basin. Ultimately, the Red Army defeated all three objectives, albeit at a staggering cost.

After a devastating victory at the Battle of Smolensk during July 16–August 6, in which more than 100,000 Soviet troops were killed or captured, Hitler ordered his forces to divert from direct assaults on Moscow and Leningrad and concentrate instead on invading the Ukraine (in the south) and capturing the industrial and mining areas outside of Leningrad (in the north). Thus, the entire thrust of the invasion was shifted from the center to the wings—a most dubious change in plan. German Army Group Center, which was poised to take Moscow, now had to assume the defensive. This proved to be a fatal strategic blunder because it gave the Soviets time to organize effective counterattacks and to develop stronger defensive positions. Nevertheless, in the south, the Ukraine suffered badly and, by the end of September, Kiev had been totally encircled.

Hitler chose to disregard the problems at the center of the German invasion and to focus instead on his great success in Ukraine. Mistakenly concluding that the Soviet army had been bled white, he belatedly decided to authorize the advance on Moscow, so that it might be captured before winter. Because so many German resources had been diverted to the northern and southern wings of the

invasion, however, the attack on Moscow, launched late in September by Army Group Center, could not be sustained. Despite early progress—culminating in the defeat of eight Soviet armies—which seemed to portend imminent victory, the Red Army redoubled its defensive positions and continuously found reinforcements. Its defensive efforts were greatly aided by the heavy autumn rains, which turned the battlefield into a muddy quagmire that neutralized the effectiveness of German tanks and transport vehicles. The attack on Moscow literally bogged down.

Proclaiming Moscow a fortress, Stalin refused to leave the city with the rest of the government and rallied soldiers and civilians to the defense of the capital. In November, the Germans staged an all-out attack and came to within 18 miles of the Kremlin. But German willpower was not matched by German logistics. Exhaustion of men and depletion of supplies stopped the advance, and by the beginning of December, the German panzer armies broke off their attack.

The German commanders hoped that the Soviet defenders were as depleted as their own forces. They had not planned for a lengthy invasion and were quite unprepared for a winter war. Their idea was to withdraw and regroup for a new attack in the spring. The Soviets, however, were not about to permit this. On December 5–6, the Red Army launched a devastating counterattack that punched through thinly stretched German lines. German field commanders sought Hitler's permission to withdraw to preserve their forces. Hitler refused; those commanders who objected were either dismissed or asked to be relieved. This defection of the military prompted Hitler to assume personal command of the invading forces on December 19, 1941—much to their detriment.

By the end of December, the Red Army had definitively repulsed the attempt to take Moscow. This marked the failure of Operation Barbarossa and shattered the myth of German invincibility. By January 31, 1942, the German army had lost approximately 918,000 men (killed, wounded, or captured) in the invasion—a staggering 28.7 percent of the invasion force. From these losses the army would never recover. The cost to the Red Army, however, was far more appalling: 3.35 million Soviet soldiers made prisoner and thousands more killed or wounded. Yet the German invasion had been thwarted, and the German army was set up for ultimate defeat by the Soviets.

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Soviet Union, navy of

The Soviet navy was under the command of Admiral Nikolai Kuznetsov as people's commissar of the navy. The navy consisted of four fleets: the Pacific Fleet, Polar Fleet, Red Banner Baltic Fleet, and Black Sea Fleet. In addition, there were the Pinsk River Flotilla and the Danube River Flotilla as well as a few smaller units. The major ocean fleets each had their own war councils, which commanded and coordinated ships, coastal artillery, marines, and the naval air force.

Before World War II, during the Soviet era, the navy had been largely neglected. It was regarded as a purely defensive force and therefore had few modern capital ships. On the eve of war, in 1939, the Soviets began a massive naval construction program, but they completed few ships before the war began. War production yielded two light cruisers, 19 destroyers, 54 submarines, and 900 torpedo boats, minesweepers, and other smaller craft; however, most of the navy's largest ships were obsolescent. In all, the navy had four battleships, one heavy cruiser, seven medium cruisers, five light cruisers, 78 destroyers, and more than 200 submarines. Only the submarines played a major role in the war. In addition, the navy had 2,800 aircraft—mostly obsolescent—and a force of about 100,000 marines. The navy was active mainly in the Baltic.

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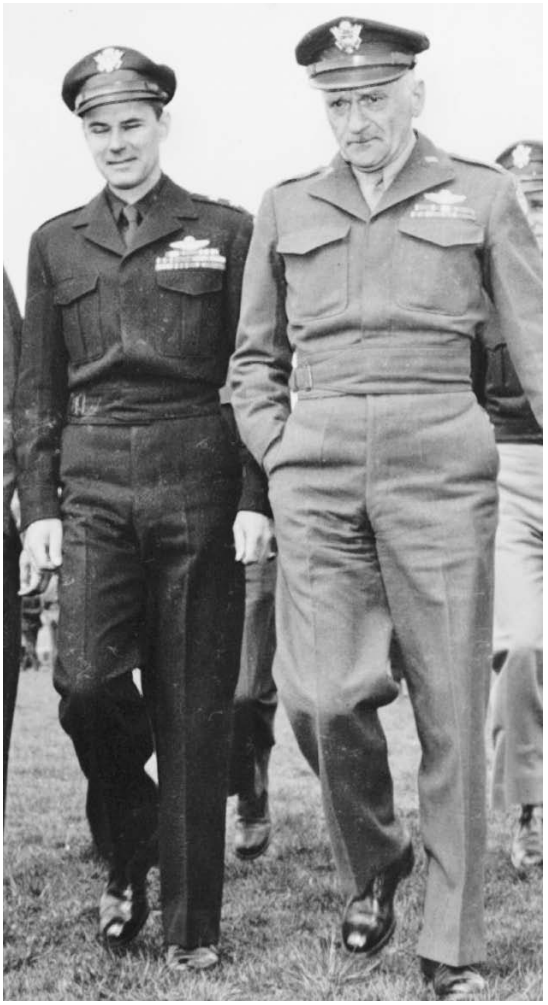
Spaatz, General Carl A. "Tooey" (1891–1974) *principal combat commander of the U.S. Army Air Forces and architect of the buildup of the Eighth Air Force in England*

Spaatz was born in Boyertown, Pennsylvania, and graduated from the U.S. Military Academy in 1914. After flight training, he became a pilot assigned to the 1st Aero Squadron during the 1916 Punitive Expedition in Mexico against Pancho Villa. When the United States entered World War I in 1917, Spaatz was dispatched to France as commander of the 3rd Aviation Instruction Center at Issoudon. He flew combat missions during the last three weeks of the war and was credited with two victories in dogfights.

During the interwar years, Spaatz collaborated with controversial brigadier general and air power advocate William "Billy" Mitchell and commanded the successful 1929 "Question Mark" experiment in midair refueling. Spaatz was sent to England during the summer of 1940 to observe the Battle of Britain, and when the United States entered the war, he was named principal combat commander of the U.S. Army Air Forces, with primary responsibility for building up the Eighth Air Force, based in England. Spaatz also served directly under Gen. Dwight D. Eisenhower as air commander in the North African campaign, the Sicily campaign, and the Italian Campaign. He was instrumental in planning and executing air support for the Normandy landings (D-day).

Under Spaatz's overall command the Army Air Forces achieved air superiority over the German Luftwaffe. More controversially, Spaatz, an advocate of strategic bombing, championed raids that targeted the German oil industry, including the costly Ploeşti raid in Romania.



General Carl Spaatz (right) with Hoyt Vandenberg *(Dwight D. Eisenhower Presidential Library)*

Immediately after V-E Day, Spaatz transferred to the Pacific theater as overall commander of the B-29 strategic bombing campaign against Japan. He had the ultimate responsibility of directing the atomic bomb raids on Hiroshima and Nagasaki.

After the war, Spaatz became the first chief of staff of the independent U.S. Air Force in 1947. He retired the following year. With Harold H. "Hap" Arnold, he is justly considered a father of the independent air arm.

See also Hiroshima, atomic bombing of, and Nagasaki, atomic bombing of.

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Spain

Spain's wartime leader, Generalissimo Francisco Franco, owed much to fascist Italy's Benito Mussolini and Nazi Germany's Adolf Hitler, both of whom had given Franco military support during the Spanish civil war, which put him and his fascist regime into power. Although Franco aligned Spain with the Axis during World War II and was a signatory of the Anti-Comintern Pact before the war, he never joined the war on the Axis side. At the outbreak of war in September 1939, Franco proclaimed Spain neutral. When Italy joined the war on June 10, 1940, he upgraded this status to nonbelligerency—favoring the Axis without participating militarily in the war. From then until 1944, Franco teased the Axis with vague promises of joining their cause. He never did, but Spain became a haven for Axis spies and saboteurs who freely used Spanish territory as an observation post. In addition, Italy's Tenth Light Flotilla attacked Gibraltar from southern Spain, Axis warships were allowed to use Spanish ports, and Axis aircrews who landed in Spain were repatriated rather than interned. The same held true for those escaped Axis POWs who found their way to Spanish soil.

Spain abandoned the Axis cause by early 1944, as the Allies pressured Franco to cut off exports to Germany of the strategic metal tungsten and to end the recruitment of soldiers for the Spanish Legion—a volunteer army in service to Germany. In October 1944, Spain recognized the Free French government under Charles de Gaulle, and in April 1945 Franco severed diplomatic relations with Germany and Japan. These gestures were insufficient to produce an invitation from the founding members to join the United Nations in May 1945, however, and Spain was not admitted until 1955.

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Spanish civil war

During the 1930s, Spain was torn by political dissension, exacerbated by the hardships of the worldwide economic depression. In 1936, the left-wing Popular Front emerged victorious in the general elections. This sparked a coup d'état by the right-wing Falange, a fascist political party led by General Francisco Franco.

The war began on July 18, 1936, when Franco took over the Spanish Foreign Legion garrison in Morocco and staged an army officers' revolt at Melilla. This touched off similar revolts in Spanish garrisons at Cádiz, Seville, Nourgos, Saragossa, Huesca, and elsewhere. While these were under way, Franco airlifted Foreign Legion units to Spain in late July. These troops were joined by other rebel soldiers as well as by insurgent "Nationalists." Together, they overwhelmed government forces and quickly seized control of southern and western Spain.

During late July and into August, Franco led a motorized advance on Madrid, the Spanish capital, but was repulsed by government forces during fighting in September and October. By this point, the country was bitterly divided into government territories and Nationalist territories. On September 29, 1936, the Nationalists proclaimed their own government, with Franco at its head. In April 1937, he was also named head of the fascist Falange Party.

The Spanish civil war developed virtually on the eve of World War II, as fascism and Nazism squared off against communism—with the Democratic nations looking on. The ideological nature of the conflict drew many outsiders into what was, after all, a civil conflict. The Falange was supported

by Fascist Italy and Nazi Germany: some 40,000 to 60,000 Italian troops and about 20,000 Germans, including members of the Luftwaffe. The Spanish government (whose forces were generally called Loyalists) attracted volunteers from Britain, France, and the United States, despite official government policies of neutrality in the conflict. Only the Soviet Union gave its full and official support to the Loyalists. The volunteer brigades proved highly effective against the Falangists, but the outside support from Italy and Germany was also powerful, especially the German terror bombing of the villages of Guernica and Durango in 1937. German pilots regarded the Spanish civil war as an invaluable opportunity to practice their deadly craft.

In contrast to the Falangists, who enjoyed considerable unity, the Loyalists were torn by dissension, especially from the far left. When a bloody anarchist uprising broke out in Barcelona in May 1937, a new Loyalist government had to be formed, which moved far to the left and alienated many.

After an 80-day siege, Bilbao fell to the Falange on June 18, 1937. A Loyalist counteroffensive captured Teruel late in the year, but insurgents retook it in mid-February 1938. At this juncture, Joseph Stalin, no longer willing to antagonize Benito Mussolini or Adolf Hitler, suddenly withdrew Soviet aid to the communists fighting in Spain. This brought about the collapse of the leftists, which, in turn, fatally weakened government forces. On January 26, 1939, Franco took Barcelona, and Loyalist resistance throughout Spain folded. Madrid fell on March 28, 1939, ending the war and establishing Franco as dictator of Spain.

In the first great contest between fascism/Nazism and the democratically supported left, democracy lost. However, both Mussolini and Hitler were chagrined by Franco's refusal to abandon neutrality and join the Axis. Spain remained neutral throughout World War II.

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Special Air Service (SAS)

The Special Air Service (SAS) was a British special forces unit created in October 1941 by Lt. David Striding. Its members were recruited from Layforce, a British commando force under Lt. Col. Robert Laycock.

SAS was active in the North African Campaign and was employed to disrupt enemy desert airfields by means of airborne assault using small-group tactics. SAS was also active in the Sicily Campaign and the Italian Campaign.

SAS members implemented Operation Titanic, part of the Operation Fortitude campaign of deception during the Normandy landings (D-day). By simulating major airborne landings, SAS operatives drew some German attention away from heavily defended Omaha Beach on June 6, 1944. After this phase of operations, SAS personnel operated behind German lines to disrupt enemy communications and to transmit intelligence.

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Speer, Albert (1905–1981) *German minister for armaments and war production (1942–45)*

Born in Mannheim, Albert Speer studied architecture, graduating from technical schools in Karlsruhe, Munich, and Berlin. He was a practicing architect when, late in 1930, he heard Adolf Hitler speak at a Berlin rally and, fired with zeal, joined the Nazi Party in January 1931.

A young man of enthusiasm, intelligence, and great facility, he made a deep impression on Hitler,

who hired him as his personal architect. Speer produced designs that satisfied Hitler's appetite for grandiose, vaguely classical structures, including major buildings as well as props for Nazi rallies. His most ambitious designs (never built) were for the complete rebuilding of Berlin and Linz, Austria.

During World War II, in 1942, Speer was appointed minister of armaments and munitions; in 1943, his brief was expanded, and he was named minister of armaments and war production. In this capacity, Speer had charge of the production, transportation, and placement of armaments of all kinds. His position was vertically integrated, so that he had authority over the production of raw materials as well as general industrial production. Speer substantially expanded the conscription and exploitation of slave labor, which was drawn from concentration camps and from conquered populations. It was this in particular for which he was tried after the war at the NUREMBERG WAR CRIMES TRIBUNAL. In contrast to many other top Nazi officials, Speer fully and freely confessed his guilt to the tribunal. He was sentenced to 20 years in Spandau prison and served the complete term.

Released in 1966, Speer became a highly successful author, chronicling the Nazi era. His *Erinnerungen* of 1969—published in English as *Inside the Third Reich* (1970)—was an international best seller. He also published *Spandau: The Secret Diaries* (1976) and *Infiltrator* (1981).

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Albert Speer *(University of California, Berkeley)*

Sperrle, Hugo (1885–1953) *Luftwaffe field marshal*

The son of a brewer in Ludwigsburg, Germany, Sperrle joined the Imperial German Army in 1903 as an infantry ensign. He transferred to the Army Air Service during World War I and flew as an observer throughout the entire war.

After the war, Sperrle was a zealous member of the FREIKORPS, then rejoined the German army. He eagerly entered the Luftwaffe when it was first created by HERMANN GÖRING and, immediately given the rank of major general (because of his World War I flying experience), he served in the SPANISH CIVIL WAR as commanding officer of the Kondor Legion, the Luftwaffe unit that fought on the side of the Spanish Falange. He emerged from the war a lieutenant general and took command of Luftfotte 3 (Air Fleet 3) in September 1939.

Sperrle did not serve in the INVASION OF POLAND, but he did provide air support for Army Group A (GERD VON RUNDSTEDT) during the BATTLE OF FRANCE in May–June 1940. The success of this campaign—and the brilliance of Sperrle's air support role—earned him a marshal's baton in July 1940.

During the BATTLE OF BRITAIN, Sperrle advocated concentrating on the destruction of the RAF,

including its airfields, rather than conducting raids against London and other cities. He was overruled. Had his advice been heeded, it is likely that Germany, not Britain, would have prevailed in this key air battle.

Sperrle saw his Luftflotte 3 effectively cannibalized during the INVASION OF THE SOVIET UNION. He remained headquartered in Paris in 1941, presiding over four instead of 44 bomber groups. Discouraged by the course of the war, he led a life of considerable dissipation in Paris, but did continue to lead Luftflotte 3 in limited operations defending German positions in Belgium, France, and the Netherlands, and mounting a few operations during the NORMANDY LANDINGS (D-DAY). Lacking aircraft, however, he was able to do very little and was dismissed in August 1944. He did not receive another command.

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Spruance, Raymond Ames (1886–1969)
deputy commander of the U.S. Pacific Fleet

Spruance was born in Baltimore and graduated from the United States Naval Academy in 1906. After sailing with Admiral George Dewey in the world voyage of the Great White Fleet, he served both at sea and on staff assignments during World War I. In 1939, he was promoted to rear admiral and assumed command of the 10th Naval District and the Caribbean Sea Frontier.

At the outbreak of World War II, Spruance commanded Cruiser Division 5 of the Pacific Fleet. When Admiral WILLIAM F. HALSEY fell ill in June 1942, Spruance was assigned temporary command of the Pacific Fleet and was instrumental in the turning-point American victory at the BATTLE OF MIDWAY.

Admiral Raymond Spruance *(U.S. Navy)*

After Midway, Spruance was named chief of staff under Adm. CHESTER NIMITZ and deputy commander of the Pacific fleet. He was promoted in 1943 to vice admiral and commanded the assaults at the BATTLE OF TARAWA ATOLL; in the MAKIN ISLAND RAID; at the BATTLE OF ENIWETOK ATOLL; at the BATTLE OF KWAJALEIN ATOLL; and at the BATTLE OF TRUK ISLAND. In February 1944, he was promoted to admiral and commanded navy forces in the BATTLE OF THE PHILIPPINE SEA during June 1944. In 1945, the final year of the war, Spruance was in command of naval operations at the BATTLE OF IWO JIMA and the OKINAWA CAMPAIGN.

After the war, Spruance was named president of the Naval War College, in which post he served until his retirement from the navy in 1948. President HARRY S. TRUMAN appointed him ambassador to the Philippines in 1952, where he served until 1955.

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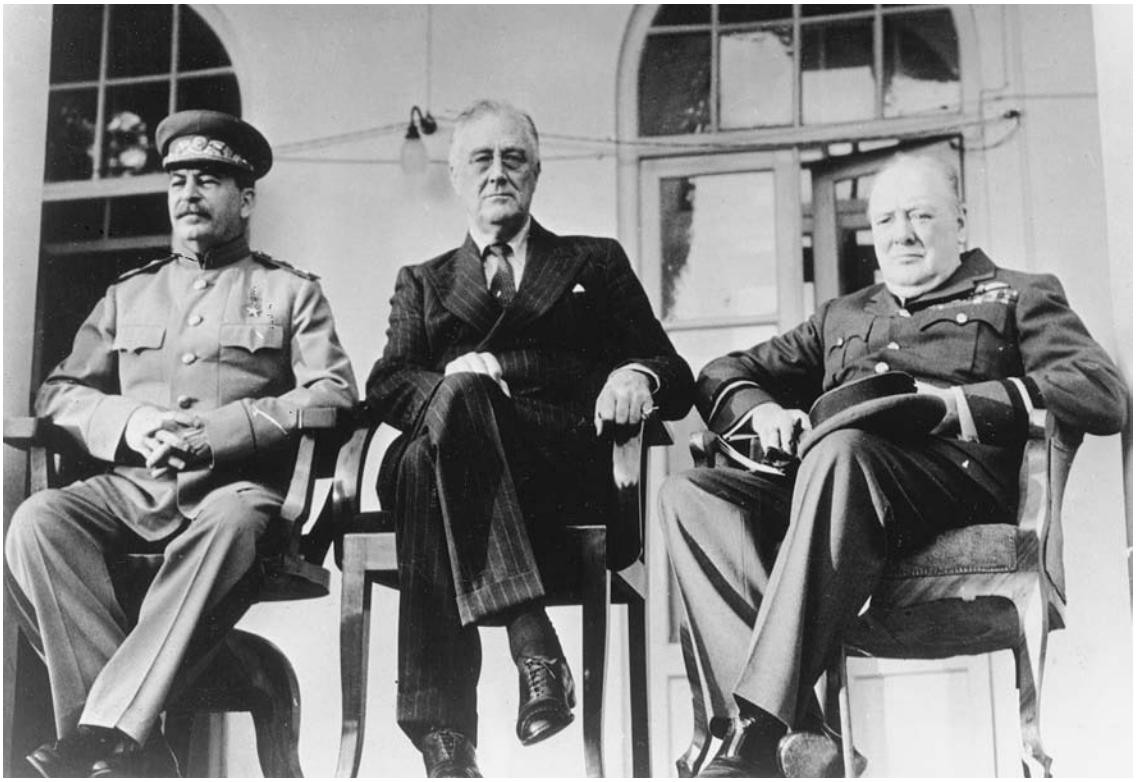
Stalin, Joseph (1879–1953) *leader of the Soviet Union from 1929 until his death in 1953*

Born Joseph Vissarionovich Djugashvili in the Georgian hill town of Gori, Stalin grew up amid poverty and his father's brutality. After his father was killed in a brawl, 11-year-old Joseph was indulged by a doting mother, who groomed him for the Orthodox priesthood. At 14, he entered the Tiflis Theological Seminary, but was by this time a delinquent so incorrigible that he had earned the sobriquet Koba, after a legendary Georgian bandit and rebel. Rebelling against the harsh corporal discipline of the seminary, he became involved in antitsarist agitation and, in 1899, abruptly left the seminary to become a full-time revolutionary organizer. By 1901, he was a member of the Georgian branch of the Social Democratic Party, which sent him throughout the Caucasus to rally laborers and organize strikes.

In 1903, the Social Democrats fractured into Vladimir I. Lenin's Bolsheviks and the more moderate faction Lenin derisively called the Mensheviks. "Bolshevik" means majority, whereas Menshevik means minority—although, in fact, the moderates were the numerical majority and the radicals the minority. Stalin followed Lenin, with whom he became a close collaborator. He was a tireless organizer who also masterminded daring



Joseph Stalin first met his fellow Allied leaders, Franklin Roosevelt and Winston Churchill, at the Teheran Conference, November–December 1943. *(National Archives and Records Administration)*

robberies to finance the Bolsheviks. Arrested many times, he always managed to escape, and in 1912, Lenin elevated him to the Bolshevik Central Committee, the party's inner circle. In this capacity, Stalin became the first editor of *Pravda* (*Truth*), the official Bolshevik newspaper, and it was during this period of meteoric rise that he took the byname Stalin—"Man of Steel."

In 1913, Stalin's luck finally ran out. He was arrested, tried, and exiled to Siberia, enduring there for four years until the overthrow of Tsar Nicholas II in March 1917. After the failure of the first Bolshevik attempt to seize power during the summer of 1917—and in the absence of Leon Trotsky, who had been arrested, and Lenin, who had gone into hiding—Stalin worked vigorously to reconstitute and reorganize the party. He thereby played a major role in the party's rise to power during the November Revolution of 1917. When Lenin returned from his self-imposed exile in Switzerland, he gave Stalin a succession of commissar posts, and by 1922 he was general secretary of the party's Central Committee, a position from which he controlled the apparatus and official personnel of most of the party. With Lenin's death in 1924, Stalin was enabled to present himself as the leader's anointed successor. Moreover, as general secretary, he was in a position to eliminate anyone who dared to oppose him.

Whereas Lenin was the supreme ideologue, Stalin was the consummate pragmatist. He retreated from Lenin's ideal of world communist revolution by advocating nothing more than "socialism in one country." His economic program was far more moderate than Lenin's, and this provoked rebellion from Trotsky, Lev Kamenev, and Grigory Zinoviev, all party leftists. By 1928, however, Stalin had consolidated the party's right wing and managed to oust the leadership of the left. This achieved, he executed an abrupt about-face, instantly espousing radical leftist economic programs, including the forced collectivization of agriculture and a greatly accelerated program of industrialization. He turned now against the party's right wing, led by Nikolai Bukharin, so that, in the space of a single year, he managed to crush opposition on the left as well as the right. As of 1929, Josef Stalin had become absolute dictator of the Soviet Union.

Stalin was determined to transform the Soviet Union from an agricultural nation into a modern industrial power. Toward this end, he was quite willing to sacrifice human life on a vast scale. Late in 1928, he expropriated the lands of the middle-class farmers (kulaks), "deporting" (to Siberia) or murdering those who resisted. He promulgated a series of five-year plans by which collectivization and industrialization were to be achieved. These plans became rigid gospel, and Stalin would order the export of grain and other produce to finance industrialization despite a devastating famine that swept the Soviet Union in 1932. Millions who resisted were executed, and millions more starved to death. It has been estimated that 25 million died as a direct result of forced collectivization during 1928–33.

During the period of the first five-year plan, opposition to Stalin mounted, exploding into a peasant revolt, which the dictator easily crushed. Next, when the 17th Party Congress indicated its support for Sergei Kirov, a moderate and a potential rival, Stalin had him assassinated in December 1934. He then used his murder as a pretext for arresting most of the party's highest-ranking officials as counterrevolutionary conspirators. From 1936 to 1938 Stalin conducted a series of show trials in which party officials and many in the senior officer corps of the Red Army were wrongly convicted of outrageous crimes or acts of treason. The results of this massive purge were devastating. By 1939, 98 of the 139 central committee members elected in 1934 had been executed, and 1,108 of the 1,966 delegates to the 17th party congress arrested. Under NKVD (secret police) chief Lavrenty Beria, millions of innocent Soviet citizens were arrested, executed, exiled, or imprisoned. By the eve of World War II, Stalin had destroyed all serious opposition and had terrorized the nation into submission even as he built it into an industrial giant and created about himself a cult of personality. A by-product of his purges, however, was the disastrous reduction of the Red Army officer corps. Senior leaders were exiled or killed, leaving the army weak and highly vulnerable.

As Adolf Hitler rose to power and came to control more and more of Europe by the late 1930s, Stalin decided to come to a rapprochement with him to avoid a disastrous war based on ideology. With Hitler, he astonished and dismayed the world by concluding the German-Soviet Non-Aggression Pact of August 23, 1939. By this and other agreements, Stalin acquiesced in Hitler's plan to invade Poland, part of which, in fact, would fall to the USSR. For his part, Hitler agreed not to interfere in the Soviet invasion of Finland in the Russo-Finnish War.

On June 22, 1941, Hitler abrogated the nonaggression pact with his invasion of the Soviet Union. Stalin was stunned as the Germans rolled over a Red Army that had been purged of much of its senior officer corps. Yet soon overcoming his initial paralysis, Stalin rallied, took personal command of the Red Army, and organized an increasingly fierce and effective defense, which developed into a counteroffensive. Stalin moved vital war industries east, into Siberia and central Asia, just ahead of the advancing German armies, and he rallied the Soviet people to heights of patriotic fervor. He courted the Western allies, Britain and France, and in the interest of lifting the morale of the Soviet people, he officially rehabilitated the Orthodox Church.

By the middle of the war, as the tide in the USSR turned against the German invaders, Stalin earned a reputation as a military leader of considerable ability. As a valuable ally, he wielded much clout at the major Allied conferences conducted at Tehran, Yalta, and Potsdam. Millions of Soviet citizens consigned his former brutality to oblivion and now hailed Stalin as their savior.

No sooner was Hitler defeated and the war ended than Stalin instituted a new reign of terror at home, imposing more taxes on peasants, announcing new discoveries of counterrevolutionary conspiracies, and instituting a policy of aggressive Soviet expansion, especially throughout an eastern Europe devastated by the war. Before the decade was over, a Cold War developed between the Soviet Union and its growing orbit of "satellite" nations on the one hand and the democratic nations of the West (especially the United States) on the other.

Stalin became, if anything, increasingly paranoid during the last years of his regime. Shortly before he died in 1953, he declared his discovery of a plot among the Kremlin's physicians, and he seemed on the verge of yet another vast round of blood purges. Before this could begin, however, he succumbed to a cerebral hemorrhage on March 5, 1953.

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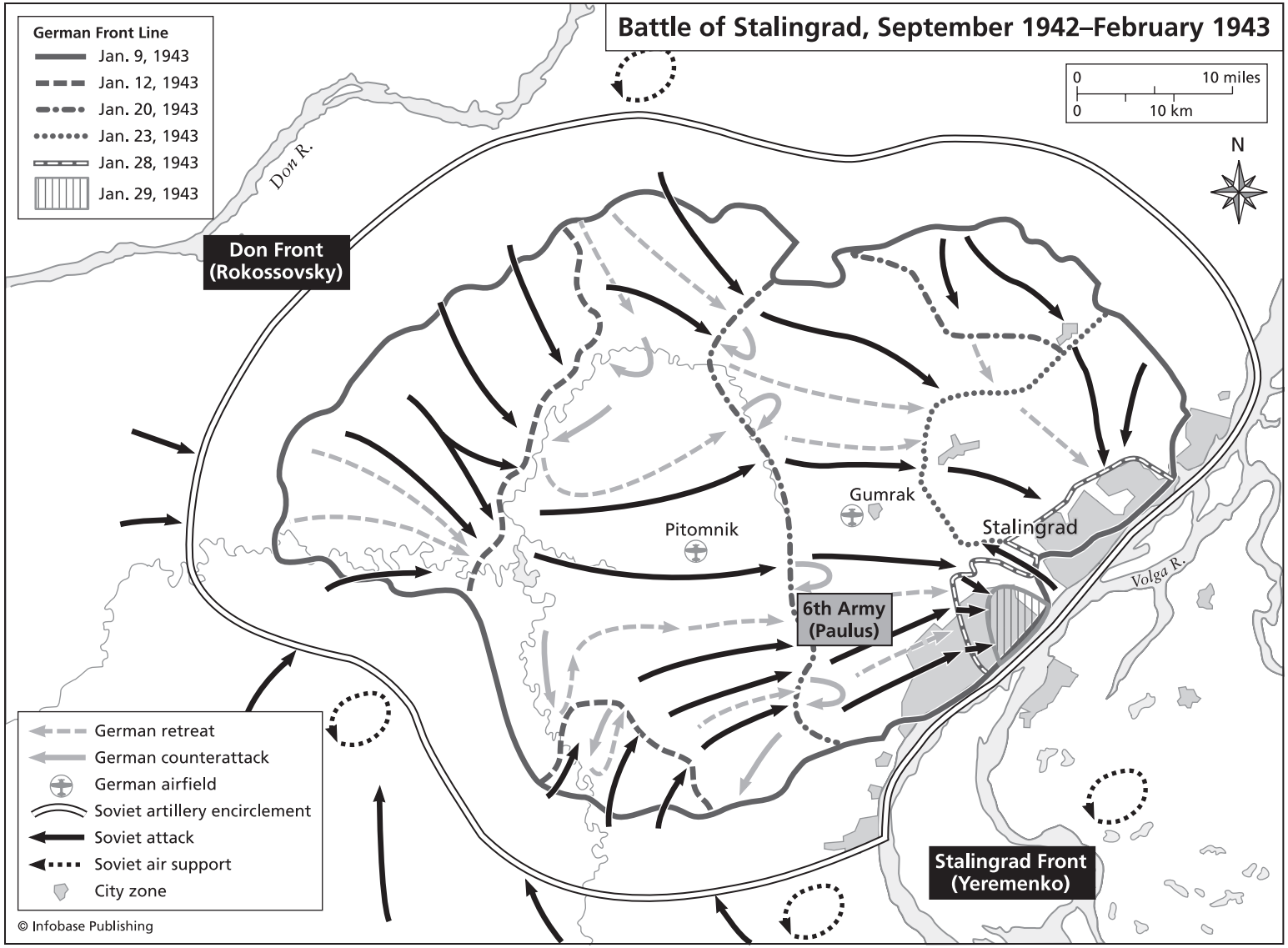
Stalingrad, Battle of

After Adolf Hitler decided to concentrate the invasion of the Soviet Union on its northern and southern wings rather than in the center, Stalingrad became the focus of the German offensive in the south. The battle spanned June 22, 1942, to February 2, 1943. In the initial German attack, Field Marshal Fedor von Bock led Army Group B against Stalingrad, while, to the right (south) of Army Group B, Army Group A set as its objective the oil fields of the Caucasus.

Bock's attack came on June 22 from the line formed by the upper Donets River. His left wing advanced to the River Don at Voronezh on July 1, but he could not hold the city. This resulted in Bock's relief by Field Marshal Maximilian von Weichs on July 13. While the Voronezh attack failed, Hermann Hoth led the Fourth Panzer Army in a 100-mile race to the Don, then turned southeast to drive between the Donets and the Don. This provided support for Paul von Kleist to move his First Panzer Army across the lower Don as it advanced into the Caucasus and the oil fields there. At the same time, Friedrich von Paulus led the Sixth Army eastward from the bend of the Don toward Stalingrad on the right (west) bank of the Volga. Thus, by August 24, German forces had reached the western margins of Stalingrad.


Battle of Stalingrad, September 1942–February 1943
German Front Line
Jan. 9, 1943
Jan. 12, 1943
Jan. 20, 1943
Jan. 23, 1943
Jan. 28, 1943
Jan. 29, 1943
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N
Don R.
Don Front (Rokossovsky)
Gumrak
Pitomnik
Stalingrad
Volga R.
6th Army (Paulus)
Stalingrad Front (Yeremenko)
German retreat
German counterattack
German airfield
Soviet artillery encirclement
Soviet attack
Soviet air support
City zone
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At this time, the Sixty-Second Red Army, amply reinforced by local civilian volunteers, mounted an urban warfare defense, fighting the Germans house by house. At great cost, the Germans advanced to central Stalingrad by September 22. It was by this time a city in ruins, leveled by incessant artillery fire.

Despite the destruction of the city, the Soviets were determined to prevent the Germans from capturing a place named after Joseph Stalin. The Soviet commander in charge, Georgi Zhukov, cautiously reinforced the Stalingrad garrison to keep the Germans from reaching the Volga River. While this holding action unfolded, Zhukov built up his flanks both north and south of the city. On November 19, the Red Army mounted a counterattack under Konstantin Rokossovsky. He descended from the north of Stalingrad, then, on November 21, crossed the Don at Kalach with his armor. This breached the German lines, allowing General Nikolai Vatutin to rout three armies: the Third Romanian, Eighth Italian, and Second Hungarian. The Germans responded with a counterattack from Panzer Corps H, but were repulsed.

While this exchange was fought north of the city, Gen. Andrei Yeremenko advanced from the south on November 20. Over the next five days, he scored total victories against the Fourth Romanian Army. This achieved, the two Soviet forces converged from north and south, linking up west of the city. Although the German Sixth Army was now in a hopeless position, Adolf Hitler denied permission for a withdrawal. Thus, on November 23, the Red Army enveloped the Germans in the Soviet city—some 300,000 of the enemy, 22 divisions in all. German communication and supply were all but completely cut off. Luftwaffe chief Hermann Göring pledged that the air force (Luftwaffe) would airlift 300 tons of supplies each day. The aircraft, however, were thwarted by terrible weather and stout Soviet air defenses. Cut off, the surrounded German army starved and froze.

At this point, Hitler gave permission for Erich von Manstein to lead a relief force—designated Army Group Don—to break through the envelopment. From 60 miles southwest of Stalingrad, Hoth's Fourth Panzer Army led the army group's attack beginning on December 12. Hoth was just 30 miles from Paulus's besieged troops by December 21. However, Soviet resistance was now so formidable that Hoth had to break off the attack. He withdrew on December 23, leaving Paulus to endure the Red Army offensive on his own.

On January 8, 1943, the Soviets issued a surrender demand. By this time, the German Sixth Army had lost 300,000 men, 2,000 tanks, and 4,000 guns. Once again, Hitler denied permission for the surrender, and on January 10, the Soviets launched a massive artillery attack, followed by an assault from three sides. By January 16, the German airfield had been captured.

On January 24, the Soviets again demanded surrender. Hitler responded with an order to fight to the last man. That hardly mattered. Part of the Sixth Army surrendered on January 31; the rest did so two days later. Only 91,000 men had survived to this point.

The Battle of Stalingrad was an epic German disaster; nevertheless, the long-delayed surrender had tied down so many Red Army troops that Kleist was able to withdraw from the Caucasus and thereby save Army Group A from suffering the fate of the Sixth Army. Despite this, Stalingrad was a turning point of the war on the eastern front. The Germans were never able to resume the offensive, and their defeat, especially after the subsequent Battle of Kursk, became only a matter of time.

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Stark, Harold Rainsford (1880–1972) *U.S. chief of naval operations from 1939 to 1942*

Born in Wilkes-Barre, Pennsylvania, Stark graduated from the United States Naval Academy in 1903, 30th in a class of 50. He served on the cruiser

Harold Stark *(U.S. Navy)*

Hartford and was captain of the destroyer *Patterson* at the outbreak of World War I. In 1917, he was appointed aide to Admiral William S. Sims, commander in charge of U.S. naval forces in the war. Stationed in London, Stark assisted in coordinating U.S. and British naval operations.

After World War I, Stark served in a variety of ordnance commands and, in 1928, became chief of staff to the commander, Destroyer Squadrons, Battle Fleet. During 1933–34, he commanded the battleship *West Virginia* (BB47), from 1934 to 1937 was chief of the Bureau of Ordnance, and during 1937–38 commanded Cruiser Division, U.S. Fleet. During 1938–39, he commanded Cruisers, Battle Force, leaving this post in August 1939 to replace William Leahy as chief of naval operations. Believing that the United States would inevitably be drawn into World War II, he was instrumental in moving Congress to fund major ship construction.

Stark vigorously objected to President Franklin D. Roosevelt's decision before the war to transfer the U.S. Pacific Fleet to Hawaii. Stark believed that Pearl Harbor was inadequate to the needs of the fleet, lacking adequate repair facilities, ammunition stocks, and fuel. He lobbied for the fleet to be returned to San Francisco. Although Stark was convinced that the Japanese would attack the United States—and initially believed that Pearl Harbor was vulnerable—he subsequently decided that the attack would most likely come in the Far East. Although he was not directly blamed for Pearl Harbor's unpreparedness in the Battle of Pearl Harbor, he was relieved as CNO shortly after the Japanese attack. President Roosevelt appointed him his personal representative in London, then named him to the post of ambassador to the Free French government. In October 1943, Stark was returned to a naval command, as commander of the 12th Fleet, with responsibility for the training of U.S. naval forces for the Normandy landings (D-day).

Stark retired from the navy shortly after the end of the war.

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Stauffenberg, Claus von (1907–1944)
principal conspirator in the July Plot to assassinate Adolf Hitler

Born into a prosperous, noble family in Jettingen, Germany, Stauffenberg became an officer in the army in 1926 and earned official recognition as a panzer division staff officer during 1939–40 in the invasion of Poland and the Battle of France. He was then transferred to the Soviet front, where he witnessed firsthand the work of the Schutzstaffel (SS) Einsatzgruppen, which followed the invasion forces and murdered civilians, especially Jews. Severely shaken, Stauffenberg requested and secured a transfer to the North African Campaign as a panzer staff officer. In April 1943, he was gravely wounded, losing his left eye, right arm, and two fingers of his left hand.

During a long convalescence in Germany, Stauffenberg decided that the survival of the nation

depended on the removal of Hitler. The assassination plot he conceived was motivated in part by patriotism and a high moral sense, but it was also the product of a growing perception that Hitler intended to act against members of the old German aristocracy.

Stauffenberg quickly built an extensive conspiracy among fellow army officers, which became the July Plot to assassinate Adolf Hitler. Stauffenberg himself assumed the principal role of assassin, planting a brief-case bomb at Wolf's Lair, Hitler's military headquarters at Rastenburg, on July 20, 1944. The bomb was successfully placed, but failed to kill its intended victim—only slightly injuring Hitler—and a coup d'état in Berlin coordinated with the assassination instantly collapsed. The conspiracy likewise fell apart, and Stauffenberg as well as a handful of fellow conspirators were immediately arrested and executed without trial in Berlin on the very night of the assassination attempt, July 20. Eventually, some 5,000 individuals would be rounded up as conspirators; most were executed.

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Stavka (Soviet Supreme Command)

Stavka (*Shtab vierhvnogo komandovania*) was a generic term meaning "general headquarters" and was used in the tsarist army during World War I and the Red Army during World War II, when it was synonymous with the "Main Command of the Armed Forces of the Union of Soviet Socialist Republics." This specific version of the Stavka was created on June 23, 1941, by Joseph Stalin and consisted of his defense minister, Marshal Semyon Timoshenko (president); Marshal Georgi Zhukov (chief of the General Staff); Vyacheslav Molotov (Soviet foreign minister); and three other military officials, Marshals Kliment Voroshilov and Semyon Budenny and people's commissar of the navy admiral Nikolai Kuznetsov. Stalin served on the Stavka ex officio. In addition to the principals, the Stavka included "permanent counselor," consisting of more top military officers, including representatives of the Red Air Force and Soviet air defense, and Lavrenty Beria, chief of the NKVD (Soviet secret police).

On July 10, 1941, Stavka became the Stavka of the Supreme Command, and on August 8, it was reorganized as the Supreme Chief Command.

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Stettinius, Edward (1900–1949) *U.S. secretary of state during 1944–45 and a key figure in the creation of the United Nations*

Stettinius was born in Chicago and attended the University of Virginia, but left without graduating to enter business. In 1926, he was hired as assistant to a General Motors vice president and, in the space of five years, rose to a vice presidency himself. He joined United States Steel as an executive in 1934 and within four years was chairman of the board.

In 1939, Stettinius left the private sector to accept Franklin Delano Roosevelt's invitation to become chairman of the War Resources Board. The next year, he was appointed chairman of the National Defense Advisory Commission and in 1941 became director of priorities at the Office of Production Management (OPM). Later in 1941, he replaced Harry Hopkins as director of the Lend-Lease program.

President Roosevelt appointed Stettinius undersecretary of state in 1943, and the following year elevated him to secretary of state, after Cordell Hull resigned following FDR's 1944 reelection. Stettinius did not formulate original foreign policy, but he served the president well as adviser during the Yalta Conference, the last wartime conference the ailing Roosevelt attended. Although FDR himself would describe Hull as the "father of the

United Nations," Stettinius implemented much of the actual groundwork for the organization in 1945. He headed the U.S. delegation to the San Francisco Conference and played a key role in drafting the UN Charter.

After Roosevelt's death in April 1945, Stettinius served in the cabinet of HARRY S. TRUMAN for just two months, when he was replaced by JAMES F. BYRNES. Truman appointed Stettinius the first U.S. delegate to the United Nations. He retired in 1946.

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Stilwell, Joseph "Vinegar Joe" (1883–1946) *U.S. general who fought on the China-Burma-India theater*

Born in Palatka, Florida, and raised in Yonkers, New York, Stilwell graduated from West Point in 1904 and joined the infantry as a second lieutenant. He requested duty in the Philippines and was assigned to the 12th Infantry Regiment, with which he saw action on Samar against the rebel Puljanes during February–April 1905. In 1906, he returned to West Point as a foreign language instructor and as professor of history and instructor in tactics. On January 11, 1911, he returned to the Philippines, then during November–December, visited China for the first time.

Stilwell returned again to West Point as a language instructor, teaching from 1913 to 1916 and was promoted to captain in September 1916. He became brigade adjutant in the 80th Division, was promoted to temporary major in July 1917, and shipped out to France in January 1918. He served during World War I as a staff intelligence officer and became deputy chief of staff for intelligence under General Joseph T. Dickman in IV Corps during the Meuse-Argonne offensive (September 26–November 11). Promoted to temporary lieutenant colonel on September 11, 1918, then temporary colonel in October, Stilwell remained in Germany after the Armistice as part of the army of occupation until May 1919.

In contrast to most of his colleagues, he did not want to return to the United States after the war and requested assignment to China as a language officer. He served there from August 6, 1919, to July 1923 and forged a friendship with the warlord Feng Yu-hsiang.

Stilwell returned to the States and attended Infantry School at Fort Benning from 1923 to 1924, then went on to the Command and General Staff School at Fort Leavenworth from 1925 to 1926. He returned to China to command a battalion of the 15th Infantry at Tientsin in August 1926. There he met GEORGE C. MARSHALL, thanks to whom he was promoted to lieutenant colonel in March 1928 and appointed head of the tactical section of the Infantry School in July 1929.

Stilwell left the Infantry School in 1933 to become training officer for the IX Corps reserves from 1933 to 1935. Promoted to colonel, he was assigned as military attaché to China on August 1, 1935. He closely observed the developing SINO-JAPANESE WAR before he returned to the United States in 1939, receiving promotion to brigadier general while en route.

"Vinegar Joe" Stilwell (right) with Ranger expert Frank Merrill *(National Archives and Records Administration)*

Assigned command of the 3d Brigade, 2nd Division in September 1939, Stilwell played a major role in prewar maneuvers, including the Louisiana-Texas maneuvers of May 1940. He gained the attention of his superiors for his deft ability to move troops quickly and unconventionally. On July 1, 1940, he was given command of the newly created 7th Division at Fort Ord, California, and, in September, was promoted to temporary major general. He was moved up to command of III Corps in July 1941.

After the Battle of Pearl Harbor and the U.S. entry into World War II, Stilwell was promoted to lieutenant general and appointed commanding general of U.S. Army forces in the China-Burma-India (CBI) Theater in January 1942. He set up a headquarters at Chungking (Chongqing), China, where he made an ally of Chiang Kai-shek (Jiang Jieshi), who turned over to him command of Chinese forces in Burma on March 6, 1942. Stilwell arrived in Burma on March 11 with a single Chinese division and soon raised eight more.

Like his British CBI colleague General William Slim, Stilwell was forced to make do with chronic shortages of men, equipment, transportation, air power, and basic supplies. He was also afflicted by Chiang Kai-shek's mercurial temperament and continually changing orders. Because of a lack of reinforcements and other support, Stilwell was forced to withdraw from Burma to India during May 11–30, after which he turned his attention to training and equipping three Chinese divisions in India. He also became the architect of the Hump, an airlift chain over the Himalayas to supply Kunming, China, during January–February 1943 after the Burma Road had been severed.

In July 1943, Stilwell was appointed deputy supreme Allied commander in the CBI under Lord Louis Mountbatten. Stilwell advocated the Salween-Mykikyina-Mogaung offensive of March–August 1944, which ended with the victorious Battle of Mykikyina on August 3 and the subsequent liberation of all northern Burma. This triumph earned Stilwell promotion to temporary general; however, his always difficult relationship with Chiang broke down during this period and, at Chiang's request, he was recalled by President Franklin D. Roosevelt on October 19, 1944.

Returned to the United States, Stilwell became commander of Army Ground Forces on January 23, 1945, and was decorated with the Legion of Merit and the Oak Leaf cluster of the DSM on February 10, 1945. He was then sent to Okinawa, where he took command of the Tenth Army on June 23 and was among the dignitaries invited to the Japanese surrender aboard the USS *Missouri* in Tokyo Bay on September 2, 1945.

Following the war, Stilwell was named president of the War Equipment Board and then commander of the Sixth Army and the Western Defense Command in January 1946. He died later that year of stomach cancer.

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Stimson, Henry L. (1867–1950) *U.S. secretary of war during World War II*

Henry Stimson served with distinction five presidents since 1911, most notably as secretary of war in the cabinet of Franklin D. Roosevelt. Born in New York City, Stimson studied law and was admitted to the New York bar in 1891. He was U.S. attorney for the southern district of New York from 1906 to 1909, then was appointed secretary of war by President William Howard Taft in 1911. He served until 1913. After the United States entered World War I in April 1917, Stimson served briefly in the field artillery in France.

In 1927, he returned to government service in the administration of President Calvin Coolidge, who named him special commissioner to Nicaragua and assigned him to mediate a civil war there, which bore on U.S. financial and political interests. Stimson was largely successful in this effort and earned a reputation as an able negotiator and statesman. He then served as governor-general of the Philippines.

In 1929, President Herbert Hoover appointed Stimson secretary of state, and in this capacity he

served as leader of the U.S. delegation to the 1930 London Naval Conference, which sought to create a degree of global disarmament by setting limits on the tonnage of the naval fleets of the major powers.

When Japan occupied Manchuria in 1931 in a prelude to the Sino-Japanese War, Stimson dispatched stern notes to both Japan and China on January 7, 1932, articulating what became known as the Stimson Doctrine, declaring that the United States would refuse to acknowledge the legality of any treaty, agreement, or situation that infringed U.S. treaty rights or that had been created in violation of the 1919 Pact of Paris.

Stimson left the office of secretary of state after President Roosevelt entered the White House in 1933. When World War II began in Europe in September 1939, Stimson, in contrast to many of his Republican colleagues, was an eloquent advocate of U.S. intervention in the war on the side of the Allies, and he became a charter member of the Committee to Defend America by Aiding the Allies. This, combined with his long and distinguished service, moved FDR to appoint the lifelong Republican secretary of war in 1940. It was a bold act of bipartisanship and proved highly effective in creating Republican support for FDR's increasingly interventionist foreign policy. A vigorous advocate of preparedness, Stimson led the rearmament and training of the U.S. Army during the run-up to the Battle of Pearl Harbor, which brought the United States into the war in December 1941.

Stimson served as secretary of war throughout World War II and played an especially significant role in advising both FDR and his successor, Harry S. Truman, on atomic weapons policy. He was a strong advocate of using the new atomic weapons against Japan, advising that the bombs, when they became operational, should be dropped on Japanese cities of military importance. On the grounds of its great beauty and religious significance to the Japanese people, he successfully overrode a U.S. military recommendation that the city of Kyoto top the list of potential targets. After the war, Stimson defended the use of the atomic bombs, paradoxically enough, on humanitarian grounds, earnestly arguing that only by these weapons had Japan been compelled to surrender and that they therefore saved countless Allied as well as Japanese lives that would have been lost in an invasion of the Japanese home islands.

After serving in the Truman administration for six months, Stimson resigned as secretary of state in September 1945. With the assistance of McGeorge Bundy, he wrote a memoir, *On Active Service in Peace and War,* published in 1948.

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Strasser, Gregor (1892–1934) and **Otto** (1897–1974) *brothers who were early leaders of the Nazi Party*

Born in Geisenfeld, Gregor Strasser joined the Nazi Party virtually at its inception in 1920 and participated with Adolf Hitler in the ill-fated Munich Beer Hall Putsch of 1923. While Hitler was incarcerated in Landsberg Prison, Gregor Strasser headed the party, boldly speaking and organizing, even though the party had been outlawed. When Hitler was released from prison, Strasser stepped down but was assigned to organize the party in northern Germany.

Strasser was elected to the Reichstag (parliament) and, in collaboration with his brother Otto and Joseph Goebbels, was instrumental in the explosive growth of the Nazi Party into a national mass movement. Despite their middle-class origin, both Strassers had immensely persuasive appeal for the working classes. Although this rapidly expanded the party's base, it did so by pushing the party leftward, in the direction of socialism—albeit always tinged with conventional Nazi racism and nationalism. Hitler was pleased by the party's showing in the 1928 elections, but he was distressed by its new direction. For his part, Otto was also increasingly

displeased with Hitler, who, he now understood, was not interested in making the Nazi Party a worker's party. When Hitler began forging ties with Germany's power elite, including industrialists and financiers, Otto left the party in 1930 and founded the Schwarze Front (Black Front) in opposition to it.

Gregor parted company with his brother and remained loyal to Hitler, advancing by the early 1930s to the number-two position in the party leadership, just below Hitler. Despite his loyalty, however, he remained a partisan of the left and opposed Hitler's affiliation with the capitalists. He also discouraged the emphasis on anti-Semitism and hoped that he could steer the party onto a radical socialist track. As he came to loggerheads with Hitler, he finally quit the party in 1932. Strasser had hoped that many party members would follow him, but this hope proved to be unfounded. Hitler's appeal by this point was so great that few left the party, and Hitler went on the following year to assume the post of German chancellor. In 1934, he had Gregor Strasser killed on June 30 as part of the "Long Knives" purge of the Sturmabteilung (SA).

Otto Strasser was more fortunate. He left Germany and found refuge in Canada. He did not return to his native country until 1955, when he made an abortive attempt to reenter politics.

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strategic bombing of Germany

World War I had seen experiments in the long-range bombing of strategic targets, including London, but it was in World War II that the strategic bombing concept was most thoroughly developed. Adolf Hitler extensively bombed civilian targets, especially during The Blitz of London and other English cities; yet these attacks are best defined as terrorism on a large scale rather than part of a fully developed program of strategic bombing. True strategic bombing targets cities, but does so mainly to destroy industrial production and transportation networks, then only secondarily to terrorize the civilian population and undermine a nation's will to continue to fight the war. Strategic bombing is a form of economic warfare, which directly attacks war production and other industrial and transportation enterprises.

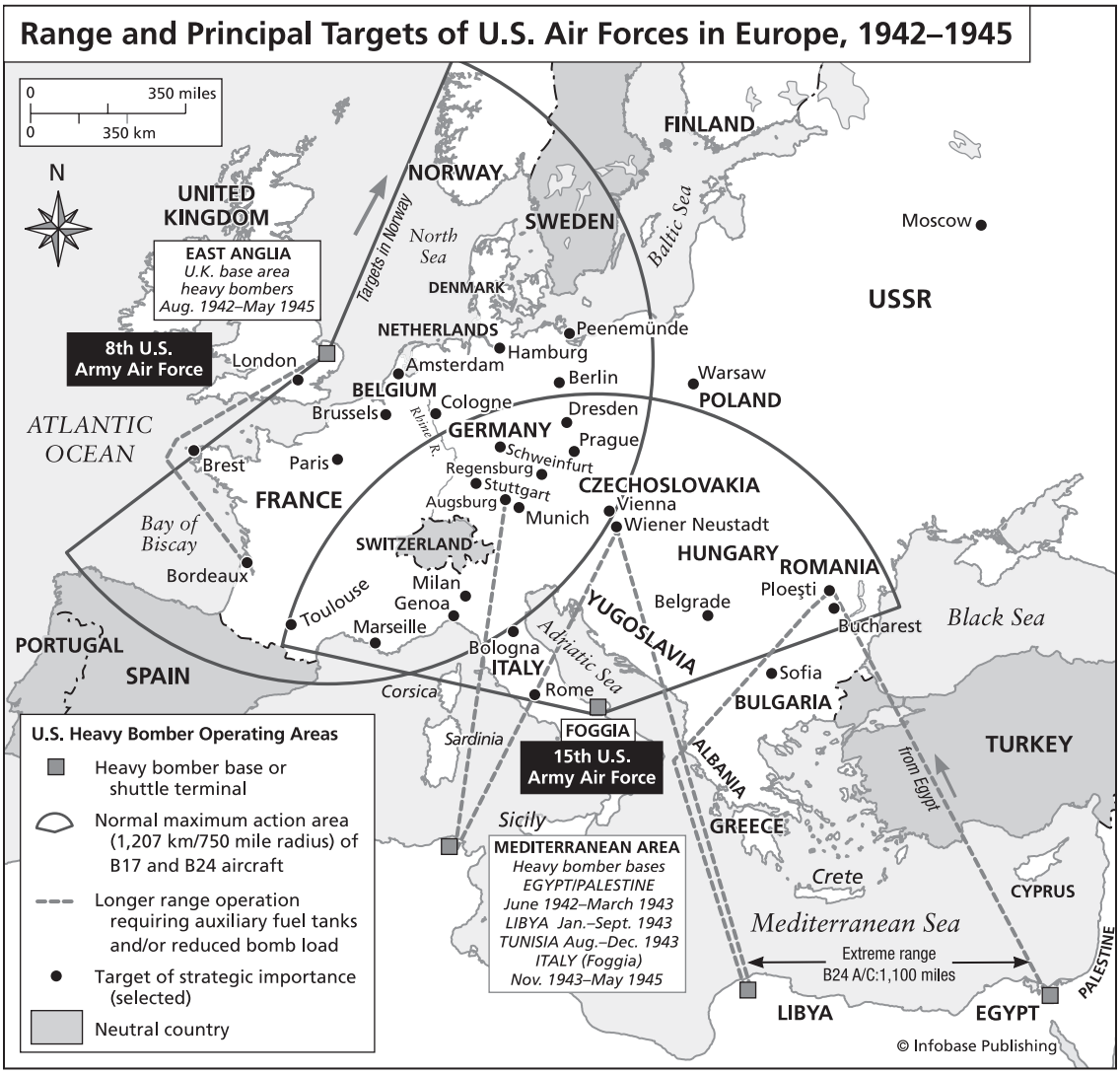
U.S. B-17s drop bombs over a German city. *(National Archives and Records Administration)*

Among British as well as American air officers were many who believed that a large-scale program of strategic bombing could create a devastating and therefore decisive economic effect, including, ultimately, the complete destruction of the enemy's war economy. Despite significant political resistance in Britain and the United States during the 1930s, advocates of strategic bombing managed to persuade their governments to fund the design and construction of heavy four-engine bombers (including, in Britain, the Wellington, Whitley, and Hampden; and in the United States, the B-17, B-24, and B-29), which were the necessary platforms from which heavy, long-range bombing could be executed.

German advocates of strategic bombing failed notably to prevail on Hitler, who focused production on fighters, fighter-bombers, and medium bombers—none of which constituted an adequate platform for strategic bombing. Unequipped for strategic bombing, the Germans entered World War II without a strategic bombing doctrine. For their part, however, the British avoided implement-

ing strategic bombing early in the war, lest they provoke the Germans. What finally drove the launch of the strategic campaign was the desperate situation created by the Battle of France and subsequently the Battle of Britain. In 1940, strategic bombing was Britain's only option for striking back at Germany.

The British conducted strategic bombing under cover of night. This had the advantage of making the bombers difficult to intercept with fighters or to hit with ground-based antiaircraft artillery. Early in the war, long-range fighters were unavailable to escort the bombers deep into enemy territory; this made the bombers especially vulnerable. Yet night bombing had the distinct disadvantage of rendering targets all but invisible; precision bombing was therefore out of the question; therefore, the British employed carpet-bombing (also called area-bombing) techniques. Instead of targeting particular industrial plants or transportation hubs, for example, the British would



bomb an entire urban area, hoping to hit valuable industrial targets in the process. This was a highly destructive approach, but there was no guarantee that a raid would hit anything of real strategic value.

When the United States entered the air offensive in 1942—with the U.S. Eighth Army Air Force flying out of bases in England—American air planners decided to risk precision bombing in daylight. Thus, the Allied strategic bombing program against Germany became a day and night affair. The Americans would bomb carefully chosen targets by day, and the British would employ carpet bombing by night. As the war progressed, long-range fighters (such as the P-51 Mustang) became available to escort bombers all the way to their targets and back. Despite this welcome boon, casualties among Allied airmen—especially the Americans—were extremely heavy. Some 50,000 British and American airmen died in the process of inflicting somewhat less than a million fatal German casualties.

The major Allied strategic raids against Germany included the following:

May 30–31, 1942: A British raid on Cologne destroyed most of the center city at a cost of 41 bombers.

July 24, 1943: A combined British and American incendiary raid against Hamburg created a firestorm in which some 50,000 civilians were killed. (Bomber losses are unknown.)

August 1, 1943: The Ploeşti raid targeted refineries in this Romanian city. The U.S. Army Air Force (Eighth and Ninth Air Forces) lost 50 planes, but did inflict major damage—which, however, was soon repaired.

August 17, 1943: The Schweinfurt raids targeted German ball-bearing production. The U.S. raid on this day also targeted Regensburg, a major center of aircraft production. The factories were damaged, but not put out of commission, and the loss to U.S. Eighth Army Air Force bombers was heavy: 60 bombers lost, 122 badly damaged.

August 17, 1943: The British raid on Peenemünde (V-2 base) caused serious damage to missile launch facilities, but these were soon repaired. The RAF lost 69 heavy bombers.

October 14, 1943: In another U.S. Eighth Army Air Force raid on Schweinfurt, 60 bombers were lost and 138 damaged; however, the ball-bearing plants were destroyed—only to be quickly rebuilt.

November 18, 1943–March 31, 1944: The British RAF conducted some 35 raids against Berlin during this period, each raid consisting of more than 500 aircraft. Damage to the city was extensive, but 1,047 bombers were lost during the offensive.

February 20–26, 1944: Known as "Big Week," this U.S. offensive targeted German aircraft factories and wiped out about half of Germany's fighter production capacity. Losses to the Eighth, Ninth, and Fifteenth U.S. Army Air Forces were 226 bombers.

March 11, 1944: A British raid on the oil and railroad facilities at Essen was highly successful and was carried out with negligible losses.

February 13–14, 1945: U.S. and British bombers targeted the medieval city of Dresden with heavy incendiaries, which created a massive firestorm that razed the city and killed 135,000 German civilians. Losses to the Allies were no more than six bombers. Given its high cost in civilian lives and its occurrence so late in the war, this was the most controversial strategic raid of the war's European theater. Allied critics charged that it was motivated by nothing more "strategic" than a thirst for vengeance.

As the list of major strategic bombing missions suggests, the cost in equipment and the lives of aircrews was high. The effectiveness of strategic bombing was bitterly debated both during the war and after it. Proponents claimed that it significantly reduced the German capacity to make war. Critics contended that strategic bombing wasted the lives of aircrews and, because it targeted civilians, was inherently immoral. Most likely, an accurate assessment of strategic bombing lies between the

extremes of "decisive factor" and "marginally effective adjunct."

See also AIRCRAFT, BRITISH; AIRCRAFT, UNITED STATES; BOMBER AIRCRAFT; GREAT BRITAIN, AIR FORCE OF; UNITED STATES ARMY AIR FORCES; and STRATEGIC BOMBING OF JAPAN.

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strategic bombing of Japan

For a definition of strategic bombing, see STRATEGIC BOMBING OF GERMANY.

Although the DOOLITTLE TOKYO RAID took place early in the war, on April 18, 1942, the United States was not in a position to launch the full strategic bombing of Japan until June 15, 1944, when 50 B-29 bombers of the Twentieth U.S. Army Air Force bombed steel mills at Yawata, Kyushu. The B-29, the largest bomber of the war, with the greatest payload and longest range, was used exclusively in the Pacific theater. Once the Mariana Islands campaign had been successfully concluded, the United States came into possession of air bases that put the Japanese home islands within B-29 range. Before this, the bombers had to operate from bases in India and stage through China—a long and hazardous route that precluded routine strategic bombing runs.

The Marianas were secured on June 15, 1944 (coincidentally, the day of the Yawata raid), and the first raid staged from them came on November 24, against Tokyo's Nakajima aircraft factory. Under Brig. Gen. Haywood S. Hansell, the B-29s conducted a series of high-altitude daylight raids, mainly against aircraft factories. The raids were only marginally successful due to mechanical problems with the new bombers and, even more, due to the inherent inaccuracy of bombing from high altitude. Air Force commander in charge HAROLD "HAP" ARNOLD ordered Hansell (an advocate of precision bombing) to try a new approach, abandoning daylight precision raids for night attacks at low altitude using incendiary bombs. The first such raid, on Nagoya, January 3, 1945, was not a spectacular success, whereas a daylight precision raid on Kobe in mid January was highly effective. Although Hansell may have thought of this as a vindication of his advocacy of precision bombing, Arnold nevertheless relieved him and put in his place Maj. Gen. CURTIS E. LEMAY, a far bolder innovator.

At first, LeMay combined high-altitude precision missions with incendiary raids—also conducted at high altitude during daytime. The incendiary raids looked promising, and Arnold ordered them to be increased. On February 25, 150 B-29s firebombed Tokyo, razing a square mile of the city. Successful though this was, LeMay decided to increase its effectiveness by bombing at low altitude during the night. Moreover, LeMay stripped the bombers of their many (heavy) defensive guns. The combination of low altitude and the absence of extra weight allowed the aircraft to carry bigger bomb loads. On March 9–10, 1945, at night, some 300 B-29s dropped 2,000 tons of incendiary bombs on Tokyo from a low altitude of 5,000 to 9,000 feet. The resulting firestorm killed about 85,000 inhabitants of the city and destroyed many industrial targets.

Throughout the rest of March, LeMay ordered incendiary attacks against Nagoya, Kobe, and Osaka, as well as new raids against Tokyo and Kawasaki—all with devastating results. More incendiary raids followed, then the bombers of the Twenty-first Air Force were diverted to the OKINAWA CAMPAIGN until mid-May, when raids targeted Tokyo, Nagoya, Kobe, Osaka, Yokohama, and Kawasaki. When Japanese fighters attempted to ward off daylight attacks, the P-51 Mustang fighters escorting the B-29s decimated them, so that, by June, the Japanese were no longer able to offer fighter defense. At this time, LeMay decided to begin attacking some 60 lesser Japanese cities. He

also targeted the Japanese oil industry and succeeded in all but totally destroying it.

Strategic bombing was extremely effective in Japan, and by July there were virtually no targets left to hit. Yet, effective as the bombing campaign was, it did not end the war. Combat continued until the atomic bombing of Hiroshima and Nagasaki in August.

See also AIRCRAFT, UNITED STATES; BOMBER AIRCRAFT; HIROSHIMA, ATOMIC BOMBING OF; NAGASAKI, ATOMIC BOMBING OF; and UNITED STATES ARMY AIR FORCES.

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Streicher, Julius (1885–1946) *Nazi Party's leading spokesman for and advocate of the persecution of the Jews*

Born in Fleinhausen, Germany, Streicher saw action during World War I, then became an elementary schoolteacher. He joined the NAZI PARTY virtually at its inception in 1921 and became a close associate and personal friend of ADOLF HITLER. In 1923, Streicher founded *Der Stürmer,* which became the leading anti-Semitic mouthpiece of the party. Sales of the newspaper made Streicher a wealthy man, and its rhetoric formed the basis of the campaign of Jewish persecution that, during the 1930s, culminated in the passage of the 1935 NUREMBERG LAWS, which institutionalized anti-Semitic persecution. Hitler appointed Streicher Gauleiter (district leader) of Franconia in 1925.

As he became increasingly wealthy and influential, Streicher behaved more erratically and carelessly, embezzling funds and indulging sadistic sexual perversions, which he made little effort to hide. In 1940, the Nazi Party sanctioned him by stripping him of all of his party offices. Nevertheless, under Hitler's protection, he continued to edit *Der Stürmer* throughout the entire war.

After Germany surrendered in May 1945, Streicher attempted to evade Allied capture by disguising himself as a painter. He was nevertheless captured on May 23, 1945, by American forces near Waldring, Bavaria. He was tried by the NUREMBERG WAR CRIMES TRIBUNAL and found guilty on October 1, 1946, of crimes against humanity. He was hanged on October 16.

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Student, Kurt (1890–1978) *German airborne assault innovator and commander*

Kurt Student joined the German Air Force just before World War I, in 1913. At the outbreak of the war, he served on the Galician front but was transferred in October 1916 to the western front, where he served as a pilot in the AOK 3 and Jasta 9 squadrons (from October 1916), scoring six kills against French pilots during 1916–17.

Between the world wars, Student began developing techniques of airborne assault and was the German pioneer of paratroop operations. Student's paratroopers achieved the spectacular victory against the great Belgian FORTRESS EBEN-EMAEL during the BLITZKRIEG through the Low Countries. His next major airborne operation was in 1941, when he oversaw ACTION ON CRETE that resulted in the capture of the island. This operation was something of a Pyrrhic victory, however, proving so costly that ADOLF HITLER personally barred further major airborne assaults.

Student next masterminded *Unternehmen Eiche* in 1943—the daring commando operation to rescue BENITO MUSSOLINI after he had been deposed as Italy's premier. Commanded in the field by

Otto Skorzeny, the operation used gliders and light aircraft to land on the hilltop compound in which Mussolini was being held. It was a remarkable success.

Student participated in the defense against the Normandy Landings (D-day) in 1944, then, as commanding officer of the First Paratroop Army, fought successfully against Bernard Law Montgomery's attempt to secure a bridgehead over the Rhine at Arnhem in Operation Market-Garden.

Student ended the war on the eastern front, in Mecklenburg. He was captured by British forces in Schleswig-Holstein in April 1945 and, cleared of war crimes, was freed in 1948.

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Sturmabteilung (SA)

The Sturmabteilung (Assault Division) was founded in Munich by Adolf Hitler as the paramilitary arm of the fledgling Nazi Party. SA members were commonly referred to as storm troopers or, after the uniforms, as Brownshirts. They were in reality little more than uniformed thugs, largely drawn from the Freikorps, the unauthorized militia units that sprang into being throughout Germany in the years following the punitive Treaty of Versailles. Because the Freikorps consisted chiefly of disaffected World War I veterans, the SA was mainly an organization of veterans. Hitler self-consciously modeled the SA after Benito Mussolini's paramilitary fascist strongarm unit, the Blackshirts.

The mission of the SA was to provide protection during Nazi rallies and to engage in street brawls with party opponents, mainly leftists. In addition, the SA served as an instrument of physical intimidation of would-be opponents.

The SA was effectively suspended following the collapse of Hitler's Munich Beer Hall Putsch of 1923, but was quickly reconstituted in 1925. In January 1931, Ernst Röhm assumed command of the SA and built it into a large and formidable force, much more along traditional military lines. His ultimate intention was to fashion the storm troopers into the principal military force of Germany. Röhm exploited the Great Depression to recruit large numbers of troopers from the ranks of the unemployed and desperate. By 1932, there were some 400,000 storm troopers. By the following year, when Hitler became chancellor of Germany, it is estimated that SA membership may have reached 2 million. At this time, the post-Versailles German regular army consisted of just 100,000 officers and men.

Hitler used the SA to wage a street-level war against political opponents as well as Jews; however, Röhm increasingly opposed the upper classes, capitalists, financiers, and industrialists—all groups that Hitler had begun courting in his rise to power. The army, too, looked upon the SA as a menace. Finally, Hitler himself saw in Röhm a potential rival. When Röhm threatened to lead his SA in what he called a "second Nazi revolution"—essentially a socialist revolt against the moneyed classes—and when he talked openly of merging the SA and the army (under his overall leadership, of course), Hitler struck back. On June 30, 1934, he led a blood purge against the SA leadership in what became known as the Night of the Long Knives. Schutzstaffel (SS) men raided an SA meeting and summarily murdered most of the SA leadership, including Röhm. This effectively muzzled the SA, which, greatly reduced in numbers, continued to exist but was of little political significance. Beginning in 1939, its chief function was to train citizen Home Guard units.

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submarines

World War I demonstrated the effectiveness of submarines as a naval weapon for use against enemy combatant ships and, even more, against enemy

View through the periscope of a U.S. submarine after torpedoing a Japanese transport *(National Archives and Records Administration)*

merchant and troop convoys. In the Atlantic, the German submarine fleet during World War II preyed upon Allied shipping, which plied the long convoy routes between the United States and Europe and the United States and the Soviet Union. In the Pacific, American submarines targeted the Japanese troop and cargo convoys that were essential to communications among that nation's far-flung island conquests.

BRITISH SUBMARINES

O Class (later designated *Oberon* Class). These craft were developed in the decade following World War I to replace the L Class boats of that war. They were early examples of truly long-range submarines, built with a prescient eye toward a possible future conflict with far-off Japan. The first of the O Class submarines, HMS *Oberon,* was launched in 1924 and two sister subs followed. Slow and awkward, the original O Class submarines were replaced by the *Odin* Class (six boats) in 1928–29. These achieved greater speed and were capable of more maneuverability. The *Odin* Class submarines displaced 1,781 tons surfaced and 2,038 submerged. They were 283.5 feet long with a beam of almost 30 feet and a draft of 13.67 feet. Two diesels produced 4,400 bhp on the surface, and two electric motors produced a total of 1,320 hp submerged. Top surface speed was 17.5 knots. Submerged, the boats could make nine knots. Maximum surface range was 13,125 miles. Underwater endurance was 60 miles. The boats carried a single 4-inch gun and eight 21-inch torpedoes. Crews consisted of 53 men.

P and R Classes. These two classes were similar to the *Odin* boats, except for minor details. They were built during 1929–30.

Porpoise Class. The submarines of this class were developed from the P-Class submarines, but were purpose-built as minelayers and included a tack mechanism on deck to deploy the mines. Launched between 1932 and 1938, the class consisted of six vessels. Early in the war, mines capable of being laid through torpedo tubes rendered the dedicated submarine minelayers obsolete; however, the *Porpoise* boats continued to lay mines, especially in the Mediterranean. The boats displaced 1,768 tons surfaced and 2,053 submerged. Their length was 289 feet, their beam 29.83 feet, and draft 16 feet. A pair of diesels produced 3,300 bhp on the surface, and two electric motors made 1,630 bhp submerged. Top surfaced speed was just 15.5 knots. Submerged maximum was nine knots. The submarines had a range of 13,240 miles and an underwater endurance of 76 miles. They were armed with a single 4-inch gun and six 21-inch torpedo tubes. Each was capable of deploying a load of 50 mines. Crew complement was 59 men.

Thames Class. Built between 1932 and 1934, the three submarines of this class were designed to maintain a speed adequate to keep up with the operations of the surface fleet. Although they were large submarines for their time—displacing 2,166 tons surfaced and 2,680 submerged, with a length of 345 feet, a beam of 28.25 feet, and a draft of 15.67 feet—the *Thames* Class boats topped out at 22.5 knots surface and 10.5 knots submerged. Range was 11,515 miles with a 136-mile submerged endurance. Two diesels delivered 10,000 bhp, and two electric motors made a total of 2,500 bhp. There was one 4-inch gun and six 21-inch torpedo tubes. The crew consisted of 61 hands.

S Class. This was the most numerous class of British World War II submarines and consisted of two subclasses, the *Swordfish*-type boats—submarines launched between 1931 and 1933—and the *Shark*-type boats, consisting of eight launched between 1934 and 1937. These small submarines performed well against the enemy. They displaced just 860 tons surfaced and 990 submerged. With a length of 217 feet, a beam of 23.5 feet, and a draft of 10.5 feet, they were driven by two diesels making a total of 1,900 bhp on the surface, with two electric motors making 1,300 bhp. Surface speed was 15 knots, submerged speed 9 knots. The boats had a range of 8,635 miles and were armed with either a single 4-inch gun and six torpedo tubes or one 3-inch gun and seven 21-inch tubes. A total of 62 S Class boats were produced.

T Class. The standard Royal Navy patrol submarine, the T-Class boats were produced in a quantity of 54, beginning in 1937. They were relatively slow at 15.25 knots surfaced and nine knots submerged, and they were small, displacing 1,325 tons surfaced and 1,570 submerged. The T-Class boats were 275 feet long, had a beam of 26.58 feet, and a draft of 14.75 feet. A pair of diesels made 2,500 bhp, with electric motors delivering 1,450 bhp. The range of the boats was 12,665 miles. The T-Class boats carried one 4-inch gun and 10 or 11 21-inch torpedo tubes. They were crewed by 56 to 61 hands.

U and V Classes. These small submarines were used in shallow and confined waters, including the Mediterranean and the North Sea. The V Class was an updated version of the U Class and was similar to it in most respects. V-Class boats displaced 670 tons surfaced and 740 submerged. They were 62.79 feet long, had a beam of 16 feet, and a draft of 15.5 feet. Two diesels made a total of just 800 bhp, and a pair of electric motors churned out 760 bhp. Surface speed was a slow 12.5 knots. Submerged speed was nine knots. The boats mounted a single 3-inch gun and four 21-inch torpedo tubes. They were used mainly for coastal operations.

FRENCH SUBMARINES

Two French submarine classes were of particular interest, the minelaying *Saphir* Class and the class of what were in effect submersible cruisers designated the *Surcouf* Class.

Saphir Class. Six boats of this class were completed between 1925 and 1929. They were designed to deploy mines stored in the space between widely separated double hulls. During the war, three of these submarines were captured by the Axis, one was scuttled, and two operated under the Free French flag for most of the war. The *Saphir* Class boats displaced 761 tons surfaced and 925 submerged. They were 216.21 feet long, with a beam of 23.36 feet and a draft of 14.11 feet. Two diesels provided propulsion on the surface, developing 1,300 bhp. Submerged, two electric motors delivered 1,100 bhp. Top speed surfaced was 12 knots; submerged, nine knots. The submarines were armed with one 75-mm gun, three 21.65-inch torpedo tubes, two 15.75-inch torpedo tubes (in trainable mounts), and 32 mines.

Surcouf Class. These four submarines were the heaviest in the world, displacing 3,270 tons surfaced and 4,250 tons submerged. They were intended to function as submersible cruisers, with good endurance (11,515 miles, surfaced) and heavy armament: two 8-inch guns, two 37 mm guns, eight 21.65-inch torpedo tubes, and four 15.75-inch torpedo tubes (in trainable mounts). The *Surcouf* boats were 360.89 feet long, with a beam of 29.53 feet and a draft of 29.76 feet. Two diesels delivered 7,600 bhp on the surface, and two electric motors delivered 3,400 hp submerged. Top speed surfaced was 10 knots; submerged top speed was five knots. The speed limitation of these submarine behemoths limited their usefulness; however, *Surcouf* was operated by a Free French crew until it sank in 1942 following a collision.

U.S. SUBMARINES

The U.S. Navy had a large submarine fleet, which, at the beginning of the war included some aging boats, but also newly developed designs.

"Old" S Class. The "Old" S class ("Sugar" boats) were of late World War I to post–World War I vintage and were considered obsolescent at the outbreak of World War II—even though the U.S. Navy still operated about 64 of them. They were

committed to combat early in World War II, but enjoyed little success against superior craft of the Axis. The boats were built in four groups, the first launched between 1918 and 1922, the other three groups soon afterward—with slight improvements. The S Class boats of Group 1 displaced 854 tons surfaced and 1,065 tons submerged. They were 219.25 feet long with a beam of 20.67 feet and a draft of 15.5 feet. Two diesels provided surface propulsion, delivering 1,200 bhp; two electric motors made 1,500 hp submerged. Top speed was 14.5 knots surfaced and 11 knots submerged. The boats were armed with one 4-inch or 3-inch gun and four to five 21-inch torpedo tubes. The boats were crewed by 42 officers and men.

Narwhal Class. The three submarines of this class were built during the 1920s and were modeled after the French *Surcouf* class, intended to serve as a kind of submarine cruiser, capable of significant endurance. The *Narwhal*-class subs could cruise 20,725 miles without refueling. They displaced 2,730 tons surfaced and 3,900 tons submerged. Their length was 370.58 feet, beam 33.25 feet, and draft 15.75 feet. Four diesels delivered 5,400 bhp on the surface, and two electric motors delivered 2,540 hp submerged. Top speed on the surface was 17 knots, but only eight knots submerged—which was considered dangerously slow. They were used mainly for the clandestine transport of personnel—and landed select forces near Tarawa, Makin Island, and Attu in the Aleutians. Armament of the *Narwhal*-class boats included two 6-inch guns and six 21-inch torpedo tubes; later modifications increased the number of tubes to 10. A crew of 89 officers and men manned the boats.

At the periscope *(U.S. Navy)*

"New" S Class. These 16 craft were built in the late 1930s and early 1940s. They were designed with double hulls for enhanced survivability and proved to be very durable boats. The submarines displaced 1,440 tons surfaced and 2,200 tons submerged. They were 308 feet long, with a beam of 26.17 feet and a draft of 14.25 feet. Four diesels delivered 5,500 bhp in a composite drive system, whereby two of the diesels were directly geared to shafts and two drove generators, which powered the electric motors. Four electric motors made 2,660 hp submerged. Top speed surfaced was 21 knots; submerged, the boats made nine knots. The boats were armed with a 3-inch gun (later upgraded to a 4-inch gun) and eight 21-inch torpedo tubes. Their crew was 75 officers and men.

Gato and *Balao* Class. The T class followed the "New" S class in 1940 and introduced improved armament. The *Gato* class, in turn, improved on the T class in terms of endurance, and 73 boats were produced. Improvements to the hull were incorporated into the *Balao* class, of which 122 were completed before the end of the war. The *Gato* and *Balao* class boats served mainly in the Pacific. The *Gato* class boats displaced 1,525 tons surfaced and 2,415 tons submerged. They were 311.75 feet long, 27.25 feet in the beam, and drew 15.25 feet. Four diesels delivered 5,400 bhp, and four electric motors made 2,740 hp. Top speed was 20 knots surfaced and 8.5 knots submerged. These submarines carried one 5-inch gun and ten 21-inch torpedo tubes. They were crewed by 80 officers and men.

Tench Class. These were the last U.S. submarines of World War II, with 33 completed between 1944 and 1946. They were similar to the *Balao* class, displacing 1,570 tons surfaced and 2,415 tons

submerged. They were 311.67 feet long, 27.25 feet in the beam, and had a draft of 15.25 feet. Four diesels produced 5,400 bhp, and two electric motors delivered 2,740 hp. Surface speed was 20 knots; submerged top speed was nine knots. The submarines had excellent endurance at 13,245 miles. They were armed with two 5-inch guns and had ten 21-inch torpedo tubes.

GERMAN SUBMARINES

The German navy in World War II was largely a submarine fleet, especially after Karl Dönitz took over naval command from Erich Raeder. Although the Treaty of Versailles barred Germany from producing or operating submarines, in 1935 the nation defied the treaty by building the Type II, of which a total of 50 (Type IIA through Type IID) were built before production was ceased in 1941. The Type II was a coastal submarine, intended mainly for short-range defense. In the IID configuration, it displaced only 314 tons surfaced and 364 tons submerged. It was 144 feet long, with a beam of 16 feet and a draft of 12 feet 9 inches. Two diesels delivered 700 bhp and two electric motors delivered 410 hp. Surfaced speed was 13 knots, submerged a very slow four knots. The boats were armed with one to four 20-mm AA guns and three 21-inch torpedo tubes. They were crewed by 25 officers and men.

Type VII. The Type VII was originally built for Germany by Finland during the 1930s. Five iterations were produced: Type VIIA through Type VIIF. (A Type VIIE was planned but never produced.) In contrast to the Type II, the Type VII was designed as a seagoing submarine—although it was still small by World War II standards. It displaced 769 tons surfaced and 871 tons submerged, was 218 feet long, with a beam of 20 feet 4 inches and a draft of 15 feet 7 inches. Two diesels delivered 2,800 bhp, and two electric motors made 750 hp. Surface speed was 17.5 knots, submerged speed 7.5 knots. Armament consisted of one 88 mm gun, one 37 mm AA gun, and two (later eight) 20 mm AA guns. The boat had five 21-inch torpedo tubes and was crewed by 44 officers and men.

Type IX. The Type IX was available at the outbreak of the war and was a long-range (15,535-mile) submarine displacing 1,120 tons surfaced and 1,232 tons submerged. It was 251 feet long with a beam of 22 feet 2 inches and a draft of 15 feet 5 inches. Two diesels delivered 4,400 bhp, and two electric motors made 1,000 hp. Surface speed was 18.2 knots; submerged top speed was 7.5 knots. The submarine was armed with one 105 mm gun, one 37 mm AA gun, one 20 mm AA gun, and six 21-inch torpedo tubes. The ship's complement was 48 officers and men.

Type XB. This was the German navy's mine-laying submarine. It displaced 1,763 tons surfaced and 2,177 tons submerged. The Type XB was 294 feet long with a beam of 30 feet 2 inches and a draft of 13 feet 6 inches. Two diesels delivered 4,200 bhp, and two electrics 1,100 hp. Top surface speed was 16.5 knots; submerged speed was 7 knots. The minelayer had a long range of 21,375 miles. It was armed with a single 105 mm gun, a 37 mm AA gun, and as many as four 20 mm AA guns. It carried two 21-inch torpedo tubes and 66 mines.

Type XVII. This small coastal submarine was a daring experiment in high-speed underwater propulsion. As Allied antisubmarine air operations became increasingly sophisticated, it was becoming too risky for submarines to use their high surface speeds for attack. To get around this limitation, the Germans experimented with the Walter closed-cycle propulsion system, which used volatile hydrogen peroxide to produce a combination of steam and free hydrogen, which drove a turbine at very high speed. The Type XVII was able to cruise at nine knots on the surface and to blast away at 21.5 knots underwater, using its Walter engine. The only drawback was that the hydrogen peroxide-hydrogen mix was extremely unstable and explosive, making these vessels inherently unsafe.

The Type XVII displaced just 312 tons surfaced and 357 tons submerged. It was 136 feet long with a beam of 11 feet 2 inches and a draft of 14 feet. A 210 bhp diesel was used on the surface. A 77 hp electric motor could push the boat along at five knots underwater when the Walter engine was not being used. The Walter delivered 2,500 hp for the top speed of 21.5 knots. Armament consisted of

two 21-inch torpedo tubes. The boat was crewed by 19 officers and men.

Type XXI. This highly advanced design was double-hulled and had three different engines: diesels for surface propulsion, electric turbines for high-speed submerged propulsion, and small electric motors for creeping propulsion underwater. The submarine displaced 1,621 tons surfaced and 1,819 tons submerged. It was 251 feet 8 inches long, with a beam of 21 feet 9 inches and a draft of 20 feet 4 inches. The diesels delivered 4,000 bhp for a top speed of 15.5 knots. The turbine electrics delivered 5,000 hp for a 16-knot submerged speed. The smaller electrics made just 226 hp and produced a top speed of 3.5 knots. Armament consisted of four 30 mm or 20 mm AA guns and six 21-inch torpedo tubes. The submarine was crewed by 57 officers and men.

ITALIAN SUBMARINES

The Italian navy had a substantial submarine fleet, most of which were small, highly maneuverable, and with limited range—all suitable for service in the Mediterranean, their principal theater of operations.

Sirena Class. This was typical of the Mediterranean boats. Twelve were built, and they were similar to the 10 submarines of *Perla* class, the 17 of the *Adua* class, and the 13 of the *Acciaio* class. The *Sirena* class boats displaced about 700 tons surfaced and as much as 860 tons submerged. They were 197 feet long, with a beam of 21 feet 2 inches and a draft of 15 feet 5 inches. Propulsion was provided by two diesel engines delivering 1,200 bhp and electric motors making 800 hp. Top speed on the surface was 14 knots; submerged, 8 knots. The submarines were armed with a 100 mm gun and two to four 13.2 mm machine guns. There were six 21-inch torpedo tubes, and the crew consisted of 45 officers and men.

Cagni Class. These four boats were large submarines—suitable for service on the Atlantic. They displaced 1,680 tons surfaced and 2,170 tons submerged. They were 288 feet 5 inches long, with a beam of 25.5 feet, and a draft of 18 feet 9 inches. Two diesels delivered 4,370 bhp, and two electric motors made 1,800 hp. Top speed on the surface was 17 knots; submerged, the submarine made 8.5 knots. It was armed with two 100 mm guns and four 13.2 mm machine guns. There were fourteen 17.7-inch torpedo tubes, and the complement was 82 officers and men.

Archimede Class. The four submarines of this class were products of the 1930s and were used extensively in the Spanish civil war. They were also used in the Red Sea waters off the Ethiopian coast. Displacement was 985 tons surfaced and 1,259 tons submerged. The submarines were 231 feet long, with a beam of 22 feet 5 inches and a draft of 13.5 feet. Diesels delivered 3,000 bhp on the surface, and electric motors made 1,300 hp submerged. Top surface speed was 17 knots surfaced and eight knots submerged. The *Archimede* class had two 100 mm guns, two 13.2 mm machine guns, and eight 21-inch torpedo tubes. They were crewed by 55 officers and men.

JAPANESE SUBMARINES

In contrast to the Germans—and to the Americans—the Japanese adhered to an inflexible submarine warfare doctrine that targeted warships rather than merchant vessels. This limited their effectiveness. Japanese submarines ranged widely in size, from very large vessels to medium vessels, to small craft—and even midget submarines.

I-15 Class. These boats were typical of the large oceangoing Japanese submarines. They displaced 2,590 tons surfaced and 3,655 tons submerged. They were 356 feet long, with a 30.5-inch beam and a draft of 16 feet 9 inches. Diesels made 12,400 bhp on the surface, and electric motors delivered 2,000 hp submerged. Surfaced, the boats moved swiftly at 23.5 knots, but were fairly slow underwater at eight knots maximum. They were capable of a range of 16,155 miles. The I-15 boats were armed with a single 5.5-inch gun, two 25-mm AA guns, and six 21-inch torpedo tubes. The I-15 class had a low, horizontal structure that protruded from the conning tower and accommodated a single, folding-wing Yokosuka E14Y1 aircraft. A folding crane on deck was used to recover the plane. The submarine was crewed by 100 officers and men.

RO-100 Class. These boats were typical of the medium Japanese submarines. They were intended mainly for coastal operations, with a range of just over 4,000 miles. The submarines displaced 601 tons surfaced and 782 tons submerged. They were 199 feet long, with a 20-foot beam and a draft of 11.5 feet. On the surface, diesels produced 1,100 bhp; submerged, electric motors made 760 hp. Top surface speed was 14 knots; submerged top speed was 8 knots. The boats were armed with a single 3-inch gun (often stripped from the boats, however) and four 21-inch torpedo tubes. The RO-100 class was crewed by 38 officers and men.

Ha-201 Class. These small coastal submarines were developed late in the war for close-in defense. They were fast underwater at 13 knots, though rather slow on the surface at 10.5 knots. Surfaced displacement was 377 tons; 440 tons submerged. The boats were 173 feet long, with a beam of 13 feet 1 inch and a draft of 11 feet 2 inches. Armament consisted of one 7.7 mm machine gun and two 21-inch torpedo tubes. The boats were crewed by 22 officers and men.

"*Midget submarines.*" The Imperial Japanese Navy became well known for its use of so-called midget submarines, small vessels crewed by one or two men and launched from mother ships—sometimes larger submarines.

The Japanese used five *Ko-hyoteki* class midget submarines in the Battle of Pearl Harbor on December 7, 1941, none of which accomplished anything of military value and one of which was sunk by the destroyer USS *Ward*.

Some midget submarines were intended for close-in covert attacks; others were kamikaze, or suicide, weapons. These one-way midget submarines were of the *Kaiten* and *Kairyu* class. They were armed only with a fixed warhead and were, in fact, human-guided torpedoes. Another midget submarine, the *Kohyoteki* class, also had a fixed explosive charge; but this was intended to be used as a self-destruction measure to avoid capture, not as a true kamikaze device. These submarines were armed with two light torpedoes in muzzle-loaded 17.7-inch tubes.

Although the Japanese midget submarines were objects of interest and inspired some fear among the Allies, they were never operationally very successful.

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Sudetenland

Strictly speaking, the Sudetenland consisted of northeastern Bohemia and northern Moravia, which, although part of Czechoslovakia, was overwhelmingly German-speaking. Adolf Hitler defined the Sudetenland more broadly, declaring that it consisted of all ethnically German areas of Czechoslovakia contiguous with Germany and Austria.

Czechoslovakia had gained the Sudetenland as a result of the Treaty of Versailles, which brought some 3 million Germans under Czech jurisdiction. The Germans were treated well by the Czech government, but a Sudeten nationalist leader, Konrad Henlein, called on Hitler for support in recovering the Sudetenland for Germany. Hitler demanded annexation of the Sudentenland and threatened war to achieve it. This, in turn, led to the appeasement policy advocated by British prime minister Neville Chamberlain in the Munich Conference and Agreement.

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Sun Li-jen (1899–1990) *Nationalist Chinese (Kuomintang) general called the "Rommel of the East"*

Born in Anhui Province, Sun Li-jen studied civil engineering at Tsinghua University in 1920 then completed his senior year at Purdue University, Indiana, graduating in 1925. While he was in the United States, Sun Li-jen decided he could best serve his country not as an engineer but as a military officer; for at this time, China, torn by civil war, seemed about to be overrun by both the Soviets and the Japanese. Lying about his age—so as to be eligible for admission as a cadet—he enrolled at Virginia Military Institute and graduated in 1927. He then returned to China and joined Chiang Kai-shek (Jiang Jieshi) and the Nationalist Army in its Northern Expedition against the warlord generals of the Beiyang Army. Sun rapidly rose through the ranks as a field commander and became one of Chiang's top lieutenants.

During World War II, Sun commanded the New 38th Division in Burma. Although he was unable to prevent the Japanese from severing the Burma Road, his outstanding leadership earned the attention and praise of British general William Slim, who incorporated Sun and his 38th Division into X Force, the Chinese forces under the command of U.S. general Joseph Stilwell. Stilwell put Sun in the vanguard of his 1943 drive to retake North Burma and open an alternative land route into China via the Ledo Road.

Sun ended the war in command of the New First Army, which was considered the best Chinese force employed against the Japanese. It is generally credited with more victories against Japanese forces than any other Chinese unit.

In August 1955, Sun was arrested and charged with attempting a coup d'état against Chiang Kai-shek in Taiwan. He spent the next 33 years under house arrest, but was exonerated on March 20, 1988.

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surrender documents of 1943–1945

This article discusses the documents that brought an end to hostilities in World War II. The treaties that formally ended the war and reestablished peaceful relations among the belligerents are discussed in treaties ending the war.

ITALIAN SURRENDER DOCUMENTS

The first of the surrender documents culminating in the Allied victory in World War II was the Armistice with Italy, signed on September 3, 1943, at Fairfield Camp, Sicily, between the provisional government of Italy (under Marshal Pietro Badoglio) and the United States and Great Britain, represented by General Dwight D. Eisenhower, in his capacity as commander in chief of Allied Forces.

The armistice laid down 12 conditions:

1. Immediate cessation of all hostile activity by the Italian armed forces.
2. Italy will use its best endeavors to deny, to the Germans, facilities that might be used against the United Nations.
3. All prisoners or internees of the United Nations to be immediately turned over to the Allied Commander in Chief, and none of these may now or at any time be evacuated to Germany.
4. Immediate transfer of the Italian Fleet and Italian aircraft to such points as may be designated by the Allied Commander in Chief, with details of disarmament to be prescribed by him.
5. Italian merchant shipping may be requisitioned by the Allied Commander in Chief to meet the needs of his military-naval program.
6. Immediate surrender of Corsica and of all Italian territory, both islands and mainland, to the Allies, for such use as operational bases and other purposes as the Allies may see fit.
7. Immediate guarantee of the free use by the Allies of all airfields and naval ports in Italian territory, regardless of the rate of evacuation of the Italian territory by the German forces.

These ports and fields to be protected by Italian armed forces until this function is taken over by the Allies.

8. Immediate withdrawal to Italy of Italian armed forces from all participation in the current war from whatever areas in which they may be now engaged.
9. Guarantee by the Italian Government that if necessary it will employ all its available armed forces to insure prompt and exact compliance with all the provisions of this armistice.
10. The Commander in Chief of the Allied Forces reserves to himself the right to take any measure which in his opinion may be necessary for the protection of the interests of the Allied Forces for the prosecution of the war, and the Italian Government binds itself to take such administrative or other action as the Commander in Chief may require, and in particular the Commander in Chief will establish Allied Military Government over such parts of Italian territory as he may deem necessary in the military interests of the Allied Nations.
11. The Commander in Chief of the Allied Forces will have a full right to impose measures of disarmament, demobilization, and demilitarization.
12. Other conditions of a political, economic, and financial nature with which Italy will be bound to comply will be transmitted at a later date.

On September 23, 1943, the Cunningham-de Courten Agreement (officially titled the "Armistice with Italy: Employment and Disposition of Italian Fleet and Merchant Marine") was signed at Taranto, Italy, by the Allied Naval Commander in Chief, Mediterranean, and the Italian Minister of Marine. This was an amendment to the September 3 Armistice, which specified how "the [Italian naval] Fleet and the Italian Mercantile Marine should be employed in the Allied effort to assist in the prosecution of the war against the Axis powers." The agreement stipulated:

> (A) Such ships as can be employed to assist actively in the Allied effort will be kept in commission and will be used under the orders of the Commander in Chief, Mediterranean, as may be arranged between the Allied Commander in Chief and the Italian Government.
>
> (B) Ships that cannot be so employed will be reduced to a care and maintenance basis and be placed in designated ports, measures of disarmament being undertaken as may be necessary.
>
> (C) The Government of Italy will declare the names and whereabouts of
>
> (i) Warships
>
> (ii) Merchant ships now in their possession that previously belonged to any of the United Nations. These vessels are to be returned forthwith as may be directed by the Allied Commander in Chief. This will be without prejudice to negotiations between the governments that may subsequently be made in connection with replacing losses of ships of the United Nations caused by Italian action.
>
> (D) The Allied Naval Commander in Chief will act as the agent of the Allied Commander in Chief in all matters concerning the employment of the Italian Fleet or Merchant Navy, their disposition, and related matters.
>
> (E) It should be clearly understood that the extent to which the terms of the Armistice are modified to allow of the arrangements outlined above and that follow are dependent upon the extent and effectiveness of Italian cooperation.
>
> 2. Method of Operation. The Commander in Chief, Mediterranean will place at the disposal of the Italian Ministry of Marine a high-ranking Naval officer with the appropriate staff who will be responsible to the Commander in Chief, Mediterranean, for all matters in connection with the operation of the Italian Fleet, and be the medium through which dealings will be carried out in connection with the Italian Mercantile Marine. The Flag Officer acting for these duties (Flag Officer Liaison) will keep the Italian Ministry of Marine informed of the requirements of the Commander in Chief, Mediterranean, and will act in close cooperation as regards issue of all orders to the Italian Fleet.
>
> 3. Proposed disposition of the Italian Fleet.
>
> (a) Battleships. All battleships will be placed on a care and maintenance basis in ports to

be designated and will have such measures of disarmament applied as may be directed. These measures of disarmament will be such that the ships can be brought into operation again if it so seems desirable. Each ship will have on board a proportion of Italian Naval personnel to keep the ships in proper condition and the Commander in Chief, Mediterranean, will have the right of inspection at any time.

(b) Cruisers. Such cruisers as can be of immediate assistance will be kept in commission. At present it is visualised that one squadron of four cruisers will suffice and the remainder will be kept in care and maintenance as for the battleships but at a rather greater degree of readiness to be brought into service if required.

(c) Destroyers and Torpedo Boats. It is proposed to keep these in commission and to use them on escort and similar duties as may be requisite. It is proposed that they should be divided into escort groups working as units and that they should be based on Italian ports.

(d) Small Craft. M.A.S., Minesweepers, auxiliaries and similar small craft will be employed to the full, detailed arrangements being made with the Flag Officer (Liaison) by the Italian Ministry of Marine for their best employment.

(e) Submarines. In the first instance submarines will be immobilised in ports to be designated and at a later date these may be brought into service as may be required to assist the Allied effort.

4. Status of Italian Navy. Under this modification of the armistice terms, all the Italian ships will continue to fly their flags. A large proportion of the Italian Navy will thus remain in active commission operating their own ships and fighting alongside the forces of the United Nations against the Axis Powers.

The requisite Liaison officers will be supplied to facilitate the working of the Italian ships in cooperation with allied forces. A small Italian liaison mission will be attached to the Headquarters of the Commander in Chief, Mediterranean, to deal with matters affecting the Italian Fleet.

5. Mercantile Marine. It is the intention that the Italian Mercantile Marine should operate under the same conditions as the merchant ships of the Allied Nations. . . .

On September 29, 1943, the formal Instrument of Surrender of Italy was signed at Malta by Marshal Badoglio of Italy and Dwight Eisenhower on behalf of the United States and Britain. The surrender was unconditional and embodied the terms of the Armistice. It was amended on November 9, 1943, to include the Soviet Union and to modify Article 29 of the Instrument. That article originally stipulated: "Benito Mussolini, his Chief Fascist associates and all persons suspected of having committed war crimes or analogous offenses whose names appear on lists to be communicated by the United Nations will forthwith be apprehended and surrendered into the hands of the United Nations. Any instructions given by the United Nations for this purpose will be complied with." It was modified as follows: "Benito Mussolini, his chief Fascist associates, and all persons suspected of having committed war crimes or analogous offenses whose names appear on lists to be communicated by the United Nations and who now or in the future are on territory controlled by the Allied Military Command or by the Italian Government, will forthwith be apprehended and surrendered into the hands of the United Nations. Any instructions given by the United Nations to this purpose will be complied with." Both the original article and the amendment were mooted when Mussolini and his mistress, Clara Petacci, were captured by Italian partisans, who executed them on April 28, 1945.

On November 17, 1943, the Cunningham-de Courten Agreement was amended to satisfy Italian national pride and sovereignty by stipulating that Italian vessels employed by the Allies in the war effort shall "be manned so far as possible by crews provided by Italian Ministry of Marine and will fly the Italian flag."

ARMISTICE AGREEMENT WITH ROMANIA

An Armistice Agreement with Romania was signed on September 12, 1944, at Moscow by representatives of Romania, on the one hand, and the United States, Great Britain, and the Soviet Union, on the other. Romania agreed that, as of August 24, 1944, at 4 A.M., it had entirely discontinued military operations against the Soviet Union and had with-

drawn from the war against the United Nations. Romania also stipulated that it has broken off relations with Germany and its satellites and has "entered the war on the side of the Allied Powers against Germany and Hungary for the purpose of restoring Romanian independence and sovereignty, for which purpose she provides not less than twelve infantry divisions with corps troops." Military operations would be "conducted under the general leadership of the Allied (Soviet) High Command." In addition, Romania agreed to the immediate restoration of its border with the Soviet Union per an agreement of June 8, 1940. Romanian officials agreed to take steps to disarm and intern German and Hungarian armed forces on Romanian territory. German and Hungarian citizens living in Romania would likewise be interned. The document specifically excluded German and Hungarian Jews from internment.

ARMISTICE AGREEMENT WITH BULGARIA

The Armistice Agreement with Bulgaria was signed on October 28, 1944, at Moscow by representatives of Bulgaria, on the one hand, and Britain, the United States, and the Soviet Union, on the other. The document included standard clauses concerning cessation of hostilities, severance of relations with Germany, and submission to Allied occupation and control, as well as a stipulation that Bulgaria would return "to the Soviet Union, to Greece and Yugoslavia and to the other United Nations, by the dates specified by the Allied Control Commission and in a good state of preservation, all valuables and materials removed during the war by Germany or Bulgaria from United Nations territory and belonging to state, public or cooperative organizations, enterprises, institutions or individual citizens, such as factory and works equipment, locomotives, rolling-stock, tractors, motor vehicles, historic monuments, museum treasures and any other property." Article 12 obligated Bulgaria "to hand over as booty to the Allied (Soviet) High Command all war material of Germany and her satellites located on Bulgarian territory, including vessels of the fleets of Germany and her satellites located in Bulgarian waters."

ARMISTICE AGREEMENT WITH HUNGARY

The Armistice Agreement with Hungary was signed on January 20, 1945, at Moscow by representatives of Hungary, on the one hand, and the Soviet Union, Britain, and the United States, on the other. In addition to such standard conditions of armistice as immediate cessation of hostilities, severance of relations with Germany, disarming of all Axis soldiers within Hungary, and so on, the armistice specified the following in Article 5:

> The Government of Hungary will immediately release, regardless of citizenship and nationality, all persons held in confinement in connection with their activities in favor of the United Nations or because of their sympathies with the United Nations' cause or for racial or religious reasons, and will repeal all discriminatory legislation and disabilities arising therefrom.
>
> The Government of Hungary will take all necessary measures to ensure that all displaced persons or refugees within the limits of Hungarian territory, including Jews and stateless persons, are accorded at least the same measure of protection and security as its own nationals.

GERMAN SURRENDER DOCUMENTS

On May 4, 1945, the "Instrument of Surrender of All German Armed Forces in Holland, in Northwest Germany Including All Islands, and in Denmark" was signed at Reims, France, by British field marshal Bernard Law Montgomery, on behalf of the Allies, and by a group of German commanders on behalf of Germany, having been authorized by Admiral Karl Dönitz, who had been designated by Adolf Hitler as head of state immediately before Hitler committed suicide. The text of the surrender instrument follows:

> 1. The German Command agrees to the surrender of all armed forces in Holland, in northwest Germany including the Frisian Islands and Heligoland and all islands, in Schleswig-Holstein, and in Denmark, to the C. in C. 22 Army Group.
>
> This to include all naval ships in these areas
>
> These forces to lay down their arms and to surrender unconditionally.

2. All hostilities on land, on sea, or in the air by German forces in the above areas to cease at 0800 hrs. British Double Summer Time on Saturday 5 May 1945.

3. The German command to carry out at once, and without argument or comment, all further orders that will be issued by the Allied Powers on any subject.

4. Disobedience of orders, or failure to comply with them, will be regarded as a breach of these surrender terms and will be dealt with by the Allies in accordance with the laws and usages of war.

5. This instrument of surrender is independent of, without prejudice to, and will be superseded by any general instrument of surrender imposed by or on behalf of the Allied Powers and applicable to Germany and the German armed forces as a whole.

6. This instrument of surrender is written in English and in German.

The English version is the authentic text.

7. The decision of the Allied Powers will be final if any doubt or dispute arise as to the meaning or interpretation of the surrender terms.

On May 7, at Reims, details regarding the surrender and disposition of German military assets were issued by the supreme allied commander and acknowledged by the German high command. Most significantly, a message was dispatched to all U-Boats at sea:

Carry out the following instructions forthwith which have been given by the Allied Representatives

(A) Surface immediately and remain surfaced.

(B) Report immediately in P/L your position in latitude and longitude and number of your "U" Boat to nearest British, US, Canadian or Soviet coast W/T station on 500 kc/s (600 metres) and to call sign GZZ 10 on one of the following high frequencies: 16845-12685 or 5970 kc/s.

(C) Fly a large black or blue flag by day.

(D) Burn navigation lights by night.

(E) Jettison all ammunition, remove breechblocks from guns and render torpedos safe by removing pistols.

All mines are to be rendered safe.

(F) Make all signals in P/L.

(G) Follow strictly the instructions for proceeding to Allied ports from your present area given in immediately following message.

(H) Observe strictly the orders of Allied Representatives to refrain from scuttling or in any way damaging your "U" Boat.

2. These instructions will be repeated at two-hour intervals until further notice.

Also on May 7, 1945, at Reims, an Act of Military Surrender was concluded by the supreme allied commander (with U.S. and Soviet commanders present and a Free French commander witnessing) and signed by the German high command. The principal sentence ran, simply: "We the undersigned, acting by authority of the German High Command, hereby surrender unconditionally to the Supreme Commander, Allied Expeditionary Forces and simultaneously to the Soviet High Command all forces on land, sea and in the air who are at this date under German control." The document continued:

2. The German High Command will at once issue orders to all German military, naval and air authorities and to all forces under German control to cease active operations at '2301' hours Central European time on '8 May' and to remain in the positions occupied at that time. No ship, vessel, or aircraft is to be scuttled, or any damage done to their hull, machinery or equipment.

3. The German High Command will at once issue to the appropriate commander, and ensure the carrying out of any further orders issued by the Supreme Commander, Allied Expeditionary Force and by the Soviet High Command.

4. This act of military surrender is without prejudice to, and will be superseded by any general instrument of surrender imposed by, or on behalf of the United Nations and applicable to GERMANY and the German armed forces as a whole.

5. In the event of the German High Command or any of the forces under their control failing to act in accordance with this Act of Surrender, the Supreme Commander, Allied Expeditionary Force and the Soviet High Command will take such punitive or other action as they deem appropriate.

The Reims document was followed on May 8, at the insistence of Joseph Stalin, by a definitive Act of Surrender, signed at Berlin. Signatories included the supreme commander, Allied Expeditionary Forces, and Supreme High Command of the Red Army, on the one side, and the German High Command on the other:

1. We the undersigned, acting by authority of the German High Command, hereby surrender unconditionally to the Supreme Commander, Allied Expeditionary Force and simultaneously to the Supreme High Command of the Red Army all forces on land, at sea, and in the air who are at this date under German control.

2. The German High Command will at once issue order to all German military, naval and air authorities and to all forces under German control to cease active operations at 2301 hours Central European time on 8th May 1945, to remain in all positions occupied at that time and to disarm completely, handing over their weapons and equipment to the local allied commanders or officers designated by Representatives of the Allied Supreme Commands. No ship, vessel, or aircraft is to be scuttled, or any damage done to their hull, machinery or equipment, and also to machines of all kinds, armament, apparatus, and all the technical means of prosecution of war in general.

3. The German High Command will at once issue to the appropriate commanders, and ensure the carrying out of any further orders issued by the Supreme Commander, Allied Expeditionary Force and by the Supreme Command of the Red Army.

4. This act of military surrender is without prejudice to, and will be superseded by any general instrument of surrender imposed by, or on behalf of the United Nations and applicable to GERMANY and the German armed forces as a whole.

5. In the event of the German High Command or any of the forces under their control failing to act in accordance with this Act of Surrender, the Supreme Commander, Allied Expeditionary Force and the Supreme High Command of the Red Army will take such punitive or other action as they deem appropriate.

6. This Act is drawn up in the English, Russian and German languages. The English and Russian are the only authentic texts.

On June 5, 1945, at Berlin, representatives of the Provisional Government of France, the Soviet Union, Britain, and the United States issued an "Allied Declaration on Control of Germany," which was the official instrument by which the Allies assumed control of the German government after Germany's unconditional surrender:

The German armed forces on land, at sea and in the air have been completely defeated and have surrendered unconditionally and Germany, which bears responsibility for the war, is no longer capable of resisting the will of the victorious Power. The unconditional surrender of Germany has thereby been effected, and Germany has become subject to such requirements as may now or hereafter be imposed upon her . . .

ARTICLE 1

Germany, and all German military, naval and air authorities and all forces under German control shall immediately cease hostilities in all theatres of war against the forces of the United Nations on land, at sea and in the air.

ARTICLE 2

(a) All armed forces of Germany or under German control, wherever they may be situated, including land, air, anti-aircraft and naval forces, the S.S., S.A. and Gestapo, and all other forces of auxiliary organisations equipped with weapons, shall be completely disarmed, handing over their weapons and equipment to local Allied Commanders or to officers designated by the Allied Representatives

(b) The personnel of the formations and units of all the forces referred to in paragraph (a) above shall, at the discretion of the Commander-in-Chief of the Armed Forces of the Allied State

concerned, be declared to be prisoners of war, pending further decisions, and shall be subject to such conditions and directions as may be prescribed by the respective Allied Representatives.

(c) All forces referred to in paragraph (a) above, wherever they may be, will remain in their present positions pending instructions from the Allied Representatives.

(d) Evacuation by the said forces of all territories outside the frontiers of Germany as they existed on the 31st December, 1937, will proceed according to instructions to be given by the Allied Representatives.

(e) Detachments of civil police to be armed with small arms only, for the maintenance of order and for guard duties, will be designated by the Allied Representatives.

ARTICLE 3

(a) All aircraft of any kind or nationality in Germany or German-occupied or controlled territories or waters, military, naval or civil, other than aircraft in the service of the Allies, will remain on the ground, on the water or aboard ships pending further instructions.

(b) All German or German-controlled aircraft in or over territories or waters not occupied or controlled by Germany will proceed to Germany or to such other place or places as may be specified by the Allied Representatives.

ARTICLE 4

(a) All German or German-controlled naval vessels, surface and submarine, auxiliary naval craft, and merchant and other shipping, wherever such vessels may be at the time of this Declaration, and all other merchant ships of whatever nationality in German ports, will remain in or proceed immediately to ports and bases as specified by the Allied Representatives. The crews of such vessels will remain on board pending further instructions.

(b) All ships and vessels of the United Nations, whether or not title has been transferred as the result of prize court or other proceedings, which are at the disposal of Germany or under German control at the time of this Declaration, will proceed at the dates and to the ports or bases specified by the Allied Representatives.

ARTICLE 5

(a) All or any of the following articles in the possession of the German armed forces or under German control or at German disposal will be held intact and in good condition at the disposal of the Allied Representatives, for such purposes and at such times and places as they may prescribe:

(i) all arms, ammunition, explosives, military equipment, stores and supplies and other implements of war of all kinds and all other war materials;

(ii) all naval vessels of all classes, both surface and submarine, auxiliary naval craft and all merchant shipping, whether afloat, under repair or construction, built or building;

(iii) all aircraft of all kinds, aviation and anti-aircraft equipment and devices;

(iv) all transportation and communications facilities and equipment, by land, water or air;

(v) all military installations and establishments, including airfields, seaplane bases, ports and naval bases, storage depots, permanent and temporary land and coast fortifications, fortresses and other fortified areas, together with plans and drawings of all such fortifications, installations and establishments;

(vi) all factories, plants, shops, research institutions, laboratories, testing stations, technical data, patents, plans, drawings and inventions, designed or intended to produce or to facilitate the production or use of the articles, materials, and facilities referred to in sub-paragraphs (i), (ii), (iii), (iv) and (v) above or otherwise to further the conduct of war.

(b) At the demand of the Allied Representatives the following will be furnished:

(i) the labour, services and plant required for the maintenance or operation of any of the six categories mentioned in paragraph (a) above; and

(ii) any information or records that may be required by the Allied Representatives in connection with the same.

(c) At the demand of the Allied Representatives all facilities will be provided for the movement of Allied troops and agencies, their equipment and supplies, on the railways, roads and other land communications or by sea, river or air. All means of transportation will be maintained in good

order and repair, and the labour, services and plant necessary therefor will be furnished.

ARTICLE 6

(a) The German authorities will release to the Allied Representatives, in accordance with the procedure to be laid down by them, all prisoners of war at present in their power, belonging to the forces of the United Nations, and will furnish full lists of these persons, indicating the places of their detention in Germany or territory occupied by Germany. Pending the release of such prisoners of war, the German authorities and people will protect them in their persons and property and provide them with adequate food, clothing, shelter, medical attention and money in accordance with their rank or official position.

(b) The German authorities and people will in like manner provide for and release all other nationals of the United Nations who are confined, interned or otherwise under restraint, and all other persons who may be confined, interned or otherwise under restraint for political reasons or as a result of any Nazi action, law or regulation which discriminates on the ground of race, colour, creed or political belief.

(c) The German authorities will, at the demand of the Allied Representatives, hand over control of places of detention to such officers as may be designated for the purpose by the Allied Representatives.

ARTICLE 7

The German authorities concerned will furnish to the Allied Representatives:

(a) full information regarding the forces referred to in Article 2 (a), and, in particular, will furnish forthwith all information which the Allied Representatives may require concerning the numbers, locations and dispositions of such forces, whether located inside or outside Germany;

(b) complete and detailed information concerning mines, minefields and other obstacles to movement by land, sea or air, and the safety lanes in connection therewith. All such safety lanes will be kept open and clearly marked; all mines, minefields and other dangerous obstacles will as far as possible be rendered safe, and all aids to navigation will be reinstated. Unarmed German military and civilian personnel with the necessary equipment will be made available and utilized for the above purposes and for the removal of mines, minefields and other obstacles as directed by the Allied Representatives.

ARTICLE 8

There shall be no destruction, removal, concealment, transfer or scuttling of, or damage to, any military, naval, air, shipping, port, industrial and other like property and facilities and all records and archives, wherever they may be situated, except as may be directed by the Allied Representatives.

ARTICLE 9

Pending the institution of control by the Allied Representatives over all means of communication, all radio and telecommunication installations and other forms of wire or wireless communications, whether ashore or afloat, under German control, will cease transmission except as directed by the Allied Representatives.

ARTICLE 10

The forces, ships, aircraft, military equipment, and other property in Germany or in German control or service or at German disposal, of any other country at war with any of the Allies, will be subject to the provisions of this Declaration and of any proclamations, orders, ordinances or instructions issued thereunder.

ARTICLE 11

(a) The principal Nazi leaders as specified by the Allied Representatives, and all persons from time to time named or designated by rank, office or employment by the Allied Representatives as being suspected of having committed, ordered or abetted war crimes or analogous offences, will be apprehended and surrendered to the Allied Representatives.

(b) The same will apply in the case of any national of any of the United Nations who is alleged to have committed an offence against his national law, and who may at any time be named or designated by rank, office or employment by the Allied Representatives.

(c) The German authorities and people will comply with any instructions given by the Allied Representatives for the apprehension and surrender of such persons.

ARTICLE 12

The Allied Representatives will station forces and civil agencies in any or all parts of Germany as they may determine.

ARTICLE 13

(a) In the exercise of the supreme authority with respect to Germany assumed by the Governments of the United States of America, the Union of Soviet Socialist Republics and the United Kingdom, and the Provisional Government of the French Republic, the four Allied Governments will take such steps, including the complete disarmament and demilitarization of Germany, as they deem requisite for future peace and security.

(b) The Allied Representatives will impose on Germany additional political, administrative, economic, financial, military and other requirements arising from the complete defeat of Germany. The Allied Representatives, or persons or agencies duly designated to act on their authority, will issue proclamations, orders, ordinances and instructions for the purpose of laying down such additional requirements, and of giving effect to the other provisions of this Declaration. All German authorities and the German people shall carry out unconditionally the requirements of the Allied Representatives, and shall fully comply with all such proclamations, orders, ordinances and instructions.

ARTICLE 14

This Declaration enters into force and effect at the date and hour set forth below. In the event of failure on the part of the German authorities or people promptly and completely to fulfill their obligations hereby or hereafter imposed, the Allied Representatives will take whatever action may be deemed by them to be appropriate under the circumstances.

JAPANESE SURRENDER DOCUMENTS

On September 2, 1945, representatives of the empire of Japan boarded the United States battleship *Missouri* anchored in Tokyo Bay to sign an Instrument of Surrender. The Allies included representatives from Australia, Canada, China, France (Provisional Government of the French Republic), Netherlands, New Zealand, Union of Soviet Socialist Republics, Great Britain, and the United States. Presiding over the surrender ceremony was General Douglas MacArthur, supreme allied commander, Pacific.

General Douglas MacArthur witnesses the signatures of the Japanese representatives on the surrender instrument concluded aboard the battleship *Missouri* in Tokyo Bay on September 2, 1945. *(National Archives and Records Administration)*

The surrender documents included the emperor's presentation of the credentials of his representatives, a foreign minister and a general:

HIROHITO,

By the Grace of Heaven, Emperor of Japan, seated on the Throne occupied by the same Dynasty changeless through ages eternal,

To all who these Presents shall come, Greeting!

We do hereby authorise Mamoru Shigemitsu, Zyosanmi, First Class of the Imperial Order of the Rising Sun to attach his signature by command and in behalf of Ourselves and Our Government unto the Instrument of Surrender which is required by the Supreme Commander for the Allied Powers to be signed. In witness whereof, We have hereunto set Our signature and caused the Great Seal of the Empire to be affixed. Given at Our Palace in Tokyo, this first day of the ninth month of the twentieth year of Syowa, being the two thousand six hundred and

fifth year from the Accession of the Emperor Zinmu.

HIROHITO,

By the Grace of Heaven, Emperor of Japan, seated on the Throne occupied by the same Dynasty changeless through ages eternal,

To all who these Presents shall come, Greeting!

We do hereby authorise Yoshijiro Umezu, Zyosanmi, First Class of the Imperial Order of the Rising Sun to attach his signature by command and in behalf of Ourselves and Our Government unto the Instrument of Surrender which is required by the Supreme Commander for the Allied Powers to be signed. In witness whereof, We have hereunto set Our signature and caused the Great Seal of the Empire to be affixed. Given at Our Palace in Tokyo, this first day of the ninth month of the twentieth year of Syowa, being the two thousand six hundred and fifth year from the Accession of the Emperor Zinmu.

The Instrument of Surrender itself was a brief document, beginning with the Japanese acceptance of the provisions of the Potsdam Declaration and concluding with the relinquishment to the supreme commander for the Allied powers all government authority:

We, acting by command of and in behalf of the Emperor of Japan, the Japanese Government and the Japanese Imperial General Headquarters, hereby accept the provisions set forth in the declaration issued by the heads of the Governments of the United States, China, and Great Britain on 26 July 1945 at Potsdam, and subsequently adhered to by the Union of Soviet Socialist Republics, which four powers are hereafter referred to as the Allied Powers.

We hereby proclaim the unconditional surrender to the Allied Powers of the Japanese Imperial General Headquarters and of all Japanese armed forces and all armed forces under the Japanese control wherever situated.

We hereby command all Japanese forces wherever situated and the Japanese people to cease hostilities forthwith, to preserve and save from damage all ships, aircraft, and military and civil property and to comply with all requirements which may be imposed by the Supreme Commander for the Allied Powers or by agencies of the Japanese Government at his direction.

We hereby command the Japanese Imperial Headquarters to issue at once orders to the Commanders of all Japanese forces and all forces under Japanese control wherever situated to surrender unconditionally themselves and all forces under their control. We hereby command all civil, military and naval officials to obey and enforce all proclamations, and orders and directives deemed by the Supreme Commander for the Allied Powers to be proper to effectuate this surrender and issued by him or under his authority and we direct all such officials to remain at their posts and to continue to perform their non-combatant duties unless specifically relieved by him or under his authority.

We hereby undertake for the Emperor, the Japanese Government and their successors to carry out the provisions of the Potsdam Declaration in good faith, and to issue whatever orders and take whatever actions may be required by the Supreme Commander for the Allied Powers or by any other designated representative of the Allied Powers for the purpose of giving effect to that Declaration.

We hereby command the Japanese Imperial Government and the Japanese Imperial General Headquarters at once to liberate all allied prisoners of war and civilian internees now under Japanese control and to provide for their protection, care, maintenance and immediate transportation to places as directed.

The authority of the Emperor and the Japanese Government to rule the state shall be subject to the Supreme Commander for the Allied Powers who will take such steps as he deems proper to effectuate these terms of surrender.

On the same day that the Instrument of Surrender was signed, Hirohito issued a proclamation on receipt of the surrender documents:

Accepting the terms set forth in the Declaration issued by the heads of the Governments of the United States, Great Britain, and China on July 26th, 1945 at Potsdam and subsequently adhered to by the Union of Soviet Socialist Republics, We have commanded the Japanese Imperial Government and the Japanese Imperial General Headquarters to sign on Our behalf

> the Instrument of Surrender presented by the Supreme Commander for the Allied Powers and to issue General Orders to the Military and Naval Forces in accordance with the direction of the Supreme Commander for the Allied Powers. We command all Our people forthwith to cease hostilities, to lay down their arms and faithfully to carry out all the provisions of Instrument of Surrender and the General Orders issued by the Japanese Imperial General Headquarters hereunder. This second day of the ninth month of the twentieth year of Syowa.

On September 3, 1945, General Yamashita Tomoyuki, commanding the Imperial Japanese Army in the Philippines, and Vice Adm. Denhici Okochi, commanding the Imperial Japanese Navy in the Philippines, signed "Surrender of the Japanese and Japanese-Controlled Armed Forces in the Philippine Islands to the Commanding General United States Army Forces, Western Pacific" at Camp John Hay, Baguio, Mountain Province, Luzon, Philippine Islands. Like the document signed on the *Missouri,* the instrument by which the Japanese commanders surrendered their forces in the Philippines was based on Emperor Hirohito's acceptance of the terms for unconditional surrender laid down in the Potsdam Declaration. The text of the document was brief:

> Pursuant to and in accordance with the proclamation of the Emperor of Japan accepting the terms set forth in the declaration issued by the heads of the Governments of the United States, Great Britain, and China on 26 July 1945; at Potsdam and subsequently adhered to by the Union of Soviet Socialist Republics; and to the formal instrument of surrender of the Japanese Imperial Government and the Japanese Imperial General Headquarters signed at Tokyo Bay at 0908 on 2 September 1945:
>
> 1. Acting by command of and in behalf of the Emperor of Japan, the Japanese Imperial Government and the Japanese Imperial General Headquarters, We hereby surrender unconditionally to the Commanding General, United States Army Forces, Western Pacific, all Japanese and Japanese-controlled armed forces, air, sea, ground and auxiliary, in the Philippine Islands.
>
> 2. We hereby command all Japanese forces wherever situated in the Philippine Islands to cease hostilities forthwith, to preserve and save from damage all ships, aircraft, and military and civil property, and to comply with all requirements which may be imposed by the Commanding General, United States Army Forces, Western Pacific, or his authorized representatives.
>
> 3. We hereby direct the commanders of all Japanese forces in the Philippine Islands to issue at once to all forces under their command to surrender unconditionally themselves and all forces under their control, as prisoners of war, to the nearest United States Force Commander.
>
> 4. We hereby direct the commanders of all Japanese forces in the Philippine Islands to surrender intact and in good order to the nearest United States Army Force Commander, at times and at places directed by him, all equipment and supplies of whatever nature under their control.
>
> 5. We hereby direct the commanders of all Japanese forces in the Philippine Islands at once to liberate all Allied prisoners of war and civilian internees under their control, and to provide for their protection, care, maintenance and immediate transportation to places as directed by the nearest United States Army Force Commander.
>
> 6. We hereby undertake to transmit the directives given in Paragraphs 1 through 5, above, to all Japanese forces in the Philippine Islands immediately by all means within our power, and further to furnish to the Commanding General, United States Army Forces, Western Pacific, all necessary Japanese emissaries fully empowered to bring about the surrender of Japanese forces in the Philippine Islands with whom we are not in contact.
>
> 7. We hereby undertake to furnish immediately to the Commanding General, United States Army Forces, Western Pacific, a statement of the designation, numbers, locations, and commanders of all Japanese armed forces, ground, sea, or air, in the Philippine Islands.
>
> 8. We hereby undertake faithfully to obey all further proclamations, orders and directives deemed by the Commanding General, United States Armed Forces, Western Pacific, to be

proper to effectuate this surrender. Signed at Camp John Hay, Baguio, Mountain Province, Luzon, Philippine Islands, at 1210 hours 3 September 1945.

On September 9, 1945, at Seoul, Korea, commanders of Japanese ground, air, and naval forces in Korea, north and south of 38 degrees north latitude and commanders of United States forces in Korea signed "Formal Surrender by the Senior Japanese Ground, Sea, Air and Auxiliary Forces Commands Within Korea South of 38 North Latitude to the Commanding General, United States Army Forces in Korea, for and in Behalf of the Commander-in-Chief United States Army Forces, Pacific." The Japanese governor-general of Korea signed a separate acknowledgment of the document.

The document surrendered Japanese forces south of the 38th parallel to the United States Army Forces in Korea; although territory north of the 38th parallel lay outside of U.S. Army authority—and under Soviet control—the Japanese commander of forces in that region also signed the surrender document. The text is as follows:

WHEREAS an Instrument of Surrender was on the 2d day of September 1945 by command of and behalf of the Emperor of Japan, the Japanese Government and the Japanese Imperial Headquarters signed by Foreign Minister Mamouru Shigemitsu by command and in behalf of the Emperor of Japan, the Japanese Government and by Yoshijiro Umezu by command of and in behalf of the Japanese Imperial Headquarters and

WHEREAS the terms of the Instrument of Surrender were subsequently as follows:

"1. We, acting by command of and in behalf of the Emperor of Japan, the Japanese Government and the Japanese Imperial General Headquarters, hereby accept the provisions set forth in the declaration issued by the heads of the Governments of the United States, China, and Great Britain on 26 July 1945 at Potsdam, and subsequently adhered to by the Union of Soviet Socialist Republics, which four powers are hereafter referred to as the Allied Powers.

"2. We hereby proclaim the unconditional surrender to the Allied Powers of the Japanese Imperial General Headquarters and of all Japanese armed forces and all armed forces under the Japanese control wherever situated.

"3. We hereby command all Japanese forces wherever situated and the Japanese people to cease hostilities forthwith, to preserve and save from damage all ships, aircraft, and military and civil property and to comply with all requirements which my be imposed by the Supreme Commander for the Allied Powers or by agencies of the Japanese Government at his direction.

"4. We hereby command the Japanese Imperial Headquarters to issue at once orders to the Commanders of all Japanese forces and all forces under Japanese control wherever situated to surrender unconditionally themselves and all forces under their control.

"5. We hereby command all civil, military and naval officials to obey and enforce all proclamations, and orders and directives deemed by the Supreme Commander for the Allied Powers to be proper to effectuate this surrender and issued by him or under his authority and we direct all such officials to remain at their posts and to continue to perform their non-combatant duties unless specifically relieved by him or under his authority.

"6. We hereby undertake for the Emperor, the Japanese Government and their successors to carry out the provisions of the Potsdam Declaration in good faith, and to issue whatever orders and take whatever actions may be required by the Supreme Commander for the Allied Powers or by any other designated representative of the Allied Powers for the purpose of giving effect to that Declaration.

"7. We hereby command the Japanese Imperial Government and the Japanese Imperial General Headquarters at once to liberate all allied prisoners of war and civilian internees now under Japanese control and to provide for their protection, care, maintenance and immediate transportation to places as directed.

"8. The authority of the Emperor and the Japanese Government to rule the state shall be subject to the Supreme Commander for the Allied Powers who will take such steps as he deems proper to effectuate these terms of surrender."

WHEREAS the terms of surrender were, on the 2d day of September 1945 as given by the United States, the Republic of China, the United Kingdom, the Soviet Union of Socialist Republics and other allied powers, accepted by the Imperial Japanese Government, and

WHEREAS on the 2d day of September 1945 the Imperial General Headquarters by direction of the Emperor has ordered all its commanders in Japan and abroad to cause the Japanese Armed Forces and Japanese controlled forces under their command to cease hostilities at once, to lay down their arms and remain in their present locations and to surrender unconditionally to commanders acting in behalf of the United States, the Republic of China, the United Kingdom, the British Empire and the Union of Socialist Republics, and

WHEREAS the Imperial General Headquarters, its senior commanders and all ground, sea, air and auxiliary forces in the main islands of Japan, minor islands adjacent thereto, Korea south of 38 north latitude and the Philippines were directed to surrender to the Commander-in-Chief of the United States Army Forces, Pacific and

WHEREAS the Commander-in-Chief of the United States Army Forces, Pacific has appointed the Commanding General, XXIV Corps as the Command General, United States Army Forces in Korea, and has directed him as such to act for the Commander-in-Chief United States Army Forces, Pacific in the reception of the surrender of the senior Japanese commanders of all Japanese ground, sea, air and auxiliary forces in Korea south of 38 north latitude and all islands adjacent thereto. Now therefor

We, the undersigned, senior Japanese commanders of all Japanese ground, sea, air and auxiliary forces in Korea south of 38 north latitude, do hereby acknowledge:

a. That we have been duly advised and fully informed of the contents of the Proclamation by the Emperor of Japan, the Instrument of Surrender and the orders herein above referred to.

b. That we accept our duties and obligations under said instruments and orders and recognize the necessity for our strict compliance therewith and adherence thereto.

c. That the Commanding General, United States Army Forces in Korea, is the duly authorized representative of the Commander-in-Chief United States Army Forces, Pacific and that we will completely and immediately carry out and put into effect his instructions.

Finally, we do hereby formally and unconditionally surrender to the Commanding General, United States Army Forces in Korea, all persons in Korea south of 38 degrees North Latitude who are in the Armed Forces of Japan, and all military installations, ordnance, ships, aircraft, and other military equipment or property of every kind or description in Korea, including all islands adjacent thereto, south of 38 degrees North Latitude over which we exercise jurisdiction or control.

In case of conflict or ambiguity between the English text of this document and any translation thereof, the English shall prevail. Signed at SEOUL, KOREA at 1630 hours on the 9th day of September 1945.

On September 12, 1945, at Singapore, the supreme allied commander, Southeast Asia (Lord Louis Mountbatten) and the supreme commander, Japanese Expeditionary Forces, Southern Regions concluded the "Instrument of Surrender of Japanese Forces under the Command or Control of the Supreme Commander, Japanese Expeditionary Forces, Southern Regions, Within the Operational Theatre of the Supreme Allied Commander, South East Asia." The text of the document was straightforward:

1. In pursuance of and in compliance with:

(a) the Instrument of Surrender signed by the Japanese plenipotentiaries by command and on behalf of the Emperor of Japan, the Japanese Government and the Japanese Imperial General Headquarters at Tokyo on 2 September, 1945;

(b) General Order No. 1, promulgated at the same place and on the same date;

(c) the Local Agreement made by the Supreme Commander, Japanese Expeditionary Forces, Southern Regions, with the Supreme Allied Commander, South East Asia at Rangoon

on 27 August, 1945; to all of which Instrument of Surrender, General Order and Local Agreement this present Instrument is complementary and which it in no way supersedes, the Supreme Commander, Japanese Expeditionary Forces, Southern Regions (Field Marshall Count Terauchi) does hereby surrender unconditionally to the Supreme Allied Commander, South East Asia (Admiral The Lord Louis Mountbatten) himself and all Japanese sea, ground, air and auxiliary forces under his command or control and within the operational theatre of the Supreme Allied Commander, South East Asia.

2. The Supreme Commander, Japanese Expeditionary Forces, Southern Regions, undertakes to ensure that all orders and instructions that may be issued from time to time by the Supreme Allied Commander, South East Asia, or by any of his subordinate Naval, Military, or Air-Force Commanders of whatever rank acting in his name, are scrupulously and promptly obeyed by all Japanese sea, ground, air and auxiliary forces under the command or control of the Supreme Commander, Japanese Expeditionary Forces, Southern Regions, and within the operational theatre of the Supreme Allied Commander, South East Asia.

3. Any disobedience of, or delay or failure to comply with, orders or instructions issued by the Supreme Allied Commander, South East Asia, or issued on his behalf by any of his subordinate Naval, Military, or Air Force Commanders of whatever rank, and any action which the Supreme Allied Commander, South East Asia, or his subordinate Commanders action on his behalf, may determine to be detrimental to the Allied Powers, will be dealt with as the Supreme Allied Commander, South East Asia may decide.

4. This Instrument takes effect from the time and date of signing.

5. This Instrument is drawn up in the English Language, which is the only authentic version. In any case of doubt to intention or meaning, the decision of the Supreme Allied Commander, South East Asia is final. It is the responsibility of the Supreme Commander, Japanese Expeditionary Forces, Southern Regions, to make such translations into Japanese as he may require.

With the Japanese instruments of surrender, World War II came to an end. Definitive treaties were later concluded with all of the Axis powers.

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Suzuki Kantaro (1867–1948) *Japanese privy councilor who formed Japan's last wartime government*

Suzuki was a retired admiral who, late in life, earned a wide political following in Japan. He was a moderate, who, in its last desperate months, sought an end to the war. His position on the privy council was not sufficiently powerful for him to attack, let alone overcome, the militarists, but when Prime Minister Kuniaki Koiso stepped down in April 1945, Suzuki made his move. At age 78, he became prime minister and began sending out peace feelers through various intermediaries. However, when the Allies issued the Potsdam Declaration demanding unconditional surrender, Suzuki responded with apparently noncommittal ambiguity, which prompted the United States to proceed with atomic attacks on Hiroshima and Nagasaki on August 6 and 9, 1945. Nevertheless, it was Suzuki who outlined for Emperor Hirohito the terms by which he could use his imperial power to end the war. In this, Suzuki directly opposed the militarists within the cabinet.

Suzuki resigned on August 15, after he had achieved his goal—the emperor's announcement of Japan's surrender. On the next morning, militarists

Suzuki Kantaro *(Japanese National Diet Library)*

made two assassination attempts against him, but failed. He lived quietly for three years after the war.

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Sweden

At the outbreak of World War II, Sweden had a population of about 6.5 million. With a democratic government, it was a longtime neutral power and had not fought a war since 1814. The nation was militarily weak, possessing an army of 403,000 men and no tanks. The Swedish air force consisted of 596 aircraft, and the country's navy had just 47 ships in service as of September 1939. The Swedish economy was heavily dependent on foreign trade. Although highly vulnerable, Sweden's remote northern location and its position among buffer states—Norway, Denmark, and Finland—afforded some protection. Its greatest natural resource, from the standpoint of strategic materiel, was iron ore, which it possessed in abundance. Before and during the war, Sweden was a major supplier of iron to Germany.

In spring 1939, Adolf Hitler proposed a nonaggression pact with Sweden. The Swedish government spurned the proposal and, fearing Hitler, attempted to form a Nordic defense union. When that failed, it proposed a Swedish-Finnish alliance, which came to nothing after the Soviet Union objected. When the war began in September 1939, Sweden declared itself neutral. With the outbreak of the Russo-Finnish War, Sweden supplied Finland with strategic materials and permitted the recruitment of a volunteer corps for Finnish service. But when the Allies called on Sweden for permission to transit its territory, they were refused. After Germany occupied Denmark and Norway in 1940, however, Sweden yielded to menacing German demands for right of transit. Sweden revoked this permission in 1943, by which time Germany had been sufficiently weakened that it was no longer in a position to intimidate Sweden into compliance with its wishes.

From early in the war, Sweden beckoned to many oppressed and endangered people as a safe haven. Large numbers of Norwegians and Danes sought refuge in Sweden, using the country as a staging point in a flight to Britain.

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Switzerland

At the outbreak of World War II, Switzerland was a democratic country of 4.2 million with a long tradition of absolute neutrality. Its population spoke

German, Italian, or French and it was located geographically and culturally among Italy, Germany, and France; these factors made the maintenance of neutrality difficult. Switzerland's mountainous topography presented a formidable objective for any potential invader, and the Swiss army was large—450,000 men—and well trained, although not mechanized. The Swiss air force was very small, with 150 obsolescent Swiss fighters and just 50 state-of-the-art German Messerschmidt Me-109s. Swiss military planners resolved to adopt a wholly defensive strategy, which called for French aid in the event of a German invasion. After the Battle of France, Swiss planners decided that, in the event of invasion by Italy or Germany, the Swiss army would abandon most of Switzerland and concentrate its defense in the southern Alps as a "National Redoubt."

While the war on the western front raged in May 1940, the Swiss believed invasion to be imminent. French and German aircraft regularly fought within Swiss air space—and were sometimes shot down by Swiss antiaircraft artillery. Later, British aircraft flew over Switzerland en route to Germany and Italy. The Germans demanded that the Swiss black out their cities at night because the lights were being used by British airmen as navigational aids. Reluctantly, the Swiss government complied—and on several occasions Swiss cities were accidentally bombed by Allied aircraft.

Despite its neutrality, Switzerland was obliged by treaty to permit the transit of nonwar materials between Italy and Germany. This function, including the maintenance of the Simplon and Gotthard tunnels and the Brenner Pass, gave the Swiss a valuable negotiating chip in dealing with Germany. The landlocked Swiss, for their part, needed Germany, which was a source of much fuel and food.

Switzerland served as a haven for escaped prisoners of war, French Resistance agents, and Italian partisans. For refugees, Switzerland was a most unreliable destination. The country admitted some refugees and turned others away—most notoriously some 170,000 Jews who had fled France after the Vichy government declared them undesirable. By the end of the war, about 400,000 refugees had been received by or had traveled through Switzerland, many under the auspices of the International Red Cross, which was headquartered in Geneva.

Like many other neutral countries, Switzerland unwillingly functioned as a center of espionage operations, most notably those of Allen Dulles, head of the Office of Strategic Services facility in Berne.

The celebrated Swiss banks prospered during World War II as repositories of money, securities, bullion, and other valuables of both the Allies and the Axis, governments as well as individuals. Despite protestations of ethical neutrality, a number of Swiss banking firms accepted funds and other loot stolen by the Nazis—including much that had been stolen from Jews—and thereby became defendants in a number of postwar lawsuits brought by survivors of the Holocaust, their families, and others.

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Syria

At the outbreak of World War II, Syria, formerly part of the Ottoman Empire, was a French mandate. After French defeat in the Battle of France in June 1940, Syria sided with the Vichy government and, in December 1940, General Henri-Fernand Dentz was named Vichy high commissioner for Syria.

Dentz allowed German aircraft to land in Syria in May 1941, acting in accordance with protocols agreed to by the Vichy government. This triggered an Allied (Australian, British, Free French) inva-

sion on June 8, which ended the following month in an armistice and the proclamation of an independent Syrian republic in September 1941. Free elections in 1943 supported the nationalist agenda; nevertheless, the country remained under Anglo–Free French occupation. When V-E Day ended the war in Europe, anticolonial rioting erupted in Damascus, the capital, prompting the French to bomb the city. In April 1946, both the French and the British withdrew from Syria.

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Szilard, Leo (1898–1964) *Hungarian-born physicist who may be regarded as the godfather of the Manhattan Project*

Born in Budapest, Hungary, Szilard received a doctorate in physics from the University of Berlin in 1922 and joined the faculty of Berlin's Institute of Theoretical Physics. With the rise of the Nazis in 1933, Szilard, a Jew, sought refuge in Vienna and, the following year, immigrated to England, where he joined the physics faculty of the medical college of St. Bartholomew's Hospital in London. At St. Bartholomew's, Szilard collaborated with the British physicist T. A. Chalmers to create the first successful method of separating isotopes of artificial radioactive elements. This breakthrough prompted an offer of a faculty position from Columbia University in New York, which Szilard accepted in 1937.

Szilard became increasingly aware of research being conducted in Nazi Germany—led by the brilliant physicist Werner Heisenberg—to harness the energy of an atomic chain reaction to create a military weapon of unprecedented explosive power. With fellow physicists—and European émigrés—Edward Teller and Eugene Wigner, Szilard persuaded the most celebrated German-born scientist living in America, Albert Einstein, to endorse a letter Szilard himself composed to President Franklin D. Roosevelt, urging that the United States immediately begin work on developing an atomic bomb. This was the origin of the Manhattan Project.

Beginning in 1942, Szilard worked in nuclear physics at the University of Chicago. He collaborated with Enrico Fermi on the construction of the world's first nuclear reactor, in which the first controlled chain reaction took place—the necessary initial step toward creation of the atomic bomb.

Late in the war, after the defeat of Germany, Szilard led a group of fellow Manhattan Project scientists in petitioning President Harry S. Truman not to use the atomic bomb. This effort proved in vain, and in 1946 Szilard, appalled by the weapons he had helped bring into being, abruptly abandoned nuclear physics for biology, securing an appointment as professor of biophysics at the University of Chicago. He also became a passionate public proponent of the peaceful uses of atomic energy, nuclear disarmament, and close international control of nuclear weapons. To promote what he considered sane nuclear policies, he founded the Council for a Livable World.

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Tanaka Raizo (1892–1969) *Japanese destroyer commander who fought many Pacific actions*

Tanaka was a brilliant destroyer commander who played key roles in the Battle of the Java Sea, the Battle of Midway, and the Guadalcanal Campaign, in which he defeated a superior U.S. naval force at the Battle of Tassafaronga, a nighttime encounter off the Guadalcanal coast on November 30, 1942. Tanaka's torpedo attack severely damaged three U.S. cruisers and sank a fourth.

Tanaka Raizo *(National Archives and Records Administration)*

During the New Georgia Campaign in July 1943, Tanaka's flagship was sunk. He protested to higher command that using his destroyers to reinforce troops was a waste of resources. For this, he was dismissed and never reassigned to sea duty. In this way, the Japanese command wasted one of its most brilliant tacticians—a naval commander universally feared and admired by his Allied opponents.

Tanaka ended the war as naval commander in Burma, a sideline job.

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tank destroyers

During World War II, several combatant armies felt the need for a self-propelled antitank gun, known in the U.S. Army as a tank destroyer. Tank destroyers were less versatile than tanks and were not designed to be used against infantry; however, they were less expensive to manufacture than tanks and easier to maintain in the field.

Vehicles specifically designed for the antitank role made their debut in World War II. Some tank destroyers were designed to be lighter, faster, and cheaper than medium tanks, yet still capable of destroying heavy tanks at long range. Another type of tank destroyer was actually more heavily armored than the tanks it was intended to destroy. This latter class of vehicles was designed to fight close in and be more survivable than a conventional tank in a duel.

The German army was equipped with a tank destroyer known as the *Panzerjäger,* or "tank hunter." This was an expedient design that simply took an existing antitank gun and mounted it on an available chassis for mobility. The Germans recycled the chassis of their obsolescent Panzer I light tank as the Panzerjäger I self-propelled 47 mm antitank gun. Later, during the INVASION OF THE SOVIET UNION, they similarly adapted Panzer II by putting captured Soviet 76.2 mm antitank guns on Panzer II chassis. The result was the Marder II mobile antitank gun. The most numerous German tank destroyer type was the Marder III, which mounted a German 75 mm antitank gun on a Czech-built Panzer 38(t) chassis. The most powerful Panzerjäger was the Nashorn (Rhinoceros), which had an 88 mm gun.

The vulnerability of the Panzerjäger was its open top and thin armor. Later in the war, these deficiencies were addressed by the Jagdpanzers (hunting tanks), which provided better armor protection and superior gun mountings.

Soviet designers also created tank destroyers by mounting antitank guns on hulls without turrets. These vehicles could carry large guns, but training the gun required movement of the vehicle itself. The Soviets mounted an 85 mm gun to produce the SU-85 and a 100 mm gun for the SU-100. In both cases, the chassis was the same as that used on the celebrated T-34 tank. The Soviets mounted even heavier guns—a 122 mm gun on the ISU-122 and a 152 mm gun on the ISU-152—on an IS-2 heavy tank chassis. These heavy tank destroyers were christened *Zveroboy* (beast killer) and were highly effective against the heaviest German armor.

American tank destroyer designs (as well as those the British derived from them) were radically different from those of the Germans and the Soviets. American tank destroyers were designed for mobility and were heavily armed. In contrast to the German and Soviet designs, the American tank destroyers usually retained the conventional tank turret, albeit with an open top to save weight and to accommodate a larger gun.

The first World War II U.S. tank destroyer mounted a 75 mm gun on an M-3 half-track chassis. Later, 3-inch guns and 90 mm guns were used. Still later came the 76 mm Gun Motor Carriage M-18, which was relatively small, quite fast, and flexible—its gun fully trainable in a turret; however, the gun proved ineffective against large German tanks and was replaced by the 90 mm M-36.

The British started making tank destroyers in 1944 by converting U.S. Sherman tanks with the addition of a QF 17-pounder gun. Next, this gun was also mounted on the U.S. M-10 Wolverine, creating the Achilles. Similarly modified, the U.S. Valentine tank became the British Archer. The British also mounted the gun on a British tank chassis, the Cromwell, which resulted in the A-30 Challenger (A30).

Tank destroyers never proved as successful as tanks, mainly because of their vulnerability to counterattack and the reduced flexibility of their turretless designs. They were used almost exclusively in the defensive role.

See also ARMOR, BRITISH; ARMOR, FRENCH; ARMOR, GERMAN; ARMOR, ITALIAN; ARMOR, JAPANESE; ARMOR, SOVIET; and ARMOR, UNITED STATES.

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tanks *See* ARMOR, BRITISH; ARMOR, FRENCH; ARMOR, GERMAN; ARMOR, ITALIAN; ARMOR, JAPANESE; ARMOR, SOVIET; ARMOR, UNITED STATES; and TANK DESTROYERS.

Taranto, Battle of

The Battle of Taranto was a raid (dubbed Operation Judgment) launched on November 11, 1940, by elements of the British Mediterranean Fleet (Admiral Andrew Cunningham) against the Taranto naval base in southern Italy. Twenty-one obsolescent Swordfish biplane torpedo bombers were launched from the aircraft carrier *Illustrious* and attacked Taranto in two waves spaced one hour apart. Each wave was led by two pathfinder aircraft, which deployed flares to illuminate the targets, then flew toward the inner harbor in a bid to draw antiaircraft fire away from the rest of the attackers. The raid achieved total surprise, and the British aircraft managed to hit two older battleships and a cruiser, and also to damage the dockyard. The raid prompted the Italian ships to evacuate Taranto for Italy's west coast. This relieved a major threat to British convoys. British losses were light: just two aircraft.

Historically, the Taranto raid is often cited as the end of the age of the battleship and the rise of the aircraft carrier, because carrier-launched airplanes defeated two battleships in the space of two hours. More immediately, the raid was studied closely by the Japanese, who used it as a model for the tactics they employed in the Battle of Pearl Harbor. Like Taranto, Pearl Harbor was shallow, yet as the Japanese were quick to learn, airplane-launched torpedoes could still be effective in these shallow waters if they were properly modified and skillfully launched.

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Tarawa Atoll, Battle of

The capture of the Pacific Atoll of Tarawa in November 1943 launched the Marshall Islands campaign, which initiated the U.S. drive across the central Pacific.

Tarawa is an atoll in the Gilbert Islands consisting of small islands, the largest of which, Betio, is no more than 2.5 miles in length. The main Japanese garrison of 4,500 troops was located on this island, extremely well dug into defensive positions. As garrison commander Shibasaki Keiji boasted to his men, the island could not be taken by a million soldiers in a hundred years. Indeed, the U.S. Navy unleashed huge amounts of ordnance in preparation for the landings, including naval gun bombardment and aerial bombardment, yet made distressingly little impact on the defenses—although the preparatory attacks did disrupt Japanese communications, thereby preventing a counterattack on the first night after the landings.

The Tarawa landings on November 20, 1943, used landing vehicles, tracked (LVTs) for the first time in amphibious warfare. These were true armored amphibians, which could be deployed from landing ships into the water, then driven directly up to the beach and driven well inland, so that troops did not have to wade or walk ashore. Unfortunately, a shortage of LVTs meant that second-wave assault troops had to be carried in conventionally on landing craft. Worse because of faulty calculation of tides, many of the landing craft ran up on coral reefs, obliging the marines to wade long distances ashore. This exposed them to enemy fire and created heavy casualties that greatly imperiled the landings on the first day. Nevertheless, under Maj. Gen. Julian Smith, the 2nd Marine Division managed to occupy positions on the southern shore of the island as well as on the western end, thereby forcing the Japanese garrison to divide. This ultimately proved fatal to the defenders, and although the enemy counterattacked with suicidal banzai charges, the marines held their positions and, by November 23, had overrun the small island.

The victory was extremely hard-won: 1,009 marines killed and 2,101 wounded. These numbers created universal shock among the American public, who would soon discover, however, that Tarawa—"Terrible Tarawa," as marines called it—was nothing more than a baptism of fire in the central Pacific. There would be victories even more hard-won.

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Tedder, Arthur (1890–1967) *British air marshal who played a major role in planning the Normandy Landings (D-day)*

Born in Glenguin, Scotland, the son of a civil servant, Tedder was educated at Magdalene College, Cambridge, where he won the Prince Consort Prize for History in 1913. Instead of going on to an academic career, he was commissioned in the Special Reserve of the Dorset Regiment during World War I, then joined the Royal Flying Corps in 1916. He proved to be a superb pilot and flew bombing and reconnaissance missions before he was given command of 70 Squadron.

After World War I, Tedder was commissioned in the Royal Air Force (RAF) and in 1929 became an instructor at the RAF Staff College, Cranston. He served as head of the Air Armament School during 1934–36, was appointed director of training at the Air Ministry (1936–38), and was assigned simultaneously as air officer commander in Singapore.

British air marshal Arthur Tedder (right) and Dwight D. Eisenhower at SHAEF Headquarters, Reims, France, on the occasion of the German surrender, May 7, 1945 *(Dwight D. Eisenhower Presidential Library)*

In 1938, Tedder was promoted to vice air marshal and named director general of Research and Development in the Air Ministry. He held this post at the outbreak of World War II until 1940, when he was named air commander in the Middle East. In this post he played a key role in the North African Campaign, both before and after the United States joined the British on this front. He worked directly under General Dwight David Eisenhower in Africa, Sicily, and then in London, where he was a key architect of the Normandy landings in June 1944. Tedder had charge of planning and providing all-important tactical air support for the Normandy operation. He strongly advocated vigorous bombardment of the rail and communications network in France to disrupt German troop movements. His advocacy of such bombing—even at the cost of many French civilian casualties—put him at odds with other British air officers as well as with the American Eighth Air Force commander, Carl Spaatz. Prime Minister Winston Churchill was also deeply disturbed by the prospect of inflicting so many French civilian casualties, and he feared that Tedder allowed himself to be overly influenced by some American officers who likewise championed the extensive pre-invasion bombing. Nevertheless, it was Tedder's strategy that prevailed prior to and during the D-day operation.

Whatever Churchill's reservations about Tedder, he delegated him in January 1945 to meet with Joseph Stalin to outline plans for the conclusion of the war against Germany. It was Tedder who, on May 8, 1945, led the Allied delegation sent to Berlin to accept the surrender of the German government.

After the war, in 1946, Tedder was named chief of the Air Staff. He held this post until his retirement from the RAF in 1950. Created First Baron of Glenquin, he was made chair of the British Joint Services Commission, based in Washington, D.C., then returned to Britain as chancellor of his alma mater, Cambridge University.

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Teller, Edward (1908–2003) *One of the key scientists of the Manhattan Project*

Born in Budapest, Hungary, into a prosperous Jewish family, Teller was educated in Budapest, then enrolled in the Institute of Technology at Karlsruhe, Germany, where he earned a degree in chemical engineering. After graduation, he went to Munich and Leipzig, where, in 1930, he took a Ph.D. in physical chemistry. Teller became a pioneering researcher and theorist in the field of atomic physics and worked closely with the world's foremost atomic physicist, Niels Bohr, in Copenhagen. During this period he also taught at the University of Göttingen (1931–33).

With the rise of Adolf Hitler and the Nazi Party, Teller recognized that, as a Jew, his career prospects in Germany were virtually ended. In 1935, at the invitation of George Washington University in Washington, D.C., he and his wife, Augusta Harkanyi (whom he had just married), came to the United States. With the atomic physicist and cosmologist George Gamow (who developed the "Big Bang" theory of the creation of the universe), Teller studied the ways in which subatomic particles may escape the nucleus of the atom during radioactive decay. While deeply immersed in atomic physics and chemistry, Teller was stunned in 1939 by a report from his early mentor, Bohr, on the successful experimental fission ("splitting") of the uranium atom. This news, together with an appeal by President Franklin D. Roosevelt for scientists to aid in the defense of the United States against the growing dangers of Nazi aggression, led Teller to devote himself to the problem of developing nuclear weapons. Becoming a U.S. citizen in 1941, Teller joined the Italian expatriate nuclear physicist Enrico Fermi at the University of Chicago and collaborated in producing the first self-sustaining nuclear chain reaction in the world's first nuclear reactor. After this work, in 1943, J. Robert Oppenheimer, scientific director of the Manhattan Project, the massive U.S.-

Edward Teller, 1958 *(U.S. Department of Energy, Lawrence Livermore Laboratory)*

British effort to create an atomic bomb, invited Teller to become one of the first members of the team working at the top-secret Los Alamos Laboratory in New Mexico.

The task of the Los Alamos scientists was to design and build—as quickly as possible—a fission bomb, which would create an explosion by liberating the energy of a uranium-based chain reaction. Teller nevertheless became increasingly intrigued by the prospects of a thermonuclear hydrogen fusion bomb, which would use the energy liberated by the fusion of hydrogen atoms to create a bomb far more powerful than the fission weapon. Thus, although Teller played an important role in creating the atomic bombs that were used against Japan in 1945, his greater role was in leading atomic weapons research after the war in the development of the hydrogen bomb.

In 1946, Teller joined the Institute for Nuclear Studies at the University of Chicago, even as he continued to work as a consultant at Los Alamos. When, in 1949, the Soviet Union detonated its first atomic bomb (far sooner than most American experts had thought technologically possible for that country), Teller became an increasingly passionate advocate of the new fusion bomb, which he referred to as "the Super." In this he was opposed by Oppenheimer, who chaired the U.S. Atomic Energy Commission's general advisory committee. However, President Harry S. Truman overrode the committee's recommendation, and Teller was put in charge of the development of a hydrogen bomb. In 1951, Teller collaborated with the physicist Stanislaw Marcin Ulam on a trigger mechanism for the new weapon. This resulted in a breakthrough that produced the first "H-bomb" detonation at Eniwetok Atoll in the Pacific on November 1, 1952. Ulam's role in the creation of the weapon was soon overshadowed by Teller, who was identified in the public mind as "the father of the H-bomb."

Teller's zeal in the creation of thermonuclear weapons earned the enmity of many American scientists. Worse, when he testified against his former chief, Oppenheimer, at 1954 U.S. government hearings on Oppenheimer as a potential security risk, many fellow scientists simply turned their backs on him. Despite this, Teller went on to create the nation's second nuclear weapons laboratory, the Lawrence Livermore Laboratory, in Livermore, California, in 1952. This facility became the center of U.S. thermonuclear weapon design and fabrication throughout the long Cold War period. Teller served as associate director of Livermore from 1954 to 1958 and from 1960 to 1975. He was director during 1958–60. During much of this time, he was also professor of physics at the University of California, Berkeley. A prominent and outspoken anticommunist, he continued to advocate research and production programs aimed at keeping the United States ahead of the Soviet Union in nuclear and thermonuclear arms.

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Ter Poorten, Hein (1887–1968) *Royal Netherlands Army commander in the Pacific theater*

Ter Poorten was born on Java, Dutch East Indies, and became an artillery officer in the Dutch army in 1911. He was one of the founding officers of the Dutch army air force, and in 1919 enrolled at the Hogere Krijgsschool staff college, then returned to the East Indies, where he rose in the officer corps.

On the eve of World War II, in July 1939, Ter Poorten was chief of the General Staff of the Koninklijk Nederlands Indisch Leger (Royal Netherlands Indies Army, KNIL), and in October 1941, after the death of Lt. Gen. Gerardus Johannes Berenschot in an airplane crash, Ter Poorten became commander in chief of the KNIL. In January 1942, with the Pacific war now under way, Ter Poorten became commander of land forces in the American-British-Dutch-Australian Command (ABDACOM), the short-lived unified command of all Allied forces in Southeast Asia. In March, after ABDACOM was dissolved, he became de facto commander of all Allied forces on Java. Outnumbered and overwhelmed by the general Japanese advance, he surrendered Java to the Japanese and spent the rest of the war as a prisoner of war. Liberated in 1945, he returned to the Netherlands.

See also Netherlands East Indies, action in.

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Terauchi Hisaichi (1879–1946) *commander of the Japanese Imperial Army's Southern Expeditionary Army Group*

The son of a Japanese field marshal and former war minister and prime minister, Terauchi inherited the title of count on the death of his father in 1919. A coup d'état in February 1936 resulted in a purge of the military from which he emerged as Japan's senior general. In March he was named minister of war under Prime Minister Hirota Koki. After Hirota's government fell early the next year, Terauchi became inspector general of military training in February 1937. In August of that year, he was assigned as commander of the North China Area Army in the Sino-Japanese War.

After Japan entered World War II as a member of the Axis, Terauchi became commander of the Southern Expeditionary Army and set up his Saigon headquarters on December 4, 1941. After the Fall of Singapore in February 1942, he moved his headquarters there.

Terauchi presided over the conquest of the southern area, including the Malay states, Thailand, and the Philippines. He was not a brilliant strategist, but he was an extraordinarily able manager and coordinator of operations. In a Japanese military rife with jealousies and back-stabbing, he was the rarest of men: an officer universally respected, who enjoyed almost universal loyalty and cooperation.

Terauchi was stricken with a cerebral hemorrhage in 1945 and was therefore unable to surrender his command in the official ceremony in Singapore on September 12, 1945. Lord Louis Mountbatten personally accepted his surrender on November 30, 1945, in Saigon. Mountbatten provided the ailing Terauchi with a bungalow in Rengam, Malaya, where he died in June 1946.

Further reading: Pfannes, Charles E. *The Great Commanders of World War II: The Japanese.* New York: Zebra Books, 1982.

Thailand

During World War II, Thailand was ostensibly ruled by a council of regency, governing in place of

King Ananta Mahidol, who waited out the war in Switzerland; in practical terms, however, the country was governed by a military dictator, Field Marshal Pibul Songgram, who favored the Japanese, in whom he saw the possibility of resisting Western colonial influence.

Pibul commanded an army of 50,000 men, an air force of 150 combat aircraft (many obsolete or obsolescent), and a navy consisting of a British-built World War I destroyer, nine Italian-built torpedo boats, and various small craft. Before the war, Pibul had ordered two light cruisers from an Italian shipyard, but the Italian navy preemptively commandeered these before they were launched.

Shortly after the outbreak of the war, in 1940, Britain and France concluded nonaggression pacts with Thailand, which declared itself neutral. Despite the pacts and the declaration of neutrality, Pibul attacked two neighboring French protectorates, Laos and Cambodia, in an effort to regain disputed border territory. Pibul prevailed on land, but lost at sea, and both the French and the Thais turned to Japan to mediate the dispute. In accordance with the Japanese decision, the Vichy government of France ceded the disputed territory to Thailand in May 1941.

On December 8, 1941, the day after war began in the Pacific, Japan used French Indochina and Thailand as staging areas from which to launch operations against Malaya. The Thais resisted both the Japanese military activity on their territory and a British advance from Malaya through Thai land; however, on December 9, Pibul ordered an end to all resistance. On January 25, Pibul declared war on Britain and the United States (but not China). Britain reciprocated, but the United States, preferring to consider Thailand an enemy-occupied country rather than an enemy country, did not. Nevertheless, Thailand officially collaborated with the Japanese and thereby gained considerable surrounding territory by way of reward. Unofficially, a nationalist movement developed that was anti-Japanese and pro-Allies. Nai Pridi Bhanomyong's Free Thai Movement (together with at least one other resistance movement) cooperated both with the Special Operations Executive and the Office of Strategic Services—respectively the British and American guerrilla and partisan coordinating agencies—to become XO Group, which fomented and organized resistance in Thailand. Thanks to Allied successes and the Free Thai Movement, Pibul fell from power in July 1944, and guerrillas wrested control of northern Thailand from the Japanese well before Japan's general surrender in September 1945.

See also Malaya, fall of.

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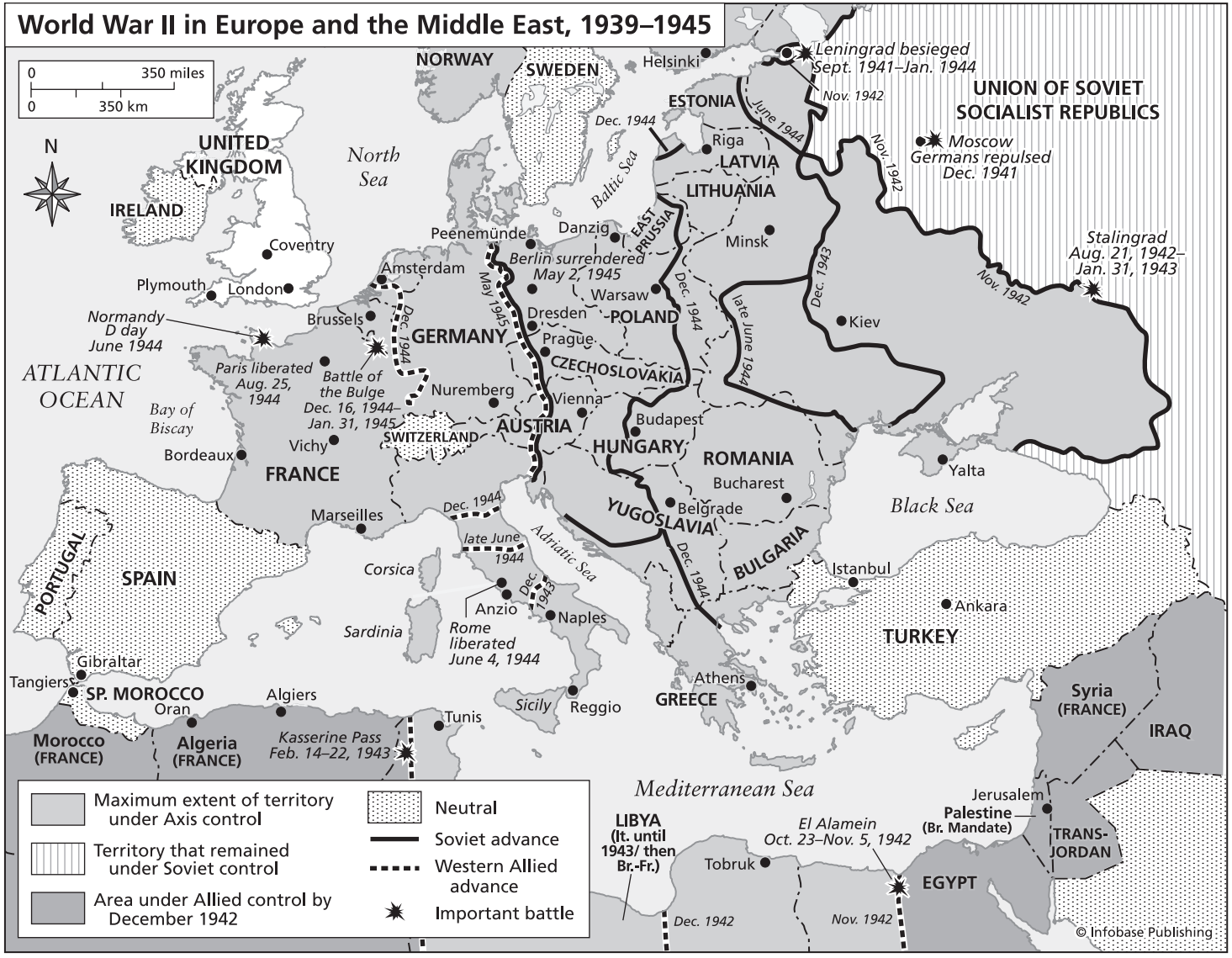
theaters of World War II

World War II was the biggest armed conflict in human history and engulfed virtually the entire globe. Historians as well as those who fought the war generally divide the conflict into geographical "theaters." These include:

- Africa and the Mediterranean theater: The scene of combat from 1940 to 1943, this theater included North Africa and the Middle East.
- Atlantic theater: The Atlantic Ocean and its coastal rim saw fighting from the very beginning of the war in 1939 until the very end. The Allies used the Atlantic sea lanes as a vital route for convoys, which were preyed upon by German U-boats.
- China-Burma-India theater: The "C-B-I" encompassed China, Burma, and India. Here, the Japanese sought to control China and southern Asia, which was rich in many of the raw materials (especially rubber) Japan needed for its war effort. The Allies—mostly Anglo-Indian, Chinese, and American forces—had precious few military assets to devote to the theater, which made combat here especially grim.


World War II in Europe and the Middle East, 1939–1945
0 350 miles
0 350 km
N
NORWAY
SWEDEN
Helsinki
Leningrad besieged Sept. 1941–Jan. 1944
Nov. 1942
UNION OF SOVIET SOCIALIST REPUBLICS
Moscow Germans repulsed Dec. 1941
ESTONIA
June 1944
Dec. 1944
Riga
LATVIA
LITHUANIA
Minsk
Nov. 1942
Stalingrad Aug. 21, 1942–Jan. 31, 1943
Dec. 1943
Nov. 1942
Kiev
late June 1944
UNITED KINGDOM
IRELAND
North Sea
Baltic Sea
EAST PRUSSIA
Danzig
Peenemünde
Coventry
Amsterdam
Berlin surrendered May 2, 1945
May 1945
Dec. 1944
Warsaw
Plymouth
London
Dresden
POLAND
Normandy D day June 1944
Brussels
Dec. 1944
GERMANY
Prague
CZECHOSLOVAKIA
ATLANTIC OCEAN
Paris liberated Aug. 25, 1944
Battle of the Bulge Dec. 16, 1944–Jan. 31, 1945
Nuremberg
Vienna
Budapest
Bay of Biscay
SWITZERLAND
AUSTRIA
HUNGARY
Vichy
Bordeaux
FRANCE
ROMANIA
Bucharest
Yalta
Black Sea
Dec. 1944
Marseilles
YUGOSLAVIA
Belgrade
late June 1944
Adriatic Sea
Dec. 1944
BULGARIA
PORTUGAL
SPAIN
Corsica
Dec. 1943
Istanbul
Anzio
Naples
Ankara
Sardinia
Rome liberated June 4, 1944
TURKEY
Gibraltar
Tangiers
SP. MOROCCO
Algiers
Oran
Athens
Syria (FRANCE)
IRAQ
Sicily
Reggio
GREECE
Tunis
Morocco (FRANCE)
Algeria (FRANCE)
Kasserine Pass Feb. 14–22, 1943
Mediterranean Sea
Jerusalem
Palestine (Br. Mandate)
TRANS-JORDAN
LIBYA (It. until 1943/ then Br.-Fr.)
El Alamein Oct. 23–Nov. 5, 1942
Tobruk
EGYPT
Dec. 1942
Nov. 1942
Maximum extent of territory under Axis control
Territory that remained under Soviet control
Area under Allied control by December 1942
Neutral
Soviet advance
Western Allied advance
Important battle
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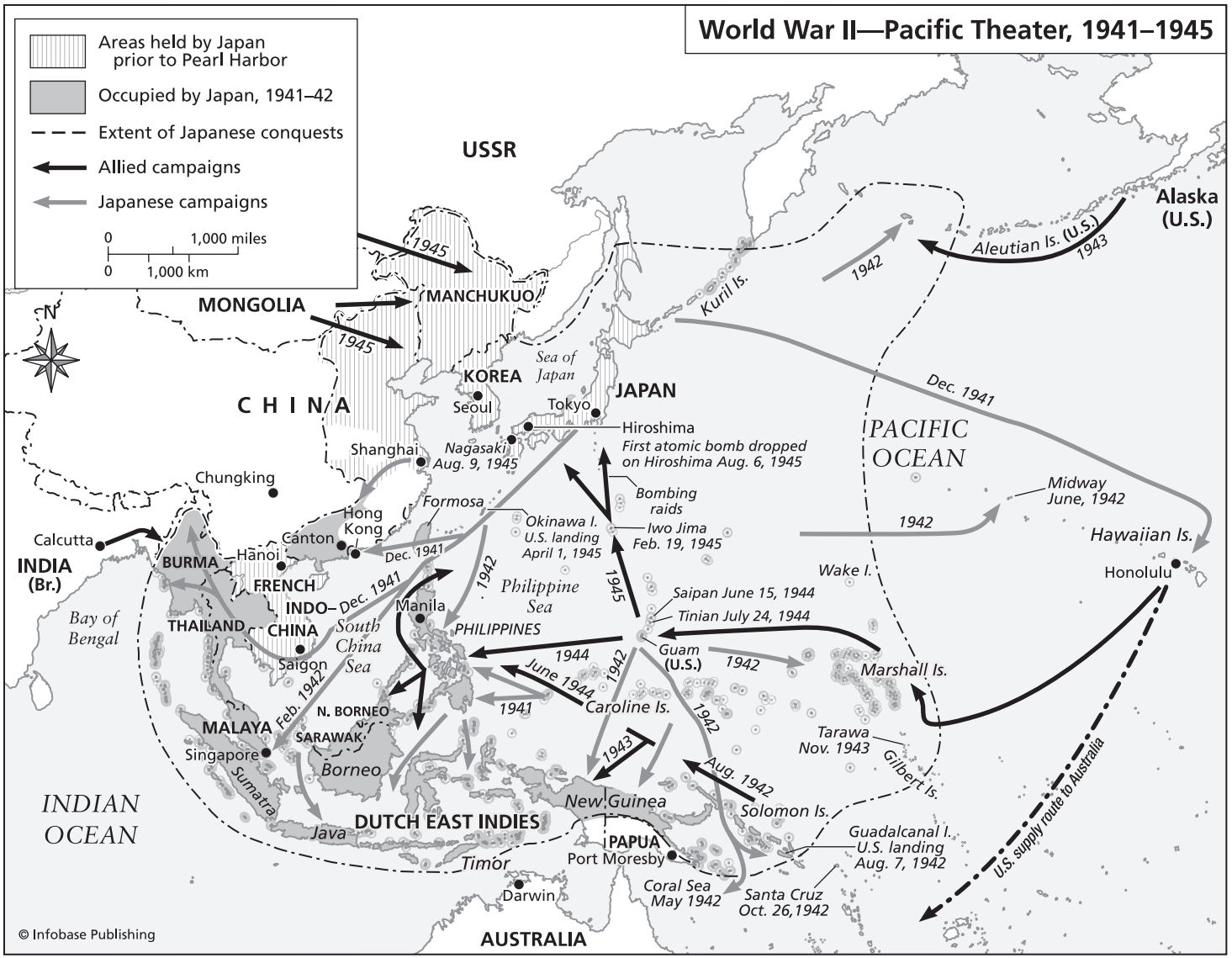
Greece and the Balkans theater: This theater was active mainly early in the war, from 1939 to 1941, and involved initially Italy, Germany, and the Soviet Union against Greece which was assisted by the British and Romania. Fighting took place mainly in Greece including Crete, Yugoslavia, and the adjacent waters of the Mediterranean. Seized early in the war, Greece, Yugoslavia, and the rest of the Balkans remained in German hands until the end of the war—despite much partisan activity against the occupiers.

Italian theater: Active from 1943—after the Allies invaded Sicily and the Italian mainland, prompting the downfall of Benito Mussolini—until the end of the war in Europe, Italy saw some of the bloodiest fighting of the conflict in a bitter contest between Anglo-American forces and extremely determined German defenders.

Pacific Theater: A vast theater, combat encompassed the Aleutians in the north to the tropical islands below the equator in the south. The fighting spanned 1941 to 1945, beginning with the Battle of Pearl Harbor on December 7, 1941, and ending with the atomic bomb attacks on Hiroshima and Nagasaki, Japan, on August 6 and 9, 1945. The principal combatants were the United States (with British, British Commonwealth, and Philippine allies) and the empire of Japan. Fighting here was chiefly naval and amphibious, culminating, however, in the strategic bombing of Japan.

Burials at sea were frequent events in the Pacific theater. *(National Archives and Records Administration)*


World War II—Pacific Theater, 1941–1945
Areas held by Japan prior to Pearl Harbor
Occupied by Japan, 1941–42
Extent of Japanese conquests
Allied campaigns
Japanese campaigns
0 1,000 miles
0 1,000 km
N
USSR
MONGOLIA
MANCHUKUO
CHINA
KOREA
Seoul
Sea of Japan
JAPAN
Tokyo
Hiroshima
First atomic bomb dropped on Hiroshima Aug. 6, 1945
Nagasaki Aug. 9, 1945
Shanghai
Chungking
Hong Kong
Canton
Formosa
Okinawa I. U.S. landing April 1, 1945
Bombing raids
Iwo Jima Feb. 19, 1945
Calcutta
INDIA (Br.)
BURMA
Hanoi
FRENCH INDO-CHINA
THAILAND
Bay of Bengal
Saigon
South China Sea
Philippine Sea
Manila
PHILIPPINES
Saipan June 15, 1944
Tinian July 24, 1944
Guam (U.S.)
Caroline Is.
Marshall Is.
Wake I.
Midway June, 1942
Hawaiian Is.
Honolulu
PACIFIC OCEAN
Aleutian Is. (U.S.)
Alaska (U.S.)
Kuril Is.
Dec. 1941
1942
1943
1944
1945
June 1944
Feb. 1942
Aug. 1942
MALAYA
Singapore
N. BORNEO
SARAWAK
Borneo
Sumatra
Java
DUTCH EAST INDIES
Timor
Darwin
New Guinea
PAPUA
Port Moresby
Solomon Is.
Tarawa Nov. 1943
Gilbert Is.
Guadalcanal I. U.S. landing Aug. 7, 1942
Coral Sea May 1942
Santa Cruz Oct. 26,1942
U.S. supply route to Australia
INDIAN OCEAN
AUSTRALIA
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Russian front: The Soviet Union had entered World War II in league with Germany, but was betrayed by Adolf Hitler's invasion of the Soviet Union on June 22, 1941, and was forced to fight for its very existence against the biggest invasion in history. This theater saw the costliest fighting of the war, in which Soviet military manpower amounted to as many as 39,574,900 men and women fighting about nine million German invaders. Some historians calculate Soviet military losses at between 10 and 29 million killed, wounded, and missing, and combined military and civilian deaths at about 27 million or more. German military casualties were in excess of six million.

Western (European) theater: Encompassing Britain (air war only), France, Belgium, Luxembourg, Netherlands, Germany, and Czechoslovakia, combat spanned 1940 to 1945, beginning with the German advance into the west and with its early culmination in the Battle of France and the Battle of Britain, followed by the occupation of most of western Europe (save Britain and the neutral nations) by Germany. The liberation of these lands began on June 6, 1944, with the Allied Normandy landings (D-day), the principal Allied invasion of German-occupied Europe. In addition to the hundreds of thousands of soldiers killed in this theater, millions of civilians died, including a portion of the 6 million Jews killed in the Holocaust and many citizens killed by the aerial bombardment of cities, especially the strategic bombing of Germany.

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Theresienstadt

Terezin was a walled town 35 miles outside of Prague, which, during World War II, was designated as the Reich Protectorate of Bohemia and Moravia. Reinhard Heydrich, Reich Protector of Bohemia and Moravia and one of the prime architects of the Final Solution and Holocaust, ordered Terezin—which the Germans called Theresienstadt—to be opened as a camp (or ghetto) for Jews in November 1941. Initially, Theresienstadt was a repository for elderly Jews unfit for forced labor and for certain "privileged" Jews (including World War I veterans, former senior servants, and so on). The German administrators used it as a front, or showplace, to deceive representatives of the International Committee of the Red Cross as to the actual conditions prevailing in German concentration and extermination camps.

Despite its outward cleanliness and serenity, the reality of Theresienstadt was that it functioned as a transit camp for Jews (and others) ultimately bound for slave labor or death in other camps. Of 141,162 Jews consigned to Theresienstadt during the war, 88,162 were eventually sent to death camps. In 1945, 1,623 Jews were released as refugees to Sweden or Switzerland, and 16,382 were alive in the camp at the end of the war. During the war, a total of 33,456 persons, mostly Jews, died there.

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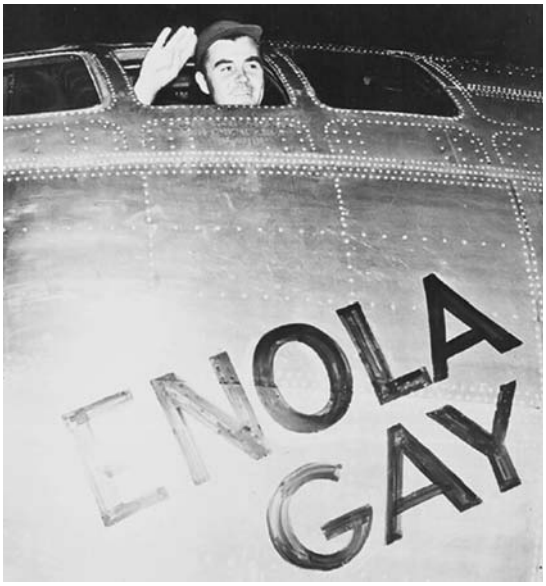
Tibbets, Paul (1915–) *pilot of the* Enola Gay*, which dropped an atomic bomb on Hiroshima, Japan*

Paul Warfield Tibbets Jr. was born in Quincy, Illinois, and joined the Army Air Corps as a flying



Colonel Paul Tibbets about to take off for Hiroshima *(National Archives and Records Administration)*

cadet in 1937 at Fort Thomas, Kentucky. Commissioned a second lieutenant in 1938, he rose to command of the 340th Bomb Squadron, 97th Heavy Bomb Group, in March 1942, flying B-17 heavy bombers. Tibbets piloted the lead B-17 out of RAF Polebrook Field, England, on the U.S. Eighth Air Force's first bombing mission in Europe on August 17, 1942. He later flew in the Mediterranean theater, then was recalled to the United States to test-fly the newly developed B-29 Superfortress. In November 1944, as a colonel, he was named to command the 509th Composite Group at Wendover Army Air Field, Utah, a special bomber group that was being trained to deliver and deploy the atomic bomb under development by the Manhattan Project.

Tibbets was responsible for developing appropriate bombing tactics and for overseeing the training of the 509th. He was deployed with his command to the Pacific island of Tinian, where, on August 5, 1945, he formally named B-29 serial number 44-86292 *Enola Gay,* after his mother. At 2:45 on the next morning, he and his crew flew the *Enola Gay* from Tinian to Hiroshima. It was loaded with a single weapon, an atomic bomb, which Tibbets's bombardier dropped over the city at 8:15 a.m. local time.

Tibbets was decorated for his action and was widely regarded as a hero—although reviled by some as a mass murderer. Tibbets himself never professed feelings of guilt, but believed that he had performed his duty in an important military operation. He remained in the air force after the war and, in 1959, was promoted to brigadier general. His assignment in the 1960s as military attaché in India met with local political protest, and he was recalled. Tibbets retired from the U.S. Air Force on August 31, 1966 and went to work for Executive Jet Aviation in Columbus, Ohio, retiring as its president in 1987.

See also Hiroshima, atomic bombing of, and Nagasaki, atomic bombing of.

Further reading: Greene, Bob. *Duty: A Father, His Son, and the Man Who Won the War.* New York: William Morrow, 2000; "Pilot: Brig. Gen. Paul W. Tibbets (USAF Ret.)," official Tibbets Web site, http://www.theenolagay.com/index.html.

Timoshenko, Semyon (1895–1970) *rival of Marshal Georgi Zhukov in the defense against the German invasion of the Soviet Union*

Semyon Konstantinovich Timoshenko was the son of peasant stock, born at Frumanka, near Odessa in southern Ukraine. During World War I, in 1915, he was conscripted into the tsarist army and served in the cavalry. With the outbreak of the Russian Revolution in 1917, he joined the Bolsheviks, becoming a Red Army officer in 1918 and a member of the Bolshevik Party the following year. Timoshenko saw action against the Whites during the civil war in the 1920s and, while fighting at Tsaritsyn (later renamed Stalingrad), he became a friend and associate of Joseph Stalin. Stalin rapidly promoted his friend in the officer corps, and by the end of the 1920s Timoshenko was given command of all Red

Army cavalry. His rise continued during the 1930s: to Red Army commander in the Byelorussian SSR (today Belarus) in 1933, then in Kiev (1935), and in the northern Caucasus and Kharkov (1937). After again serving as overall commander in Kiev in 1938, he was assigned command of the entire western border region in 1939. By this time, Timoshenko became a member of the Central Committee of the Communist Party and was so personally trusted by Stalin that he escaped the great purge of the Red Army during the 1930s, to be its senior officer.

In January 1940, during the Russo-Finnish War, Timoshenko took over command of Soviet forces, which had faltered badly under Kliment Voroshilov. Timoshenko broke through the Mannerheim Line, thereby prompting Finland to sue for peace. This victory resulted in Timoshenko's elevation to People's Commissar for Defense, which included promotion to marshal of the Soviet Union.

Timoshenko was a highly competent professional who, in contrast to many of his hidebound fellow officers, urged the rapid modernization of the Red Army. Thanks to him, a crash program of tank production was begun. However, he also reintroduced many of the harsher aspects of military discipline as practiced in the old tsarist army. This earned him a number of significant enemies.

After the Soviet Union was invaded in June 1941, Stalin assumed personal command of the Red Army and took over from Timoshenko the position of defense commissar. He assigned Timoshenko to the central front to carry out a fighting retreat from the border to Smolensk in the hope of preserving as much of the army intact as possible. Casualties were heavy, but Timoshenko nevertheless saved most of his forces, which were then deployed in the defense of Moscow.

In September, Timoshenko was transferred to the Ukraine, where the Red Army had suffered catastrophic casualties topping 1.5 million. Timoshenko's leadership did not bring victory, but he did avert further disaster by stabilizing the front. Next, in May 1942, Timoshenko led 640,000 men in a counteroffensive at Kharkov. It was a bold attempt to turn the tide of the invasion, and although Timoshenko enjoyed some initial success, a German counter-counteroffensive soon brought his advance to a bloody halt. While he had slowed the German advance against Stalingrad, Timoshenko had failed to turn it back. This failure followed (and contrasted with) Georgi Zhukov's successful defense of Moscow in December 1941, persuading Stalin that Zhukov was the superior commander. He summarily removed his old friend from front-line command and assigned him supporting roles at the Stalingrad (June 1942), Leningrad (June 1943), Caucasus (June 1944), and Baltic (August 1944) fronts.

Now overshadowed by Zhukov, Timoshenko nevertheless continued to perform well in lesser roles and was lavishly decorated, being twice named Hero of the Soviet Union (1940 and 1965) and earning the highest Order of Victory (1945) as well as the Order of Lenin (five times), the Order of the October Revolution, the Order of the Red Banner (five times), and the Order of Suvorov (three times). After the war, he was reappointed Soviet army commander in Belarus (March 1946), the southern Urals (June 1946), and, again, Belorussian SSR (March 1949). In 1960, he was elevated to the largely honorific post of inspector-general of the Defense Ministry.

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Tito (Josip Broz) (1892–1980) *secretary-general of the Communist Party of Yugoslavia*

Born Josip Broz in Kumrovec, near Zagreb, Croatia (then part of the Austro-Hungarian Empire), Tito was one of 15 children in a peasant family. When he was 13 years old, he moved to Sisak and apprenticed himself to a locksmith. At the conclusion of his apprenticeship, he became an itinerant metalworker and joined the metalworkers' trade union. This led him to membership in the Social Demo-

cratic Party of Croatia. His socialist activism was disrupted by the outbreak of World War I in 1914. He voluntarily enlisted in the 25th Regiment of Zagreb, which marched against the Serbs in August 1914. Soon accused of disseminating antiwar propaganda, however, Broz was imprisoned but released in January 1915 after the charges were dropped. He was sent back to his regiment on the Carpathian front and was decorated for bravery. The 25th Regiment was subsequently transferred to the Bukovina front, where Broz was seriously wounded and taken prisoner by the Russians.

Broz was a POW in the Ural Mountains when the Bolshevik Revolution broke out in 1917. During the resulting chaos, he traveled to Siberia and joined the Bolsheviks, enlisting in the Red Guard during the Russian civil war. He returned to Yugoslavia in 1920 a communist—yet of a distinctly moderate stripe.

Broz joined the Communist Party of Yugoslavia (CPY) and was arrested by the government in 1923. Acquitted of sedition after a trial, he began working in a Croatian shipyard, only to be rearrested in 1925, tried, and sentenced to seven months' probation. Such harassment by government authorities strengthened Broz's resolve, and he found himself rising in the hierarchy of the CPY. By 1928, he was a deputy of the Politburo of the CPY Central Committee and secretary-general of the Croatian and Slovenian committees. Arrested yet again in August 1928, Broz was sentenced to five years' imprisonment and was not released until 1934. No sooner had he gained his freedom than he set off on a tour of Europe to promote the Communist cause. To protect his identity during these travels, he adopted the code name Tito, which became his byname from then on.

Tito went to Moscow in 1935 and worked in the Balkan section of the Comintern, the organization of international communism. In August 1936, he was named organizational secretary of the CPY Politburo; however, in 1937, Joseph Stalin began his infamous purges, which included the liquidation of prominent Yugoslav Communists—some 800 in all. Tito escaped the purge and was even named secretary-general of the Comintern in 1937. He then returned to Yugoslavia to reorganize the CPY, of which he became secretary-general in October 1940.

Like the rest of the international Communist movement, Tito was stunned by the German-Soviet Non-Aggression Pact Stalin concluded with Adolf Hitler. At the outbreak of World War II, Yugoslavia declared itself neutral, but after the pro-Axis leader Prince Paul was overthrown in a coup d'état, Hitler took preemptive action by the invasion of Yugoslavia.

Initially, the occupation met with widespread passivity from the Yugoslavs, but when Hitler launched the invasion of the Soviet Union on June 22, 1941, abrogating the nonaggression pact, Tito seized the initiative and led a well-coordinated partisan campaign of sabotage and resistance.

Tito proved to be a brilliant partisan leader. He was so successful that, by the summer of 1942, he was able to go beyond sabotage and organize a full-scale offensive in Bosnia and Croatia. These actions forced the Germans to take substantial numbers of troops out of the front lines facing the Soviets to

Josip Broz Tito *(National Archives and Records Administration)*

suppress the partisans. Despite a counteroffensive against them, Tito's partisans held their ground, so that, in December 1943, Tito announced the creation of a provisional government in Yugoslavia, with himself as president, secretary of defense, and marshal of the armed forces. The Western Allies greeted this warmly, and Tito continued to lead Yugoslav partisans through the end of the war.

After the defeat of Germany in May 1945, Tito set about transforming his provisional government into a permanent one. He received strong support because of his nearly universal popularity as a war hero and patriot. Although he unmistakably steered Yugoslavia on a Communist course, he stoutly resisted falling into Stalin's orbit as another Soviet satellite. Tito remained independent of—yet cooperative with—both the Soviets and the Western democracies. He ruled Yugoslavia as an enlightened despot, and while he insisted on one-party Communist government, he permitted a high degree of free enterprise in Yugoslavia, which made the nation one of the most prosperous in Eastern Europe.

Tito's death just before his 88th birthday spelled an end to Yugoslav unity, and the constituent states fell into brutal civil war, which became most intense during the late 1980s and 1990s.

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Tobruk, Battles of

Three battles took place in and around the eastern Libyan harbor and port of Tobruk, long an important naval, air, and general military base.

The first battle began on January 7, 1941, when Gen. Sir Richard O'Connor's British XIII Corps, having advanced west from Bardia, laid siege to Tobruk, which, at the time was held by Italian forces. On January 21, the 6th Australian Division and the 7th (British) Armoured Division attacked the Tobruk fortress, which was garrisoned by 32,000 Italian troops of Rodolpho Graziani's Tenth Army under Gen. Petassi Manella. This attack divided the perimeter defenses, and by nightfall on January 22, Tobruk had fallen to the British, whose losses were minimal. Manella and 25,000 of his men were made prisoners of war.

The second battle was the result of Gen. Erwin Rommel's first Axis offensive in North Africa, which began on March 24, 1941, at El Agheila, Libya. Rommel rolled over spotty British resistance to recapture Benghazi on April 4. He reached Tobruk on April 8. The fortress there was now garrisoned mainly by the 9th Australian Division. Rommel did not lay siege, but instead led a relentless storming attack during April 10–14. Repulsed, he regrouped and tried again on April 30. Once again he was driven back. Rommel now settled into a siege, which spanned 240 days. During this period, the British Royal Navy managed to resupply the garrison and also replaced the Australians with the 70th (British) Infantry. It was November 29 before the British Eighth Army, victorious at the Battle of Sidi-Rezegh, broke through to Tobruk and relieved the garrison.

The Third Battle of Tobruk was fought during Rommel's second Libyan Offensive in June 1942. After Rommel's Panzerarmee Afrika, including his vaunted Afrika Korps, rolled over British defenses at the Battle of Gazala, then pushed the British Eighth Army back across the Egyptian border, Rommel turned to Tobruk. Prime Minister Winston Churchill, unwilling to relinquish the fortress, strongly urged Gen. Neil Ritchie to leave behind a 35,000-man garrison (2nd South African Division) to hold Tobruk after the rest of the British had withdrawn from Libya. On June 17, Rommel captured Sidi-Rezegh, then immediately attacked Tobruk. On June 19, after a two-day battle, the South Africans surrendered to the 15th and 21st Panzer divisions. It was a stunning defeat, which threw open the door for Rommel to drive into Egypt. Ritchie was relieved as Eighth Army commander.

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Todt, Fritz (1891–1942) *German engineer*

Todt was born in Pforzheim, the son of the owner of a minor factory. After studying engineering in Karlsruhe and at the School for Advanced Technical Studies in Munich, Todt fought in World War I as an infantryman and then as an aerial observer. He was decorated with the Iron Cross.

After the war, he returned to Munich to complete his engineering studies and, in 1920, was hired by Sager & Woerner, a civil engineering firm. He became an early member of the NAZI PARTY, joining on January 5, 1922, and rose to the rank of Oberführer (brigadier general) in the STURMABTEILUNG (SA). At this time, he earned a doctorate in engineering, writing a dissertation on road surfaces.

After ADOLF HITLER became Reich chancellor in 1933, Todt was appointed inspector general for German roadways and was instrumental in founding a construction company to build the Reichsautobahnen, the new system of German superhighways. Todt went on to become director of the Head Office for Engineering in the Administration of the Reich and general commissioner for the regulation of the construction industry. These were powerful positions, which gave Todt considerable autonomy and freedom of action apart from the usual Reich bureaucracy. In addition to his civilian offices, Todt was made a major general in the Luftwaffe in March 1935.

In 1938, Todt created Organization Todt (OT), which united various government firms and private companies with the Reichsarbeitsdienst (Reich Labor Service) for the purpose of building the SIEGFRIED LINE (also known as the West Wall), the massive system of fixed defenses intended to protect the western border of Germany. On March 17, 1940, Todt was named Reich minister for armaments and munitions and personally directed the work of Organization Todt in occupied France and the Low Countries. Following the INVASION OF THE SOVIET UNION in June 1941, Todt was transferred to the eastern front to oversee the rebuilding of the ruined Soviet infrastructure.

Organization Todt carried out what has been described as the most extensive national building program since the days of the Roman Empire. Approximately 1.4 million workers (many of them slave laborers from occupied countries) were employed by OT. OT was responsible for the Siegfried Line, for much of the Atlantic Wall (which defended the Atlantic approaches to the occupied West), oil storage facilities, various air force bases, massive U-boat bunkers, industrial plants, and various specialized structures, including those associated with the operation of the V-1 BUZZ BOMB and V-2 ROCKET.

Within the Nazi hierarchy, Todt was the object of both enormous admiration and great fear, suspicion, and outright envy. For his part, he held himself aloof from the high command of the Wehrmacht as well as from the likes of HERMANN GÖRING, for whose Luftwaffe he did a great deal of construction. On February 8, 1942, Todt was returning from a meeting with Hitler at the Führer's Rastenburg headquarters (Wolf's Lair) when his aircraft mysteriously exploded. Many suspected that he was a victim of assassination. He was succeeded as Reich minister for armaments and munitions by the powerful ALBERT SPEER.

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Togo Shigenori (1882–1950) *Japan's minister of foreign affairs during World War II*

Togo began his career as a university professor before joining the Japanese diplomatic corps in

Togo Shigenori *(National Archives and Records Administration)*

1912, which culminated in his appointment as ambassador to Germany in 1937. An opponent of the Anti-Comintern Pact of 1936, he became ambassador to the Soviet Union in 1938.

Togo believed that Japan could not win a war against the United States, and, as foreign minister on the eve of the Battle of Pearl Harbor, he tried earnestly to negotiate with the United States a means of avoiding war. Even after the war was under way, Togo remained convinced that Japan would suffer inevitable defeat and so looked for possibilities to negotiate a favorable peace. When the Allies presented the Potsdam Declaration in 1945, which was essentially a demand for unconditional surrender, Togo favored accepting it and ending the war. He also hoped to avoid war with the Soviet Union.

Togo was in an impossible position after the Potsdam Declaration. He could not openly advocate defeatism, yet he wanted to signal to the Allies the possibility of surrender. Toward this end, he withheld official response to the Potsdam Declaration in the hope of securing mediation from the Soviets. Allied leaders tended to interpret Togo's silence as a defiant rejection of the Potsdam Declaration, and therefore stepped up the strategic bombing of Japan, culminating in the nuclear attacks against Hiroshima and Nagasaki.

Togo was in many ways a tragic figure. Driven by a sense of duty, he personally signed the declaration of war against the United States—even though he opposed the war. His signature resulted in his being tried at the Tokyo War Crimes Trials after the war. He was sentenced as a war criminal to 20 years, and he died in prison.

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Tojo Hideki (1884–1948) *Japanese prime minister and generalissimo during most of World War II*

Among the public of the Western Allies, Tojo Hideki was seen as the Japanese counterpart of Adolf Hitler. Yet whereas Hitler was a genuine popular political leader, Tojo was actually no more than a military bureaucrat whose Japanese sobriquet, "The Razor," was intended to characterize his skill at slicing through bureaucratic matters with the utmost efficiency.

Tojo was born on December 30, 1884, in Iwate prefecture, to a military family. Tojo Eikyo, his father, was a general, and Tojo Hideki attended the Imperial Military Academy, graduated in 1905, and entered the army. He was a good officer and an even better administrator. His combat experience was limited to his direction of operations against the Chinese in Chahar—near Zhangjiakou—in

August 1937 during the Sino-Japanese War. Up to this point, he held regimental staff assignments, then graduated from the Army Staff College in 1915. From 1919 to 1921, he was stationed in Berlin as assistant military attaché. Promoted to major, he was appointed a resident officer in Germany during 1921–22. Tojo's diplomatic service drew him into the inner circles of government, and he became part of Japanese army efforts to wrest control of national policy and administration from civilian hands.

Promoted to lieutenant colonel in 1924, Tojo was named chief of the Army Ministry's Mobilization Plans Bureau, a position that put him at the nexus of Japan's war preparation efforts. He was promoted to colonel in 1929, given a regimental command, then made chief of the Organization and Mobilization Section of the Army General Staff. After serving in this post from 1931 to 1933, he was promoted to major general and made deputy commandant of the Military Academy. His next position was as commander of an infantry brigade in 1934–35, then of the Kwantung Army Gendarmerie, a post in which military leaders of the highest rank were traditionally groomed. He held this position until 1937, gaining promotion to lieutenant general in 1936 and serving as chief of staff of the Kwantung Army from 1937 to 1938.

Returned to Japan, Tojo was named vice minister of the army and chief of Army Air Headquarters. While World War II erupted in Europe, Tojo became increasingly well known as a spokesman for the army's most aggressively pro-Axis faction. By the time this faction gained control of the government, Tojo was a general and, in 1941, was named prime minister. Even members of the government who objected to military domination welcomed Tojo's selection because they believed that only by giving him the post could a military coup d'état be avoided. On the eve of its entry into World War II, the Japanese government was highly unstable.

Predictably as prime minister, Tojo did all he could to propel Japan into war. Once war broke out, he was an aggressive advocate of expanding the scope of the conflict. He functioned during the war as a generalissimo, with dictatorial powers in foreign as well as domestic affairs. For most of the war, he served as prime minister as well as chief of the Army General Staff, formulating military strategy and directing military operations with ruthlessness yet with little imagination. His greatest failure was in neglecting to develop a long-term strategy for the conflict. Everything depended on rapid, overwhelming victory—and when that did not occur, Tojo's Japan was without alternatives and found itself doomed to defeat.

After Japan's defeat in the Battle of Saipan on July 12, 1944, a coalition of Japanese statesmen felt emboldened to force Tojo's removal as head of the military and, ultimately, as prime minister as well. He was removed as chief of staff on July 16, 1944. Two days later, his cabinet resigned en masse. Tojo

Tojo Hideki *(National Archives and Records Administration)*

offered no objection or resistance to his sudden loss of position, and when Japan surrendered in September 1945, he shot himself in a suicide attempt. He recovered and was tried as a war criminal at the Tokyo War Crimes Trials. Found guilty, he was hanged on December 23, 1948.

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Tokyo fire bombing

As with the strategic bombing of Germany, the U.S. Army Air Forces attempted daylight precision bombing in the strategic bombing of Japan. The results, however, were poor, largely because of the prevailing wind conditions over Japan, which tended to make high-altitude bombing inaccurate. This led Twentieth Air Force commander in charge Curtis E. Lemay to try carpet bombing at night from low level, using incendiaries. The fire bombing proved highly devastating.

The first fire-bombing raid was against Kobe on February 3, 1945. Next, during the night of February 23–24, Tokyo was targeted with incendiaries, and a square mile of the city was razed. This prompted a more massive raid during the night of March 9–10 by 334 Marianas-based B-29s. The aircraft dropped incendiaries for some two hours, producing a firestorm—the mass movement of air created by a large fire which in turn, creates a fire of even more intense heat and greater destructiveness over a very wide area. Most of the city was engulfed. An estimated 100,000 Tokyo residents were killed, and about 16 square miles of the capital were consumed. A third raid was carried out against Tokyo on May 26.

The Tokyo fire bombing of March 9–10, 1945, was more destructive than the atomic raids on Hiroshima and Nagasaki. Like the atomic raids, the fire bombing was (and remains) controversial, as some historians classify it as a war crime.

See also Dresden air raid; Hiroshima, atomic bombing of; and Nagasaki, atomic bombing of.

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Tokyo war crimes trials

From May 3, 1946, to November 12, 1948, Japanese Class A war criminals—civilian and former military officers who had either killed prisoners or had been indicted for roles in instigating the war—were tried by the International Military Tribunal for the Far East (IMTFE) in Tokyo. Those tried in Tokyo were the first of some 20,000 Japanese who would eventually be tried. Many of those tried later were tried in the countries of their victims. Some convictions resulted in prison terms; 900 individuals were executed.

In the Tokyo trials, the prosecution team consisted of justices from 11 Allied nations: Australia, Canada, China, France, Great Britain, India, the Netherlands, New Zealand, the Philippines, the Soviet Union, and the United States. The American public paid little attention to the Tokyo trials and even less to the other trials elsewhere in Asia. Except for Tojo Hideki, the Western public was largely unfamiliar with the Japanese leadership, and whereas Allied leaders liberally demonized Adolf Hitler and other top German leaders, they wanted to avoid doing the same to Hirohito, since he was to remain on the Japanese throne. (Hirohito was not indicted by the tribunal.)

Of 80 Class A war criminal suspects detained after 1945, 28 were brought to trial in Tokyo. The accused included nine civilians and 19 military officers, including four wartime prime ministers (Tojo preeminent among them), three former foreign ministers (Togo Shigenori being the most important), four former war ministers, two former navy ministers, six former generals, two former ambassadors, three former economic and financial leaders, one adviser to the emperor, one political theorist, one admiral, and one colonel.

Although the particulars of the indictments varied, all defendants were accused of promoting a scheme of conquest that "contemplated and carried out . . . murdering, maiming and ill-treating

prisoners of war [and] civilian internees . . . forcing them to labor under inhumane conditions . . . plundering public and private property, wantonly destroying cities, towns and villages beyond any justification of military necessity; [perpetrating] mass murder, rape, pillage, brigandage, torture and other barbaric cruelties upon the helpless civilian population of the overrun countries." Issues raised in the trials included the NANKING MASSACRE and Japanese unconventional warfare practices such as opium trafficking designed to weaken the will of the Chinese people to resist, and bacteriological warfare.

Two of the original 28 defendants died of natural causes during the trials; one suffered a total mental collapse and was confined to a psychiatric hospital, then was released in 1948 without standing trial. All other defendants were found guilty. Of these, seven were sentenced to death by hanging, 16 to life imprisonment, and two to lesser terms. Those sentenced to death were found guilty of inciting or participating in mass atrocities.

Three of the 16 defendants sentenced to life imprisonment died between 1949 and 1950 in prison; the rest were paroled between 1954 and 1956. Two former ambassadors were sentenced to seven and 20 years in prison, respectively. One died after two years in prison; the other, Shigemitsu Mamoru, was paroled in 1950 and, in 1954, was appointed foreign minister.

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Toyoda Soemu (1885–1957) *Commander in charge of the Japanese Combined Fleet, from March 1944 to the end of World War II*

Toyoda Soemu graduated from the Naval Academy in 1905. At the outbreak of World War II in the Pacific, he held the rank of admiral and commanded the Kure Naval Station. He was elevated to the Supreme War Council in November 1942 and in May 1943 was assigned to command the Yokosuka Naval Base.

Following the death of Admiral KOGA MINEICHI, Toyoda became commander in charge of the Combined Fleet on May 3, 1944. He authorized Operation A-Go, an all-out naval offensive that led to the BATTLE OF THE PHILIPPINE SEA in June at which OZAWA JISABURO was disastrously defeated.

Despite the failure of A-Go, Toyoda was appointed chief of the Naval General Staff in May 1945. As a member of the Supreme War Council, Toyoda argued passionately against Emperor HIROHITO's desire to negotiate an end to the war after the atomic attacks on Hiroshima and Nagasaki in August 1945. After the war, his hard-line stance earned him an indictment and trial before an Allied tribunal, but he was acquitted.

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transport aircraft

World War II was the first war in which aircraft were used to transport significant numbers of troops and weapons. Converted bombers and specialized, purpose-built aircraft—both powered and gliders—greatly increased the mobility of forces during the war.

UNITED STATES

The United States produced some of the most successful purpose-built transport aircraft and did so in unprecedented numbers.

C-47: By far the most famous (and most numerous) transport aircraft of World War II was the celebrated Douglas C-47 Skytrain, the military version of the DC-3 airliner introduced to commercial aviation in 1935. Wartime military production of this aircraft reached 10,048, and another

2,700 or more were produced in the Soviet Union (as the Lisunov Li-2). The British called their C-47s Dakotas. The aircraft was used in every theater of the war for troop and cargo transport and for the deployment of paratroops in AIRBORNE ASSAULT.

The C-47 was crewed by three and could transport 27 troops with equipment. A twin-engine craft, it was powered by two 1,200-hp Pratt & Whitney 14-cylinder radials. Top speed was 230 miles per hour and service ceiling was 24,000 feet. Its range was 1,600 miles. Maximum takeoff weight for the C-47 was 26,000 pounds. The plane had a wingspan of 95.5 feet and was 63 feet 9 inches long.

C-46: Less famous than the C-47, the C-46 Curtiss Commando was also originally designed for the commercial aviation market. It outperformed the C-47 and was therefore used more extensively in the Pacific theater, where its greater range and ceiling were key assets.

A total of 3,180 C-46s were built during the war. They were used for general transport as well as airborne assault and were powered by twin 2,000-hp Pratt & Whitney 18-cylinder radial engines. Top speed was 264 miles per hour, service ceiling was 27,600 feet, and range was 2,300 miles. The aircraft had a maximum takeoff weight of 48,000 pounds, a wingspan of 108 feet, and a length of 76 feet 4 inches.

C-87: The Consolidated B-24 Liberator was one of the great four-engine bombers of World War II. The C-87, also called a Liberator, was the cargo and troop transport version of the bomber. It could hold 38 men with their equipment and was powered by four 1,200-hp Pratt & Whitney Twin Wasp 14-cylinder radial engines. Top speed was 270 miles per hour, service ceiling 32,000 feet, and range 2,290 miles. The maximum takeoff weight of the aircraft was 62,000 pounds. It had a wingspan of 110 feet and was 67 feet 1 inch long.

CG-4A: The Waco CG-4A Haig (called Hadrian by the British) was the only American glider to see combat service in World War II. A total of 12,393 of these gliders were delivered, and they were used extensively for airborne assault.

The CG-4A had a maximum towing speed of 125 miles per hour. Its maximum takeoff weight was 9,000 pounds; it had a wingspan of 83 feet 8 inches and a length of 48 feet, 3.75 inches. It could carry 15 fully equipped troops or a jeep, or a 75 mm howitzer (with crew). The glider was typically towed by C-46s or C-47s.

GREAT BRITAIN

Armstrong Whitworth Albemarle. This transport version of the Bristol bomber was used both as a transport and as a glider tug. Built mainly of wood, it was powered by two 1,590-hp Bristol Hercules 14-cylinder radials and had a top speed of 256 miles per hour. Service ceiling was 10,500 feet, and range was 1,350 miles. The Albemarle's maximum takeoff weight was 36,500 pounds. Wingspan was 77 feet, length 59 feet, 11 inches. Unlike most transports, the Albemarle was armed—albeit lightly—with two 7.7 mm Vickers machine guns.

Armstrong Whitworth Whitley. These aircraft were used for paratroop transport and, sometimes, for towing gliders. The plane was a modification of a British medium bomber design. It was powered by a pair of 1,145-hp Rolls-Royce Merlin X 12-cylinder engines for a top speed of 222 miles per hour to a service ceiling of 17,600 feet. Range was 1,650 miles, and maximum takeoff weight was 33,500 pounds. The Whitley had a wingspan of 84 feet and was 70.5 feet long.

Handley Page Halifax. Yet another bomber modified as a transport and glider tug, the Halifax was powered by four 1,615-hp Bristol Hercules engines and had a top speed of 282 miles per hour and service ceiling of 20,000 feet. Maximum takeoff weight was 54,400 pounds, wingspan was 98 feet 10 inches, and length 71 feet 7 inches.

Short Stirling. This heavy bomber design was used for tugging gliders and for general transport, including airborne assault. It had four 1,650-hp Bristol Hercules 14-cylinder engines and could make 280 miles per hour. Service ceiling was 17,000 feet and range 3,000 miles. The Stirling had a wingspan of 99 feet 1 inch and was 87 feet 3 inches long. Maximum takeoff weight was 70,000 pounds.

Airspeed Horsa. The British used gliders more extensively than the Americans. The most numerous British glider was the Horsa, which could transport 20 men and had a top towing speed of 100 miles per hour. Maximum takeoff weight was 15,250 pounds, wingspan was 88 feet, and length was 67 feet.

General Aircraft Hamilcar. The largest and heaviest RAF glider, the Hamilcar had a maximum takeoff weight of 37,000 pounds. It was towed at 150 miles per hour and had a wingspan of 110 feet. The glider was 68 feet long. The Hamilcar was the only Allied glider capable of delivering a tank into combat.

ITALY

The single Italian air transport of note was the trimotor Savoia-Marchetti S.M.81/T, which could carry 18 fully equipped troops or paratroops into battle. It was powered by a trio of 670-hp Piaggo 9-cylinder radials to a top speed of 211 miles per hour. Service ceiling was 22,966 feet and range was 1,234 miles. Maximum takeoff weight was 23,149 pounds. The aircraft had a wingspan of 78 feet 9 inches and was 58 feet 5 inches long. It was armed with five 7.7 mm machine guns.

GERMANY

The Germans built several innovative transports and glider transports.

Gotha Go 244B. This twin-engine transport could carry 21 troops with their equipment and was powered by two 1,140-hp Gnome-Rhone 14-cylinder radial engines to a top speed of 180 miles per hour. Service ceiling was 24,607 feet, but range was just 460 miles. The wingspan was 80 feet 4.6 inches, length 51 feet. This transport was a powered version of the Gotha Go 242 glider and was machine-gun equipped.

Messerschmidt Me323. Another powered glider, the Me 323 added six 1,140-hp Gnome-Rhone engines to the giant Me 321 glider to produce an aircraft capable of transporting an entire company (130 men) or the equivalent amount of cargo. Top speed was 177 miles per hour and range was 684 miles. Maximum takeoff weight was a staggering 94,799 pounds. Wingspan was 180 feet, and length 92 feet, 4.3 inches. The aircraft was sometimes armed with machine guns. Fewer than 200 were built. Lumbering giants, they were highly vulnerable to fighters and antiaircraft fire, so they were not used near the front lines—a limitation that significantly reduced their usefulness.

Heinkel He 111Z. This oddity consisted of two He 111 bombers (also used individually as transports) joined together at the wing to create a twin-fuselage five-engine giant, which was used as a glider tug and paratroop transport. As a tug, it towed Germany's largest gliders, such as the Go 242.

The He 111Z had five 1,350-hp Junkers Jumor 12-cylinder liquid-cooled engines and could make a top speed of 249 miles per hour. Service ceiling was 21,982 feet and range was 1,212 miles. Its takeoff weight was 30,856 pounds.

DFS 230. This was the main troop glider used by German forces. It could carry 10 troops and 606 pounds of equipment. Towing speed was 130 miles per hour, and maximum takeoff weight was 4,630 pounds. The glider had a wingspan of 68 feet 5.7 inches and was 36 feet 10.5 inches long. These were the gliders that made the spectacular assault on Fort Eben-Emael in Belgium near the start of the German invasion of western Europe.

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Treaties Ending the War

This article discusses the formal documents (to which the United States was a party) establishing peace among the belligerent nations. For the documents that immediately ended the fighting, see SURRENDER DOCUMENTS OF 1943–1945.

PEACE TREATY BETWEEN THE ALLIES AND ITALY

The first peace treaty concluded between the Allies and a former Axis nation was with Italy. It was

signed in Paris on February 10, 1947, by representatives from Albania, Australia, Belgium, Brazil, Canada, China, Czechoslovakia, Ethiopia, France, Great Britain, Greece, India, Iraq, Mexico, the Netherlands, New Zealand, Pakistan, Poland, Slovak Republic, South Africa, the Soviet Union, the United States, Yugoslavia, and Italy.

The treaty stipulated that Italian fascism was overturned as a result of Allied victory, but "with the assistance of the democratic elements of the Italian people." This fact gave Italy privileged status among the defeated nations of the former Axis, the Allies explicitly recognizing that while the government of Benito Mussolini bore responsibility as an aggressor, a significant portion of the Italian people opposed the government and its war.

Part I of the treaty reestablished Italy's frontiers as they existed on January 1, 1938, except that the prewar conquest of Ethiopia and the wartime acquisitions in Albania were annulled. Also, the Dodecanese was ceded to Greece, and certain Adriatic islands were likewise ceded to Greece or Albania. The boundary between Italy and France was also subject to further adjustment, as were some lesser territories.

Part II of the treaty consisted of "Political Clauses," including provisions to enforce human rights and eliminate all vestiges of fascism:

> Article 15
>
> Italy shall take all measures necessary to secure to all persons under Italian jurisdiction . . . the enjoyment of human rights and of the fundamental freedoms, including freedom of expression, of press and publication, of religious worship, of political opinion, and of public meeting.
>
> Article 17
>
> Italy . . . shall not permit the resurgence on Italian territory of [Fascist] organizations, whether political, military, or semi-military, whose purpose it is to deprive the people of their democratic rights.

The treaty imposed limits on Italian armed forces, but specified that these limitations were subject to modification "by agreement between the Allied and Associated Powers and Italy or, after Italy becomes a member of the United Nations, by agreement between the Security Council and Italy." Finally, a schedule for the withdrawal of Allied troops was established and reparations were fixed:

- The Soviet Union, $100 million
- Yugoslavia, $125 million
- Greece, $105 million
- Ethiopia, $25 million
- Albania, $5 million

France, Britain, and the United States renounced reparations claims.

JAPAN

The first treaty concerning Japan was a Trusteeship Agreement for the Former Japanese Mandated Islands, signed on April 2, 1947, in New York by the former Japanese Mandate Islands, the United Nations, and the United States. The agreement transferred the Japanese Mandate Islands to a Trusteeship System of the United Nations under the administering authority of the United States. The treaty stipulated that the Pacific islands north of the equator held by Germany before World War I and assigned to Japanese mandate by Article 22 of the Covenant of the League of Nations (considered part of the Treaty of Versailles, which ended World War I) were no longer under Japanese control. By virtue of its defeat, Japan had "ceased to exercise any authority in these islands"; therefore, the United Nations placed them under the Trusteeship System, designating them the Trust Territory and assigning to the United States "administering authority" over the islands.

The United States was given full powers of administration of the Trust Territory and was authorized to establish a military presence on the islands. In addition, the United States was obligated to "foster the development of such political institutions as are suited to the Trust Territory" and to promote "self-government or independence as may be appropriate to the particular circumstances of the Trust Territory." The United States also accepted responsibility for promoting economic advancement and self-sufficiency, social advancement, and educational advancement.

The definitive Treaty of Peace with Japan was signed on September 8, 1951, in San Francisco by Argentina, Australia, Belgium, Bolivia, Brazil, Cambodia, Canada, Chile, Costa Rica, Cuba, Dominican Republic, Ecuador, Egypt, El Salvador, Ethiopia, France, Great Britain, Greece, Guatemala, Haiti, Honduras, Iran, Iraq, Laos, Lebanon, Liberia, Mexico, the Netherlands, New Zealand, Nicaragua, Norway, Pakistan, Panama, Paraguay, Peru, Philippines, Saudi Arabia, South Africa, Sri Lanka, Syrian Arab Republic, Turkey, the United States, Uruguay, Venezuela, Vietnam, and Japan. Among the Allied and Associated powers, however, the Soviet Union, the People's Republic of China, and Taiwan declined to sign the treaty.

The treaty recapitulated the terms outlined in the 1945 surrender document, including Japanese affirmation of its renunciation of rights to all territories surrendered by the armistice. Additionally, the 1951 treaty included Japanese renunciation of any special rights with regard to China; however, because the treaty failed to convey to the Soviet Union special title to the Kuril Islands or to southern Sakhalin—territories promised to the Soviet Union by the Yalta Agreement—the Soviets refused to sign. The treaty also did not confer Taiwan—the sole remaining bastion of pro-Western Nationalist China—on the People's Republic of China. For that reason, neither Taiwan nor the People's Republic signed. Inasmuch as all the rest of the Allies and Associated Powers did sign, however, the treaty was considered universally valid.

Other key treaty provisions included these:

- A stipulation that Japan should pay reparations, the amounts of which were deferred to bilateral negotiation
- A stipulation that Japan would adhere to the principles of the United Nations Charter
- A stipulation that Japan would adhere to internationally accepted fair trade and commerce practices

The treaty provided for a transition from a government of military occupation to full civil sovereignty within 90 days of the date on which the treaty came into force. Significantly, the treaty contained no military clauses reducing and restricting armed forces in Japan. These were considered unnecessary by the Japanese constitution adopted in 1946, which strictly forbade the maintenance of *any* Japanese armed forces. (Ultimately, the United States would insist that Japan create a small defense force.)

On the same day that the peace treaty was signed, Japan also concluded the Japanese–United States Security Treaty, by which the United States was permitted to maintain military forces in Japan for mutual defense. (This treaty was supplemented in 1954 by a Mutual Defense Assistance Agreement with Japan and superseded in 1960 by the Treaty of Mutual Cooperation and Security between the United States and Japan.)

On April 22, 1953, at Tokyo, Japanese representatives received a U.S. "Note by which the Government of the United States of America, in Pursuance of Article 7 of the Treaty of Peace with Japan, signed at San Francisco on 8 September 1951, Notified the Japanese Government of those Pre-War Bilateral Treaties between the Two Countries which the United States of America Desires to Keep in Force or Revive. This was essentially a list of those pre–World War II U.S.-Japanese treaties that the United States wished to continue or reinstate. Included in the list were treaties relating to extradition, narcotic drug conventions, postal conventions, an "Arrangement Relating to Perpetual Leaseholds (1937)," a liquor-smuggling convention, and a reciprocal exemption from taxation of merchant vessels.

GERMANY

Germany presented a special case with regard to treaty making because the Third Reich, the government that had declared war on the Allies, had ceased to exist, and its former leaders were either dead or had been removed from office and, in many cases, convicted as war criminals. Therefore, the postwar agreements relating to Germany concerned the administration of the occupied territories.

On June 5, 1945, at Berlin, representatives of the Provisional Government of France, the Soviet

Union, Britain, and the United States issued an "Allied Declaration on Control of Germany," which was the official instrument by which the Allies assumed control of the German government after Germany's unconditional surrender. This document is discussed in SURRENDER DOCUMENTS OF 1945. In addition to the "Allied Declaration on Control of Germany," the United States, Great Britain, the Soviet Union, and the Provisional Government of the French Republic issued between June 5 and November 30, 1945, a series of Statements on the Occupation of Germany. These documents address matters beyond Germany's immediate surrender, and so are discussed here.

The Allied statements contracted Germany's frontiers to their extent as of December 31, 1937, before the *ANSCHLUSS* (the annexation of Austria), the acquisition of the SUDETENLAND, and the INVASION OF POLAND. This reduced territory was then divided "for the purposes of occupation . . . into four zones, one to be allotted to each Power as follows: an eastern zone to the Union of Soviet Socialist Republics; a north-western zone to the United Kingdom; a south-western zone to the United States of America; a western zone to France." The Allies agreed that each of the four occupying nations was to designate a commander in chief with responsibility for its zone; however, Berlin was treated as a special case. Despite its location deep within the Soviet zone, it was also to be divided into four zones of occupation: "An Inter-Allied Governing Authority (in Russian, *Komandatura*) consisting of four Commandants, appointed by their respective Commanders-in-Chief, will be established to direct jointly its administration."

The occupying Allies created a "control machinery" for Germany during the "period when Germany is carrying out the basic requirements of unconditional surrender." This machinery consisted of the assignment of supreme authority in Germany to be exercised "by the British, United States, Soviet and French Commanders-in-Chief, each in his own zone of occupation, and also jointly, in matters affecting Germany as a whole," each commander to act on instructions from his government. In Berlin, administration was directed by an Inter-Allied Governing Authority, which operated under the general direction of the Allied Control Council. The authority was to consist of four commandants, "each of whom will serve in rotation as Chief Commandant. They will be assisted by a technical staff which will supervise and control the activities of the local German organs." Because Berlin was an enclave within the Soviet zone of occupation, three air corridors into the city were established.

The cooperation mandated by the Allied Statements soon dissolved in the cold war era. The temporary dividing lines between the Soviet zone in the east and the British, French, and U.S. zones became a permanent boundary, culminating on June 7, 1948, when the Western nations announced their intention to create West Germany as a separate capitalist nation. The Soviets responded two weeks later with a blockade of West Berlin, protesting that Berlin, deep within Soviet-occupied territory, could not serve as the capital of West Germany. The United States kept West Berlin supplied via the Berlin Airlift until the Soviets relented and reopened access to West Berlin on May 12, 1949. Later that month, East and West Germany became separate nations, and, beginning in 1961, Soviet authorities built a wall dividing East and West Berlin. The wall endured for more than 40 years as an icon of Soviet oppression. The fall of the Berlin Wall, beginning in 1989, marked the end of the cold war and was a prelude to the collapse of the Soviet Union itself.

After the political division of Germany, France, Great Britain, and the United States concluded a series of Agreements on Germany. Signed on April 8, 1949, at Washington, D.C., these documents defined the three nations' powers and responsibilities following establishment of the German Federal Republic—West Germany.

The Agreed Memorandum Regarding the Principles Governing Exercise of Powers and Responsibilities of U.S.-U.K.-French Governments following the Establishment of the German Federal Republic asserted the retention of "supreme authority" by the three nations, including the "right to revoke or

alter any legislative or administrative decisions in the three western zones of Germany." But the memorandum also gave the German governing authorities the right to take administrative and legislative action, which would "have validity if not vetoed by the Allied Authority." The memorandum stipulated that "military government will disappear, and that the function of the Allies shall be mainly supervisory." The three nations declared their "major objective" to be the encouragement and facilitation of "the closest integration, on a mutually beneficial basis, of the German people under a democratic federal state within the framework of a European association."

An Occupation Statute Defining the Powers to be Retained by the Occupation Authorities precisely defined the ongoing role of the United States, France, and Britain in the government of the newly created Federal Republic of Germany (West Germany), reserving to the three nations authority in disarmament and demilitarization issues; controls with regard to the Ruhr River, restitution, reparations, claims against Germany; authority in foreign affairs; authority in matters relating to displaced persons and refugees; authority in matters relating to the Allied forces; respect for the Basic Law (German federal constitution) and the constitutions of the German Länder (states); control over foreign

trade; and control of persons charged with war crimes. Control over internal matters would be restricted "to the minimum extent necessary to ensure use of funds, food and other supplies in such manner as to reduce to a minimum the need for external assistance to Germany."

An Agreement as to Tripartite Controls created the machinery by which France, Britain, and the United States consolidated their occupation of western Germany into a single Western Zone governed by a single authoritative body, the Allied high commission, composed of one high commissioner from each occupying power. The most important provisions of the Agreement as to Tripartite Controls included a stipulation that personnel of the Allied High Commission were to be kept to a minimum so as to facilitate German federal exercise of responsibility for government; a stipulation that approval of amendments to the Basic Law (federal constitution) required unanimous agreement among the high commissioners; an agreement that the authority of each of the three occupying powers would be, in part, proportional to the funding provided by that power; the creation of an apparatus for appeal of High Commission decisions; a stipulation that High Commission be addressed to German government authorities rather than directly to the German people.

An Agreed Minute Respecting Berlin specifically applied tripartite controls to the "western sectors of Berlin."

In their Agreed Minute on Claims against Germany, the three occupying powers pledged "to develop proposals for the settlement of financial claims against Germany."

The Agreed Minute on Württemberg-Baden Plebiscite authorized the establishment of the German Land (state) of Baden-Württemberg.

The Agreement Regarding Kehl provided for interim control of the Rhine port city of Kehl, which was subject to dispute between Germany and France. The Agreement Regarding Kehl was intended to avoid a conflict that threatened to delay the creation of the West German state.

In its Message to the Military Governors from the Foreign Ministers of the United States, United Kingdom, and France, the Allied authorities provided guidelines for military governors of the western sectors of occupied Germany for policies on the eve of the creation of the German Federal Republic.

The Message to the Bonn Parliamentary Council from the foreign ministers of the United States, United Kingdom, and France expressed to the Bonn Parliamentary Council—the German body that was the core of the new Federal Republic—the consensus of the foreign ministers on the role of the Western allies in the government of West Germany. Essentially this was an expression of the Memorandum Regarding Germany.

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Treblinka extermination camp

Treblinka was one of Germany's network of CONCENTRATION AND EXTERMINATION CAMPS. It was located on the Bug River in Poland, about 45 miles northeast of Warsaw. The camp opened in July 1942 and received the inhabitants of the WARSAW GHETTO for extermination in the FINAL SOLUTION. It is believed that 900,000 Jews were killed in Treblinka alone.

In August 1943, some 700 prisoners staged an uprising in which 15 guards were killed. Out of the 700 who attempted to escape, only 12 succeeded;

however, the camp was razed in November 1943, largely to wipe out any trace of the uprising to prevent its example from inspiring others to attempt escape.

See also HOLOCAUST, THE.

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Tresckow, Henning von (1901–1944) *anti-Hitler conspirator*

Born in Magdeburg, Germany, Henning von Tresckow enlisted in the German army during World War I and was commissioned an officer before the Armistice of 1918. He left military service after the war and pursued a successful career as a stockbroker, only to return to the army in 1924. By the outbreak of war in 1939, he was a lieutenant colonel on the staff of Fedor von Bock, his uncle.

Tresckow played a planning role in Germany's invasion of CZECHOSLOVAKIA and the INVASION OF POLAND. In the latter operation, he was profoundly shocked by the actions of the Einsatzgruppen—attached to the SCHUTZSTAFFEL (SS)—which murdered Jews and other "undesirables" during the course of the invasion. The brutality of the GESTAPO in administering the occupied territories also appalled him. In this frame of mind, Tresckow became an eyewitness to the murder of Red Army prisoners of war during Germany's 1941 INVASION OF THE SOVIET UNION. This persuaded him that the Nazi regime was so incorrigibly evil that it had to be overthrown.

Tresckow became a general staff officer in 1942 and began slowly to recruit senior army officers into a conspiracy to carry out a coup d'état. He approached the likes of von Bock, GÜNTHER VON KLUGE, ERICH VON MANSTEIN, and GERD VON RUNDSTEDT, all of whom declined to join—yet also refrained from informing on Tresckow. This alone was a measure of the growing disaffection within the German officer corps.

On March 14, 1943, Tresckow and his adjutant, Fabian Schlabrendorff, planted a bomb on a plane carrying ADOLF HITLER to Smolensk. The detonator malfunctioned and the bomb failed to explode. The sabotage was not traced to Tresckow, who, the following September, was appointed chief of staff to the Second Army.

Undaunted, he turned to CLAUS VON STAUFFENBERG, an officer he had managed to recruit into his conspiracy in 1942. With Stauffenberg, he planned the JULY PLOT (TO ASSASSINATE HITLER) in 1944. This time, the bomb, planted at Wolf's Lair, Hitler's Rastenberg headquarters, did explode, but Hitler escaped with relatively minor injuries. Learning that the plot had miscarried and the coup d'état had collapsed, Tresckow bade farewell to his fellow conspirators, drove to the eastern front, and committed suicide by detonating a hand grenade near his head.

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Trier, Walter (1890–1951) *early anti-Nazi activist who became an Allied propagandist*

Walter Trier was born in Prague in 1890 and moved to Munich in 1909. He gathered a devoted following with his political cartoons, which were published in the popular magazines *Kladderadatsch* and *Simplicissimus.* During the early rise of the NAZI PARTY in the 1920s, Trier lampooned ADOLF HITLER and the party with a series of cartoons in *Simplicissimus.* Despite threats, Trier continued to draw cartoons, which *Simplicissimus* continued to publish; however, in 1933, when Hitler was named chancellor of Germany, *Simplicissimus* was forced to back off. As Trier saw more and more anti-Nazi artists and writers being arrested, he and fellow cartoonist Thomas Heine fled the country. Trier settled in England, where he worked for the magazine *Lilliput.* In addition, he drew cartoons for the London-based German-language daily *Die Zeitung*

and for *The New Yorker,* creating more than 80 of that magazine's most memorable covers during the 1930s and the war period.

During World War II, Trier volunteered his services to the British Ministry of Information, creating anti-Nazi leaflets and political propaganda drawings. After the war, Trier settled in Canada.

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Trott, Adam von (1909–1944) *German anti-Nazi activist and anti-Hitler conspirator*

Born in Germany, Trott was educated at Oxford University—he was a Rhodes scholar—then returned to Germany and trained as a lawyer. Trott was an early opponent of Adolf Hitler and the Nazi Party. He nevertheless secured a government position in the Third Reich as a legation counselor in the German Foreign Office, a position that gave him the opportunity to travel abroad. Covertly, he made contact with various German politicians in exile as well as with the governments of Britain and the United States, all in an attempt to undermine the Hitler regime.

Trott was among the approximately 5,000 individuals arrested after the collapse of the 1944 July Plot (to assassinate Hitler). He was executed at Plötzewnsee Prison on August 15, 1944.

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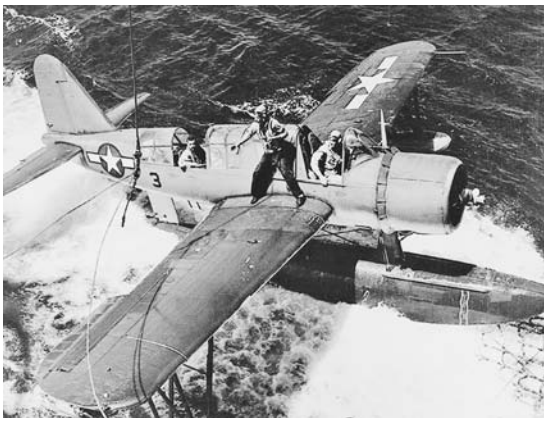
Truk Island, Battles of

This major Japanese naval and air base on the island of Truk in the Carolines, 1,500 miles west of Tarawa and 800 miles north of Rabaul, was twice targeted by U.S. admiral Chester Nimitz during his advance across the central Pacific.

On February 17–18, 1944, Adm. Raymond Spruance led his Fifth Fleet into the Carolines. The battleships *New Jersey* and *Iowa,* the cruisers *Minneapolis* and *New Orleans,* and four destroyers bombarded Japanese ships outside the Truk lagoon, while Task Froce 58 under Adm. Marc Mitscher launched 72 Hellcats from five carriers to attack inside the protected anchorage of the Truk lagoon. The result of this first engagement was the sinking of two light cruisers, four destroyers, nine smaller naval vessels, and 24 merchant ships. The attack damaged or destroyed virtually all of the 365 Japanese planes at Truk. The cost to the Americans was 25 aircraft and serious damage to the aircraft carrier *Intrepid.*

Mitscher's Task Force 58 returned to Truk on April 28 and 29 with the intention of finishing off Truk, an installation of such strategic importance that it was often called the "Gibraltar of the Pacific." Mitscher launched fighters and bombers against the base, sinking ships and destroying 93 aircraft. Although 46 U.S. pilots were shot down, most were rescued.



A U.S. Navy OS2U floatplane is recovered after rescuing downed pilot Lt. JG. G. M. Blair during the Battle of Truk. *(National Archives and Records Administration)*

Together, the two battles entirely neutralized Truk, opening the way for the U.S. offensive to move beyond the Carolines and on to the Mariana Islands campaign.

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Truman, Harry S. (1884–1972) *thirty-third president of the United States, succeeding Franklin D. Roosevelt*

Born in, Lamar, Missouri, and raised in Independence, Truman was the son of a farmer. After graduating from high school, he worked as a bank clerk in Kansas City, Missouri, then returned to the family farm near Grandview in 1906 and took over its management following the death of his father in 1914. When the United States entered World War I in 1917, Truman—at 33 well beyond draft age—volunteered and served in France as the captain of a field artillery battery. He returned to the United States in 1919, married his childhood sweetheart, Elizabeth ("Bess") Wallace, and started a haberdashery with an army buddy. The business went bankrupt a short time later, and in 1922, supported by the powerful Kansas City Democratic machine of Thomas "Boss" Pendergast, Truman was elected to a county judgeship (in Missouri, the equivalent of county commissioner). Although he failed to gain reelection in 1924, he was elected presiding judge of the county court in 1926 and served two four-year terms, during which he built a reputation for honesty and efficiency—which made him popular with his constituents, but also alarmed Pendergast, fearful that he might be unable to control his protégé.

Despite Pendergast's misgivings, he tapped Truman as a candidate for the U.S. Senate—after everyone else he had approached turned him down. Truman was elected and entered the Senate in 1935. His first term was undistinguished, especially because his colleagues were suspicious of his origins and typically referred to him as the "Senator from Pendergast." He was nevertheless reelected, and during his second term he created the Special Committee Investigating National Defense, soon better known as the Truman Committee. Truman and the committee quickly earned national recognition for their investigations of graft, fraud, and deficiencies in defense and war production. The Truman Committee not only saved the government significant amounts of money, it also ensured a high degree of efficiency and reliability in America's war industries.

Harry S. Truman *(Harry S. Truman Presidential Library)*

In 1944, President Franklin D. Roosevelt chose Truman, now a nationally recognized figure, as his running mate in his fourth-term candidacy. During his 82 days as vice president, Truman met only once with the president—and that briefly. When FDR died suddenly on April 12, 1945,

Truman assumed office with virtually no preparation. Although the war in Europe was near victory, the war against Japan was still raging. Truman had the burden of catching up on all the president had failed to tell him (including the imminence of an atomic bomb), on continuing to prosecute a titanic two-front war, and on trying to govern in the footsteps of a political giant.

Truman quickly took up his task and saw the nation through to victory. It was his decision to use atomic weapons against Japan, and it was he who handled the difficult negotiations with the Soviets at the end of the war. After the war, Truman became the architect of America's cold war strategy of the "containment" of communism. He championed the Marshall Plan for the postwar recovery of Europe and a subsequent aid program for the countries of Asia.

Against all predictions, Truman was reelected in 1948, defeating Republican candidate Thomas E. Dewey. During his second term, he introduced an extension of FDR's New Deal, called the Fair Deal, which included ambitious social welfare programs—most of which were defeated or diluted. Truman scored a new cold war victory in 1948 with his management of the Berlin crisis by using the Berlin Airlift, and he led the United States in the creation of the North Atlantic Treaty Organization (NATO). The most critical test of the so-called Truman Doctrine—as the containment policy came to be called—came in June 1950 with the start of the Korean War. Truman navigated a difficult course, setting as his objective the defeat of the Communist forces that had invaded South Korea without touching off a larger war—quite possibly a third world war.

The frustrations of the Korean War—and especially his firing of General Douglas MacArthur as supreme commander of U.S. and UN forces in Korea—made Truman a most unpopular president during his second term. He chose not to run again and was succeeded by Dwight David Eisenhower.

Truman enjoyed a long and productive retirement in his beloved Missouri after leaving the White House, writing two memoirs and devoting much of his time to his favorite pursuit, reading history. He also lived long enough to see his reputation rise in the eye of history. By the time of his death, he knew that many Americans regarded him as a great president—in the 20th century perhaps second only to FDR.

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Truscott, Lucian (1895–1965) *U.S. general who commanded (successively) 3rd Infantry Division, VI Corps, Fifteenth Army, and Fifth Army*

A native of Chatfield, Texas, Truscott enlisted in the army after the United States entered World War I in 1917. He was chosen for officer training and received his commission in the cavalry as a second lieutenant. He did not see action in World War I, but, between the wars, served in the cavalry as well as staff posts.

In 1942, Colonel Truscott developed an American commando unit modeled after the British commandos. Promoted to brigadier general, Truscott took command of the unit—designated as the 1st Ranger Battalion—on June 19, 1942, and served under William O. Darby. Little less than a year later, Truscott was promoted to major general and assigned command of the 3rd Infantry Division in April 1943. He was instrumental in planning Operation Husky, the invasion of Sicily, and he led his division in the operation during July 1943. Truscott next participated in the Italian Campaign, landing at Salerno in September 1943. In January 1944,

during the Anzio campaign, after VI Corps under Lieutenant General John P. Lucas failed to break out of the beachhead, Truscott was ordered to relieve him. It was Truscott who finally managed the breakthrough.

After Anzio, Truscott continued to command VI Corps in Italy until August 1944, when he and his corps were transferred to the western front as part of Operation Anvil/Dragoon, the Allied landings on the French Riviera, which followed up the Normandy landings (D-day) to the north. VI Corps landed on August 15, 1944. Two months later, in October, he was given command of the newly formed Fifteenth Army. This was followed in December by a return to Italy and command of the Fifth Army, after Lieutenant General Mark Clark was promoted to command of 15th Army Group. Truscott had command of the Fifth during the difficult winter of 1944–45, by which time most of his army was fighting in the rugged mountains of Italy's north. Truscott saw the Fifth Army through to the end of the Italian Campaign and the war.

On October 8, 1945, Truscott relieved General George S. Patton Jr. as commander of Third U.S. Army and served as military governor of occupied Bavaria. When the Seventh Army was deactivated in March 1946, Truscott and the Third Army also assumed administration of the Western Military District, which included parts of Baden, Württemberg, and Hesse-Darmstadt. Truscott was a courageous and vigorous leader in some of the most difficult sectors of the European war.

See also Rangers.

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Turing, Alan (1912–1954) *mathematician who developed early computer theory and was instrumental in British cryptography and code breaking during World War II*

Alan Mathison Turing was born in London, the son of a civil servant in the Indian service. He graduated from King's College, Cambridge, with a degree in mathematics in 1934 and was elected to a fellowship at the college for his research in probability theory. Two years later, he published "On Computable Numbers, with an Application to the *Entscheidungsproblem* [Decision Problem]." This paper is widely viewed as the modern foundation of computer theory.

In the same year that "On Computable Numbers" appeared, Turing enrolled at Princeton University and earned a Ph.D. in mathematical logic in 1938.

Turing returned to England and King's College in 1938 and, at the outbreak of World War II in September 1939, volunteered his services at the headquarters of the Government Code and Cipher School at Bletchley Park, Buckinghamshire. Turing was part of a team dedicated to breaking the "unbreakable" German Enigma cipher and machine. Turing and the others elaborated on the

Alan Turing, as commemorated on a postage stamp *(Author's collection)*

work of a team of Polish mathematician-cryptanalysts to create, during 1939 and the spring of 1940, a radically new code-breaking machine called the Bombe—after the Polish-built Bomba (an earlier, now outmoded decryption machine, that was named after a Polish ice cream).

Turing's ever-evolving Bombes were early computers, which allowed the Bletchley Park cryptanalysts to decode some 39,000 intercepted messages each month by 1942; later in the war, this volume rose to an astounding 84,000 messages. Thanks to Turing's work, a great many German military, naval, and diplomatic radio messages were routinely decoded. At the end of the war, Turing was made an officer of the Order of the British Empire in recognition of his work.

After the war, Turing joined the National Physical Laboratory (NPL) in 1945 and began to design an electronic computer. His design for the Automatic Computing Engine (ACE) was a nearly complete plan for an electronic stored-program general-purpose digital computer, but the machine, which his colleagues considered too complex, was never built. Discouraged, Turing left NPL and became deputy director of the Computing Machine Laboratory in Manchester. He designed the programming system for the Mark I, the world's first commercially available electronic digital computer. In 1951, Turing was elected a fellow of the Royal Society, but a year later, in March 1952, he was tried on charges of homosexuality—then a crime under British law—and sentenced to a year of hormone therapy. In the depths of the cold war, the British government judged him to be a security risk, and he withdrew to the University of Manchester in May 1953 as the first reader in the Theory of Computing.

Turing had embarked in 1951 on research into the extraordinary field of artificial life—using the Mark I to model chemical mechanisms by which genes could control the development of anatomical structure in plants and animals—and despite his conviction for homosexuality and the loss of his security clearance, he seemed healthy and happy. He was found on June 7, 1954, dead in his bed. The cause was cyanide poisoning. Police investigators found a homemade device for silver-plating teaspoons, which included a cyanide reservoir, in Turing's house. Officially, the mysterious death was declared a suicide.

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Turkey

Turkey had thrown in its lot with Germany and the other Central Powers during World War I and suffered mightily for it. Most of the Turkish leaders of the World War II era had lived through the first war, and they were determined to keep their nation out of the second world conflagration. Moreover, the Turks were well aware that their armed forces were inadequate in strength and equipped with obsolescent vehicles and weaponry. They had no desire to assume a war footing. Ismet Inönü, successor to President Kemal Atatürk, enjoyed dictatorial power and decreed absolute neutrality. No other Turkish politician challenged this position.

It was one thing to declare neutrality, however, and another to maintain it. Turkey and the USSR had long been enemies, but the Turks relied on a 1925 Treaty of Friendship—renewed in 1935—to avoid hostility with their northern neighbor. Italy was seen as a more serious threat, and in May 1939, Turkey and Great Britain issued a joint declaration proclaiming that they would aid each other if an act of aggression should lead to war in the Mediterranean. The language was sufficiently vague that Turkey believed it had guaranteed aid to itself if attacked but had not incurred a reciprocal obligation to aid Britain. In June 1939, France and Turkey issued a similar declaration.

Turkey's feeling of security did not last long. The German-Soviet Non-Aggression Pact of August 1939 strongly suggested that Germany and

the USSR might well combine to attack Turkey. The Turkish foreign minister made a preemptive trip to Moscow in the hope of negotiating a mutual security pact, but the effort came to nothing; therefore, Turkey signed a tripartite treaty in October 1939 with the British and French, who promised to come to Turkey's aid if it were attacked by another European power. In return, Turkey would aid France and Britain if there were an act of aggression leading to war in the Mediterranean. The treaty exempted Turkey from giving such aid if the Soviet Union were involved.

The outbreak and early course of the war rendered these agreements essentially moot and placed Turkey at grave risk. The fall of France in the Battle of France meant that it could not help Turkey—but neither could beleaguered Great Britain. On the other hand, Britain was not about to prevail upon Turkey for aid, since it recognized that doing so would invite German or Italian conquest of the country. The German occupation of the Balkans by April 1941 brought the war to the very frontiers of Turkey, prompting that nation to conclude a Treaty of Territorial Integrity and Friendship with Germany on June 18, 1941. This brought some relief—but not as much as the invasion of the Soviet Union, which occurred just four days later. Now it seemed highly unlikely that either the Soviets or the Germans would invade Turkey. Nevertheless, Germany's ambassador to Turkey, Franz von Papen, repeatedly pressured Inönü to join the war on Germany's side. The Turkish leader unwaveringly refused.

The gradual turning of the tide against the Axis in the fall of 1942 prompted Winston Churchill to apply pressure of his own, urging Turkey to join the war on the side of the Allies. Toward this end, the Allies provided the Turks with significant quantities of military supplies and hardware, but Turkey continually dodged commitment until the defeat of Germany was a foregone conclusion. At last, on February 23, 1945, the nation declared war against Germany—doing so mainly to establish itself as a founding member of the United Nations.

No sooner had the war in Europe ended than Joseph Stalin threatened Turkey by warning that he would not renew the Treaty of Friendship and Territorial Integrity unless the Turks permitted the establishment of Soviet bases in the Dardanelles straits and unless Kars and Ardahan, provinces on Turkey's eastern border, were ceded to the Soviets. Turkey, having survived World War II unscathed, now faced the Soviets at the start of the cold war.

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Turner, Richmond (1885–1961) *American admiral, architect of amphibious warfare in the Pacific*

Richmond Kelly Turner was born in Portland, Oregon, and graduated from the U.S. Naval Academy at Annapolis in 1908. Over the next four years, he served in a variety of assignments on various ships and in 1913 Lt. (j.g.) Turner was given command of the destroyer *Stewart.* He then was transferred to ordnance engineering training, served briefly on the gunboat *Marietta,* and was assigned to the battleships *Pennsylvania, Michigan,* and *Mississippi* during 1916–19.

Promoted to lieutenant commander, Turner served from 1919 to 1922 as ordnance officer at the Naval Gun Factory, Washington, D.C., then transferred to sea duty as gunnery officer aboard the battleship *California.* He also served as fleet gunnery officer on the Staff of Commander Scouting Fleet and was commanding officer of the destroyer *Mervine.*

In 1925, Turner was promoted to commander and was assigned to the Bureau of Ordnance at the Navy Department. In 1927, he took flight training at Pensacola, Florida, and in 1928 assumed command of the seaplane tender *Jason.* He served concurrently as commander, Aircraft Squadrons, Asiatic Fleet. During 1933–34, he was executive officer of the aircraft carrier *Saratoga.*

Rear Admiral Richmond Turner confers with marine general Alexander Vandegraft. *(National Archives and Records Administration)*

Now a captain, Turner enrolled in the Naval War College, then was appointed to the faculty of the college, serving in this capacity during 1935–38. His next sea duty was as commander of the heavy cruiser *Astoria,* which he sailed on a diplomatic mission to Japan in 1939.

Turner returned to shore duty in 1940 as director of the War Plans Division in Washington, D.C. In 1941 he was promoted to rear admiral and in December 1941 was named assistant chief of staff to the commander in chief, U.S. Fleet. He left this post in June 1942 to take command of the Amphibious Force, South Pacific Force. In this capacity, Turner (subsequently promoted to vice admiral) planned and executed amphibious assaults on enemy positions in the south, central, and western Pacific. Turner became the chief architect of U.S. Pacific amphibious strategy. He was promoted to admiral and assigned the task of commanding the amphibious component of the invasion of Japan. That nation's surrender after the atomic attacks on Hiroshima and Nagasaki made this last posting of the war unnecessary.

After the war, Turner served on the Navy Department's General Board and was named U.S. naval representative to the United Nations Military Staff Committee. He retired in July 1947.

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Tuskegee Airmen

In May 1939, two pilots of the National Airman's Association, an organization of African-American aviators, met with Missouri senator Harry S. Truman, who agreed to sponsor a bill to allow black pilots to serve in the Civilian Pilot Training Program of the U.S. Army Air Corps (USAAC), which was then an all-white force. In December 1940, under pressure from the administration of Franklin D. Roosevelt, the USAAC submitted a plan to the War Department for creating an "experimental" all-black fighter squadron consisting of 33 pilots. On January 16, 1941, the 99th Pursuit Squadron was created, to be trained at Tuskegee Army Air Field in Tuskegee, Alabama. A few months later, on July 19, 1941, the air corps—now redesignated the U.S. Army Air Forces—instituted a program to train African Americans as military pilots, with primary flight training to be conducted by the Division of Aeronautics of Tuskegee Institute, the celebrated black institution of higher education first led by Booker T. Washington in 1881. After completing primary training at Moton Field on the Tuskegee campus, each pilot was to be sent to the neighboring Tuskegee Army Air Field for advanced flight training, including transition to combat aircraft.

The first class of Tuskegee airmen graduated on March 7, 1942, and was assigned to the 99th Fighter Squadron, under the command of Lt. Col. Benjamin Davis Jr., one of a handful of African-American officers in the segregated U.S. Army Air Force of the period. On April 15, 1943, the 99th was shipped out to North Africa to fly fighter escort for bombers. On July 2, 1943, a Tuskegee pilot, Capt. Charles B. Hall, became the first of the airmen to score a victory, shooting down a German FW-190 fighter.

Later in 1943, the 322d Fighter Group was organized, consisting of three all-black fighter squadrons, and, with the 99th Squadron, relocated to bases in Italy as part of the Twelfth Air Force.

The Tuskegee airmen met with initial prejudice from many white pilots; however, the black aviators soon amassed a superb record and were so skilled at bomber escort that Twelfth Air Force bomber crews specifically requested fighter escorts to be drawn from the black units. Four Tuskegee airmen were decorated with the Distinguished Flying Cross, the most coveted pilot decoration in the Army Air Force.

In September 1943, the Army Air Force began a twin-engine training program at Tuskegee to train black bomber pilots. The war ended before any of the bomber pilots saw combat. By war's end, 992 pilots had graduated from Tuskegee training, of whom 450 served in combat. Some 150 Tuskegee airmen died in training or in action. The Tuskegee program also trained other black personnel for aircrew and ground-crew duties, including flight engineers, gunners, mechanics, and so on. The Army Air Force set up other segregated schools in Texas and New Mexico to train black airmen as navigators and bombardiers.

The all-black 477th Bombardment Group was created late in the war and was stationed first at Godman Field, Kentucky, then at Freeman Field, Indiana. The Tuskegee airmen of the 477th protested the particularly stringent segregationist policies of Freeman Field commander Col. Robert Selway, and on April 5, 1945, black pilots tried to enter the segregated officer's club. Four days later, Col. Selway ordered the black officers to sign a statement that they had read and accepted "Regulation 85-2," which stated the segregation policy. One hundred one officers refused, and the refusal was noted negatively in their service records. It was not until August 12, 1995, that the U.S. Air Force officially cleared the service records of the so-called Freeman Field Mutineers.

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Ukraine campaign

Nowhere was the German INVASION OF THE SOVIET UNION more successful or devastating than in Ukraine, which offered little effective resistance to the invaders until after the spring of 1943 and the Soviet victory at the BATTLE OF STALINGRAD. With this, the Soviets were in a position to begin a campaign to drive southwest into the German-occupied Ukraine along a 500-mile front between the Pripet Marshes on the north and the Black Sea on the south.

Generals Markian Popov, KONSTANTIN ROKOSSOVSKY, Nikolai Vatutin, Ivan Konev, Rodion Malinovsky, Fedor Tolbukhin, and Ivan Petrov led the Soviet forces south from Orel beginning on July 23, 1943. The tactic used can best be described as a steamroller, with tremendously powerful massed attacks by armor (including the famed Soviet T-34 tank, generally considered the finest all-around tank of the war), ground-support aircraft, and heavy artillery, with the liberal application of rockets. The German defenders steadily fell back before the onslaught. Popov took Orel on August 5, and Vatutin captured Belgorod (200 miles to the south) on the same day. This accomplished, he advanced to the southwest to reinforce Konev's attack on Kharkov. Kharkov was a key city, used by both armies as a hub of communications and supply. It had already changed hands twice. Konev was determined to retake it and, with Vatutin, enveloped the German positions in Kharkov, which fell on August 23.

After this third and final Battle of Kharkov, Vatutin withdrew to the northwest to join forces with Rokossovsky. In September, the two led their combined armies in a breakthrough to Konotop, deep inside the Ukraine. While this was developing, Tolbukhin, 200 miles south of Kharkov, attacked German positions between Stalino and the Sea of Azov beginning on August 22. Soviet tanks made short work of second-line German troops (mainly militia forces) and advanced into Taganrog on August 30. On September 7, Malinovsky captured Stalino.

To the south of these operations, Petrov attacked the final German bridgehead into the Caucasus, which stretched from the Taman Peninsula south to Novorossisk, a city the Soviets had held under siege for nearly a year. Now, on September 15, Petrov finally broke through, forcing the remnants of eight German divisions to retreat across the Kerch Strait into the Crimea by September 28. The German Seventeenth Army offered stiff resistance and held in position in the Crimea until the spring of 1944.

The great Soviet drive inexorably forced the Germans toward the vast Pripet Marshes. These were largely impassable, and the German commanders realized the marshes would force the retreating armies to divide and probably suffer defeat in detail. The only alternative to this was to fight rearguard actions aimed at rescuing major units by allowing them to move north into Belarus

and south into other parts of the Ukraine. Next, Field Marshals Günther von Kluge and Erich von Manstein were ordered to hold the line of the Dnieper River. This would stabilize the front during the winter, buying time for the withdrawal of the armies intact. Anticipating this, the Red Army commanders advanced rapidly on four fronts. In the north (the First Ukrainian Front), on September 23, Rokossovsky captured Chernigov, 75 miles northeast of Kiev. To his left, Vatutin crossed the Dnieper early in October, positioning his forces north and south of Kiev. As Vatutin held his position on either side of the city, Rokossovsky, on November 6, entered and retook Kiev from the east. Vatutin then advanced rapidly westward, but was stopped by panzers under Hasso von Manteuffel.

On the Second Ukrainian Front, located on the Dnieper downstream from the First Front, Konev established a bridgehead on the river across from Kremenchug early in October. He then advanced to the southwest, opening the Third Ukrainian Front, which Malinovsky exploited by crossing the Dnieper to capture Dnepropetrovsk on October 25, defeating the forces of Field Marshal Paul von Kleist.

South of this newly opened front, the Fourth Ukrainian Front was only thinly held by the Germans. They yielded to the advance of Tolbukhin as he marched all the way to the Dnieper's Black Sea mouth. This cut off all the German forces in the Crimea.

The year 1943 ended without a clearly defined German line left to attack; therefore, the Soviets simply swept en masse across the western half of the Ukraine. Vatutin thrust out of Kiev in a great winter offensive beginning on December 24, 1943. Before January, he had recaptured Korosten and Zhitomir. On January 4, Vatutin crossed the 1939 Polish frontier. Coordinated with this westward advance, a northern force sped 100 miles forward to capture Lutsk on February 5, and a southern force reinforced Konev's right wing, allowing the envelopment of 10 German divisions on February 3. Adolf Hitler personally ordered these surrounded forces to hold their position on the Dnieper near Cherkassy. Manstein attempted to relieve the trapped soldiers but only incurred 20,000 casualties in the process. On February 7, 18,000 German troops surrendered to the Red Army. Nikopol, in the eastern bend of the Dnieper, fell to Tolbukhin on February 8. While Tolbukhin proceeded with mop-up operations, Malinovsky advanced the Third Ukrainian Front to Krivoi Rog by February 22.

Early the next month, Vatutin was mortally wounded. His First Ukrainian Army was taken over by Georgi Zhukov, who launched an offensive beginning on March 4, 1944. Within five days, he was outside of Tarnopol. In the meantime, Konev attacked from the south on March 6, routing a panzer force near Uman, then crossing the Bug River on March 15. He rushed beyond this point another 70 miles to take the German pontoon bridge over the Dniester River at Mogilev. In the course of this advance, Vinnitsa, former headquarters of Adolf Hitler in the Ukraine, fell on March 20.

Farther south, Malinovsky raced across the mouths of the Dnieper and the Bug to take Kherson on March 13 and Nikolayev on March 28. By the end of the month, Zhukov occupied what had been prewar Romania. At the same time, Konev reached the Carpathian foothills. Zhukov kept moving westward, marching through Jablonica Pass, which opened the Hungarian Plain to the Red Army.

Hitler responded to the Soviet invasion of Hungary by occupying that country. Additionally, he ordered a strong counterattack (led by Walther Model) from Lvov, Ukraine, which blunted Zhukov's thrust. At this time, Konev, thwarted along the northern Romanian frontier, turned his left flank south along the Dniester, menacing the rear of the Germans opposing Malinovsky's drive along the north shore of the Black Sea. This effectively squeezed the Germans out of Odessa on April 10.

By July, when the Red Army renewed its offensive, Lvov was the only Ukrainian city still held by the Germans. It was recaptured on July 27, even as masses of Red Army troops were storming through the Balkans and Poland. The Ukraine campaign was at an end.

See also Kharkov, Battles of.

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Ultra

Ultra was the name that the British intelligence service initially applied to its decrypts of German communications in World War II. Before the war ended, the United States also used the term, which was applied to all intelligence derived from any important cryptanalytic sources. The origin of the name is in the designation of code breaking as a secret beyond "top secret"—that is, an *ultra secret.*

The looseness with which the term *Ultra* was applied by the end of the war has led to some confusion, especially because "Ultra" was often used synonymously and specifically with decrypts of messages coded by the Enigma cipher and machine. This need not cause undo confusion since most Ultra decrypts were derived from German traffic generated by Enigma.

Ultra decrypts were tremendously valuable to the Allies, but they had to be exploited sparingly, lest the enemy become aware that his ciphers had been compromised. (Indeed, the decrypted information was used with such care that neither the Germans nor the Japanese ever discovered that their major codes had been broken and that their radio communication was being routinely intercepted and read.) Often, Ultra intelligence was deliberately withheld from commanders in the field. When information relating to the location of U-boats was received, for instance, the information was not disseminated without a cover story. The commanders of vessels hunting U-boats might be told that a search plane had "accidentally" discovered the location of a boat.

Although Ultra intelligence came too late to be of help during the Battle of Britain, it was valuable in almost every encounter after this period. In the Pacific, "Ultra" was often applied to Purple (Japanese diplomatic cipher) decrypts.

Prime Minister Winston Churchill once declared, "It was thanks to Ultra that we won the war." Churchill believed that the Ultra intelligence was most valuable in tracking U-boats, which preyed upon Allied convoys and continually threatened to strangle the British lifeline from America.

See also Magic (Japanese code) and Orange (Japanese code).

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United Nations

The League of Nations, created by the Treaty of Versailles (which was never ratified by the United States) proved utterly incapable of averting World War II. Despite this fact, both President Franklin D. Roosevelt and Prime Minister Winston Churchill believed that the basic concept of the League of Nations had been valid and that the world required a new, more effective deliberative body and forum to manage global affairs and to avert future wars. This concept was adumbrated in the Atlantic Charter, signed by Roosevelt and Churchill in August 1941, before the United States entered the war. During the early phases of the war, following America's entry, the term "United Nations" was used synonymously with "Allies," denoting those countries united in opposition to the Axis. Twenty-six "United Nations" subscribed to the United Nations Declaration

of January 1, 1942, a document that stated Allied war aims.

As for planning the "United Nations" as an international body to replace the defunct League of Nations, Roosevelt, Churchill, and the Soviet Union's Joseph Stalin took the lead. The first concrete step in the creation of the organization came in during August 21–October 7, 1944, at the Dumbarton Oaks Conference, in Washington, D.C., at the Dumbarton Oaks Estate. Here diplomats and international scholars from the United States, Great Britain, the Soviet Union, and China hammered out the contours of the United Nations. They agreed on its purpose, its general structure, and, in principle, its function, but had serious disagreements over membership and voting—mainly because the Soviets insisted that each constituent republic of the USSR be given an individual membership and a vote—something that would have yielded to the Soviets' disproportionate control over the decisions of the UN. At the Yalta Conference, held in the Crimean Black Sea resort town of Yalta during February 1945, Roosevelt, Churchill, and Stalin laid out the nature and authority of the Security Council and also reached a tentative compromise on the number of Soviet republics to be granted independent memberships in the UN. They also agreed that the UN would include a trusteeship system to succeed the League of Nations mandate system. The Yalta decisions were combined with the Dumbarton Oaks proposals as the basis for discussion at the United Nations Conference on International Organization (UNCIO), which convened—even before World War II had ended—at San Francisco on April 25, 1945.

Attended by representatives of 50 countries, the conference produced the final Charter of the United Nations. That document was signed on June 26 and promulgated on October 24, 1945, a little more than a month after the Japanese surrender ended the war.

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United Nations Declaration

In a meeting at Washington. D.C., the 26 principal nations united against the Axis powers in World War II signed the United Nations Declaration on January 1, 1942, pledging their resources to achieving complete victory in accordance with the principles of the Atlantic Charter. The original signatories included the United States, Great Britain, the Soviet Union, China, Australia, Belgium, Canada, Costa Rica, Cuba, Czechoslovakia, Dominican Republic, El Salvador, Greece, Guatemala, Haiti, Honduras, India, Luxembourg, the Netherlands, New Zealand, Nicaragua, Norway, Panama, Poland, South Africa, and Yugoslavia. In addition, a number of nations subsequently communicated adherence to the declaration: Mexico (June 5, 1942), Philippines (June 10, 1942), Ethiopia (July 28, 1942), Iraq (Jan. 16, 1943), Brazil (Feb. 8, 1943), Bolivia (Apr. 27, 1943), Iran (Sept. 10, 1943), Colombia (Dec. 22, 1943), Liberia (Feb. 26, 1944), France (Dec. 26, 1944), Ecuador (Feb. 7, 1945), Peru (Feb. 11, 1945), Chile (Feb. 12, 1945), Paraguay (Feb. 12, 1945), Venezuela (Feb. 16, 1945), Uruguay (Feb. 23, 1945), Turkey (Feb. 24, 1945), Egypt (Feb. 27, 1945), and Saudi Arabia (Mar. 1, 1945).

The United Nations Declaration was a brief, straightforward document:

> The Governments signatory hereto,
>
> Having subscribed to a common program of purposes and principles embodied in the Joint Declaration of the President of United States of America and the Prime Minister of the United Kingdom of Great Britain and Northern Ireland dated August 14, 1941, known as the Atlantic Charter.
>
> Being convinced that complete victory over their enemies is essential to defend life, liberty, independence and religious freedom, and to preserve

human rights and justice in their own lands as well as in other lands, and that they are now engaged in a common struggle against savage and brutal forces seeking to subjugate the world,

DECLARE:

(1) Each Government pledges itself to employ its full resources, military or economic, against those members of the Tripartite Pact and its adherents with which such government is at war.

(2) Each Government pledges itself to cooperate with the Governments signatory hereto and not to make a separate armistice or peace with the enemies.

The foregoing declaration may be adhered to by other nations which are, or which may be, rendering material assistance and contributions in the struggle for victory over Hitlerism.

The principles of the Atlantic Charter, to which the signatories of the United Nations Declaration subscribed, included the renunciation of territorial aggression; prohibition of territorial changes without consent of the peoples concerned; restoration of sovereign rights and self-government; access to essential raw materials for all nations; world economic cooperation; freedom from fear; freedom from want; freedom of the seas; and disarmament of aggressors.

In much the same way as Woodrow Wilson's famous Fourteen Points of 1918 had been the basis of the Covenant of the League of Nations, the Atlantic Charter's principles, as confirmed by the United Nations Declaration would serve as the philosophical foundation for the establishment of the United Nations as the war came to an end.

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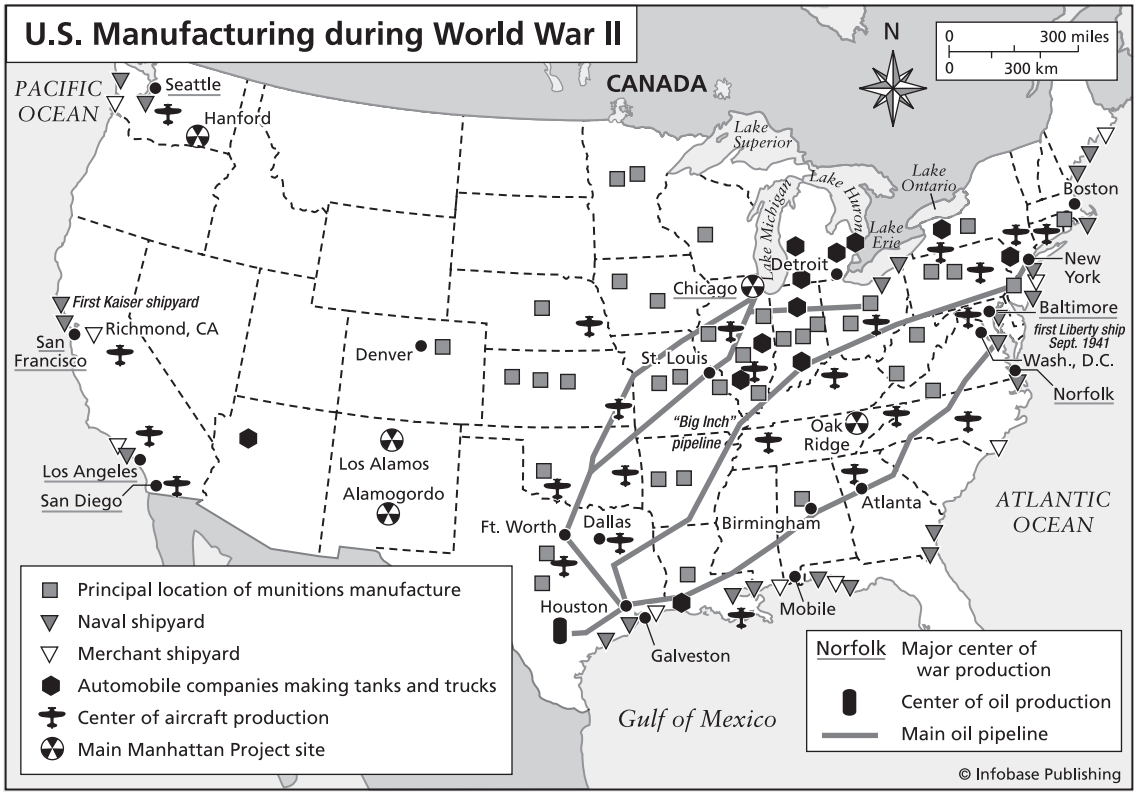
United States

Except for a relatively brief period of imperialist expansion at the end of the 19th century and beginning of the 20th—the period of the Spanish-American War, the annexation of the Philippines, and the acquisition of other Pacific territories—the United States had been largely isolationist in popular sentiment. This was the case at the time of the outbreak of World War II in Europe, although foreign policy under Franklin D. Roosevelt inexorably moved the nation closer to international engagement.

President Woodrow Wilson had taken the nation into World War I to "make the world safe for democracy"—really, to remold the world in the democratic image of the United States—but this foray into an interventionist foreign policy, although it defeated the Central Powers in the war, did not bring about the millennial change in world affairs Wilson had promised and hoped for. After World War I, Congress and the American public repudiated Wilson's internationalism by rejecting both the Treaty of Versailles and the League of

Women flocked to war factories during World War II. Here a woman assembles part of a plexiglass turret for a bomber. *(National Archives and Records Administration)*



Nations, and, under Wilson's successor, Warren G. Harding, the United States retreated into an isolationism that was more determined than ever. In addition to rejecting Versailles and the League, the U.S. Senate readily ratified the agreements produced by the Washington Naval Armament Conference of 1922, which mandated the scrapping of many warships and put severe limitations on the construction of new vessels. Moreover, the United States agreed that it would refrain from fortifying its Pacific possessions west of Hawaii—including Guam and the Philippines.

In the interwar years, the U.S. Army and Navy were greatly reduced in strength. During the period, the average strength of the regular army was about 135,000 men. The navy's average strength was 100,000. As war clouds gathered in Europe during the late 1930s—and when war began in September 1939—President Roosevelt successfully coaxed Congress into war preparations at an accelerating tempo, greatly increasing defense production, instituting the first peacetime draft in American history, and successively modifying the Neutrality Acts to allow for furnishing arms and other materiel to the Allies.

While it is true that the United States entered World War II—on December 8, 1941—better prepared than it had ever been for any earlier war, the army of 1940 consisted of only 260,023 men, the navy of 160,997, and the marines just 28,345. By the time of the Battle of Pearl Harbor, these numbers were much higher—1,657,157 personnel in the army, 383,150 in the navy, and 75,346 in the marines—but the small force that existed in the years immediately leading up to the war meant that the United States had a disproportionately weak hand when it came to diplomacy. Although the nation's tremendous production capacity made it a

major player economically, the United States was in no position to make military threats to powers that had already geared up for war. All the worse for the United States—and the world—these powers were well aware of America's military weakness and tended to dismiss the country as an inconsiderable force.

AMERICA STIRS

By no means did the start of World War II with the INVASION OF POLAND in September 1939 suddenly rouse America to war preparedness—although it was clear that Roosevelt and his advisers were more persuaded than most that war would inevitably come to America. However, the fall of France in the BATTLE OF FRANCE in June 1940 did galvanize Congress, if not the general public. Encouraged by FDR, before the summer was out Congress voted $78 billion for war spending—a fantastic sum in a nation with a gross national product of just $101 billion in 1940. Shortly after this, the National Guard was federalized—a reserve of about 300,000 men—and the peacetime draft commenced, aiming at conscripting 2 million men within a year. The LEND-LEASE ACT of March 11, 1941, authorized the president to send material aid to any nation whose interests he deemed vital to those of the United States.

AMERICA PRODUCES

A workforce that had suffered through a decade of the Great Depression was pressed into eager service in defense and war production. In 1940, FDR had pledged America to produce 50,000 aircraft—which seemed to many an impossibility. By the end of the war, 300,000 had been built—the United States supplied planes not only to its own forces, but also to those of Britain, the Soviet Union, Canada, Australia, and New Zealand. U.S. shipyards launched 14 millions tons of shipping, including 88,000 landing craft, 215 submarines, 147 aircraft carriers (of varying sizes), and 952 other warships of all kinds. Just as important were the 5,200 merchant ships built during the war—most of them the famed LIBERTY SHIPS, produced using U.S. methods of factory prefabrication. During five years of war, U.S. industry turned out $181 billion in munitions of all kinds. Nearly 9 million Americans were employed in war industry by 1944 (the peak production year), of whom 29 percent were women and 8 percent African Americans.

LIFE ON THE HOME FRONT

In contrast to the nations of Europe and Asia, the United States was not directly visited by the ravages of war. Nevertheless, Americans made sacrifices in the form of accepting rationing of certain food items (especially meats), gasoline, tires, and other strategic materials given a high priority for the military forces. Housing during the war, especially in and around centers of industry, was scarce and costly. The encroachment on the traditional American freedom to consume at will (if one could afford it) caused some grumbling, but most Americans saw such sacrifice as a patriotic duty—especially because it directly supported "our boys" overseas. The fact was that while most Americans perceived that they were making sacrifices, wartime economic prosperity meant that most actually lived better than during the Depression.

As they had during World War I, Americans eagerly answered the nation's call to fund the struggle. The income tax rates skyrocketed, but despite this, Americans routinely bought U.S. war bonds and stamps. They also accepted—although they were vaguely amused and puzzled by—the mass recruitment of women into war production. Industries that had barred married women from employment—or had simply refused to hire *any* women, married or single—now welcomed them. "Rosie the Riveter"—the image of an overalls-clad woman grasping a rivet gun—became a national patriotic icon. Women also served in unprecedented numbers in the armed forces in support roles—some of which, however, were quite hazardous and demanding, including military nursing in combat zones and ferrying combat aircraft from factories to domestic air bases.

Racial and ethnic prejudice in America was generally ameliorated during the war years, as more African Americans were admitted into the workforce, anti-Semitism notably declined, and

prejudices against most immigrant groups dissolved in a general sentiment of egalitarianism born of a feeling that "we're all in this together." The egregious exception to this was the attitude toward Americans (including American citizens) of Japanese descent, who, in large numbers, were interned in camps created for them.

The prevailing sentiment on the home front during World War II differed from that of World War I. Whereas the emotions of 1917–18 tended to be idealistic and crusading, the feeling in World War II was a consciousness of necessity—grim necessity approached with optimism. Americans believed they had an important job to do, and they were determined to do it.

AMERICAN GOVERNMENT

President Roosevelt always portrayed the war as a struggle of democratic values against those of totalitarian tyranny, and he made the same personal, always genial and optimistic appeal to his fellow Americans as he had made during the long crisis of the Depression. Americans personally identified with Roosevelt—and even with Winston Churchill—as avatars of democratic values, even as they demonized the likes of Adolf Hitler, Benito Mussolini, and Tojo Hideki as the embodiment of totalitarian evil. The values of World War II were generally perceived less abstractly than those of World War I.

Roosevelt and other war leaders gave American government an intensely human face; nevertheless, a complex bureaucracy was rapidly installed at all levels of government in order to administer the war and war-related programs. Most of the welter of new agencies dealt with economic and technological matters. The major offices and agencies included the Board of Economic Warfare (later called the Office of Economic Warfare); the National Defense Advisory Commission; the National Housing Agency; the National War Labor Board; the Office of Civilian Defense (OCD); the Office of Defense Transportation; the Office of Emergency Management; the Office of Economic Stabilization; Office of Lend-Lease Management; Office of Price Administration; Office of Production Management; Office of Scientific Research and Development; Office of Strategic Services (OSS); Office of War Information; Office of War Mobilization (later called Office of War Mobilization and Reconversion); Petroleum Administrator for War; Rubber Administration; Smaller War Plants Corporation; War Food Administration; War Manpower Commission; War Labor Board; War Production Board; War Relocation Authority; and the War Shipping Administration. The face of government may have been Roosevelt's, but, each in its own area, the new agencies wielded the most immediate authority.

CIVIL DEFENSE

Civil defense was active in the United States, although the nation was not subject to the kind of aerial bombardment that battered cities in Asia and Europe. Nevertheless, German U-boat attacks on Allied shipping off the East Coast were common, and the Japanese did manage a small number of inconsequential (but frightening) air attacks on the U.S. West Coast during September 1942 by an aircraft launched from a Japanese submarine. The OCD, under New York mayor Fiorello LaGuardia, managed a relatively minor program of air raid drills, blackout enforcement (coastal lights silhouetted shipping, making it easy for German U-boats to target vessels), first aid training, and the like. More effective than the OCD in organizing civilian volunteers for civil defense work were private agencies, paramount among them the American Red Cross.

See also internment, Japanese-American; women in World War II; United States Army; United States Army Air Corps; United States Army Air Forces; United States Coast Guard; United States Marine Corps; United States Merchant Marine; and United States Navy.

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United States Army

As mentioned in the UNITED STATES entry, the U.S. Army grew from an average prewar strength of 135,000 to a force of 1,657,157 personnel by December 31, 1941. Its peak World War II strength was reached on March 31, 1945: 8,157,386 men and women.

The U.S. army, like the other armed forces, was under civilian control: the president of the United States served as commander in chief, and the chief administrator was the secretary of war. Throughout the conflict, this cabinet post was filled by HENRY STIMSON.

The U.S. Army consisted of the Regular Army, the National Guard, and the Organized Reserves—plus the UNITED STATES ARMY AIR CORPS, which was renamed the UNITED STATES ARMY AIR FORCES on June 20, 1941. Early in the war, in March 1942, the overall operational administration of the army was divided into Army Ground Forces, under Gen. LESLEY MCNAIR, which had charge of all training functions and controlled all ground combat troops within the United States; the Army Air Forces; and the Services of Supply (SOS), under Maj. Gen. Brehon Somervell, which was responsible for logistics and procurement. It fell to McNair to oversee the development of a fully trained army prepared for victorious global combat. With the administration of the army divided in these three ways, the U.S. Army chief of staff, General GEORGE C. MARSHALL, the most senior U.S. Army officer, was free to devote himself solely to operations and plans—actually prosecuting the war. Answering directly to him were his major field commanders, which included DWIGHT D. EISENHOWER, supreme Allied commander, Europe, and DOUGLAS MACARTHUR, supreme Allied commander for much of the

Colonel George S. Patton Jr. and Brigadier General Maxwell Murray review the troops of 16th Field Artillery, Ft. Myer, Virginia, during a ceremony honoring Murray in 1940. *(Virginia Military Institute Archives)*

George S. Patton Jr., commander, 2nd Armored Division, and Lieutenant Colonel R. W. Grow confer at Manchester, Tennessee, June 19, 1941. *(Patton Museum of Cavalry and Armor, Fort Knox, Kentucky)*

Pacific theater. Operationally, the U.S. Army consisted of armies, which were often gathered together in army groups—some of which included the armies of Allied nations in addition to U.S. armies. During World War II, the U.S. Army deployed 11 field armies: the First, Second, Third, and Fourth—all of which existed before the war—to which were added during the war the Fifth, Sixth, Seventh, Eighth, Ninth, Tenth, and Fifteenth.

By quite early in the war, the U.S. Army was perhaps the best-trained and best-equipped army in World War II. In categories where equipment might have fallen short of the enemy's—for example, it was a fact that American tanks were inferior to those of Germany—sheer numbers generally made up for any deficiency; American tankers learned to attack German tanks only if the American tanks substantially outnumbered the Germans. The U.S. Army was the beneficiary of American industrial might and delivered the products of U.S. war industries against the enemy in tremendous volume and with great skill.

Of a total of 11,260,000 U.S. Army personnel mobilized during World War II, 234,874 were killed in action and 83,400 died of other causes. A total of 565,861 were wounded in action.

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United States Army Air Corps

The U.S. Army Air Corps (USAAC) was the designation of the air arm of the United States Army from July 2, 1926—when it was created by the Air Corps Act of 1926 to replace the U.S. Army Air Service (USAAS)—until June 20, 1941, when it, in turn, was replaced by the United States Army Air Forces.

In contrast to the USAAS, the USAAC had its own assistant secretary of war for air and air sections on the General Staff. The USAAC consisted of five agencies: Training Center, for flight training; Technical School; Balloon and Airship School; Tactical School; and Materiel Division (which included an Engineering School, Depots, Procurement Plan-

The P-40 began life as the XP-40, an experimental pursuit plane tested by the Army Air Corps in the 1930s. *(United States Air Force History Center)*

ning Representatives, and Plant Representatives). On the eve of World War II, before becoming the USAAF, the Air Corps had 23,455 enlisted men. In 1939, its inventory of aircraft numbered 2,177 planes. This was small in comparison to most of the great European powers and Japan, but the aircraft were generally modern.

The USAAC worked hard to develop air power strategy and doctrine and to establish a significant degree of independence from ground forces by creating, in 1935, the General Headquarters Air Force (GHQ Air Force), which centralized organization. In 1939, GHQ Air Force was transferred from control by the army chief of staff to the chief of the Air Corps.

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United States Army Air Forces

Between 1940 and 1941, during the period of the German Blitzkrieg of Europe and the Battle of Britain but before U.S. entry into World War II, the U.S. Congress funded the expansion of the United States Army Air Corps so that it tripled in size. USAAC planners anticipated creating an air arm that would eventually number 2,165,000 men—a veritable army unto itself. Such an organization required a new, enlarged status. Therefore, on June 20, 1941, Army Regulation 95-5 created the United States Army Air Forces (USAAF), which replaced the USAAC and took its place alongside the United States Army's three other major divisions: Army Ground Forces, Army Service Forces, and Defense and Theater Commands; this arrangement was modified in March 1942, so that the army was apportioned into just three main divisions: Army Ground Forces, Services of Supply (SOS), and the USAAF.

Internally the USAAF was divided into Combat Command (responsible for air operations), which was the successor organization to the USAAC's General Headquarters Air Force (GHQ Air Force) and the Air Corps (AC). The AC encompassed two subcommands: Materiel, and Training and Operations. In turn, Training and Operations had four subordinate organizations—Technical Schools, Southwest Training, Gulf Training, and Southeast Training—designed to build a credible air force as quickly as possible.

Charles Hall and Lemuel Custis were two of the USAAF's celebrated Tuskegee Airmen. *(USAF History Center)*

The USAAF was just six months old when the Battle of Pearl Harbor thrust the United States into World War II. In its first year of operations, the USAAF quintupled to 764,000, and in its second year tripled this number. By 1944, it reached a staggering 2,372,292, representing 31 percent of U.S. Army strength at the time. By the middle of 1944,

the USAAF inventory boasted 78,757 aircraft, of which 445 were very heavy bombers and 11,720 were heavy bombers. By this year, the USAAF was organized into 10 major commands in the continental United States: Training, Troop Carrier, Air Transport, Materiel, Air Service, and Proving Ground Commands, in addition to the numbered air forces, which included First Air Force, Second Air Force, Third Air Force, and Fourth Air Force. There were also eight USAAF agencies: AAF Board, Tactical and Redistribution Centers, Army Airways Communications System and Weather Wings, School of Aviation Medicine, First Motion Picture Unit, and Aeronautical Chart Plant. Overseas, the numbered air forces were subordinated to theater of operations command and included Eighth Air Force, Eleventh Air Force, Twelfth Air Force, Fifteenth Air Force, and Twentieth Air Force.

The USAAF rapidly demobilized after the war. By May 1947, the USAAF mustered only 303,000 men and 25,000 aircraft (most of the surplus aircraft were summarily scrapped). Just two forces remained outside the continental United States, in occupied Germany and Japan. Despite this reduction, the USAAF was restructured after the war into an entirely independent service, the United States Air Force, which was created on September 18, 1947, pursuant to the National Security Act of 1947 and Executive Order 9877.

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United States Coast Guard

At the time of World War II, the United States Coast Guard was under the peacetime jurisdiction of the U.S. Department of the Treasury. On July 1, 1940, it had 13,766 officers and men. In November 1941, the Coast Guard was incorporated under the overall command of the United States Navy—although some Coast Guard units and cutters had been assigned to the navy before then. By December 31, 1943, the Coast Guard reached its peak wartime strength of 171,939 officers and men.

Even before the United States entered the war, President Franklin D. Roosevelt assigned the Coast Guard, beginning in 1939, to patrol coastal areas to enforce the Neutrality Acts. The Coast Guard also had responsibility for port security beginning on June 20, 1940, under provisions of the Espionage Act of 1917. Later in 1940, the Dangerous Cargo Act gave the Coast Guard jurisdiction over ships carrying high explosives and other dangerous cargoes.

On April 9, 1941, pursuant to the Atlantic Charter, the defense of Greenland (a Danish possession) was assigned to U.S. responsibility, and the Coast Guard was tasked as the primary military service to carry out cold-weather operations. The Greenland coastal patrol continued throughout the war.

Beginning in the spring of 1941, some cutters and units were assigned to the navy. On November 1, 1941, the rest of the Coast Guard was put under the operational control of the navy. In addition to the Greenland patrol, the Coast Guard operated antisubmarine warfare escorts, participated in amphibious warfare operations (Coast Guardsmen were typically expert small boat handlers), search and rescue, beach patrol, and port security. During the war, Coast Guard–manned ships sank at least 11 enemy submarines. Coast Guard–manned landing craft landed army and marine forces in North Africa, Italy, France, and the Pacific. Coast Guardsmen also helped train members of the other military services in handling small amphibious craft.

Of a total of 231,000 men and 10,000 women who served in the Coast Guard during World War II, 1,918 were killed—about one-third of this number dying in combat. The Coast Guard was returned to the Department of the Treasury on January 1, 1946.

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United States Marine Corps

The USMC is a separate service within the Department of the Navy. It went into World War II with a reputation as an elite cadre of troops specially trained in AMPHIBIOUS WARFARE and in small-group tactics, and it proved itself, mainly in the Pacific theater, fighting extremely fierce battles on many Japanese-held islands. Typically, the marines were the first troops landed on an island objective; often, their assault was followed by larger UNITED STATES ARMY contingents.

On the eve of war, as of July 1, 1940, the marines consisted of 28,364 officers and men. On December 31, 1941, their numbers had risen to 75,346. Peak strength was reached at the end of the war, August 31, 1945, at 485,833 officers and men.

Despite its operation under the aegis of the Navy Department—and (until 1947) without representation on the Joint Chiefs of Staff—the marines enjoyed considerable autonomy, even operating their own aviation units. The corps was commanded by the Corps Commandant (Thomas Holcomb, 1936–43; ALEXANDER VANDEGRIFT, 1944–47), who maintained his own headquarters.

The basic World War II–era operational organization of the marines was laid down in 1933 when the Fleet Marine Force (FMF) was established for the purpose of amphibious operations. The FMF consisted of two brigades, each supported by a Marine Aviation Group (AVG). One brigade was stationed at Quantico, Virginia, the other in San Diego, California. Most of the rest of the Marine Corps was stationed on garrison duty in various locations worldwide. Before U.S. entry into the war, the two FMF brigades were redesignated in February 1941 as the 1st and 2nd Marine Divisions. Each of these consisted of three infantry regiments, one artillery regiment, support organizations, and aviation support—called the 1st and 2nd Marine Aircraft Wings, respectively. During the war, a total of six marine divisions were activated, in addition to raider battalions, paramarines (parachute-trained marines), and glider groups, in addition to special defensive garrisons.

Small and elite, the U.S. Marines maintained their own aviation section, flying aircraft such as this Corsair, which prepares to take off before dawn. *(National Archives and Records Administration)*

In September 1943, to support Admiral CHESTER NIMITZ's massive central Pacific campaign, the V Amphibious Corps was created, which would land at the BATTLE OF TARAWA ATOLL and in the MARSHALL ISLANDS CAMPAIGN.

V Amphibious Corps was part of the FMF, which was redesignated the Fleet Marine Force, Pacific in 1944. FMFPac was under the command of HOLLAND M. "HOWLIN' MAD" SMITH until October 1944, when Major General Harry Schmidt took over.

The marines earned a grim reputation for getting the job done by absorbing heavy casualties. Total USMC casualties in the war were 91,718, including 24,511 killed in action or died of wounds.

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United States Marine Corps Women's Reserve

The Marine Corps was the last of the services to create a women's force in World War II. Approved

Women in military service: Shown here is the first contingent of 253 female marines who reported for duty at U.S. Marine headquarters, 1943. *(Library of Congress)*

in November 1942, the United States Marine Corps Women's Reserve had an initial authorized strength of 1,000 officers and 18,000 enlisted women. The Reserve was commanded by Maj. Ruth Streeter. The first recruits were trained at Hunter College, New York City, and officers were trained at Mount Holyoke College (South Hadley, Massachusetts). Within months, however, all training was transferred to facilities at Marine Corps Base Camp Lejeune in South Carolina. The Women Reservists were not combat marines, but were assigned as clerks and stenographers. By the beginning of 1944, 85 percent of enlisted personnel at Marine Headquarters in Washington were women reservists.

The organization had been formed on the understanding that it would be disbanded after the war and all personnel discharged; however, a small cadre of "Women Reservists" was retained after the war, and in June 1948, the secretary of the navy ordered the integration of women into the regular Marine Corps.

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United States Merchant Marine

No service in World War II was more important than the Merchant Marine, which operated the

thousands of convoy vessels that kept supplies and matériel flowing to Europe (especially Britain) and the Soviet Union. It is also true that no service was more hazardous.

On the eve of war, the U.S. Merchant Marine consisted of 55,000 experienced mariners. Through U.S. Maritime Service training programs, this was increased to more than 215,000 before the end of the war. Merchant vessels were targeted by submarines, surface raiders, destroyers, aircraft, and KAMIKAZE attack, and were also endangered by mines and the customary hazards of the sea. The U.S. Merchant Marine suffered the highest rate of casualties of any service in World War II. Officially, 1,554 U.S. merchant ships were sunk by enemy attack, including 733 ships of over 1,000 gross tons. Many more ships were damaged. Some 8,300 merchant mariners were killed at sea and another 12,000 wounded (of whom at least 1,100 died from their wounds). A total of 663 men and women were taken prisoner. The grim fact was that 1 in 26 merchant mariners was killed in action.

The Merchant Marine was a civilian organization—although, on larger ships, U.S. Navy personnel typically manned defense antiaircraft guns—under the jurisdiction of the War Shipping Administration.

See also CONVOY SYSTEM and LIBERTY SHIPS.

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United States Navy

At the time of World War II, the U.S. Navy was under the civilian control of the president, as commander in chief, and of the Department of the Navy, represented in the cabinet by the secretary of the navy. Charles Edison was secretary on the eve of U.S. entry into the war, but was replaced in July 1940 by (William) Franklin Knox, who served until his death in May 1944, when he was replaced by JAMES FORRESTAL, who had been undersecretary of the navy.

As of 1939, the U.S. Navy had 15 battleships—some quite old—five aircraft carriers, 18 heavy cruisers, 19 light cruisers, 61 submarines, and many smaller craft. The navy operated its own aviation section, which included carrier-launched aircraft, seaplanes, and land-based aircraft. Like the other services, the navy greatly expanded during the war, growing from 160,997 officers and men on July 1, 1940 to a peak of 3,408,347 by the end of the war, August 31, 1945. As of June 30, 1940, the navy inventory consisted of 1,099 ships of all types. By June 30, 1945, that inventory had exploded to 67,952. The number of ships built or acquired between 1940 and the end of the war, August 31, 1945, was staggering and included 10 battleships, 27 large aircraft carriers, 111 escort carriers, 47 cruisers, 370 destroyers, 504 destroyer escorts, 217 submarines, and 66,055 landing craft.

Crewmen of the submarine USS *Barb* display their battle flag, showing Japanese shipping sunk. *(National Archives and Records Administration)*

Although the navy entered the war in the belief that the battleship was the supreme seaborne weapon, it soon became apparent (as is clear from the foregoing list) that the aircraft carrier had assumed the major combat role. Between 1940 and 1945, some 75,000 aircraft were delivered to the navy, and its air personnel grew from 10,923 (including 2,965 pilots) in mid-1940 to 437,524 (60,747 pilots) by the end of the war.

The senior naval commander during World War II was the Chief of Naval Operations (CNO). Although the navy was a two-ocean force, its greatest strength was in the Pacific Fleet. Early in 1941, before the United States entered the war, the Atlantic Fleet was put under the command of Vice Admiral Ernest King and the Pacific Fleet under Husband E. Kimmel. After war broke out, King was redesignated commander in charge, U.S. Fleet. King insisted that this position not be abbreviated (as would be customary) CINCUS (pronounced *sink-us!*), but COMINCH. As COMINCH, King was given extraordinary powers, which largely bypassed the secretary of the navy and allowed him to report directly to President Franklin D. Roosevelt. After the Battle of Pearl Harbor, Kimmel was relieved as commander of the Pacific Fleet and replaced by Admiral Chester Nimitz.

By the middle of the war, 1943, the naval forces assigned to the Southwest Pacific were designated the Seventh Fleet. Those in the South Pacific became the Third Fleet, and the Central Pacific forces were designated the Fifth Fleet. The South Atlantic forces became the Fourth Fleet, and Naval Forces, Northwest African Waters was designated the Eighth Fleet, while Naval Forces, Europe became the Twelfth Fleet. The Tenth Fleet was a shore-based antisubmarine command established in May 1943. Operationally, the fleets formed offensive units as needed, which were designated as task forces—or as task groups made up of two or more task forces. Task Force 38, of the Third Fleet, was the most powerful, built around the Pacific Fleet's fast aircraft carriers.

During World War II, the navy controlled and administered the United States Coast Guard.

U.S. Navy casualties in World War II included 36,950 killed in battle and 25,664 dead from other causes; 37,778 were wounded.

See also ships, United States.

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Ushijima Mitsuru (1887–1945) *Principal Japanese commander in the Okinawa Campaign*

Ushijima was a career officer in the Imperial Japanese Army. He commanded 1st Regiment during 1936–37 and 36th Brigade from 1937 to 1938 during the Sino-Japanese War. From 1938 to 1939, he served as commandant of the Military Preparation School, then briefly served as commandant of the Infantry School in 1939. That same year, he was promoted to general and given command of the 11th Division. During 1941–42, Ushijima was commandant of the Noncommissioned Officers School and from 1942 to 1944 commanded the Japanese Military Academy.

During 1944–45, Ushijima was general officer commanding 32nd Army, Ryukyu Islands. He led this force—100,000 strong—during the Okinawa Campaign and at the culminating battle directed the primary resistance in the south. Defeated after a fierce resistance, Ushijima committed suicide rather than surrender on June 22, 1945.

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V

V-1 buzz bomb

The V-1 was a German flying bomb, a winged rocket designed for level flight that was a precursor of the modern cruise missile. The Allies called it a "buzz bomb" and also a "doodlebug." Officially it was the Fieseler Fi 103/FZG-76, also designated the Vergeltungswaffe-1—meaning "vengeance weapon" or "reprisal weapon." It was from this name, coined by German propaganda minister JOSEPH GOEBBELS, that the "V" designation came. The vengeance or reprisal in question was for the Allied STRATEGIC BOMBING OF GERMANY.

The V-1 was used between June 1944 and March 1945 against targets in southeastern England and Belgium, especially the cities of London and Antwerp. Generally, the V-1s were launched from rails resembling ski jumps, which were placed along the French Pas-de-Calais coast and parts of the Dutch coast. Experimentally, a few V-1s were launched from German aircraft over the North Sea.

The V-1 was an unmanned cruise-type missile with a large warhead. It was very inaccurate, capable of being aimed at a city-size target, but nothing smaller—a particular factory, say, or an airfield. The V-1 guidance system was very rudimentary. It flew by an autopilot, which regulated altitude and speed by means of a pendulum system that obtained fore and aft feedback (to adjust attitude and pitch). A gyromagnetic compass controlled the interaction between yaw and roll.

A small propeller mounted on the nose of the V-1 turned a long screw inside the missile. As the missile flew, airflow turned the propeller and threaded shaft, pushing a washer on the shaft, which, at a distance set by the launch crew, would close an electric circuit, thereby activating a solenoid attached to a guillotine device. The guillotine cut the elevator control cable, so that the V-1 would be sent into a steep dive over the target. The system was highly inventive, but quite faulty. Many V-1s failed to dive and therefore detonated with less than the intended effect, or they dived prematurely or too late.

The V-1 was designed by Robert Lusser of the Fieseler aircraft company. Fritz Gosslau, an engineer employed by the Argus engine works, designed

V-1s captured by the Allies *(Library of Congress)*

the pulse jet engine, which propelled the V-1 to a top speed of 390 miles per hour. Initially, its range was limited—just 150 miles—but later versions could fly 250 miles. The V-1 was 25.5 feet long with a wingspan of 17.5 feet. It weighed 4,800 pounds. The missile flew low, at an altitude of between 300 to 3,000 feet. Its warhead was a 1,832-pound load of Amatol high explosive. Once the missile had been developed, production was cheap. It was made of sheet metal and plywood and took a mere 50 man-hours to assemble.

Nearly 30,000 V-1s were manufactured, of which about 10,000 were fired at England from June 12, 1944, to March 29, 1945. Of these, 2,419 reached metropolitan London. Casualties in the capital were about 5,500 killed and 16,000 injured. Allied fighters and antiaircraft fire shot down 4,261 V-1s.

See also BLITZ, THE; PEENEMÜNDE (V-1 AND V-2 BASE); and V-2 ROCKET.

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V-2 rocket

As with the V-1 BUZZ BOMB, the "V" designation for this weapon was an abbreviation for *Vergeltungswaffe,* "vengeance weapon" or "reprisal weapon." Whereas the V-1 was a pulse-jet-driven cruise-type missile, the V-2 was a genuine ballistic missile, the direct predecessor of the rockets that are used to explore space and send satellites into orbit.

As a weapon, the V-2 was used against targets in Britain and Belgium. Although the V-2 was more advanced than the V-1, the V-2 did not replace the V-1; the two weapons were used simultaneously during the latter part of the war.

The German military took an early interest in rockets as weapons. In 1932 the Reichswehr (the post–TREATY OF VERSAILLES German army) began studying the feasibility of rockets as artillery weapons. General Walter Dornberger, in charge of army rocket development, was impressed by a design and demonstration by WERNHER VON BRAUN, who soon became the leading German rocket scientist.

A V-2 being readied for launch *(German Museum, Munich)*

In 1934, von Braun successfully test flew the A2 rocket, which used ethanol and liquid oxygen for fuel. From the A2, an A3 and A4 were developed—the latter being a full-sized rocket (A1 through A3 were little more than models), which had a range of 110 miles and could loft a ton beyond the earth's atmosphere. At this time, General Dornberger moved the rocket development team from relatively cramped quarters at Kummersdorf (near Berlin) to PEENEMÜNDE, on the island of Usedom on Germany's Baltic coast.

By October 1942, von Braun had largely perfected the A4 design, which became the first artificial object to fly beyond the earth's atmosphere. Further improved, the A4 was designated the V-2, and production began early the following year. German secrecy was compromised, however, when Polish resistance workers recovered a V-2 test fired at Blizna, Poland, and transmitted technical information to British intelligence. This prompted British bomber command to launch extensive raids against Peenemünde, which failed to stop either experimentation or production, but did retard both.

Technically, the V-2 was an unmanned, internally guided ballistic missile. It was launched vertically, achieving a trajectory that took it into space,

then, its fuel exhausted, it would go into a free-fall (ballistic) trajectory. Its range was about 200 miles, and it could carry a 2,200-pound warhead. Because of its ballistic trajectory, it was virtually impossible to shoot down, either with aircraft or antiaircraft artillery. Like the V-1, the V-2 was very inaccurate. It was capable of hitting a target the size of a city, but the rocketeer could not designate a specific target within the city.

The V-2 was fueled by an ethanol and water mixture, which burned in the presence of liquid oxygen as an oxidizer. The fuel and oxidizer were pumped at high speed by turbines that ran on steam produced by concentrated hydrogen peroxide with potassium permanganate catalyst. Ignition of the fuel-oxidizer mixture produced intense heat and high-pressure exhaust, which provided the thrust.

Guidance of the V-2 was by a gyroscopic inertial navigation system, which controlled four rudders on the tail fins and four internal rudders to guide thrust at the exit of the motor. Some later incarnations of the V-2 were guided by radio signals transmitted from the ground, but this system was never perfected.

More than 6,000 V-2s were built, of which about 3,500 were launched against Allied targets. The remainder were grabbed up by the victorious Allies and became the basis for both the U.S. and the Soviet postwar space programs. Although Dornberger advocated the development and use of mobile launch platforms, Adolf Hitler insisted on the construction of fixed facilities with underground blockhouses. His idea was to produce V-2s in several factories, which would be linked to launch sites by railroads, thereby enabling virtually continuous launches. The fixed sites, however, became frequent targets for air raids, and nothing approaching a continuous launch schedule was ever achieved. The first launch site was built at Éperlecques, near St. Omer in the Pas-de-Calais area of France in 1943. Later sites were built near Cherbourg. After Allied bombing raids took a toll on all the sites, Hitler relented and authorized the construction of large truck-towed trailers to transport the missiles to various quickly erected launch sites. From arrival at a site to firing took no more than 90 minutes. Another 30 minutes was required to pack up and leave the site. This arrangement allowed the Germans to launch about 10 V-2s per day between September 1944 and March 1945 without much fear of air strikes.

The V-2s were mass produced by slave labor at the Mittelwerk tunnel system under the Kohnstein mountain, near Nordhausen, Germany. Working conditions were appalling, and more than 10,500 slaves died by October 1943. Ultimately, the death rate among V-2 workers reached 100 a day.

The V-2 claimed the lives of about 7,000 Londoners, an average of two deaths per launching. This figure takes into account the fact that many of the rockets exploded in midair or missed their targets; a direct hit could produce many deaths, as it did for the 567 citizens of Antwerp who were killed when a V-2 struck a movie theater.

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Vandegrift, Alexander (1887–1973)
eighteenth commandant of the United States Marine Corps

Born in Charlottesville, Virginia, Vandegrift attended the University of Virginia for two years before entering the Marine Corps with a commission as a second lieutenant in 1909. During 1912–23, he served in the Caribbean and Central America and took part in action in Nicaragua, in the invasion and occupation of Veracruz, Mexico, in 1914, and the pacification of Haiti in 1915.

From 1923 to 1926, Major Vandegrift commanded a battalion at Marine Corps Base Quantico, Virginia, then was appointed assistant chief of staff at Marine Corps Base San Diego. During 1927–28, he served in China. Promoted to lieuten-

ant colonel in 1934, Vandegrift returned to China in 1935 and was promoted to colonel in 1936. During 1937–41, he was stationed at Marine Corps Headquarters in Washington. Promoted to brigadier general in 1940, he was assistant commander of 1st Marine Division by 1941 and, early in 1942, was made commanding general of the division.

Major General Vandegrift led the division to the south Pacific in May 1942 and commanded it during the Guadalcanal Campaign (August–December 1942), an action for which he received the Medal of Honor. Promoted to lieutenant general, Vandegrift commanded the First Marine Amphibious Corps during the opening of the Bougainville Campaign. He then returned to the United States, late in 1943, to accept appointment as commandant of the Marine Corps, effective January 1, 1944.

Vandegrift presided over the continued explosive wartime expansion of the marines. After the war, it fell to him to direct the orderly reduction of the Corps, which meant fighting to prevent its total dissolution by a parsimonious Congress eager to demobilize. Promoted to general in March 1945, Vandegrift was the first marine officer to attain that rank while on active duty. He stepped down as commandant on January 1, 1948, and retired from the Corps the following year.

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Vasilevsky, Aleksandr Mikhailovich (1895–1977) *Soviet commander in operations against Japan*

Born to the family of an Orthodox priest in a village east of Moscow, Vasilevsky briefly enrolled at the Alexander Military Law Academy in 1915 before being commissioned a staff captain in the tsarist army during World War I. He resigned after the Russian Revolution of 1917, then joined the Red Army in April 1919 and fought in the civil war. Although he had a good record as a combat officer, his training and talent lay in administrative and staff work; however, he was soon elevated to brigade and divisional commands.

During the 1920s, Vasilevsky became closely connected with Joseph Stalin and Vyacheslav Molotov, both of whom greatly aided the advancement of his career, so that by 1931 he was commanding officer of the Volga Military District. In contrast to many other senior officers, Vasilevsky survived Stalin's purge of the Red Army during 1937–38. He was appointed to the General Staff in October 1937 and was advanced to lieutenant general in October 1941, after the German invasion of the Soviet Union. This put him in a position in April 1942 to succeed Boris Shaposhnikov as chief of the General Staff, and he worked closely with Marshal Georgi Zhukov to plan operations at the Battle of Stalingrad, which proved to be the turning point of the war. Some historians believe that the Soviet victory here owed more to Vasilevsky's strategic planning and administration than it did to Zhukov's more visible role in the field. Certainly Stalin recognized Vasilevsky's achievement, elevating him to general on February 16, 1943 (he already held the title of marshal of the Soviet Union).

During the rest of 1943 and throughout 1944, Vasilievsky continued as the chief administrator of the Red Army. Early in 1945, he took a field command, leading the Northwestern Front in its advance through Poland and into East Prussia. Immediately after Germany surrendered in May 1945, Vasilevsky was transferred to the Far East Front, where he assumed command of Red Army forces after the Soviet Union's declaration of war on Japan in August. He led the advance into China and Korea (Operation August Storm), which resulted in the defeat of the Japanese Kwantung Army.

After the war, Vasilievsky continued in command of the Far East until 1948, when he returned to Moscow as deputy minister for defense. In March 1949, he was appointed minister for defense. In 1952, he became a member of the Central Com-

mittee of the Communist Party, but, after Stalin's death in March 1953, he was replaced as minister of defense by Nikolai Bulganin and, in the post-Stalinist era, held no important posts for the rest of his life.

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V-E Day

V-E Day, Victory in Europe Day, was officially designated as May 8, 1945, the date on which the German government—under the authority of Karl Dönitz, who became head of state after the suicide of Adolf Hitler—surrendered to the Allies in Berlin. A surrender had taken place the day before in Reims, France, but was rejected by Joseph Stalin, who insisted on a definitive capitulation at Soviet-held Berlin.

The Allies' proclamation of V-E Day touched off celebrations in London and throughout the United States, where President Harry S. Truman, in announcing the final triumph over the Germans, dedicated the victory to the late Franklin D. Roosevelt, who had died the month before.

German chief of staff General Alfred Jodl signed surrender documents at SHAEF headquarters in Reims at 02:41 on the morning of May 7, 1945. The terms of the surrender set 23:01 Central European Time on May 8, 1945, as the precise moment at which all active military operations would cease. By British reckoning, using British Double Summer Time, the time in London was 00:01 May 9. The Soviets—and, today, the Russians—celebrate May 9 as Victory Day. In 1985, West German President Richard von Weizsdcker, on the occasion of the 40th anniversary of V-E day, hailed it as "the day of liberation" from the Nazi regime.

See also V-J Day.

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Vella Lavella, Battle of

The battle began on August 15, 1943, during the New Georgia Campaign, with the landing of U.S. troops on Vella Lavella. Their objective was to hop over and cut off the very strong Japanese garrison on Kolombangara Island; however, Vella Lavella proved a stubborn objective in itself. The battle ground on for more than a month, when, on September 18, the 3rd New Zealand Division landed to replace the U.S. forces on the island.

Even fiercer than the ground battle was the action in the air and at sea. The Japanese continually staged air raids against the U.S. troops on the island—108 raids in a month. The sea Battle of Vella Lavella was fought on the night of October 6–7, 1943, and resulted in the sinking of a Japanese and an American destroyer (as well as damage to two other U.S. destroyers). The U.S. Navy tried unsuccessfully to interdict the evacuation of Japanese troops from the island. That evacuation ended the battle.

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Versailles, Treaty of

One of the most momentous treaties in history, the Treaty of Versailles ended World War I and, through the subjoined Covenant of the League of Nations, founded that international body. The treaty, however, levied excessively punitive conditions against Germany, which created the economic and cultural climate in which the outbreak of another world war was virtually assured.

The Treaty of Versailles was signed on June 28, 1919, at Versailles, France, and was largely the work of the so-called Big Four, U.S. president Woodrow Wilson, French premier Georges Clemenceau, British prime minister David Lloyd George, and Italy's

premier Vittorio Orlando. None of the Central Powers, including Germany, was permitted to negotiate the terms. Signatories included the United States, the British Empire, France, Italy, and Japan (called the "Principal Allied and Associated Powers"), Belgium, Bolivia, Brazil, China, Cuba, Ecuador, Greece, Guatemala, Haiti, the Hedjaz, Honduras, Liberia, Nicaragua, Panama, Peru, Poland, Portugal, Romania, Serb-Croat-Slovene State, Siam, Czechoslovakia, and Uruguay (called "The Allied and Associated Powers") and Germany. Neither the treaty nor the Covenant of the League of Nations was ratified by the U.S. Senate, so America, swept by a wave of postwar isolationism, did not subscribe to the treaty, even though so much of it had been the work of the American head of state.

President Wilson had championed a conciliatory settlement of the war, based on his famous Fourteen Points, which he had enumerated before a joint session of Congress on January 8, 1918, as the basis for a just peace:

- Point one called for "open covenants, openly arrived at," mandating an end to the kind of secret treaties and alliances that had historically dragged Europe into war.
- Point two, freedom of the seas
- Point three, removal of economic barriers to international trade

- Point four, radical reduction of armaments to the lowest point consistent with domestic security
- Point five, modification of all colonial claims on the basis of the self-determination of peoples

The eight points that followed these addressed specific postwar territorial settlements, and, most important, the 14th point called for the creation of a league of nations, an international body that would guarantee political independence and territorial integrity for all nations and would provide a forum for the peaceful resolution of conflict.

Opposing Wilson's idealistically conciliatory position was French premier Georges Clemenceau, whose country had made the greatest sacrifices in the war. Clemenceau was determined not only to secure France against future German attack by permanently destroying Germany's ability to make war, but also to exact vengeance. He called for a harshly punitive treaty. British prime minister David Lloyd George personally favored a more moderate treaty, but he had been elected on his promise that Germany would be punished. Additionally, he was concerned that Wilson's Fourteen Points would interfere with British colonial policy. As for Italy's Vittorio Orlando, his chief concern was neither ideological nor punitive, but merely to ensure that Italy would receive the territories it had been promised in 1915 as inducement to join the Allied cause.

After much rancorous debate among the Big Four, Clemenceau was persuaded to abandon his chief demand, that the left bank of the Rhine be detached from Germany and put under French military control, in exchange for British and American promises of future alliance and support. Nevertheless, most of the treaty fell far short of the idealism of the Fourteen Points and was punitive as well as humiliating to Germany and its allies, collectively called the Central Powers.

The Treaty of Versailles is a complex document, the size of a small book. Its chief provisions include German territorial cessions, German admission of guilt for having started the war, German disarmament, and an assessment against Germany (and other Central Powers) of catastrophically large monetary reparations (not yet calculated at the time of the treaty's signing). More specifically, the treaty called for:

- The reduction of the population and territory of Germany by about 10 percent
- The return of Alsace and Lorraine to France
- Placement of the Saarland under the supervision of the League of Nations until 1935
- Cession to Belgium of three small northern areas of Germany
- Pursuant to a plebiscite in Schleswig, return of northern Schleswig to Denmark
- The drawing of new Polish borders, giving most of formerly German West Prussia and Poznań (Posen) to Poland, in addition to creating a "corridor" to the Baltic Sea; pursuant to a plebiscite, Poland also gained part of Upper Silesia
- Declaration of Danzig (Gdańsk) as a free city
- Relinquishment of Germany's overseas colonies in China, the Pacific, and Africa to Britain, France, Japan, and other Allied nations under "mandates" administered by the League of Nations
- Endorsement by Germany of a "war guilt clause," deeming itself the aggressor; this was not only spiritually debilitating, it made Germany liable for all reparations to the Allied nations
- Accusation that the German emperor, Wilhelm II, had committed war crimes; he was guaranteed a fair trial, and the Allies reserved the right to bring unspecified others before war crimes tribunals. (Ultimately, neither the kaiser nor anyone else was tried for war crimes following World War I.)
- Call for reparations; these had not been computed by the time the treaty was signed but in 1921 were fixed at $33,000,000,000. (All signatories understood that payment of such a sum would permanently destroy the German economy. They also understood that this would have a negative impact not just on Germany, but on international finance. Nevertheless, the

Allies insisted that Germany pay, and the treaty allowed for punitive actions if Germany failed to make the payments according to a specified schedule.)
- Limitation of the German army to 100,000 men and abolishment of the general staff
- Prohibition of the manufacture of armored cars, tanks, submarines, airplanes, and poison gas; drastic curtailment of all munitions production
- Declaration of Germany west of the Rhine and up to 30 miles east of that river as a demilitarized zone.
- Allied occupation of the Rhineland to continue for at least fifteen years, and possibly longer

President Wilson was dismayed by much of the treaty, but he persuaded himself that it was the best he could obtain and that, in any case, its many inequities would eventually be resolved by the League of Nations. Moreover, he believed that the disarmament of Germany would inspire voluntary disarmament by other nations. And, Wilson comforted himself, he did prevail on his fourteenth point: the Treaty of Versailles included the Covenant of the League of Nations.

On May 7, 1919, the treaty was presented to a German delegation headed by Foreign Minister Ulrich Graf von Brockdorff-Rantzau. The delegation denounced it, protesting that it abrogated the Fourteen Points, which had been the basis of the armistice on November 11, 1918. Brockdorff-Rantzau further declared that Germany was unable to pay the reparations demanded. Germany's chancellor, Philipp Scheidemann, likewise denounced the treaty when it was presented to him. In response, the Allies initiated a naval blockade of Germany. Scheidemann and Brockdorff-Rantzau resigned in protest on June 21, and that same day at Scapa Flow, German sailors scuttled all 50 warships of High Seas Fleet to keep the vessels from becoming Allied prizes. A new German chancellor, Gustav Bauer, sent another delegation to Versailles and, on June 28, signed the document under protest, informing the Allies that the treaty was being accepted only to end the hardships (mostly severe food shortages) caused by the "inhuman" naval blockade.

The Treaty of Versailles is one of history's most profoundly tragic documents. It created the political, economic, and emotional climate that promoted the rise of Adolf Hitler and the Nazi Party, making a second world war virtually inevitable. Almost immediately Germany flouted the treaty and began to rearm. The 100,000-man limitation put on the army was used by German military planners to create an elite, all-volunteer *Führerheer,* an "army of leaders," which would become the core of the formidable army with which Hitler fought World War II. After Hitler assumed the office of chancellor in 1933, rearmament became progressively more blatant, and the timid, war-weary former Allies did nothing to enforce the provisions of the Treaty of Versailles.

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Vichy government

On June 10, as the Battle of France was coming to its climax with the Germans closing in on Paris, the French government fled to Tours, declaring Paris an open city. France's prime minister, Paul Reynaud, wanted to continue to resist the Germans, perhaps from exile in French North Africa, but most of his cabinet, guided by Henri-Philippe Pétain, favored an armistice. On June 14 the cabinet left Tours for Bordeaux. In a last-ditch effort to keep France from capitulating, British prime minister Winston Churchill proposed a full political union of France and Britain, the better to fight Germany. The cabinet, however, now wholly under the influence of Pétain, spurned the proposal, and Reynaud resigned. Pétain was appointed premier and immediately sought surrender terms from Germany. The result was the armistice of June 22, 1940, signed near Compiègne, in the very railway car in which the Germans had signed the armistice ending World War I.

The June 22 armistice allowed France a show of semisovereignty, but divided the country into an unoccupied southern zone (with a capital at Vichy—and therefore known as Vichy France) and an occupied northern and western coastal zone. France itself was to bear the monetary costs of occupation. Its army was restricted to 100,000 men, and its navy was disarmed and restricted to its home ports.

About 30 French leaders, including Édouard Daladier, fled to North Africa to set up a government in exile there. Pétain outflanked them, however, ordering their arrest on arrival in Morocco. However, Brigadier General Charles de Gaulle, undersecretary of war in the now defunct Reynaud cabinet, had previously flown to London. He was determined to rally "Free French" resistance, with himself as leader. He broadcast his first radio appeal from London on June 18, 1940, calling on French patriots to continue the fight. It was—at least at first—to no avail. The majority of the French people, wishing to avoid the horrors of a second world war, pledged their allegiance to Pétain and Vichy.

On July 9–10, the French parliament convened at Vichy. Pierre Laval, Pétain's ambitious vice premier, was certain that Germany had already won the war and would inevitably come to control all of Europe. Hoping to claim for France a viable place in this new order, he persuaded parliament to vote itself and the Third Republic out of existence and to authorize Pétain to write a new constitution (which was never completed). France was reformed into a kind of decentralized, corporate state in which government was centered in the traditional provinces. However, it soon became apparent that Pétain and his closest adherents were relatively moderate. Those who were genuinely dedicated fascists broke with Pétain and cooperated with German authorities in undermining the Vichy regime in an effort to make France a kind of German satellite or even ally.

To retain his authority, Pétain dismissed Laval in December 1940 and confined him briefly to house arrest. Laval and Pétain subsequently met with Adolf Hitler at Montoire on October 24, 1940, and thereafter presented a publicly united front advocating Franco-German "collaboration."

The actual fact was that Hitler felt no need for collaboration with France. He merely allowed the Vichy government to exist as a temporary measure to make occupation easier; by using French authorities to police the country, fewer Germans were required for the job. Under Pétain, Laval was succeeded by Pierre-Étienne Flandin, who was soon succeeded by Admiral François Darlan. Darlan revived efforts to achieve outright collaboration with the Germans, but Hitler continued to keep Darlan and other collaborationists at arm's length as he exploited France for labor and raw materials.

Yielding to German pressure, Pétain restored Laval to power in April 1942. Laval remained vice premier until the Vichy government collapsed in 1944. Laval found himself caving in to increasingly onerous German demands, especially for forced labor. He also set about suppressing the French resistance. By the fall of 1942, it was apparent that Vichy had no real authority and was a German puppet regime. The last vestige of autonomy was ended by the Anglo-American landings in North Africa and the commencement of the North African Campaign. Although Vichy forces in French-held Morocco and Algeria did briefly resist the American landings, they capitulated when Dwight David Eisenhower negotiated an armistice with Darlan. This prompted Hitler on November 11 to send troops from occupied France into Vichy France to seize the entire country. Even in wholly occupied France, the Vichy government continued to function but only as an administrative shell.

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Victor Emmanuel III (1869–1947) *Italian king during World War II*

Born in Naples, Victor Emmanuel was given a military education before coming unexpectedly

to the throne following the 1900 assassination of his father, King Umberto I. Of liberal inclination, he accepted a fully constitutional monarchy and generally followed the wishes of his Liberal cabinet. World War I—in which Victor Emmanuel III had willingly acquiesced, siding with the Allies—brought economic hardship to Italy and, after the war, great political instability. In this chaotic climate, Benito Mussolini rapidly rose to power, and, despite his liberal leanings, Victor Emmanuel did nothing to interfere with the rapid development of fascism. Mussolini's ascension to the premiership in 1922 immediately reduced the king to a figurehead, and so he remained through the long lead-up to Italy's entrance into World War II.

The war went badly for Italy from the start, and, in 1943, after the Allied invasion of Sicily, Victor Emmanuel stunned his subjects and most of the rest of the world by ordering the removal of Mussolini; the Fascist Council complied, and, following his removal, Mussolini was arrested. The king then endorsed the installation of Marshal Pietro Badoglio as Italian premier on the understanding that Badoglio would immediately seek an armistice with the Allies.

Victor Emmanuel's bold action did not get Italy out of the war. Germany continued to occupy the country and set up Mussolini as a puppet in the north. Nevertheless, the king did buy Italy a privileged place, as a former Axis power, with regard to treatment by the Allies. On June 5, 1944, when the Allies liberated Rome, Victor Emanuel named his son, Crown Prince Umberto, lieutenant general of Italy. He renounced all authority for himself, but did retain the title of king.

After the war, in 1946, the Italian people voted in a plebiscite to decide whether Italy would continue as a monarchy or become a republic. Victor Emmanuel III abdicated in favor of Umberto on May 9, 1946, in the hope that this might persuade the people to maintain the monarchy. It did not. After Italians voted for a republic, Victor Emmanuel and his family left the country and lived out the rest of their lives in exile in Alexandria, Egypt.

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V-J Day

August 15, 1945, was proclaimed among the Allied nations Victory over Japan Day—V-J Day—a designation intended to parallel V-E Day, which had already taken place on May 8, 1945. The Japanese commemorate this day as Shusen-kinenbi (Memorial Day for the End of the War). In Korea and many other Asian nations occupied by Japan during the war, August 15 is celebrated as Liberation Day.

Although the surrender of Japan was not signed until September 2, 1945, it was on August 15 that Emperor Hirohito announced his acceptance on behalf of the nation of the terms of the Potsdam Declaration and, therefore, accepted unconditional surrender. The announcement came via a recorded radio broadcast and was the first time the Japanese people had ever heard their emperor speak. Just before the broadcast, the Japanese government cabled U.S. President Harry S. Truman by way of the Swiss diplomatic mission in Washington, announcing that it accepted the Potsdam Declaration. With Japan's surrender, World War II came to an end; so V-J Day marks the end of the war.

V-J Day celebrated on a U.S. city street *(National Archives and Records Administration)*

Although Truman subsequently proclaimed September 2 as VJ-Day, in the United States August 14 was generally accepted as V-J Day—because, in U.S. time zones, news of the surrender broke on this day.

In the name of political correctness, there has been a recent tendency among some historians to call V-J Day V-P Day (Victory in the Pacific Day). (Australia has celebrated V-P Day from the beginning.) Only in Rhode Island is V-J Day celebrated as a legal state holiday, called "Victory Day" and observed on the second Monday of August.

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Voroshilov, Kliment (1881–1969) *Red Army commander*

Born in Verkhneye, Ukraine, Voroshilov joined the Bolsheviks in 1903, and after the 1917 Russian Revolution became a member of the Ukrainian provisional government and commissar for internal affairs. He became a close associate of Joseph Stalin and helped him triumph over Leon Trotsky in Stalin's climb to power.

Elected to the Central Committee of the Communist Party in 1921, Voroshilov remained a member until 1961. After the death of Mikhail Frunze in 1925, Voroshilov was appointed people's commissar for military and navy affairs and chairman of the Military Revolutionary Council of the USSR. He became a full member of the party's Politburo in 1926 and actively collaborated with Stalin in the purges of the late 1930s. He encouraged Stalin to remove and execute Marshal Mikhail Tukhachevsky, whose death cleared the way for his own appointment as people's commissar for defense in 1934. The following year he was named a marshal of the Soviet Union. The purges that removed so many senior military officers from the Red Army cleared Voroshilov's career path, but also removed (and in many cases murdered) officers far more qualified than he for top command.

At the outbreak of World War II, Voroshilov was a member of the State Defense Committee and commanded Soviet troops during the Finnish-Soviet War from November 1939 to January 1940. This was a catastrophe for the Red Army. Despite its vast superiority in numbers, the army suffered heavy casualties and was unable to break through the Mannerheim Line. Semyon Timoshenko replaced Voroshilov in Finland and won the war.

Following the German invasion of the Soviet Union on June 22, 1941, Voroshilov was put in command of the armies in the northwest. He led them gallantly, exhibiting great personal courage in the field, but he was unable to prevent the invaders from enveloping Leningrad and was therefore relieved of field command. He sat out the rest of the war but maintained his nominal titles and military offices.

After the war, during 1945–47, Voroshilov was put in charge of establishing the Communist government of Hungary. He was appointed to the Presidium of the Central Committee in 1952 and, after Stalin's death in March 1953, became chairman of the Presidium of the Supreme Soviet, effectively president of the Soviet Union, with Nikita Khrushchev as first secretary of the Communist Party and Georgy Malenkov as premier. When Khrushchev denounced Stalin in 1956, Voroshilov reacted by joining the "Anti-Party Group" opposed to Khrushchev, but, after June 1957, he instead decided to support Khrushchev.

Voroshilov officially retired as Presidium chairman and president on May 7, 1960, and was replaced by Leonid Brezhnev. After Khrushchev's own downfall, Brezhnev restored Voroshilov to the Central Committee in 1966 as a figurehead of the conservative regime. He was, for a second time, named a Hero of the Soviet Union in 1968.

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W

Waffen SS

The Waffen SS—the "Armed SS"—was the combat arm of the Schutzstaffel (SS). During World War II, it often functioned as an elite combat force, fighting independently of but in cooperation with the regular German military, the Wehrmacht. Like the SS as a whole, the Waffen SS was headed by Heinrich Himmler, who, however, did not exercise field military command until very late in the war—then did so with poor results.

The Waffen SS began as a small bodyguard or protection unit for the Nazi Party leadership. By the end of World War II, it had expanded into a force of nearly a million combat soldiers, 38 divisions, a number of them elite units. In contrast to the Wehrmacht, the Waffen SS was condemned after the war by the Nuremberg War Crimes Tribunal as a criminal organization. As a result, most Waffen SS veterans (except for SS conscripts) were denied the benefits accorded veterans of the regular army, and many Waffen SS officers were found guilty of war crimes.

In the early 1920s, Adolf Hitler was becoming wary of the growing strength and size of the Storm Troopers, or Sturmabteilung (SA), and created a unit of 200 handpicked men to serve as his personal bodyguard—in part to protect him against the SA. This unit developed into the Schutzstaffel (SS), or protection squad. In January 1929 Hitler appointed Himmler to lead the SS. By 1933, Hitler had authorized Himmler to increase the size of the SS, which Himmler wanted to form into an elite army of soldiers within the party. SS membership was 52,000 by the end of 1933; at this time, the SA numbered as many as 2 million men. In 1934, on June 30, in what became known as the "Night of the Long Knives," Hitler turned the SS against the SA, executing thousands of SA officers. This freed Himmler to expand the SS in various ways, including the creation of the SS Verfügungstruppe, which encompassed Hitler's new bodyguard, the Stabwache. From the Verfügungstruppe, the Waffen SS would develop, and from the Stabwache, the elite 1st SS Panzer Division, called Leibstandarte SS Adolf Hitler, would be formed. This SS unit swore a personal loyalty oath directly to Hitler.

In 1935, in defiance of the Treaty of Versailles, Hitler reintroduced conscription—mandatory military service—in Germany. At the same time, he officially transformed the SS Verfügungstruppen into a full-scale military unit and authorized the creation of special training schools for the officers and men of what would become the Waffen SS. In addition to the 1st SS Panzer Division, the Deutschland and Germania battalions were formed; they became elements of the 2nd SS Panzer Division Das Reich and the 5th SS Panzer Division Wiking. After the *Anschluss*—the annexation of Austria in 1938—a new Waffen SS regiment, consisting of Austrians, was created and named Der Führer.

The Waffen SS quickly evolved after the outbreak of the war and officially received its title,

Waffen SS, in March 1940. The Waffen SS fought in almost every major battle of the war. Its units were sent from one front to another, in response to the need for elite troops.

The Waffen SS compiled a mixed battle record. Some units exhibited great courage, audacity, training, and skill, often combined with a ruthlessness that produced war crimes and atrocities. Other units were mediocre and unexceptional. The Allies learned both to respect the best units of the Waffen SS as a formidable military enemy, but also generally to revile the troops as war criminals.

Most Waffen SS soldiers were given special intensive combat training, which included three elements: the creation of a high degree of physical fitness, the acquisition of small-arms proficiency, and—of great importance—thorough political indoctrination. One in three Waffen SS candidates failed to graduate from basic training. After basic training, recruits were given advanced training in a combat specialty. Officers were also given special training, which emphasized developing a strong bond with the men they commanded, almost a relationship among equals—which was very different from the policy that prevailed in the Wehrmacht.

Initially, the Waffen SS performed poorly, probably due to an overemphasis on political indoctrination at the expense of full military training. Before long, however, the best Waffen SS units evolved into a highly effective elite force.

Originally, Waffen SS members were chosen—like other SS members—from among German citizens, especially those deemed to possess highly desirable "Aryan" racial characteristics and heritage. As the war progressed, however, Himmler acted on his idea of expanding the Waffen SS to include SS-controlled foreign legions. Absorbed in Germanic mythology and lore, which figured in the creation of the original SS, Himmler now conceived of a Europe united by an SS crusade to save the continent from the racially inferior "Bolshevik hordes." Thus, through a combination of political ideology and vaguely medieval mythology, Himmler recruited Danish, French, Azeri, Armenian, Flemish, Norwegian, Finnish, and Dutch Waffen SS formations. By 1942–43, Bosnians, Latvians, Estonians, and Ukrainians had also joined the Waffen SS.

Eventually, even the foreign Waffen SS units were subject to recruitment by conscription to supplement those who volunteered. Many foreign volunteers were prosecuted by their home countries after the war; significant numbers were executed for treason.

The most enduring legacy of the Waffen SS was not the skill of some of the organization's most elite units, but the overall taint of war crimes and atrocities. In some cases, the conduct of the Waffen SS was sufficiently egregious to prompt complaints from regular army commanders. After the war, the Nuremberg tribunal made no effort to discriminate among Waffen SS units that functioned purely as military organizations and those that committed war crimes. Instead, the tribunal indicted the entire SS—and, with it, the Waffen SS—as a criminal organization. Its leaders were accordingly subject to prosecution.

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Wainwright, Jonathan (1883–1953) *U.S. general who fought a valiant but hopeless defense of the Philippines and endured as a POW throughout virtually all of World War II*

Born in Walla Walla, Washington, Wainwright graduated from West Point in 1906 and saw service with the 1st Cavalry in Texas, then went with the 1st to the Philippines, where he participated in a campaign against Moro pirates on Job Island during 1908–10. Promoted to first lieutenant in 1912, he graduated from the Mounted Service School in 1916, was promoted to captain, and when the United States entered World War I in April 1917, he was made a temporary major of field artillery. Wainwright served as an instructor at the officers training camp in Plattsburgh, New York, then shipped out for

France with the 76th Division in February 1918. He served on detached service with the British near Ypres, Belgium, before being posted as assistant chief of staff for operations (G-3) in the U.S. 82nd Division. He served with the unit in the Saint-Mihiel offensive of September 12–16 and at Meuse-Argonne during September 26–November 11.

Wainwright remained in Germany with Third Army on occupation duty after the armistice until October 1920. On his return to the United States, he reverted to his peacetime rank of captain, but was soon promoted to major and assigned as an instructor at the Cavalry School, Fort Riley, Kansas. In 1921, he became a general staff officer with 3rd Infantry Division. From 1921 to 1923, he served in the War Department, then was assigned to the 3rd Cavalry until 1925, when he returned to the War Department. Promoted to lieutenant colonel in 1929, he graduated from the Command and General Staff School at Fort Leavenworth in 1931, then went on to the Army War College, from which he graduated in 1934. The following year, promoted to colonel, he served as commandant of the Cavalry School. He left the school in 1936 to assume command of the 3rd Cavalry. In 1938, promoted to the temporary rank of brigadier general, he was assigned to command the 1st Cavalry Brigade.

In September 1940, Wainwright was promoted to major general and shipped out to the Philippines to command the Philippine Division. He served as senior field commander under General Douglas MacArthur. When the Japanese attacked and invaded the Philippines at the start of World War II in the Pacific, the brunt of the defense fell on Wainwright. His mission, as commander of the Northern Luzon Force (11th, 21st, 71st, and 91st Filipino Divisions, and the U.S. 26th Cavalry Regiment), was to delay the Japanese, who had landed at Lingayen Gulf during December 22–31, so that the American and Filipino forces could fall back to Bataan and take a stand there in the hope of being reinforced. The defense of northern Bataan withdrew under a first assault during January 10–25, and Wainwright and MacArthur repulsed a second assault during January 26–February 23.

In the thick of combat, Wainwright was promoted to lieutenant general and made commander of U.S. Forces in the Philippines after President Franklin D. Roosevelt ordered MacArthur to evacuate to Australia in March 1942. Reinforcements were never sent, and Wainwright was left to conduct a defense as best he could entirely on his own. He did so through early April 1942, forcing the Japanese to pay dearly for the conquest of the islands. The Bataan-based U.S. and Filipino forces surrendered on April 9, and a massive Japanese assault on Corregidor forced Wainwright to surrender all forces on May 6. The general and his men were sent to POW camps in the Philippines, Taiwan, and finally Manchuria, and were treated with appalling brutality by their Japanese captors. Wainwright did much to sustain the morale and honor not only of himself but of his imprisoned command.

Whereas a Japanese commander in Wainwright's situation would have been disgraced by surrender, Wainwright, after his liberation by Soviet troops in Manchuria in August 1945, was hailed as a war hero. The emaciated Wainwright was accorded the honor of attending the Japanese surrender ceremonies in Tokyo Bay aboard the USS *Missouri* on September 2. He commented with characteristic reserve, good humor, and self-irony: "The last surrender I attended the shoe was on the other foot."

Wainwright was awarded the Medal of Honor and assigned to command the Fourth Army in Texas in January 1946, but retired the following year.

See also Bataan Death March.

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Wake Island, Battle of

The name "Wake Island" is misleading, because it denotes not a single body of land, but a group of three remote coral islets in the Pacific, 2,300 miles west of Hawaii. Claimed by the United States after the Spanish-American War, Wake Island was

defended by the 1st Defense Battalion—just 449 marines—at the outbreak of World War II. In addition to the ground troops, there were a dozen marine F4F Wildcat fighter aircraft based on Wake. Also present were 69 sailors, five army signalmen, and 1,216 civilians, most of them construction workers building fortifications on the islands. The marines were under the command of Major James Devereux, with U.S. Navy Commander Winfield Cunningham in overall command.

On December 8, 34 Japanese carrier-based bombers raided Wake, destroying eight of the Wildcats on the ground. The first Japanese landing attempt came on December 11, 1941, but was repulsed by the small marine garrison. The outnumbered defenders took a spectacular toll on the attackers. Firing five-inch guns, they sank two destroyers, damaged a third, and also damaged two Japanese cruisers.

No reinforcements or relief came from the United States, and the marines and others were left to their fate. The Japanese returned on December 22, with 2,000 specially trained men and overwhelmed the marine garrison. Cunningham surrendered that day to General Sadamichi Kajioka.

The taking of this tiny outpost was, to the Japanese, stunning in its cost. In addition to the ships lost, 820 of the invaders were killed and 335 wounded. The marines lost 50 killed; 70 civilians also died. All others were taken prisoner. Many survived the war.

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Wannsee Conference

Held on January 20, 1942, at Wannsee, a villa on Lake Wannsee in southwestern Berlin, the conference was a meeting called by Reinhard Heydrich between officials of the Schutzstaffel (SS) and administrators of the German civilian government to secure the cooperation of the SS and the civilians in carrying out the Final Solution, the genocide of the Jews of Europe in what historians came to call the Holocaust.

By the time of the meeting, the Final Solution was already under way; SS Einsatzgruppen murder squads were executing Jews in the occupied territories of eastern Europe and the Soviet Union. The conference was called to lay out policy and plans for extermination on an even more massive and systematic scale. More important, Heydrich wanted to impress on the civilian administrators that the elimination of European Jewry was of the highest priority: a major war aim.

Heydrich and his assistant, Adolf Eichmann, prepared minutes of the conference, which historians refer to as the Wannsee Protocol. This document summarizes the shift in policy from removing Jews by coaxing or forcing emigration to deportation, forced labor, and outright genocide. Deportation was synonymous with confinement to concentration camps. Forced labor was both a means of extracting labor useful to the Reich and the war effort and, because the labor was especially grueling, of bringing about the eventual death of the laborers. Genocide—outright execution—however, would increasingly become the fate of Europe's Jews under the Nazi regime.

The Wannsee Conference demonstrates that complicity in the Holocaust reached virtually all German government agencies. Present at the meeting were SS Obergruppenführer Reinhard Heydrich, Chief of the Reichsicherheitshauptamt (RSHA), the Reich Main Security Office and Reichsprotektor of Bohemia-Moravia; Gauleiter Dr. Alfred Meyer, Reich Ministry for the Occupied Eastern territories; Reichsamtleiter Dr. Georg Leibbrandt, Reich Ministry for the Occupied Eastern territories; Dr. Wilhelm Stuckart, Reich Ministry for the Interior; Dr. Erich Neumann, Director, Office of the Four Year Plan; Dr. Roland Freisler, Reich Ministry of Justice; Josef Bühler, Government of the General Government (occupied Poland); Dr. Martin Luther, Foreign Office; SA

Oberführer Gerhard Klopfer, Party Chancellery; Ministerialdirektor Friedrich Wilhelm Kritzinger, Reich Chancellery; SS Gruppenführer Otto Hofmann, Race and Settlement Main Office; SS Gruppenführer Heinrich Müller, Chief of Amt IV (Gestapo), RSHA; SS Obersturmbannführer Adolf Eichmann, Reich Security Main Office (Gestapo); SS Oberführer Dr. Karl Eberhard Schöngarth, SD (assigned to the General Government); and SS Sturmbannführer Dr. Rudolf Lange, Commander of the SD for Latvia.

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Warsaw Ghetto Uprising

Part of the Final Solution—the genocide of Europe's Jews in the Holocaust—involved the establishment of ghettos in German-occupied territories in which Jews were confined until they could be dispatched to concentration and extermination camps. The Warsaw Ghetto, within the city's old Jewish quarter, was enclosed first by barbed wire and later by a brick wall. By summer 1942, about half a million Jews were crowded into the 840 acres of the ghetto. Starvation, privation, and epidemic disease killed thousands monthly.

Starting on July 22, 1942, 5,000 Jews per day were transferred from the ghetto to the Treblinka extermination camp. By September, only about 55,000 Jews remained in the Warsaw Ghetto. Realizing that their situation was desperate, those who remained decided to resist. They had no hope for a military victory, but decided that it was better to fight than to submit passively to extermination. The Jewish Fighting Organization (Żydowska Organizacja Bojowa, ŻOB) was formed and covertly took control of the ghetto. On January 9, 1943, Schutzstaffel (SS) head Heinrich Himmler ordered the deportation of 8,000 Jews. The order was met by resistance, as many refused to report as ordered, and ZOB fighters began sniping at German troops. Under fire, the deportation proceedings were called off, and, greatly encouraged, ZOB organized an even more widespread resistance effort, fortifying hideouts, scrounging weapons, and improvising explosives for the battle all knew was coming.

On April 19, 1943, about 3,000 German troops under SS Brigadier General Jürgen Stroop, including 2,600 SS troops as well as regular army soldiers and police, attacked the ghetto with tanks and other armored vehicles, as well as machine guns and artillery. Opposing them were some 600 ZOB fighters and 400 from another group, the Jewish Military Union (ZZW). From well-prepared positions, the Jews fought with one machine gun, pistols, hand grenades, and Molotov cocktails. Stroop was shocked at the ferocity and organization of the resistance. He was obliged to fight in the ghetto streets daily, finally declaring the ghetto secure on May 16—even though resistance continued.

Polish Home Army and other Polish resistance fighters tried unsuccessfully to breach the ghetto's walls in the hope of providing an exit route for the Jews. Those Jewish fighters who were not killed in combat committed suicide or were captured; however, 50 ZOB fighters escaped through the sewers. The uprising killed 14,000 Jews, many the victims of arson fires. Seven thousand survivors were murdered at Treblinka. Others were sent to the Majdanek camp, where they met the same fate. German casualties were not officially calculated, but probably included 400 killed and 1,000 wounded.

See also Warsaw Rising.

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Warsaw Rising

The Warsaw Rising, sometimes called the Second Warsaw Uprising to distinguish it from the earlier Warsaw Ghetto Uprising, was part of Operation Tempest, a planned resistance by the Polish Home Army against the German occupiers. The

rising began on August 1, 1944, and was projected as a 10-day action, but it endured for 63 days. The hope was not only to defeat the Germans in the capital city, but also to obtain control of Warsaw to prevent the Soviets from seizing the city when they "liberated" it.

The rising was commanded by Home Army general Antoni Chrusciel and involved about 37,600 Polish insurgents, most of whom were Polish Home Army troops. In the initial stage of the uprising, fewer than 14 percent of the insurgents were armed (equipment included 20 heavy machine guns, 98 light machine guns, 844 submachine guns, 1,386 rifles, and 2,665 handguns), but more arms and ammunition came from western Allied and Soviet air drops or were captured from the Germans. In any case, much of the combat took place with hand grenades and Molotov cocktails.

Initially, most of the city quickly fell to the insurgents, although they failed to capture the principal arteries and railway stations. The insurgents continued to fight, however, in the expectation of reinforcements from the Western Allies or the Soviets. There was also a strong possibility, they felt, that Germany would soon collapse. This hope was dashed on August 20, when 21,300 German troops (including Oskar Dirlewanger's so-called Police Brigade, a unit of convicted Polish criminals in the German service) stormed through the city streets. Heinrich Himmler had ordered the soldiers to shoot all Poles on sight, whether insurgents or not. In this way, 40,000 citizens of Warsaw were cut down before Lt. Gen. Erich von dem Bach-Zelewski, commander in charge of the operation, ordered the indiscriminate killings to cease. On August 25, Bach-Zelewski began his organized counterattack. It was a bitter street-by-street battle. In the meantime, the Red Army was stopped by a German counteroffensive just outside of Warsaw, and Joseph Stalin refused to order a renewal of the Soviet offensive; therefore, no relief would come to the fighters in the city. Almost certainly, Stalin intended for the Germans to kill as many members of the Home Army as possible, because he saw these men as obstacles to ultimate Soviet control of Poland.

Under siege, the insurgents organized soup kitchens, dug wells, and provided shelter and medical care for Warsaw's residents during the fighting. But slowly, the Germans regained control of the city. On October 1, Polish Home Army general Tadeusz Komorowski surrendered, having secured from the Germans a pledge that the insurgents would be treated as regular combatants and that all surviving civilians would be evacuated from Warsaw.

The toll of the Warsaw Rising was 15,000 insurgents killed, along with 250,000 civilians—out of a total population of 1,000,000. German losses may have been as high as 17,000 dead and missing. After the evacuation, the Germans deliberately and systematically leveled more than 80 percent of Warsaw.

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Wavell, Archibald (1883–1950) *British field marshal who defeated the Italians in the Middle East, but was in turn defeated by the Germans*

Born in Colchester, Wavell grew up in India, where his father was a general officer in the British army. After graduating from Winchester College, Wavell enrolled at Sandhurst, then was commissioned in the Black Watch in 1900 and fought in the Second ("Great") Boer War. In 1903, he was transferred to India, and in 1908 fought in the Bazar Valley campaign. He was transferred again, in 1911, this time to Russia as an observer attached to the Russian army.

Wavell was serving as a staff officer in 1914 at the outbreak of World War I and, at his request, was transferred into a combat unit. In 1915, he was wounded at Ypres, Belgium, and lost an eye. After his recovery in 1916, he served as a liaison officer to the Russian army in Turkey, then was transferred in 1918 to the staff of Edmund Allenby in Palestine.

During the interwar period Wavell served in various posts before he was posted once again in Palestine. He was appointed to head the Middle

East Command in July 1939 and held that post at the outbreak of World War II.

Little happened in this theater until Italy declared war on France in June 1940. Italian forces in North Africa were large, and Wavell, outnumbered, nevertheless conducted a highly successful defense against each Italian attack. He then counterattacked and occupied the Italian colonies in Ethiopia and Somaliland. By February 1941, Wavell seemed about to sweep away the last Italian forces remaining in Libya; however, he was ordered to halt his advance against Libya so that he could send troops to Greece to defend against a German and Italian invasion. Wavell objected but obeyed. This gave the Germans a golden opportunity to reinforce the Italians in North Africa—a circumstance that prevented the British from making a credible defense in Greece. Wavell's troops had to withdraw to Crete. To complicate matters further, a pro-Axis faction took control of Iraq, which ignited a brief Anglo-Iraqi war.

Although the dilution of his forces was not his fault, Wavell was relieved as commander of British forces in the Middle East by Sir Claude Auchinleck in July 1941. He was transferred to India as commander in charge yet again of inadequate forces. When Japan declared war on Great Britain in December 1941, Wavell was given command of the short-lived American-British-Dutch-Australian (ABDA) Command. He was soon forced to evacuate his headquarters from Java.

Wavell was never given resources commensurate with his talents as a leader. As a result, he presided over the early British disasters in the Middle East, Singapore, Malaya, and Burma. Nevertheless, in 1943, he was created a viscount and named viceroy of India. He administered India during the rest of the war and was replaced by Lord Louis Mountbatten in 1947. Wavell's final honor came in 1947, when he was made high steward of Colchester.

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Wehrmacht

Wehrmacht was the name correctly applied to all of the armed forces of Germany from 1935 to 1945. During World War II, the Wehrmacht included the army (Heer), the navy (Kriegsmarine), and the air force (Luftwaffe). It is not incorrect to add the Waffen SS and Sturmabteilung (SA) under the Wehrmacht rubric, but in customary usage, these were not included. Moreover, as commonly used, "Wehrmacht" referred to regular army land forces rather than to the navy and air force or the SA and SS.

Before 1935, the Wehrmacht was called the Reichswehr. After the war—when Germany was remilitarized in 1955—the term was abandoned in favor of Bundeswehr. For this reason, "Wehrmacht" is virtually synonymous with the German army during World War II.

Between 1935 and 1945, some 18.2 million officers and men served in the Wehrmacht. Of this number, 5.3 million were killed and 11 million were made prisoners of war.

See also Germany, air force of; Germany, army of; and Germany, navy of.

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Wei Li-huang (1897–1955) *Nationalist Chinese general*

Wei Li-huang joined the Nationalist—or Kuomintang (Guomindag, KMT)—faction in the 1920s and distinguished himself in the Northern

Expedition, Chiang Kai-shek's (Jiang Jieshi) two-year campaign to unify China under the Nationalist banner. He then went on to success during the Bandit (Communist) Suppression Campaigns of 1930–34 and earned the epithet "Hundred Victories Wei."

At the outbreak of the Sino-Japanese War, Wei commanded the First War Area, then was transferred during World War II to southern China, relieving Ch'en Ch'eng as commander of Y-Force, 100,000 soldiers supporting General Joseph W. Stilwell's Burma Campaign. Wei led an offensive into southern Yunnan beginning on May 11, 1944, and captured Tengchung on September 15. He then fought through heavy Japanese resistance to link up with Chinese divisions in Wanting (Wandingzhen), Burma, on January 27, 1945.

After the war, Wei fought against Communist forces in the revolution that created the People's Republic of China.

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Weil, Simone (1909–1943) *French philosopher who was a key figure in the French resistance*

A brilliant writer and social philosopher, Weil taught philosophy in various schools for girls during 1931–38. She was radical in many of her views and demonstrated her commitment to social justice by refusing to eat more than those who lived on the government dole or by attempting to live in the manner of the unskilled working class. In 1936, she trained with an anarchist unit to fight in the Spanish civil war, but severe burns caused by boiling cooking oil forced her to convalesce in Portugal. Her long convalescence gave rise to a number of spiritual or mystical experiences, which made her more introspective and prompted her to retreat from her social activism.

After the French collapse following the Battle of France, Weill left occupied Paris for the south of France, where she labored as a farm servant. With her parents, she fled to the United States in 1942, but then went to London, where she worked with the French resistance. Her former impulse to social activism reemerged, and by way of identifying with the French under German occupation, she refused to eat more than the official ration in occupied France. The combination of overwork and malnutrition sent her to the hospital, where it was discovered that she had tuberculosis. She died in a sanatorium.

Weil's most important writings on war and resistance were published with her other works after her death: *L'Enracinement* (1949; translated as *The Need for Roots*), concerning the relation of the individual to the state, and *Oppression et Liberté* (1955; *Oppression and Liberty*), essays on war and other subjects.

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Western Desert Campaigns

The Western Desert Campaigns were fought in Libya and Egypt from June 1940 to January 1943, mainly by British and Commonwealth forces in an effort to prevent the Axis (German and Italian forces) from taking control of the Suez Canal, which the Allies depended on for supply and communications.

There were two major campaigns, the first against the Italians, and the second against the Germans and Italians, led by Erwin Rommel.

The campaign against the Italians was a mostly one-sided affair. Despite enjoying a substantial superiority of numbers over British and Com-

monwealth forces, the Italians were driven out of most of their positions and were nearly ejected from Libya. The campaign against the Germans was an epic struggle ranging over a vast amount of desert, some 1,500 square miles, and included land, air, and sea (Mediterranean) components. Whereas the Italian army in the Western Desert was generally poorly trained and poorly led, Rommel's forces—usually numerically inferior to their British and Commonwealth adversaries—were superbly trained and led. British troops and commanders learned the lessons of desert warfare haltingly. In the end, British persistence and access to superior logistics prevailed over Rommel's brilliance as a tactician.

In addition to facing each other, the armies had to contend with harsh desert conditions and vast spaces. Logistics was always a critical issue, as was exhaustion and endemic illness. It was above all a war of mobility, in which armor played the key role, supported by aircraft.

Although Italy declared war on June 10, 1940, Benito Mussolini was slow to order his marshal in Libya, Rodolfo Graziani, to invade British-held Egypt with his Tenth Army (commanded in the field by General Mario Berti). Opposing this was the British Western Desert Force, which had just two divisions to Berti's five (later nine). The British commander, Archibald Wavell, nevertheless attacked on December 9, 1940, achieving total surprise and inflicting heavy losses on the Italians. In January, Bardia fell to the British, prompting the Italians to withdraw to Tripolitania, whereupon Adolf Hitler authorized the German 5th Light Division (part of the Afrika Korps) to assist them. Despite this, British general Richard O'Connor took Tobruk at the first of the Battles of Tobruk on January 22. This accomplished, he advanced across the desert to cut off the retreat of the Tenth Army at Beda Fomm. Wavell and O'Connor were then poised to drive the Italians completely out of Libya when the order came to send troops to Greece to confront a combined German-Italian invasion there. This gave Rommel an opening to counterattack, and he captured El Agheila on March 24, 1941, and Mersa Brega on April 1. He managed to capture O'Connor himself and lay siege to Tobruk, continuing his advance all the way to Sollum, thereby rolling back every gain made by Wavell and O'Connor. Worse, Rommel had captured airfields from which the Germans were able to launch raids in support of the Siege of Malta, the key British stronghold in the Mediterranean theater.

Fortunately for the British, Rommel received little support from the German high command, which was focused on the invasion of the Soviet Union and wanted Rommel to do no more than defend in the Western Desert. The lack of support—especially logistics—would fatally cripple Rommel. In contrast, Winston Churchill grasped the importance of prevailing in North Africa. He saw it as the opening to the entire Mediterranean and what he repeatedly called the "soft underbelly of Europe" itself. He rushed tanks and fighter planes to Wavell and urged him to go on the offensive—prematurely, as it turned out. Wavell's defeat led to his replacement by Claude John Ayre Auchinleck on July 1. Recognizing that Wavell had fallen victim to Churchill's zeal, Auchinleck bided his time until he had a sufficient force to conduct a successful offensive. Under him was Lt. General Alan Cunningham and the newly formed Eighth Army, which was composed of XIII Corps (the Western Desert Force) and XXX Corps. On November 18, Auchinleck launched Operation Crusader against Rommel's Panzer Group Afrika (consisting of the Afrika Korps and 21st Italian Corps), which stopped Rommel from attempting a new assault on Tobruk and therefore kept him out of Egypt. In the middle of the Battle of Sidi Rezegh, Cunningham asked Auchinleck to decide whether he should withdraw. This prompted Auchinleck to relieve Cunningham and replace him with Maj. Gen. Neil Ritchie, who inflicted such heavy losses on Rommel that, on December 8, he withdrew toward Cyrenaica.

Resupplied in January, Rommel attacked Mersa Brega on January 21, 1942, preventing Auchinleck from invading Tripolitania. On January 22, Rom-

mel forced a British retreat, then rushed on to capture Benghazi. After much jockeying and maneuvering, Rommel defeated Ritchie at the Battle of Gazala (May 26–June 17, 1942), which put him in a position to recapture Tobruk.

Auchinleck responded by dismissing Ritchie and assuming personal command of the Eighth Army, which withdrew to Mersa Matruh—only to be bested by Rommel again at the end of June. This was the low point of the Western Desert Campaign. The Eighth Army withdrew all the way to partially prepared defenses at El Alamein and awaited the arrival of reserves from Syria and Egypt.

On July 1, the first of the Battles of El Alamein began. Rommel was uncharacteristically impulsive, whereas Auchinleck responded methodically, holding the advance of the Axis—but gaining nothing decisive.

Early in August, Auchinleck was replaced by Harold Alexander, and Bernard Law Montgomery was given command of the Eighth Army. It was Montgomery who did the most to inject Auchinleck's cautiously defensive approach with boldness. The result was a British victory at Alain Haifa at the end of August. This achieved, Montgomery trained and conditioned the Eighth Army to prepare it for Operation Lightfoot, a new offensive launched on October 23 and culminating in the 12-day second Battle of El Alamein. Rommel was soundly defeated, but Montgomery failed to exploit this fully, and Rommel's forces retired battered but intact—than some 30,000 taken as prisoners of war.

Montgomery now chased Rommel across Libya, failing to destroy his army but taking Tripoli on January 23, 1943, and forcing the Desert Fox to withdraw into Tunisia, thereby ending the Western Desert Campaign.

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Western Front Campaign of 1940 *See* Battle of France.

Weygand, Maxime (1867–1965) *defeatist French commander in chief of the Allied armies in France during the Battle of France*

Weygand was born in Belgium and educated in France. He graduated with distinction from the French military academy, Saint-Cyr, in 1888, then enrolled at the prestigious Saumur cavalry school, where he subsequently served as an instructor. At the outbreak of World War I in 1914, Ferdinand Foch appointed Weygand his chief of staff.

During the interwar years, in 1920, Weygand served as adviser to the Polish army in its fight against the Bolshevik Red Army. He served as French high commissioner in Syria during 1923–24 and as vice president of the Superior War Council of France and inspector general of the army during 1931–35. He retired on January 21, 1935, but was recalled—at age 73—on May 20, 1940, to take command of the French armies during the Battle of France, which had already turned very much against the French. The old man entered into a situation that seemed to him hopeless, and the best advice he could give was to capitulate. That is precisely what the French did.

Weygand retired in December 1941 to his country villa at Grasse, near Cannes. When the Allies invaded North Africa in 1942, he attempted to fly to Algiers—to assist the Allies—but was intercepted by the Germans and held at Schloss Itter, in Austria. He remained a prisoner until U.S. troops liberated him on May 5, 1945. No sooner was he released than he was transported to Paris by plane and, on the order of Charles de Gaulle, arrested. Despite this, his reputation was officially rehabilitated and restored, de Gaulle later admitting that, by the time Weygand assumed command, the Battle of France had indeed been lost.

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Press, 2003; Pallud, Jean-Paul. *Blitzkrieg in the West.* London: After the Battle, 1991.

Whittle, Frank (1907–1996) *British inventor of the jet engine*

Whittle was born in Coventry, the son of a mechanic. Passionately attracted to flying, he joined the Royal Air Force (RAF) as a "boy apprentice," but soon earned his wings at RAF College, Cranwell, and served in a fighter squadron from 1928 to 1931. In 1931, he became a test pilot, then left the cockpit the following year to study aeronautical engineering at the RAF engineering school and at Cambridge, which he attended from 1934 to 1937.

Whittle was interested in developing aircraft that could fly faster and higher. He recognized that conventional piston engines driving propellers were limited in reaching these goals, and, in 1928, he proposed the concept of jet propulsion in his senior thesis at the RAF College. The British Air Ministry reviewed the thesis and rejected the notion of jet propulsion as unworkable. Although unable to get government or industry support, Whittle continued to pursue jet technology and patented a design for a turbo jet engine in 1930. Six years later, he found partners with whom he established Power Jets Ltd. for manufacturing engines. He tested his first actual prototype—in a static, ground-based test—in 1937.

Whittle's static test is usually considered the birth of the jet engine; however, it was a German, Hans Pabst von Ohain, who first demonstrated jet engine in flight, on August 27, 1939. Impressed by this, the British government began supporting Whittle's work after the outbreak of World War II in September 1939. On May 15, 1941, a Gloster E.28/39 was fitted with a Whittle engine and flew successfully. Power Jets Ltd. was taken over by the British government in 1944. During that year, the RAF Gloster Meteor, powered by a jet engine, intercepted German V-1 BUZZ BOMB missiles; however, the British neither developed nor used jets as extensively in World War II as the Germans did—and, at that, the Germans produced too few jets too late in the war to have a significant impact on air combat in Europe.

Whittle retired from the RAF in 1948 and was knighted. Belatedly grateful, the British government granted him a tax-free gift of £100,000. He moved to the United States in 1977 to accept an appointment as a research professor at the U.S. Naval Academy, Annapolis, Maryland, and in 1986 the British government awarded him the Order of Merit.

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Wilson, Henry Maitland "Jumbo" (1881–1964) *British field marshal in the Middle East and Mediterranean*

Wilson was born to the landed gentry of Suffolk and educated at Eton College, then at the British military academy, Sandhurst. He joined the Rifle Brigade in 1900 and was dispatched to South Africa, where he fought in the Second ("Great") Boer War. He was decorated with the Queen's and King's medals for his service in that conflict and, in 1908, was promoted to captain. After a posting in Ireland, he was appointed adjutant of the Oxford Officers Training Corps in 1911.

At the outbreak of World War I in 1914, he was a brigade major in the 16th Irish Division and fought in France. In 1915, he was made a staff officer of the 41st Division and then, in October 1917, was appointed general staff officer of the New Zealand Division. He was selected after the war for enrollment in the staff course at Camberley and at Sandhurst, then returned to his regiment.

In the 1930s, Wilson became an instructor at Camberley and worked on the development of mechanized infantry and armor. From this emerged the pattern for the standard British motor battalion of World War II.

In June 1939, Wilson was put in command of British and Commonwealth forces defending Egypt

and the Sudan. He established his headquarters at Cairo and presided over the build up of forces in Egypt on the eve of World War II. When, at the outbreak of war, the Germans attempted to turn the Egyptians against the British, Wilson exercised considerable diplomatic skill to retain Egyptian cooperation.

When Benito Mussolini declared war against France on June 10, 1940, Wilson invaded Libya. He was repulsed, however, after France withdrew from the war, thereby freeing up more Italian troops to oppose his advance. The Italians invaded Egypt in September 1940. Badly outnumbered—31,000 troops versus 80,000, 120 tanks versus 275—Wilson acted quickly and unconventionally to divide the Italian forces on December 7, 1940, and drove them out of Sidi Barani and Egypt.

Wilson was in command as the British forces (under Sir Richard O'Connor) advanced to Libya and successfully captured Tobruk. After this, in April 1941, he was named military governor of Cyrenaica, then was tapped to lead two infantry divisions and an armored brigade to Greece to help defend against what was first an Italian invasion and then an invasion augmented by the Germans. Thinly spread, Wilson's forces were inadequate, and he was compelled to withdraw to Crete.

After the Greek expedition, Wilson returned to the Middle East and fought in Syria to prevent both Syria and Lebanon from falling into Axis hands. Promoted to general, he assumed command of the Ninth Army in Syria and Palestine in December 1941. In the summer of the following year, he took charge of a newly created independent Persia-Iraq command to block a potential German thrust into these countries.

Wilson was a capable officer and tremendously popular, both with his men and with fellow commanders. He was much in the running to succeed Claude John Ayre Auchinleck as commander of the Eighth Army in the winter of 1942, but was passed over in favor of Bernard Law Montgomery. Wilson was appointed commander in chief of the Middle East and, under orders from Winston Churchill, mounted an expedition to occupy the small Greek islands of Kos, Leros, and Samos in September 1943 with the object of creating a diversion during the Italian Campaign. The expedition was a bad idea, and Wilson's forces sustained heavy casualties, for which Wilson was widely blamed. Nevertheless, when Dwight D. Eisenhower was named supreme Allied commander, Europe, it was Wilson who took over as supreme Allied commander in the Mediterranean in January 1944 and oversaw the Italian Campaign until December 1944, when he was dispatched to Washington, D.C., as chief of the British Joint Staff Mission.

Promoted to field marshal on December 29, 1944, he served as head of the British Joint Staff Mission until well after the end of the war, in 1947. Back in Britain, Wilson served as constable of the Tower of London from 1955 to 1960.

Further reading: Wilson, Henry Maitland. *Eight Years Overseas, 1939–1947*. London: Hutchinson, 1948.

Wingate, Orde (1903–1944) *British commander of the famed Chindits—legendary Burmese guerrillas*

Born in India and educated at the Charterhouse and Royal Military Academy, Woolwich, Wingate entered the Royal Artillery in 1923 and was dispatched to service in the Sudan and Libya during 1928–33. He was an intelligence officer in Palestine during 1936–39 and used this assignment to develop guerrilla and small-unit tactics by mounting night patrols to repel Arab raids on Jewish communities along the Mosul-Haifa oil pipeline. Wingate's specialty became penetrating the enemy lines and attacking from the rear with light infantry raiders.

During World War II, from January to May 1941, he commanded the Ethiopian-Sudanese force that captured Addis Ababa, Ethiopia, from the Italians. After this, he was dispatched to India, where he organized the Chindits (elite "Long Range Penetration" troops) and worked with U.S. commander Frank Merrill to create the raider force dubbed "Merrill's Marauders."

Wingate led his Chindits during February–May 1943 into Japanese-held Burma, crossed the Chindwin River, and—deep behind enemy lines, relying entirely on air drops for supply—he operated against the Japanese, penetrating as far as the Irrawaddy and Salween Rivers before returning to India.

In March 1944, Wingate assumed command of an AIRBORNE ASSAULT into central Burma. He managed to interdict the Mandalay-Myitkyinā railway—a key Japanese communications and supply artery—before he was killed in an airplane crash on March 24. With his death, the Allies lost one of their few great experts in unconventional warfare.

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Wolf pack U-boat tactics

Germany's top naval commander, KARL DÖNITZ, developed the *Rudeltaktik*—which the Allies called the wolf pack—as a devastatingly effective way to conduct submarine warfare against Allied convoys.

The wolf pack idea may be traced to U-boat tactics of World War I, which were specifically designed to defeat the CONVOY SYSTEM, introduced by the British during that war. Escorted convoys prevented individual U-boats from picking off isolated ships. By forming U-boats into a "wolf pack," then delaying the attack until all submarines in the pack were assembled and in position for a massed, coordinated assault, the attackers could overwhelm convoy escorts and thereby disrupt defense of the transport ships. Wolf pack tactics required one submarine to act as the "shadower," making contact with a convoy, shadowing it, and reporting its position to the other boats as they rendezvoused and gathered into a pack for the coordinated attack.

After wolf pack tactics were reintroduced early in World War II, the Allies sustained heavy losses until they developed commensurately effective antisubmarine warfare tactics.

Further reading: Mallman-Showell, Jack P. *U-Boat Warfare: The Evolution of the Wolf Pack.* Annapolis, Md.: Naval Institute Press, 2002; Williamson, Gordon. *Wolf Pack: The Story of the U-Boat in World War II.* London: Osprey, 2005.

Women Accepted for Voluntary Emergency Service (WAVES)

The WAVES—Women Accepted for Voluntary Emergency Service—was established on July 30, 1942, under the command of Lieutenant Commander Mildred H. McAfee (appointed August 2). WAVES personnel filled clerical positions ashore, thereby freeing men for sea and combat duty. It was not until October 1944 that the navy began accepting African-American women for the WAVES.

During the war, more than 100,000 women served in the WAVES before the service was disbanded in 1945. No women were allowed to serve on sea duty.

Further reading: Godson, Susan H. *Serving Proudly: A History of Women in the U.S. Navy.* Annapolis, Md.: Naval Institute Press, 2001.

Women Airforce Service Pilots (WASP)

Acting on an earlier suggestion by famed aviator Jacqueline Cochran, Lt. Gen. HENRY H. "HAP" ARNOLD, chief of staff of the UNITED STATES ARMY AIR FORCES, authorized on October 7, 1942, a training program for 500 women ferry pilots, which became the Women Airforce Service Pilots (WASP) on August 5, 1943.

From 1942 until it was deactivated in December 1944, WASP attracted more than 33,000 applicants, of whom 1,074 graduated from the rigorous training program to become WASPs. These pilots delivered a wide range of planes from manufacturers to air base destinations in the continental United States. The unit flew some 75 million miles, with each pilot averaging 14 flying hours each month. Former WASPs were belatedly recognized by Congress as veterans, entitled to veteran's benefits, in 1978.

These three female pilots leaving their ship at the four engine school at Lockbourne are members of a group of WASPs who have been trained to ferry the B-17 Flying Fortresses. *(U.S. Air Force)*

See also Women's Auxiliary Ferrying Squadron (WAFS).

Further reading: Johnson, Ann R. "The WASP of World War II," *Aerospace Historian* (Summer–Fall, 1970), 76–82.

women in World War II, United States

World War II saw increased employment opportunities for women on the home front in war production, in resistance movements and espionage operations, and in the conventional military organizations of all the combatants.

The role of women in the war is discussed in the following articles: espionage and counterespionage; United States (see "America Produces" and "Life on the Home Front"); United States Marine Corps Women's Reserve; Women's Army Corps; Women's Auxiliary Ferrying Squadron; Women Airforce Service Pilots; Women Accepted for Voluntary Emergency Service.

Women's Army Corps (WAC)

The Women's Army Corps (WAC) was established as the Women's Army Auxiliary Corps (WAAC) by Congress on May 14, 1941, primarily to furnish the U.S. Army with clerks, typists, switchboard operators, and the like, thereby freeing up men for combat and other service. Oveta Culp Hobby was appointed as the first director of the WAAC, which soon recruited its authorized limit of 150,000 women, of whom 35,000 were trained as officers.

Initially, most auxiliaries (as the WAACs were called) worked as file clerks, typists, stenographers, or motor pool drivers. Later, positions became more diverse, especially in the U.S. Army Air Forces, where WAACs worked as weather observers and forecasters, cryptographers, radio operators and repairers, sheet metal workers, parachute riggers, Link trainer instructors, bombsight maintenance specialists, aerial photograph analysts, and control tower operators. More than a thousand women ran the tabulating machines used to keep track of personnel records.

On July 3, 1943, the Women's Army Auxiliary Corps became the Women's Army Corps, and the personnel were no longer considered auxiliaries but members of the Regular Army. During this same month, the first battalion of WACs to reach the European theater of operations arrived in London—557 enlisted women and 19 officers assigned to duty with the Eighth Air Force. A second battalion arrived during September and October. Most of the women worked as telephone switchboard operators, clerks, typists, secretaries, and motor pool drivers, while WAC officers served as executive secretaries, cryptographers, and photo interpreters. A detachment of 300 WACs served with Supreme Headquarters, Allied Expeditionary Force (SHAEF), often handling highly classified materials. In February 1945, a battalion of 800 African-American WACs, the 6888th Central Postal Battalion, were sent to Europe and were responsible for the redirection of mail to all U.S. personnel in the European theater of operations (USA, USN, USMC, civilians, and Red Cross workers). WACs were also assigned extensively to the Pacific theater.

Most of the WACs were demobilized after V-J Day in August 1945. But early in 1946, the U.S. Army asked Congress for the authority to establish the Women's Army Corps as a permanent part of the Regular Army. Authorization came by act of Congress on June 12, 1948. The WAC became a separate corps of the Regular Army and remained part of the USA organization until 1978, when women were fully assimilated into all but the combat branches of the service.

Further reading: Earley, Charity Adams. *One Woman's Army: A Black Officer Remembers the WAC.* College Station: Texas A&M University Press, 1989; Treadwell, Mattie E. *The Women's Army Corps.* Washington, D.C.: U.S. Government Printing Office, 1954.

Women's Auxiliary Ferrying Squadron (WAFS)

Nancy Harkness Love was one of two prominent female aviators of the 1930s who proposed the use of women in noncombat flying roles. But whereas Jacqueline Cochran proposed training women as pilots, Love wanted to recruit women who already held commercial pilot's licenses, had logged 500 hours of flying time, and were rated to fly 200 horsepower craft. At first, Maj. Gen. Henry H. "Hap" Arnold, chief of the United States Army Air Force, rejected Love's proposal, but in September 1942, he approved the creation of a women's ferrying squadron. The Women's Auxiliary Ferrying Squadron (WAFS) was founded the same month.

Although the WAFS was established as the Second Ferrying Group, New Castle Army Air Base, near Wilmington, Delaware, with Love as its director, the organization was never formally activated as a USAAF squadron and was actually a civil auxiliary. By the beginning of 1943, there were only 23 WAFS performing ferry duties, albeit performing them with a high degree of proficiency. Arnold decided to authorize a training school at Avenger Field, Sweetwater, Texas, and the WAFS were merged with the new women pilots. In August 1943, all women pilots serving with the USAAF became WASP (Women Airforce Service Pilots).

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"wonder weapons"

As the fortunes of war turned against Germany, Adolf Hitler made frequent reference to *Wunderwaffen,* "wonder weapons" under development by German scientists that would suddenly and

inevitably turn the tide against the Allies. By the final months of the war, fewer and fewer Germans believed in either the existence or the efficacy of *Wunderwaffen* and mocked the idea by abbreviating the word to "Wuwa"—in effect the nonsense syllables *voo-vah.*

In fact, German weapons designers did rush to create a number of wonder weapons, including early jet aircraft and the V-1 BUZZ BOMB and V-2 ROCKET. The Reich also funded the development of an atomic bomb, which, however, never came close to becoming a usable weapon. Although some wonder weapons were produced and proved effective, they were not decisive, mainly because they could not be deployed in sufficient quantity.

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Y

Yalta Conference and Agreement

The Yalta Conference took place in February 1945 at the Soviet Black Sea resort of Yalta, among the Big Three: Franklin D. Roosevelt, Winston Churchill, and Joseph Stalin. As the war against Germany was coming to a close, the United States and Great Britain sought to bring the Soviet Union into the still-unfinished war against Japan. The contest there was no longer seriously in doubt; the Japanese had been virtually defeated militarily. Nevertheless, they continued to fight, inflicting terrible casualties on the Americans and, to a lesser extent, on British and Commonwealth troops. Indeed, more Americans were being killed—by a defeated enemy no less—in this closing phase of the Pacific war than in all the combat between December 7, 1941, and the beginning of 1945.

Up to this point, with his hands more than full fighting the German invasion of the Soviet Union then prosecuting an offensive against Germany, Stalin had avoided war with Japan. At Yalta, however, Roosevelt persuaded him to agree to declare war against Japan "two or three months" after the surrender of Germany. In return, the Soviet Union would acquire part of Sakhalin Island and the Kuril Islands—territories that Russia had lost to Japan in the 1905 Russo-Japanese War. Stalin was also assured of postwar Soviet dominance in Outer Mongolia and Manchuria. All of these terms were set down in the "Yalta Agreement on the Kuriles and Entry of the Soviet Union in the War against Japan," signed on February 11, 1945.

The Yalta Agreement was an excellent bargain for the Soviets. The successful use by the United States of atomic bombs against Hiroshima and Nagasaki made a costly invasion of Japan unnecessary and ended the war much sooner than anticipated. Biding his time, Stalin had delayed declaring war well beyond the time frame specified in the Yalta Agreement, but he finally did so on August 8, 1945, two days after the atomic bombing of Hiroshima. By this expedient, the Soviets reaped the rewards of the agreement without having had to commit to a long battle.

The "Big Three" at Yalta: Churchill, Roosevelt, and Stalin *(Library of Congress)*

Further reading: Phillips, Charles, and Alan Axelrod. "Yalta Agreement," in *Encyclopedia of Historical Treaties and Alliances,* 2nd ed. New York: Facts On File, 2006, II: 606–607.

Yamada Otozo (1881–1965) *Japanese captain general of the Kwantung Army in Manchuria*

Yamada Otozo was a career military officer in the Imperial Japanese Army. From 1922 to 1926, he was commanding officer of the 26th Cavalry Regiment, then served in Korea during 1926–27 as chief of staff of the Chosen Army. He held positions on the Japanese General Staff from 1928 to 1930, when he was named head of the Training Branch Cavalry School. After two years as commanding officer of the 4th Cavalry Brigade, he was appointed commandant of the Army Signal School, serving from 1933 to 1934, when he returned to high-level staff duty until his appointment in 1937 as commandant of the Military Academy.

In 1938, Yamada was installed as general officer commanding the 12th Division in Manchuria. Soon after, he was elevated to command of the Third Army there, then served as commander in chief of the Central China Expeditionary Army during part of the Sino-Japanese War and most of World War II. He was also inspector-general of military training and, for a time, commander in chief of the General Defense Command and a member of the Supreme War Council. During 1944–45, he was commander in chief of the Kwantung Army in Manchuria.

Captured by the Red Army at the very end of the war, he was accused of having authorized human medical experimentation on Chinese citizens in Manchuria. The 1949 Khavbarosk Trial, conducted by Soviet authorities, convicted Yamada and 11 other military officers, doctors, and veterinarian officers, handing down sentences ranging from five to 25 years' imprisonment. Yamada received a 25-year sentence but was released in 1956 after Japan and the Soviet Union reestablished diplomatic relations.

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Yamamoto Isoroku (1884–1943) *Japanese admiral who planned and executed the Battle of Pearl Harbor*

Born Takano Isoroku in Nugata prefecture, the future Japanese supreme naval commander was adopted by the Yamamoto family, whose name he subsequently took. He graduated from the naval academy in 1904 and first saw action at the epoch-making Battle of Tsushima during the Russo-Japanese War. He was wounded in that war on May 26, 1905, losing two fingers from his left hand—an injury that nearly caused his dismissal from the navy.

In 1906, Yamamoto served aboard a variety of ships, then graduated from the U.S. Navy Torpedo School in 1908. He enrolled in the Naval Staff College, from which he graduated in 1911 and, the same year, graduated from the Naval Gunnery School. Appointed an instructor there, he was promoted to lieutenant commander in 1915. He graduated from the senior course at the Naval Staff College in 1916.

As a staff officer with the Second Fleet, Yamamoto was sent to the United States to study at Harvard University from 1919 to 1921. He acquired an admiration and respect for the country while he was a student and became aware of its potential as an industrial giant. This impression would weigh heavily on him as Japan prepared to enter World War II against America.

After leaving Harvard, Yamamoto returned to Japan as an instructor at the Naval War College, serving in this post from 1921 to 1923, when he was promoted captain and sent on a tour of inspection and observation to the United States and Europe as an admiral's aide. Named deputy commander of Kasumiga Ura Naval Air Station in 1924, he came to the United States again in 1925, this time as naval attaché in Washington, D.C.,

returning to Japan in 1928 as captain of the aircraft carrier *Akagi*.

In 1929, Yamamoto was promoted to rear admiral and in 1930 became chief of the Technological Division of the Navy Technological Department. In 1933, he was assigned to command the 1st Naval Air Division, then, promoted vice admiral in 1934, he became head of the Japanese delegation to the London Naval Conference of 1934–35.

Yamamoto was personally opposed to official Japanese insistence on naval parity with Britain and the United States, but, acting on orders, took a hard line in treaty negotiations and rejected any further extension of the tonnage ratios established by the Washington Naval Treaty of 1922. This freed Japan to accelerate its naval expansion.

Named chief of Naval Aviation Headquarters in 1935, Yamamoto presciently championed the use of the aircraft carrier as the principal offensive weapon of the navy. He then served as navy minister from 1936 to 1939, using his position in an attempt to moderate the extreme militarism of a government on the verge of a war he believed Japan could not win. In the meantime, Yamamoto accepted in 1938 a concurrent reappointment as chief of Naval Aviation Headquarters. He left both this position and the naval ministry to become commander of the Combined Fleet in 1939 and, in 1940, commander of First Fleet as well.

Yamamoto was tasked with making preparations for war against Britain and the United States. He went about this work fatalistically, in the belief that American industrial power and population would doom Japan to defeat, especially if the war dragged on. When it became clear to him that he could not stop his nation's rush toward conflict, he planned a surprise attack on the American fleet and naval base at Pearl Harbor in the hope that a sufficiently devastating blow would bring a quick negotiated peace with the United States.

Although the Pearl Harbor operation achieved the object of surprise and was indeed devastating, it proved to be a strategic blunder of fatal consequences, instantly galvanizing American resolve to defeat Japan.

Yamamoto Isoroku *(National Archives and Records Administration)*

Yamamoto followed up the Pearl Harbor attack with a series of lightning naval campaigns that captured the East Indies during January–March 1942 and that achieved success in the Indian Ocean during April 2–9, 1942. However, he met defeat against the U.S. Navy at the Battle of Midway on June 4, 1942, which he had hoped would be a showdown that would destroy the American fleet. Instead, the battle turned the tide of the Pacific war against the Japanese. Defeat at Midway deeply undermined Yamamoto's confidence, making him relatively timid in his leadership of the various battles of the Solomon Islands.

Unknown to Yamamoto and other Japanese war leaders, the United States, which had broken the chief Japanese military and diplomatic codes even before the war began, intercepted a radio message that revealed Yamamoto was to fly to a tour of Japanese bases on Shortland Island on April 18, 1943. U.S. fighter aircraft were dispatched to

intercept and shoot down his plane. Yamamoto was killed near Bougainville. It was a blow from which the Imperial Japanese Navy did not recover.

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Yamashita Tomoyuki (1885–1946)

Japanese general associated with war crimes committed in the Philippines

Born in Kochi prefecture, Yamashita graduated from the Japanese Imperial Military Academy in 1906 and was commissioned as an infantry officer. He graduated from the Staff College in 1916 and was assigned to the German Section of the Intelligence Division of the Army General Staff two years later. During 1919–1921, he served as resident officer in Berne, Switzerland, then occupied the same position in Germany during 1921–1922.

Promoted to major in 1922 and to lieutenant colonel in 1925, Yamashita became military attaché in Vienna and, concurrently, in Budapest during 1927–1929. He returned to Japan in 1929 as a colonel assigned to the Military Research Division, Central Ordnance Bureau. The following year he assumed regimental command, then, in 1932, was appointed chief of the Military Affairs Section in the Army Ministry. He was elevated to chief of the Military Research Section in the Army Ministry's Military Research Bureau in 1935.

Like many other senior army officers, Yamashita was politically active. He was an ardent member of General Sadao Araki's hyper-nationalist Kodo-ha (Imperial Way) faction and initially supported the revolt of young Koda-ha officers on February 21, 1936, acting as liaison between them and the army central command. However, he soon turned against the faction and thereby saved his career. During 1936–1937, he commanded a brigade in Korea and was promoted to lieutenant general in 1937.

Yamashita was named chief of staff for the North China Area Army in 1937, serving in this post until 1939, when he took command of the 4th Division. In 1940, he became inspector general of army aviation and chief of the Military Aviation Observation Mission to Germany and Italy. He was assigned to command the Kwantung Defense Army in 1941, then transferred to command of 25th Army in November. It was at the head of this force that he led the invasion of Malaya during December 8–10 and directed the Japanese campaign down the Malay Peninsula, which swept away the British and Commonwealth defenders. Outnumbered by a factor of two, the "Tiger of Malaya" drove the British back to Singapore, where they surrendered on February 15, 1942.

Despite Yamashita's triumphs, his longtime rival, Prime Minister Tojo Hideki ordered Yamashita to be transferred to command of the First Area Army in Manchuria, by July 1942 a backwater in the war. This consignment to the sidelines proved only temporary and, in 1943, promoted to general, Yamashita was returned to the principal theater of the war as commander of the Fourteenth Area Army, assigned to defend the Philippines and northern Luzon. He reached Manila barely a week before U.S. forces landed on Leyte on October 20, 1944, so had little effect on the landings, but he did mount a fierce and well-executed defense of Luzon. Nevertheless, by February–April, his army had withdrawn into the mountains of northeastern Luzon, and in September 1945, he surrendered.

Yamashita was tried for the atrocities and other war crimes of Japanese troops who defended Manila in early 1945. Although he bore no direct responsibility for his troops' actions in the Philippine capital, he was judged at the Tokyo War Crimes Trials to bear responsibility nevertheless by virtue of his status as overall commander. Convicted, he was executed on February 23, 1946.

See also Malaya, fall of; Philippines, fall and reconquest of; and Singapore, fall of.

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Yugoslavia

Yugoslavia was created on December 1, 1918, after World War I, as the Kingdom of the Serbs, Croats, and Slovenes, uniting disparate southern Slav lands that had been under the control of the Austro-Hungarian Empire with the already independent Serbia and Montenegro. As Yugoslavia (from 1929), the country had a population of nearly 16 million and covered a little over 95,000 square miles. Between the world wars, the unity of Yugoslavia was always tenuous, with friction especially strong between the country's Catholic Croat and Orthodox Serb populations.

At the outbreak of World War II in September 1939, Yugoslavia declared itself neutral; however, the divisions between Croat and Serb was aggravated by the war. The Serbs (who dominated the armed forces) were pro-Allied, whereas the Croats, although not enthusiastically pro-German, were unwilling to antagonize the Axis. In any case, Yugoslav neutrality became something of a moot point because Germany dominated the country's foreign trade and also owned a major share of its important mines of nonferrous metals. The government of Yugoslavia, headed by Prince Paul (as regent to the underage King Peter), increasingly yielded to German demands for agricultural produce and raw materials. Yugoslavia also yielded to Germany on the matter of anti-Semitic policy. More immediately menacing to the country was the entry of Yugoslavia's neighbors—Hungary, Romania, and Bulgaria—into the Axis orbit. The fact was that the Allies, reeling from one defeat after another at this early stage of the war, were in no position to help Yugoslavia resist German influence or intimidation. As for the Soviet Union, Joseph Stalin had no desire to alienate Hitler, with whom he had signed the German-Soviet Non-Aggression Pact. Thus Yugoslavia lay surrounded by Axis powers and at the mercy of both Italy and Germany.

Hitler was interested in Yugoslavia for its agricultural produce and raw materials, and also as a means of readily traversing the Balkans. At length, he pressured Prince Paul into signing the Axis (Tripartite) Pact. This unleashed anti-Axis demonstrations among Serbian nationalists, and on March 27, 1941, Serbs, together with various elements of the military, staged a coup d'état in which Prince Paul was overthrown (his regency over young King Peter was abolished), and a government was established under the presidency of General Dušan Simović. Croat elements within the new government insisted on continued adherence to the Axis Pact, to which the Serbs, suddenly fearful of German invasion, agreed. This did not appease Hitler, however, who immediately issued "Directive 25," which decreed the obliteration of Yugoslavia. The German invasion of Yugoslavia, which began on April 6, 1941, took place simultaneously with the German assault on Greece.

The invasion began with the bombing of Belgrade and was followed by ground operations. Yugoslav resistance rapidly crumbled, and a capitulation was signed on April 17.

Hitler installed a puppet regime under the ostensible leadership of General Milan Nedić, then instituted a policy of "Germanizing" Yugoslavia and, to this end, authorized what many Croats were all too willing to carry out: a campaign of genocide against Croatia's Serb minority (along with Jews, Gypsies, and other "undesirables"). Besides its moral reprehensibility, this proved to be a colossal mistake on Hitler's part, since it galvanized Serbian resolve to resist the Axis, thereby triggering a Serb rebellion that became a highly effective partisan resistance against the German occupation.

While Yugoslavia roiled under occupation, King Peter (now free of Prince Paul's regency) arrived in London in June 1941 and established a government in exile, around which military forces coalesced. As usual in Yugoslav affairs, however, many cracks and divisions rapidly developed, and the Allies threw their support behind the most dynamic leader, the Communist partisan Tito (Josip Broz). Through the intervention of British prime minister Winston Churchill, Tito agreed to work with King Peter. Churchill broadly hinted that this would put Tito in a position to assume control of most of the country once the Germans had been forced to withdraw. This is precisely what happened in 1944. In the meantime, Tito proved to be a highly effective partisan leader. By the end of 1943, Tito's

forces—perhaps 200,000 strong—had not only survived but were pinning down no fewer than 35 Axis divisions (about 750,000 men), who would otherwise be deployed against the Western Allies in the Italian Campaign or against the Soviets on the eastern front. For the Western Allies, the price of this cooperation was a Communist Yugoslavia after the war; however, Tito proved to be no Stalinist puppet, and his Yugoslavia maintained genuine independence both from the West and the Soviet Union.

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Zhukov, Georgi Konstantinovich (1896–1974) *Marshal of the Soviet Union and the most celebrated Red Army commander of World War II*

Zhukov was born to a peasant family in Strelkovka, about 60 miles east of Moscow. He was apprenticed to a fur trader in 1908 and worked in this profession until 1915, when he was drafted into the tsarist army. He was rapidly promoted from private to noncommissioned officer and served in various cavalry units, including, most notably, the Novgorod Dragoons. He distinguished himself at the front and was awarded two Orders of St. George for bravery.

With the outbreak of the Russian civil war in 1918, Zhukov joined the Red Army in October 1918 and was given command of a cavalry squadron in the First Cavalry Army. He graduated from a junior officers military school in 1920, then after the civil war, enrolled in an intermediate-level cavalry officer course, which he completed in 1925. Following this, he studied advanced military science in a clandestine Kriegsakademie (war college) in Germany as part of the secret military collaboration that took place between the Soviet Union and the Weimar Republic in the late 1920s, owing to Germany's successful effort to circumvent the rearmament restrictions imposed by the Treaty of Versailles.

Returning to the Soviet Union, Zhukov studied at the Frunze Military Academy from 1928 to 1931. In 1938, he was made deputy commander of the Byelorussian Military District. Zhukov was almost immediately caught up in Joseph Stalin's purges and managed to escape relief from command, imprisonment, and even execution by virtue of an administrative error.

On the eve of World War II, Zhukov led the the Soviet First Army Group, which defeated the

Marshal Georgi Konstantinovich Zhukov *(Library of Congress)*

Japanese Sixth Army at the Khalka River near Nomonhan, Mongolia, during July–August 1939 in the Second Russo-Japanese War. He was then appointed deputy commander (1939) and commander (1940) of the Kiev Military District, and during the German INVASION OF THE SOVIET UNION in June 1941, he was rushed to the front to help with the defense of Smolensk in August. After the collapse of that defense, he organized the defense of Leningrad (present-day St. Petersburg) as commander of the Leningrad Front (army group) during September–October 1941. He transferred next to the Western Front, which defeated the German assault on Moscow during 1941–42.

Zhukov was a leading Red Army officer throughout the rest of the war, participating in every major operation, including the decisive defense of Stalingrad during 1942–43. He also directed the BATTLE OF KURSK in July 1943, the Byelorussian offensive during the summer of 1944, and the advance into Germany and BATTLE OF BERLIN in 1945. It was Zhukov who accepted the surrender of Nazi Germany on behalf of the Soviet Union on May 8, 1945, and it was he who headed the military administration of the Soviet zone of occupied Germany from May 1945 to March 1946.

Following World War II, the immensely popular Zhukov was assigned by a wary and envious Stalin a series of obscure regional commands—most notably the Odessa Military District. On Stalin's death in 1953, Zhukov was immediately elevated to deputy minister of defense and supported NIKITA KHRUSHCHEV in his opposition to the chairman of the Council of Ministers, Georgi Malenkov, who sought a reduction in military spending. After Khrushchev forced Malenkov to resign and replaced him with Nikolay Bulganin in February 1955, Zhukov succeeded Bulganin as minister of defense. He was also elected an alternate member of the Communist Party's Presidium.

In the postwar years, Zhukov undertook vigorous programs to introduce greater professionalism into the Soviet armed forces. Because this meant reducing the Communist Party's role in military affairs and promoting nonpolitical but militarily qualified officers to positions of greater power, friction developed with Khrushchev, who was now Soviet premier. Zhukov, however, managed to redeem himself in Khrushchev's estimation by his efforts to keep the premier in power when a majority of the Presidium (the so-called anti-party group) tried to oust Khrushchev. Zhukov ordered aircraft to transport members of the Central Committee from far-flung regions of the country to Moscow to restore the political balance in Khrushchev's favor in June 1957. Khrushchev responded by promoting Zhukov to full membership in the Presidium in July—though he still disagreed over his movement to replace party officials with military officers in the administration of the armed forces. The disagreement grew in intensity and, on October 26, 1957, Zhukov was dismissed as minister of defense. A week later, he was removed from his party posts and retired into obscurity. When Khrushchev himself fell from power in October 1964, Zhukov was awarded the Order of Lenin (1966) and was authorized to publish his autobiography (1969).

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Zog I (1895–1961) *king of Albania on the eve of World War II*

Born Ahmed Bey Zogu at Castle Burgajet, Albania, Zog, a commoner, was a supporter of Austria during World War I and, after the war, led the reformist Popular Party. He served in various ministerial posts from 1920 until he was briefly forced into exile by political rivals in June 1924. He returned to Albania in December and was elected president on February 1, 1925, then proclaimed king on September 1, 1928.

Zog was welcomed by a majority of Albanians as a strong leader who brought relative stability to turbulent postwar Albania. His rightist tendencies drew him toward Italian dictator BENITO MUSSOLINI, with who he made an association in 1925,

securing from Italy a substantial loan followed in 1926 by a treaty of friendship and security. In 1927, Zog concluded a 20-year defensive military alliance. For his part, Mussolini was interested only in using Albania as a steppingstone into the Balkans, and, using financial manipulation and military threat, Mussolini came to control Albania's finances and armed forces by the eve of World War II in 1939. Throughout the 1930s, Zog tried to pry Albania from the Italian's grasp, but could not. At last, on April 7, 1939, all pretense was dropped and Mussolini made Albania into a protectorate. Victor Emmanuel III became king of Italy, forcing Zog to step down and enter into exile. Zog entertained a hope of returning after the war, but was barred by the immediate postwar establishment of Communist rule under Enver Hoxha. Zog formally abdicated on January 2, 1946.

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