13. Destruction from the Air: Strategic Bombing in World War II

World War II saw the rise of airpower as a key striking force in war, and the first widespread use of strategic bombing—the dropping of bombs, not against active military units such as troops, tanks, or planes in the midst of directly engaging the enemy, but as a means of weakening the enemy’s ability and will to wage war in general. This could mean destroying weapons such as ships and aircraft, disabling plants key to the production of armaments, or disrupting transportation, communication, and food production capacity.

The concept of deploying aircraft deep behind enemy lines to strike at the heart of a nation’s “war machine” grew out of the experience of the First World War. This drawn-out conflict had seen mass slaughter by trench warfare and poison gas, as well as the first, limited demonstration of the power of aerial bombardment when the Germans attacked London and other British cities from gas-buoyed dirigibles and the first heavy bomber planes, called Gothsas.

In the interwar years, technical advances in aviation allowed planes to fly farther, carry more weight, and maneuver more accurately, making airpower a potentially far more powerful weapon. Meanwhile, airpower theorists—most notably U.S. Brigadier General Billy Mitchell (who had led American air units
in France during World War II, British air force chief Hugh Trenchard, and Italian general Guilio Douhet—strenuously argued that airpower should play a greater role in war planning. They developed the theory, deeply influential in both British and American military circles, that strategic bombing of vital economic centers could force the enemy to capitulate, shortening the conflict and actually saving lives. As Mitchell put it, “Air forces will attack centers of production of all kinds, means of transportation, agricultural areas, ports and shipping; not so much the people themselves.”

Indeed, President Franklin D. Roosevelt and most American generals insisted through much of World War II that bombing civilians per se was unacceptable. In 1939, after the Soviets, still in league with the Nazis, bombed Helsinki, Finland, FDR roundly condemned this and other early bombing raids that targeted “unfortified centers of population.” “If resort is had to this form of inhuman barbarism during the period of the tragic conflagration with which the world is now confronted,” FDR warned, “hundreds of thousands of innocent human beings who are not even remotely participating in hostilities, will lose their lives.”

FDR’s words would prove prescient, but as the Allies gained control of the skies, it would be the residents of German and Japanese cities who died in huge numbers under aerial bombardment. If airpower theory blurred the line between combat and civilian zones, the practice of strategic bombing in World War II eventually erased that line.

First, the tightly targeted “precision” bombing espoused by the Americans proved far less accurate and more dangerous to pilots than expected. Then, too, the animus of warfare and Allied desperation to return the enemy’s blows in kind played a role. Japanese bombing of Chinese cities in the late 1930s had provoked worldwide outrage. In their advance across Europe, the Germans likewise had bombed Warsaw in 1939, Rotterdam in 1940. They pummeled London and other English cities during the summer and fall of 1940 in preparation for a possible land invasion. “We can endure the shattering of our dwellings, and the slaughter of our civil population by indiscriminate air attacks,” British prime minister Winston Churchill wrote to FDR in December 1940, “and we hope to parry these increasingly as our science develops, and to repay them upon military objectives in Germany as our Air Force more nearly approaches the strength of the enemy.”

The Royal Air Force would begin with military targets but ultimately mount devastating “area bombing” attacks on German cities that left them in ruins and killed hundreds of thousands of civilians. American airplanes would participate in many of these European operations, but would not take up full-scale area bombing until late in the war in assaults on Japan, including those that immolated a large swath of Tokyo in March 1945 and, in August of that year, laid waste to Hiroshima and Nagasaki with nuclear bombs. An estimated 330,000 Japanese civilians died in these strategic bombing campaigns.

Strategic bombing, largely untested before World War II, remains one of the most controversial aspects of the war. There is heated debate on the question of how much this bombing contributed to Allied military success and, even more pointedly, about whether any such gains can justify the toll in civilian lives that accompanied the bombardment of urban neighborhoods.

The U.S. Strategic Bombing Survey, a report by an expert committee established at FDR’s direction in November 1944, concluded that strategic bombing by the Allies in Europe—particularly bombing of German oil plants, rail and waterways, and truck production plants in preparation for the Allied thrust into Germany—did contribute to the enemy’s collapse. In the case of Japan, the committee drew the provocative conclusion that Japan would have surrendered in 1945 even if it had not been attacked with nuclear bombs. But the Allies’ dominance by that time, the report said, was largely attributable to its control of the skies. “The experience in the Pacific war,” the report said, “supports the findings in Germany that no nation can long survive the free exploitation of air weapons over its homeland.”
The Bombing Begins

The British, loath to provoke a German attack by air, held off launching their own air offensive during the first months of the war. But the fall of France and evacuation of British soldiers from its beaches in June 1940 was soon followed by the dreaded German attack from on high. At first the German bombers of the Luftwaffe concentrated on shipping, airfields, and other military targets, but by September an accidental hit on central London had provoked a speedy retaliatory strike on Berlin by the Royal Air Force. Infuriated, Adolf Hitler responded with “the Blitz,” an eight-month period of strategic bombing against sixteen British cities and towns, including heavy attacks on London and particularly destructive assaults on Liverpool and Coventry.

Lacking an army large enough to meet the Nazis on the ground, the British saw airplanes as their only means to meet the enemy and continued to send relatively ineffectual bombing raids over Berlin.

In the meantime, British fighter planes had, to the surprise of many, repelled the Nazis’ attempt to neutralize the island nation’s air-defense system in the summer of 1940, leading Hitler to postpone his planned land invasion. The experience both the British and the Germans gained in the skies over Europe in the summer and fall of 1940 led them to conclude that daylight bombing was highly dangerous, especially when carried out at long range without the protection of escort fighters. Both turned to night bombing as an alternative, which, though safer for the aircrews, made it much harder to hit specific targets. This led to the development of what was called “area bombing”—in essence, dropping bombs on cities.
In February 1942, the strategic bombing arm of the Royal Air Force, called Bomber Command, issued a directive calling for a shift in tactics to "focus attacks on the morale of the enemy civil population, and, in particular, of the industrial workers." A week later, Arthur "Bomber" Harris took over leadership of Bomber Command and planned a series of nighttime area bombings of German cities—Lübeck in March, Rostock in April, and, in May, an obliterating "thousand-bomber" incendiary attack on Cologne. After this first wave of attacks, Harris said in an air force newsreel, "The Nazis entered this war under the rather childish delusion that they were going to bomb everybody else and nobody was going to bomb them. At Rotterdam, London, Warsaw, and half a hundred other places, they put that rather naive theory into operation. They sowed the wind and now they are going to reap the whirlwind."

Meanwhile, over the course of 1942, American airpower was establishing itself in the British Isles in the form of the Eighth U.S. Army Air Force, which included a significant number of strategic bombers. From August 1942 onward, American B-17 and B-24 bombers carried out daylight raids against enemy targets in occupied France, which were within the range of American escort fighters.

"We must never allow the record of this war to convict us of throwing the strategic bomber at the man in the street," said General Ira Eaker, commander of the Eighth Air Force, which was based in England in 1942 and '43. But the British use of strategic bombing made a considerable impression on Henry "Hap" Arnold, commander in chief of the U.S. Army Air Forces (USAAF), who would later argue for area bombing of Japanese cities.
Casablanca and the Combined Bomber Offensive

At the Casablanca Conference of January 1943, Franklin D. Roosevelt and Winston Churchill, eager to intensify the war against Germany in support of the Soviets fighting in the East, agreed to join air forces in the Combined Bomber Offensive. Under this new air campaign, the two Allies envisaged round-the-clock raids against German targets, with a strict division of labor: the British would carry out area bombing by night, while the Americans would run more targeted “precision” bombing raids in the daylight, using a sophisticated new gyroscopically controlled targeting technology called the Norden bombsight.

One of the first major targets of the Combined Bomber Offensive was the German city of Hamburg, attacked in a series of raids from July 24 to 27, 1943. The intensive bombardment with high explosive and incendiary devices, coupled with extremely dry conditions, resulted in a firestorm that consumed 8.5 square miles, killing an estimated forty-four thousand people.

The Allies then turned their attention to bombing deep within Germany, but as these targets were beyond the range of American escort fighters, this proved to be something of a disaster for the U.S. Army Air Forces (USAAF), with loss rates sometimes exceeding 20 percent. The USAAF—whose officials still refused to engage in nighttime area bombing, despite the urgings of Arthur “Bomber” Harris of the Royal Air Force—suspended its participation in long-range attacks against Germany in late October 1943. It did not resume these operations until it had an escort fighter with a range long enough to provide continuous cover for its bombers, accomplished in early 1944 with the introduction of the P-51 Mustang fighter.
Operation Argument and the D-day Operations

In February 1944, the U.S. Army Air Forces (USAAF) resumed long-range attacks against Germany with the specific goal of destroying the German Luftwaffe and the German aircraft industry that supported it. In doing so, the Allies hoped to establish air supremacy over much of Western Europe so they could land more safely on the beaches of Normandy in the massive invasion set for June.

As part of this effort, the Royal Air Force (RAF) and USAAF launched Operation Argument on February 20, 1944. In this offensive more than six thousand American and RAF bombers dropped nearly twenty thousand tons of bombs on the German aircraft industry over the course of just six days. Allied losses during this campaign were heavy, but German losses were even heavier. The German Luftwaffe, drawn into the sky to fight American bombers and their escorts, was dealt a crippling blow from which it never fully recovered, while airplane plants on the ground sustained heavy damage. As a result, the Allies were able to continue their punishing raids on Berlin and other targets in Germany with far fewer losses, and establish something close to air supremacy over the skies of France in the weeks prior to D-day.

With German air defenses severely crippled as a result of the Combined Bomber Offensive, the Allies waged a very effective tactical air campaign to support the Normandy landings in May and June 1944. This included attacks on key rail lines, bridges, and other facilities that made it much harder for the Germans to move their forces into position to counter the Allied invasion.
Berlin, Dresden, and End of the War in Europe

Following the success of the Normandy landings to retake France from the Nazis, the Combined Bomber Offensive resumed its assaults. The Allies concentrated on oil refineries and other industrial plants, rail systems, and major cities in an effort to push Germany further into chaos as the Russian army advanced from the east.

In Operation Thunderclap of February 1945, Allied bombers struck Berlin, Magdeburg, Chemnitz, and other targets in eastern Germany. Most destructive, however, was the Allied attack on Dresden, a cultural center that was known for its medieval architecture but also a rail and industrial hub. The attack began on the night of February 13, 1945, and continued the next day, with British flying at night, Americans by day. As in Hamburg nearly two years before, conditions in the city combined with high explosives and incendiary bombs to produce a firestorm that burned much of the city to the ground, killing more than fifty thousand men, women, and children, many by burning and asphyxiation. The firebombing of Dresden provoked outcry in Britain and raised troubling moral questions that persist today. Winston Churchill himself, in a note to military brass—later revised—called for review of the practice of area bombing.

“Otherwise,” he wrote, “we shall come into control of an utterly ruined land.”

In fact, the war in Europe came to an end less than two months later, on May 8, 1945. Over the course of the conflict, some one hundred thousand British and American aircrewmen had lost their lives in roughly equal numbers. The number of Germans—both civilian and military—killed in strategic bombing campaigns is estimated at between 750,000 and one million. While there is little doubt that Allied strategic bombing dealt a series of setbacks to the German war effort, particularly in reducing its aircraft in the last two years of the war, it did not lead to the precipitous collapse of the German economy or morale, as some airpower strategists had predicted.
**The Bombing Campaign against Japan**

In contrast to strategic bombing in the European theater, the bombing campaign against Japan was primarily an American operation. Due to the vast reaches of ocean involved in the Pacific War, the American air offensive against the Japanese home islands could not begin until 1944, when a new very long-range heavy bomber called the B-29 Superfortress became ready for action. On June 15 of that year, in the first of a series of raids launched from forward bases in China, dozens of B-29s took to the air to attack the Yawata steel works on the island of Kyushu. It was the first air attack on Japan proper since the relatively small-scale Doolittle raid of April 1942.

The raids from Chinese bases took place largely at the behest of Franklin D. Roosevelt, who was anxious to show support for Chinese Nationalist leader Chiang Kai-shek and to carry the war to Japan as soon as possible. The president gave his initial approval for the raids at the Casablanca Conference in January 1943. In December of that year at the Cairo Conference, the president told Chiang of his commitment to the attacks, noting that he hoped they could begin as early as January 1944.

But bombing Japan from bases in China proved a difficult undertaking, in part because of the logistic challenges involved in transporting fuel and munitions into China, and in part because the air bases were vulnerable to ground assault from Japanese troops based in China. As predicted by General George C. Marshall and other members of the Combined Chiefs of Staff, the raids from China led to a Japanese ground offensive in the summer and fall of 1944 that forced the U.S. Army Air Forces (USAAF) to temporarily withdraw from its forward operating bases.

By this point, however, the United States had secured the island of Saipan and other possessions on the Marianas that were much closer to Japan than the Chinese bases and thus easier to supply and defend.

It was from the Marianas that the United States began a scorching air campaign against the Japanese mainland. The initial forays were precision daylight bombing raids against mainly industrial targets, particularly aircraft factories. These attacks, which included numerous bombings of industrial targets in and around Tokyo, were more effective than the attacks from China, but still only moderately so.

Impatient to inflict greater damage on the Japanese, General Henry “Hap” Arnold began to argue in favor of area bombing, and in the spring of 1945, under the direction of the newly appointed major general Curtis LeMay, high-altitude precision bombing gave way to low-altitude nighttime incendiary raids against Japanese cities. This was a substantial risk, since flying low would expose the planes to antiaircraft fire. But the danger proved minimal. One of the most devastating of the American raids took place on the night of March 9, 1945, when some three hundred B-29s attacked Tokyo. The resulting firestorm burned nearly a quarter of the city to the ground and killed more than eighty-five thousand Japanese civilians.
With Japan’s air defenses crumbling, the USAF now attacked Japan at will. From mid-May to mid-June 1945, the USAF wreaked havoc on Japan’s most important industrial centers, devastating Japanese industry and killing more than one hundred thousand civilians. By the end of July 1945, the USAF had virtually run out of targets. With the Japanese economy shattered, its industrial capacity cut by more than half, its lines of communication in shambles, and more than 8.5 million people rendered homeless, the emperor and civilian Japanese leadership questioned the wisdom of continuing the war.

On July 26, 1945, FDR’s successor, President Harry Truman, now in possession of the atomic bomb, issued a proclamation from the Allied summit meeting in Potsdam, Germany, that promised Japan “prompt and utter destruction” if it did not immediately agree to the unconditional surrender of all of its armed forces.

Unwilling to do so without a U.S. guarantee that the Japanese would be permitted to retain their emperor, the Japanese leadership chose to ignore the Potsdam Declaration. President Truman thereupon gave his approval for the USAF to drop its two atomic bombs on Japan, the first on the Japanese city of Hiroshima, on August 6, 1945, followed by the second on Nagasaki, three days later.

The obliteration of large parts of Hiroshima and Nagasaki, which killed an estimated two hundred thousand people, coupled with the invasion of Manchuria by the Russian army on August 8—and an exchange of messages in which the Americans agreed the Japanese could keep their emperor but his authority would be “subject to the Supreme Commander of the Allied Powers”—finally prompted the long-awaited Japanese surrender. On August 14, 1945, the Japanese surrender was announced both in America, where people took to the streets in celebration, and in Japan, where hundreds of Japanese soldiers had just stormed the Imperial Palace in a failed coup attempt. The most destructive war in history was at an end.