Aiming to Break Will: America’s World War II Bombing of German Morale and its Ramifications

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ABSTRACT Current US Air Force doctrine emphasizes attacking an enemy’s ‘will to resist’ without defining ‘will’. Much of the Air Force’s focus on will stems from prewar bombing doctrine and America’s initial effort to break an enemy’s morale with bombs – the aerial assault on Nazi Germany. That bombing revealed that a nation-state’s will to resist actually consists of three distinctive elements – the will of its populace, government leaders, and the armed forces – which together form a collective desire to fight. The bombing also showed that the resilience of the individual components depends on the strength of the bonds that connect them and the war aims pursued by all belligerents. It further illustrated that the individual element most likely to break from air attack is the will of the armed forces.

KEY WORDS: Airpower, Bombing, Morale

An enemy’s ‘power of resistance’, Major General Carl von Clausewitz observed in On War, ‘can be expressed as the product of two inseparable factors, the total means at his disposal and the strength of his will’.1 Seven decades later, the invention of the airplane portended that military force could now render an enemy’s will as well as its means vulnerable to direct – and immediate – attack. Italian airpower disciple General Giulio Douhet was quick to emphasize the apparent vulnerability of an enemy’s will to bombs. ‘We should keep in mind that aerial offensives can be directed not only against objectives of least physical resistance, but against those of least moral resistance as well’, he wrote in the 1921 edition of The Command of the Air.2

The views expressed in this article are the author’s own.

1Carl von Clausewitz, On War [1832] (ed. and trans.) Michael Howard and Peter Paret (Princeton UP 1976), 77.
2Giulio Douhet, The Command of the Air [1921] (New York: Coward-McCann 1942; reprint ed., Washington DC: Office of Air Force History 1983), 22.
The conviction that airpower could destroy either an enemy’s capability or its desire to fight, and, in so doing, achieve victory independent of land or sea forces was a fundamental tenet of pre-World War II strategic bombing theory. That notion also became a cornerstone of American airpower doctrine. Yet airmen since Douhet have had difficulty specifying how best to attack an enemy’s morale, nor have they developed a consensus view of the elements that comprise the desire to keep fighting, which American airmen have labeled ‘will to resist.’

The 1992 edition of the US Air Force’s primary doctrine manual acknowledged the dilemma:

The basic targeting problem for strategic attack is to develop a plan for coordinated attacks against either enemy war-sustaining capacity or enemy will. Given the elusive nature of the last, including the historical resilience of populations to strategic air attacks, commanders should probably focus their initial efforts on attacks against the first element.\(^3\)

American airmen, relying on scientific analysis and technological sophistication, have typically stressed the destruction of the enemy’s war-making capability as the surest means to achieve victory with airpower. Yet attacks aimed solely at war-making capability have often failed to yield the desired results. Thus, while emphasizing raids on ‘physical objectives’, American air commanders have also attacked targets deemed essential to both the enemy’s ability to fight and its perceived desire to continue the struggle.

The Air Force continues to stress both objectives in its doctrine. The current edition of the Air Force’s basic doctrine manual notes: ‘Strategic attack builds on the idea that it is possible to directly affect an adversary’s sources of strength and will to fight without first having to engage and defeat their military forces.’\(^4\) The Air Force’s manual Strategic Attack, dated 12 June 2007, amplifies these sentiments by stating that such bombing aims ‘to weaken the adversary’s ability or will to engage in conflict, and may achieve strategic objectives without necessarily having to achieve operational objectives as a precondition’.\(^5\)

The manual concedes that attacking the enemy’s will directly may be difficult, but also contends that ‘strategic attack is able to impose systemic/functional and psychological effects that may achieve strategic objectives more directly than defeat of enemy fielded

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\(^3\)Air Force Manual 1-1, Basic Doctrine of the United States Air Force, March 1992, Vol. II, 151.

\(^4\)Air Force Doctrine Document 1, Basic Doctrine, 17 Nov. 2003, 40.

\(^5\)Air Force Doctrine Document 2-1.2, Strategic Attack, 12 June 2007, 2.
forces’.6 The document lists denial (employing military means to prevent an enemy from obtaining political or territorial goals), decapitation, power base erosion, fomenting unrest among the civilian populace, and weakening infrastructure as ‘potentially overlapping mechanisms’ that could coerce an enemy to modify his behavior, with the last two items ‘aimed at impacting the enemy’s popular will or perception’.7 Strategic Attack further maintains that bombing can ‘act on the psychology of the enemy leadership by changing the political climate or denying options or choices’ and thus ‘indirectly affect the adversary’s will to fight’.8

Although such doctrinal guidelines reveal a recognition that ‘will’ is a slippery target, they also show that it is not a target that American airmen ignore. Indeed, those airmen have developed a distinctive approach for attacking the amorphous component of Clausewitz’s power of resistance. They have consistently combined their attacks on will with attacks on military targets, and they have further shown a preference for avoiding direct attacks on civilians. The roots of this approach extend to American planning for an air campaign in World War I, and its notions solidified during the trial by fire against Adolf Hitler’s Germany. The campaign against the Third Reich revealed common themes that have reappeared in subsequent applications of American airpower: a predilection for attacking enemy will ‘indirectly’ rather than by killing people; an overwhelming faith in ‘precision’ bombing; and the conviction that bombing deflates will by disrupting normal, day-to-day life.

Given that the air war against Nazi Germany provided the foundation for the current notions regarding ‘will’ that permeate Air Force doctrine, an examination of the efforts by American airmen to pinpoint and wreck German will offers useful insights for civilian and military leaders grappling with how best to affect the resolve of potential nation-state antagonists like Iran. Accordingly, this analysis examines the evolution, conduct, and effectiveness of America’s archetypal attempt to destroy an enemy’s will with bombs, and it further explores the ramifications of using such a distinctive approach to attack such an elusive target. The insights produced by this study will likely yield more questions than answers, given the squishy nature of the subject under examination. Nonetheless, such analysis is a worthwhile endeavor because any future American air campaign is almost certain to have the goal of ‘breaking enemy will’ as either a stated or implied objective.

Nazi Germany’s ability to endure widespread aerial devastation highlights the difficulty of determining the motivations that keep an enemy fighting and the impact that bombs have upon those desires. The

6Ibid., 4, 25.
7Ibid., 32.
8Ibid., 4.
initial supposition that Germany’s will to fight equated to popular support for the war proved incorrect. In the end, the motivations of three groups blended together to produce a collective German will: the populace, government leaders, and the armed forces. Those components, which correspond to the elements most affected by Clausewitz’s trinity of passion, chance, and reason, provide the fundamental ingredients of any enemy’s ‘will to resist’. Yet the key to wrecking enemy morale with bombs is not necessarily an equally divided attack on its various parts, nor do the components that have received the most attention from American airpower strategists – the will of the populace, and the will of government leaders – necessarily correspond to a dominant element among the three. The air campaign against Germany demonstrated that the resilience of the individual components likely depends on multiple factors, to include the strength of the bonds that connect them and the war aims pursued by all belligerents. It further showed that, in a conventional conflict like the one against Hitler’s Reich, the individual element that may be most susceptible to breaking from air attack is the will of the armed forces.

The genesis of the initial American attempt to wreck morale with bombs occurred during World War I. In November 1917, Lieutenant Colonel Edgar Staley Gorrell, the 26-year-old director of the US Air Service’s Technical Section, borrowed extensively from a proposed British air offensive against the German homeland to produce America’s first campaign plan for an air attack against an enemy nation. Gorrell’s plan identified four target groups, the industries surrounding Düsseldorf, Cologne, Mannheim, and the Saar, as the vital components of the German war effort. Destroying those industries and their transportation links would, he believed, wreck Germany’s capacity to continue the war. He was also convinced that a concentrated air assault against those targets would cause the German populace to demand an end to the conflict. Gorrell called for 100 bomber squadrons to start the campaign by simultaneously attacking

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9Clausewitz, On War, 89.
10USAF Col. John Warden, whose bombing notions provided substantial impetus for the Desert Storm air campaign in 1991, spurred the Air Force’s emphasis on ‘leadership targeting’.
11Tami Davis Biddle, Rhetoric and Reality: The Evolution of British and American Ideas about Strategic Bombing, 1914–1945 (Princeton UP 2002), 54. Biddle notes that Gorell adopted the British Sept. 1917 plan devised by Royal Naval Air Service Major Lord Tiverton ‘virtually verbatim’ as the body of the paper, and attached to it his own introduction and conclusion. See also George K. Williams, “‘The Shank of the Drill’: Americans and Strategical Aviation in the Great War’, Journal of Strategic Studies 19/3 (Sept. 1996), 381–431.
armament works in Mannheim and Ludwigshafen for five continuous hours. ‘If immediately afterwards, on the next possible day, Frankfurt were attacked in a similar way, judging from the press reports of what has already occurred in Germany’, he contended, ‘it is quite possible that Cologne would create such trouble that the German government might be forced to suggest terms if that town were so attacked.’

To Gorrell, a nation’s will to fight equated to the population’s willingness to support the war effort. A mass revolution that threatened to dislodge the enemy government, and that forced that government to make peace to stay in power, would indicate that bombs had broken enemy morale. Those same bombs would also attack the enemy’s war-making capability. Gorrell viewed wrecking the enemy’s capability and will to fight as complementary goals, and he aimed for his offensive to destroy both objectives. ‘From both the morale point of view and also that of material damage, concentration of our aerial forces against single targets on the same day is of vital importance since it tends to hamper the defense and also to complete in a thorough manner the work which the bombardment is intended to perform’, he observed.

He concluded that the German attempts to crack British morale by bombing London indicated that German will was susceptible to collapse by aerial assault. The American officer based this assertion on his analysis of German newspaper articles.

Aircraft production delays prevented the implementation of Gorrell’s plan, but the young planner was not alone in believing that a concentrated air offensive against Germany could have achieved victory. ‘I was sure that if the war lasted, airpower would decide it’, Brigadier General William ‘Billy’ Mitchell stated after the armistice.

Had the war continued into 1919, Mitchell planned an aerial assault against the interior of Germany that would have combined incendiary attacks with poison gas to destroy crops, forests, and livestock. He mused that such an air offensive ‘would have caused untold sufferings’ and forced a German surrender. Like Gorrell, Mitchell believed that an enemy’s will to fight equaled popular support for the war effort, and Mitchell thought that bombs could destroy morale effectively without directly targeting the civilian populace. He wrote in 1925: ‘Air forces

12Gorrell: Strategical Bombardment, 28 November 1917’, in Maurer Maurer (ed.), The US Air Service in World War I, 4 vols. (Washington DC: US Government Printing Office 1979), II: 150.
13Ibid.
14Ibid.
15Quoted in Isaac D. Levine, Mitchell: Pioneer of Air Power (New York: Duell, Sloan, and Pearce 1943), 148.
16Quoted in ibid., 147.
will attack centers of production of all kinds, means of transportation, agricultural areas, ports and shipping; not so much the people themselves. They will destroy the means of making war.¹⁷ These attacks would also wreck the enemy’s will to fight by driving civilians away from cities so that they could not work, creating a ‘wild and disorderly exodus’ in which the populace could be neither fed nor housed. ‘There is only one alternative and that is surrender’, Mitchell elaborated in 1930, but to him capitulation would stem from hopelessness rather than rebellion.¹⁸

The conviction that a nation’s ‘will to fight’ matched the desire of its populace to support the war effort was shared not only by Gorrell and Mitchell, but also by the instructors at Maxwell Field’s Air Corps Tactical School, Montgomery, Alabama. Those instructors further believed that national morale was vulnerable to bombing. At the school, which provided an intense, year-long, airpower-focused curriculum to many of the future air commanders of World War II, instructors refined the notions of Gorrell and Mitchell. Majors Donald Wilson, Harold Lee George, and Muir S. Fairchild debated the merits of attacking civilian morale, and ultimately developed an approach that would guide not only American air offensives in World War II, but also those in the limited wars that followed.

The Tactical School instructors acknowledged that direct attacks on civilian populations were ‘one recognized method’ of attacking an enemy state. ‘There is, however, considerable question that this method of attack is the best and most efficient method’, Major Fairchild asserted in a 1938 lecture on ‘National Economic Structures’:

Obviously we cannot and do not intend, to actually kill or injure all the people. Therefore our intention in deciding upon this method of attack must be to so reduce the morale of the enemy civilian population through fear – fear of death or injury for themselves and their loved ones – that they would prefer our terms of peace to continuing the struggle, and would force their government to capitulate.

He further observed:

Inasmuch as we may expect the initial mental state of a nation at war to be one of confusion, rather than the firm state of morale which may eventually emerge, it may well be possible for air attack direct

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¹⁷William Mitchell, *Winged Defense* (New York: G.P. Putnam’s Sons 1925; reprint ed. New York: Dover Publications 1988), 16.

¹⁸William Mitchell, *Skyways* (Philadelphia: J.B. Lippincott 1930), 222–3.
on the civilian populace to destroy morale before it really comes into existence – provided of course that the air force can strike soon enough and hard enough. The point in doubt here is, how hard, is hard enough? This we don’t know; but we do know that air attacks such as the Japanese have directed against the Chinese cities [since 1932] are not hard enough, for there, the reaction seems to have been to increase the morale of the nation as a whole. Observers seem to be of the opinion that the Japanese air attacks on cities have had the effect of unifying the Chinese people in opposition to the Japanese to a greater extent than any other factor.

It is apparent that if Air Warfare is to succeed in the direct attack against morale, that it must create such an abnormal environment that continued sacrifice of the individual for the common good becomes intolerable.19

Fairchild concluded that the uncertain results of direct attacks on civilian morale precluded such a focus if an air campaign were to have a reasonable chance of success. Instead, he proposed attacking morale indirectly by concentrating on the key elements that linked together an enemy state’s industrial complex. ‘This method of attack has the great virtue of reducing the capacity for war of the hostile nation’, he surmised, ‘and of applying pressure to the population both at the same time and with equal efficiency and effectiveness.’20

The belief, widely shared among Tactical School instructors, that the industrial apparatus essential to a state’s war-making capability was also necessary to assure control of its populace was the key to the School’s industrial web theory. In brief, its main points were: (1) In ‘modern warfare,’ the military, political, economic, and social facets of a nation’s existence were so ‘closely and absolutely interdependent’ that interruption of this delicate balance could suffice to defeat an enemy state; (2) Bombing, precisely aimed at these ‘vital centers’ of an enemy’s industrial complex, could wreck the fragile equilibrium and hence destroy the enemy state’s war-making capability; and (3) Such destruction would also wreck the enemy nation’s capacity to sustain normal day-to-day life, which would in turn destroy the will of its populace to fight.21

19Major Muir S. Fairchild, text of ACTS lecture, ‘National Economic Structure’, 5 April 1938, 3–5. Air Force Historical Research Agency (hereafter referred to as AFHRA), Maxwell Air Force Base, Alabama, file number 248.2019A-10 (emphasis in original).
20Ibid., 5.
21Wesley Frank Craven and James Lea Cate, The Army Air Forces in World War II, 7 vols. (Univ. of Chicago Press 1948–1958; reprint ed., Washington DC: Office of Air Force History 1983), I: 50–2. See also Donald Wilson, ‘Origin of a Theory for Air
Much like Gorrell, Fairchild envisioned a government compelled to stop fighting by the twin catastrophes of economic collapse and public revolt. ‘The results that are achieved by attack of the national economic structure are cumulative and lasting’, Fairchild contended. ‘They build up from day to day and from week to week so that the pressure that formerly has been imposed by military action over long periods of time, may, by this method, be concentrated into a short period, and still produce that intense suffering upon the civil populace that has been essential for the collapse of the national morale and the national will to continue with the war.’22

The Tactical School instructors also devised a gauge to determine when morale was on the verge of collapse: unemployment. ‘The effectiveness of an air offensive against a nation may find its yard stick in the number of people which it will deny work,’ stated a 1936 lecture. ‘Idleness breeds discontent – and discontent destroys morale.’23

Despite the widespread acceptance of the industrial web theory among American airmen, all did not entirely dismiss the idea that direct attacks on an enemy populace might wreck the enemy’s will to fight. Less than a week before Hitler’s 1939 assault on Poland, Lieutenant Colonel Ira C. Eaker, distinguished pilot, holder of a journalism degree from the University of Southern California, 1936 graduate of the Air Corps Tactical School, and executive officer to Brigadier General Henry H. ‘Hap’ Arnold, critiqued the draft of an article on strategic bombing that Arnold had prepared for the Saturday Evening Post. The two had collaborated on the 1936 book This Flying Game and would later co-author Winged Warfare and Army Flyer; Eaker would also be Arnold’s choice to command the Eighth Air Force during the initial stages of the American bombing offensive against the German homeland in World War II. ‘Put in a strong paragraph about the fact that it is probably uneconomical to bomb civil populations unless in extreme cases such as London or Paris, where it would be done for the morale effect in the hope

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22Fairchild, ‘National Economic Structure’, 5–6.
23Text of ACTS Lecture, ‘The Primary Objective of Air Forces’, 13 April 1936, p. 5. AFHRA file number 248.2017A-10. The ACTS text, ‘Air Force Objectives’, for the 1934–35 ‘Air Force’ course stated: ‘The psychological effect caused by idleness is probably more important in its influence upon morale than any other single factor.’ See HRA file number 248.101-1, 4.
for a short war’, Eaker told Arnold. The notion that direct attacks on civilians might ultimately accelerate the demand for peace would find its way into air campaign planning on the eve of Pearl Harbor.

In August 1941, Lieutenant Colonels Harold George and Kenneth Walker, and Majors Haywood Hansell and Laurence Kuter, all former members of the Tactical School faculty, transcribed the industrial web theory into a written plan for a prospective air war against the Axis powers. Known as AWPD-1 (for Air War Plans Division, Plan 1), it emphasized Germany as the main enemy and identified electric power, oil, and transportation as the three key elements of Hitler’s war machine. The destruction of those target systems would, the planners believed, also destroy the ‘means of livelihood of the German people’ and their will to support the war. The planners estimated that wrecking German war-making capability would take six months of concentrated aerial assaults, and that such attacks probably could not begin until the spring of 1944 (assuming war began in early 1942) because of the time needed to produce an adequate bomber force.

Although they stressed precision attacks against industry, the planners did not completely rule out the possibility of direct attacks on the German civilian populace. Their rationale for such attacks was twofold: they believed that raids on urban centers might provide the final impetus needed to make a battered Germany surrender, thus saving Allied lives that would be lost if the struggle persisted; and a coup de grâce administered by airpower would demonstrate in convincing fashion that the independent application of airpower had won the war and provide strong rationale for an independent Air Force. AWPD-1 noted that ‘timeliness of attack is most important in the conduct of air operations directly against civil morale. If the morale of the people is already low because of sustained suffering and deprivation and because the people are losing faith in the ability of the armed forces to win a favorable decision, then heavy and sustained bombing of cities may crush that morale entirely.’ Yet the planners also cautioned: ‘If these conditions do not exist, then area bombing of cities may actually stiffen the resistance of the population, especially if the attacks are weak and sporadic.’

24 Memorandum, Lt. Col. Eaker to Brig. Gen. Arnold, 25 Aug. 1939; Correspondence File, 1939; Box 3, Ira C. Eaker Papers, Library of Congress, Washington DC. The memo also appears in Miscellaneous Correspondence File, 1939; Box 3, Henry H. Arnold Papers, Library of Congress. The article, perhaps because of the onset of war in Europe, did not appear in print.
25 ‘AWPD-1: Munitions Requirements of the Army Air Forces’, 12 Aug. 1941, Tab No. 1, 2, AFHRA file number 145.82-1.
26 Ibid., 7.
Were the industrial web theory correct, German morale should crack without the direct targeting of residential districts.

The realities of precision, daylight bombing differed significantly from Maxwell’s classroom analysis and the projections of AWPD-1. Hansell later acknowledged the fundamental problem faced by the air planners: ‘Feasibility of effective and sustained air attack as the key to victory could not be demonstrated by past experience. Victory through airpower alone was pure theory.’

Many British air leaders, and Prime Minister Winston Churchill, scoffed at the American efforts to halt German production by pinpointing key industrial links in daylight and urged their allies to join in the Royal Air Force’s night area assault against German cities. While they successfully resisted the British prodding, the Americans were less successful in using bombs to slow Hitler’s war effort. The diversion of bombers to the Mediterranean and the Pacific, the large amount of slack in the German economy, and the crippling losses suffered at the hands of German air defenses were key reasons that American bombing failed to produce telling results in 1943.

Moreover, airmen found that, even with sophisticated Norden bombsights, they had great difficulty hitting the desired target. Besides the terrifying distraction of German air defenses, bombardiers found that clouds often obscured the targets, particularly in winter. To maintain air pressure on Germany during overcast conditions, American air commanders turned to radar in late 1943 to locate targets, but radar bombing was anything but precise. Eighth Air Force operations analysts estimated that on the 27 radar bombing missions between the end of September 1943 and the end of January 1944, only five percent of the bombs dropped fell within one mile of the aiming point. Radar bombing accuracy did not significantly improve for the duration of the war.

Despite the lack of precision, the intent of air leaders was not simply to strike the heart of vast urban areas, which were the only identifiable targets using radar techniques. Instead, air commanders remained...
wedded to the industrial web theory, believing that the combination of radar and visual attacks would wreck German vital centers. ‘The conclusion is reached that German industry can be paralyzed by the destruction of not more than five or six industries, comprising not more than 50 or 60 targets’, General Arnold wrote to presidential special advisor Harry Hopkins in late March 1943.\footnote{Letter, Arnold to Mr Harry L. Hopkins, 25 March 1943; Strategy and Command File, Box 39, Arnold Papers.} Arnold believed that such paralysis would have a definite impact on the willingness of the German people to continue the war, and might result in the overthrow of Hitler. After learning that an October 1943 attack on German transportation facilities had disrupted evacuee travel and caused hatred of Hitler and the Nazis to reach ‘serious proportions’, Arnold informed Army Chief of Staff General George Marshall that continued air assaults could lead to ‘the Germans giving up Hitler and the Nazi leaders’.\footnote{Memorandum from Arnold to General Marshall, 26 Oct. 1943; Bombing File (#36), Box 41, Arnold Papers.}

Major General Eaker, the Eighth Air Force Commander, concurred, remarking that intense German opposition against radar attacks indicated that the enemy feared their results. ‘The destruction of his cities gives him the greatest concern’, Eaker surmised. ‘Attacking them when they are under solid cloud cover undoubtedly lowers the morale of the people dangerously from his point of view.’\footnote{Letter, Eaker to Col. Barney Giles, 13 Dec. 1943; Giles File, Box 17, Eaker Papers.} But the failure of the Germans to stop fighting, even after the bomber offensive achieved daylight air superiority and the Anglo-American and Soviet armies began relentlessly advancing towards the German frontier, caused air leaders to consider alternatives for bringing the war to a close.

On 5 July 1944, the Anglo-American Combined Chiefs of Staff agreed that a time might come when an all-out attack against German morale would prove decisive. Less than one month later, Air Chief Marshal Sir Charles Portal, Chief of the British Air Staff, produced a proposal for such a catastrophic blow from the air. For over two years the Royal Air Force (RAF) had engaged in a direct attack against the morale of the German workers, achieving its most notable ‘success’ against Hamburg in late July/early August 1943 when a ten-day-long series of raids produced a firestorm killing 42,600 inhabitants and was the most accurate form of radar bombing (‘Oboe’ and ‘Gee’ were the other types most frequently used), and could identify only urban areas having distinctive terrain features such as seacoasts or rivers. The precise location of an individual factory or railroad via H2X was impossible.
rendering 755,000 homeless. Portal argued that a massive assault against the German civilian populace was unlikely to produce an overthrow of German leadership; at best it might spur rioting, but the rioting would likely occur among foreign workers only. However, direct attacks on the morale of political and military leaders themselves might lead to significant results. A massive American air attack on marshalling yards and airfields in Rome on 19 July 1943, following the invasion of Sicily, had shaken Benito Mussolini and helped lead to his removal from power six days later. ‘Our object must be to influence the minds of German high political and military authorities in the desired direction to the point where the High Command must either accept the necessity of surrender or be replaced by an alternative Command which does so’, Portal maintained. He believed that heavy attacks on government and military control centers in Berlin, 5,000 tons of high explosive ordnance on a 2½ square mile area, backed by ‘well judged propaganda,’ could lead to enemy capitulation.

Codenamed ‘Thunderclap’, the proposed operation received intense scrutiny from the staff of General Carl A. Spaatz’s US Strategic Air Forces (USSTAF) in the United Kingdom, as well as from Arnold’s air staff in the Pentagon. Spaatz’s officers noted that a large portion of the German government had evacuated Berlin, making the operation’s ability to cause a sudden administrative breakdown problematic. Still, the daylight population of the targeted area was roughly 375,000, of whom 275,000 were expected to be killed or seriously injured, and ‘it may well be that an attack on the proposed area of Berlin would have a greater effect upon national administration than is at present appreciated’. Spaatz informed Allied Supreme Commander General Dwight D. Eisenhower, who maintained temporary operational control of USSTAF to guarantee its support for the Normandy beachhead, that American bombing policy condoned attacks on military objectives, not morale. ‘I am opposed to this operation as now planned’, he declared. ‘We are prepared to participate in an

34United States Strategic Bombing Survey (hereafter referred to as USSBS), A Detailed Study of the Effects of Area Bombing on Hamburg, Jan. 1947, 8, 10.
35Geoffrey Perret, Winged Victory: The Army Air Forces in World War II (New York: Random House 1993), 210.
36Memorandum by the Chief of Air Staff, ‘Air Attack on German Civilian Morale’, 1 Aug. 1944; Operational Plans – ‘Thunderclap’ File, Box 153, Carl A. Spaatz Papers, Library of Congress.
37Operation Thunderclap (Attack on German Morale), 20 Aug. 1944; Operation Thunderclap File, Annex I, Box 153, Spaatz Papers.
operation against Berlin, but in so doing will select targets for attack of military importance.\(^{38}\)

Major General Laurence Kuter, one of AWPD-1’s designers who now served as Arnold’s assistant chief for plans and combat operations, also critiqued ‘Thunderclap’. Kuter thought that the impetus for the British proposal might have stemmed from their desire to retaliate for the recent buzz (V1 flying) bomb attacks against England. He noted that area bombing had caused little absenteeism and only apathy and discouragement among the German workers, which were doubtful qualities to spark a revolt. Although Kuter realized that the intent of ‘Thunderclap’ was to break the will of the German leaders, he also observed that civilians would bear the brunt of the attacks. ‘The bombing of civilian targets in Germany cannot be expected to have similar effects to those which might be expected in a democratic country where the people are still able to influence the national will’, he asserted. Kuter reiterated that American target policy hinged on attacking military objectives and German production centers, and that it was ‘contrary to our national ideals to wage war against civilians’. Yet he conceded that a time might arrive when attacks ‘against other than objectives immediately related to the battle’ might tip the balance. Thus, although strongly opposed to the British proposal, he recommended preparing a plan for it.\(^{39}\)

After examining the arguments, General Arnold directed USSTAF to develop a plan for including British and American air forces in an ‘all-out, widespread attack’ against Germany that would last roughly a week. Its purpose would not be to obliterate cities or towns, nor would Berlin be the sole target. Rather, the assault would strike ‘military objectives of numerous types . . . to give every citizen an opportunity to see positive proof of Allied airpower’. Arnold stated that such an operation could be ‘decisive’ if conducted at the proper moment.\(^{40}\) In mid-September 1944, Spaatz’s headquarters began working on a plan for attacking morale that did ‘not harbor the cold-blooded slaughter of civilians’. Planners selected targets ‘designed to destroy such necessities of life as are normally required from day to day [to] produce a morale

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\(^{38}\) Memorandum from Spaatz to Eisenhower, Subject: ‘Thunderclap’, 24 Aug. 1944; Operational Plans – ‘Thunderclap’ File, Box 153, Spaatz Papers.

\(^{39}\) Letter, Kuter to Maj. Gen. Frederick Anderson, 15 Aug. 1944; Memorandum for Gen. Arnold from Kuter, 9 Aug. 1944; both in Operational Plans—‘Thunderclap’ File, Box 153, Spaatz Papers. See also Conrad C. Crane, Bombs, Cities, and Civilians (Lawrence: Kansas UP 1993), 102–3.

\(^{40}\) Memorandum for Maj. Gen. Anderson from Col. Charles Williamson, Subject: ‘Attack on German Civilian Morale’, 12 Sept. 1944; Operational Plans – ‘Thunderclap’ File, Box 153, Spaatz Papers.
effect over a longer period of time than would an indiscriminate direct attack on a town’. In the meantime, Eisenhower had returned operational control of the USSTAF to Spaatz, and the USSTAF commander stepped up the assault on Germany’s synthetic oil production, with transportation targets assuming second priority.

On 16 December 1944, the Germans demonstrated in convincing fashion that they still possessed both the capability and will to continue the war. The land and air Ardennes Winter Offensive stunned Allied leaders, most of whom had assumed that Germany was on the brink of collapse. By 28 January 1945, the ‘Battle of the Bulge’ had claimed 81,000 American casualties – making it the bloodiest single engagement in American military history. As Allied losses mounted, the rationale originally presented for ‘Thunderclap’ became more and more appealing: ‘If the operation should succeed in curtailing the duration of the war by even a few weeks it would save many thousands of Allied casualties and would justify itself many times over.’ In addition, the goal of unconditional surrender dictated the destruction of the Nazi government and its administrative apparatus, and the Soviet advance in the East had reached the point where it would benefit directly from the destruction of German transportation hubs. A 31 January 1945 directive made selected cities in eastern Germany, ‘where heavy attack will cause great confusion in civilian evacuation from the east and hamper reinforcements’, the Combined Bomber Offensive’s highest priority targets after oil.

These factors, together with the ‘plentitude of resources’ available, led Spaatz to attack Berlin, Leipzig, and Dresden in February 1945. Yet the magnitude of the 3 February Berlin assault did not approach ‘Thunderclap’ proportions. The expectation of clouds over the city precluded precision attacks on oil targets and made transportation

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41 Memorandum from Lt. Newell to Col. Sutterlin, Subject: ‘Plan for Systematically Attacking Morale within Germany’, 19 Sept. 1944; Operational Plans – ‘Thunderclap’ File, Box 153, Spaatz Papers.
42 Charles B. MacDonald, A Time for Trumpets: The Untold Story of the Battle of the Bulge (New York: William Morrow 1985), 618.
43 Operation Thunderclap (Attack on German Morale), 20 Aug. 1944.
44 Craven and Cate, Army Air Forces in World War II, Vol. III, 725.
45 Ronald Schaffer, Wings of Judgment: American Bombing in World War II (New York: OUP 1985), 103.
46 Nor was it significantly larger than the American raid against Berlin on 21 June 1944. On that date, 928 bombers dropped more than 2,000 tons of bombs on targets in the Berlin area in a massive daylight raid supported by 23 groups of escort fighters; 1,371 tons fell on the city center. See Craven and Cate, Army Air Forces in World War II, Vol.III, 284–5; Richard G. Davis, ‘Operation “Thunderclap”: The US Army Air Forces and the Bombing of Berlin’, Journal of Strategic Studies 14/1 (March 1991), 92.
facilities and an array of government buildings, both of which had larger ‘footprints’ than individual synthetic oil plants, the primary objectives for radar attacks. Once over Berlin, however, crews found the skies predominantly clear, and most bombed visually. Almost 1,000 B-17s dropped 2,279 tons of bombs on the city, causing heavy damage to the Reichschancellery, Air Ministry, Foreign Office, Ministry of Propaganda, and Gestapo headquarters, as well as to numerous railroad marshaling yards.\(^\text{47}\) The raid also killed an estimated 25,000 people.\(^\text{48}\)

Against Leipzig and Dresden, the Eighth Air Force again attacked rail yards. In the attacks on Dresden on 14–15 February, clouds obscured the target, and crews mistakenly dumped their bombs on Dresden’s main residential district, which had been heavily bombed on the night of 13 February by the RAF. Refugees fleeing the Russians clogged the city, and between 25,000 and 35,000 civilians perished in the multiple assaults.\(^\text{49}\)

Technically, the attacks on Berlin and Dresden were aimed at military objectives. Two days after the Berlin raid, Spaatz revealed that he had little faith in the notion that a single, massive bombing raid could compel German surrender. He told Arnold: ‘Your comment on the decisiveness of results achieved by airpower leads me to believe that you might be following the chimera of the one air operation which will end the war. I have concluded that it does not exist. I also feel that in many cases the success of our efforts is unmeasurable, due to our inability to exploit the decisive results achieved.’\(^\text{50}\)

Nevertheless, Spaatz showed that he viewed the Berlin assault as more than simply an attempt to destroy German war-making capacity. When asked before the raid by Lieutenant General James Doolittle, the Eighth Air Force Commander, if he wanted ‘definitely military targets’ on the outskirts of Berlin hit if the oil targets were obscured, Spaatz

\(\text{47}\)Davis, ‘Operation “Thunderclap”’, 106. Only 250 tons of this total were incendiaries; the remaining bombs were high explosives.

\(\text{48}\)Craven and Cate, \textit{Army Air Forces in World War II}, Vol.III, 725–6. Richard Davis questions this total, citing research in Berlin city and Federal Republic archives that indicates tolls of 2,895 dead, 729 injured, and 120,000 made homeless. Davis believes that accurate bombing combined with the meager number of incendiaries used on the mission may have produced fewer casualties than those claimed by Craven and Cate. See Davis, ‘Operation “Thunderclap”’, 106.

\(\text{49}\)Tami Davis Biddle, ‘Dresden 1945: Reality, History, and Memory’, \textit{Journal of Military History} 72 (April 2008), 423–4; see also Mark Clodfelter, ‘Culmination: Dresden, 1945’, \textit{Aerospace Historian} 26 (Fall 1979), 134–47.

\(\text{50}\)Letter, Spaatz to Arnold, 5 Feb. 1945; Personal Diary (Feb. 1945) File, Box 20, Spaatz Papers.
replied: ‘Hit oil if visual assured; otherwise, Berlin – center of City.’

Dresden’s marshaling yard bordered the city’s major residential district, virtually guaranteeing that bomb misses would kill civilians.

Moral qualms and the firmly held conviction that attacks aimed at war-making capability were more productive than those aimed at the enemy populace combined to prevent American air leaders from launching a wholesale campaign aimed at killing German civilians. Air commanders continued to believe that the essence of German morale was public support for the war, and that such support was fragile, but they agonized over how best to attack it. In their minds, attacking civilians indirectly – by terrorizing them rather than killing them, or by depriving them of needed goods and services – was the answer. Yet the difference between attacks intended to terrorize, and those intended to kill, was a fine one, and the distinction tended to blur as the war progressed. General Eaker, who had left the Eighth Air Force in January 1944 to become the Allied air commander in the Mediterranean, commented at length on the dilemma. Spaatz had requested Eaker’s views on ‘Clarion,’ a plan designed not only to disrupt transportation links in small towns, but also to showcase the might of Allied airpower to German citizens unfamiliar with its fury. Eaker did not mince his words on the proposal:

It [‘Clarion’] will absolutely convince the Germans that we are the barbarians they say we are, for it would be perfectly obvious to them that this is primarily a large-scale attack on civilians as, in fact, it of course will be. Of all the people killed in this attack over 95% of them can be expected to be civilians.

It is absolutely contrary to the conversations you and [Air Secretary] Bob Lovett had with respect to the necessity of sticking to military targets....

If the time ever comes when we want to attack the civilian populace with a view to breaking civil morale, such a plan as the one suggested is probably the way to do it. I personally, however, have become completely convinced that you and Bob Lovett are right and we should never allow the history of this war to convict us of throwing the strategic bomber at the man in the street. I think there is a better way we can do our share toward the defeat of the enemy, but if we are to attack the civil population I am certain we should wait until its morale is much nearer [the]

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51Message, Doolittle to Spaatz, 1 Feb. 1945; Box 23, Spaatz Papers. Spaatz had his response to Doolittle typed at the bottom of the message.
breaking point and until the weather favors the operation more than it will at any time in the winter or early spring.\textsuperscript{52}

Despite Eaker’s concerns, Operation ‘Clarion’ transpired in late February. On the 22nd, over 2,000 USSTAF bombers, with heavy fighter escort, roamed over Germany bombing and strafing railroad stations, marshaling yards, and bridges. The RAF supported the effort with intense attacks on lines of communication in the Ruhr. The pattern was repeated the next day, and produced a temporary halt to rail traffic throughout much of the Reich. Yet it did not significantly affect the morale of the populace. The bland statement appearing in the Army Air Forces’ official history, ‘Nothing in particular happened after the German people beheld Allied warplanes striking towns which usually escaped bombings’, made a fitting epitaph for the operation.\textsuperscript{53}

In the final analysis, the official history’s assessment of ‘Clarion’ aptly summarizes the American effort to destroy Germany’s will to fight. The precision attacks against industry and transportation failed to disrupt the ‘normal, day-to-day lives’ of the German people to such a degree that they stopped supporting the struggle. The radar bombing, which mirrored the RAF’s area attacks in destructiveness and accuracy, and became more and more common as the war continued, also failed to wreck the morale of the populace. Bombing’s direct effects on daily activities, such as the loss of mail, telephone, gas, water, electric and sanitary services, the disruption of public transportation, and the reduction in both quality and quantity of food, caused civilian morale to decline, but the decline was never significant enough to stimulate action against the Nazi regime.

Moreover, the members of the United States Strategic Bombing Survey found that once bombing had produced a ‘moderate’ level of deprivation, increased destruction had a marginal impact on reducing the will to fight.\textsuperscript{54} The Survey noted that the morale of individuals subjected to very heavy bombing actually improved slightly compared to the morale of those subjected to less intense attacks. The improvement came not because people supported the war more enthusiastically, but because the heavy bombing made them apathetic and less likely to criticize the war effort. ‘Under conditions of severe raids their thoughts centered on the immediate personal problems of

\begin{footnotesize}
\textsuperscript{52}Letter, Eaker to Spaatz, marked ‘General Spaatz’ Eyes Only’, 1 Jan. 1945; Personal Diary (Jan. 1945) File, Box 20, Spaatz Papers.

\textsuperscript{53}Craven and Cate, \textit{Army Air Forces in World War II}, Vol. III, 733–5.

\textsuperscript{54}USSBS, \textit{The Effects of Strategic Bombing on German Morale}, Vol. I, May 1947, 28.
\end{footnotesize}
foxhole existence’, the Survey observed. To the typical German civilian, the disruption of the ‘industrial web’ created inconveniences that could be overcome; heavier attacks produced fatalistic attitudes and a focus on personal safety and the safety of loved ones.

Massive raids, such as the ones on Hamburg by the RAF and Eighth Air Force at the end of July 1943, caused great chaos but temporary effects. The heavy bombing between 27 July and 3 August reduced the city’s population of 1,500,000 by more than half: 973,000 fled, were evacuated, or killed, while 110,000 moved out of the devastated city center to areas near the outskirts. By October 1943, 475,000 people had returned, and 83,000 more arrived before the end of the war. The production of electricity in Hamburg dropped from 100 percent on 1 July to 14 percent on 5 August, but this supply was adequate for the city’s slowly recuperating economic life. By the end of September, 77 percent of the city’s pre-raid workforce was back on the job, including 85 percent in the shipbuilding industry, 84 percent in the aircraft industry, and 94 percent in the oil industry.

Still, the raids shocked Hamburg’s inhabitants, who afterwards referred to the week-long series of attacks as simply ‘The Catastrophe’. ‘In Hamburg, we really found out the first time that the morale of the German people can be shattered so much that the work in the armament industry would collapse’, Albert Speer, Hitler’s Minister of Armaments, later stated. At the time, Speer contended that six more raids like Hamburg would have brought German arms production to a total halt and finished the war. Evidence for Speer’s assertion is lacking, however. Allied air forces pummeled German cities with bombs, particularly during RAF Bomber Command’s efforts to create additional ‘Hamburgs’ in Berlin and 16 other German cities between November 1943 and March 1944. The Berlin raids alone cost Bomber Command the equivalent of its entire front-line strength, and the havoc wrought ‘was not sufficient either to satisfy the aims set for the battle – breakdown of civil morale and

55Ibid., 31. Max Seydewitz, a former member of the Reichstag, notes in Civil Life in Wartime Germany: The Story of the Home Front (New York: Viking Press 1945), 311: ‘Those who had lost their families, their homes, their all, were generally too disheartened to respond to consolation. They became indifferent and so utterly apathetic as not even to hate the fliers who had destroyed their homes.’
56USSBS, A Detailed Study of the Effects of Area Bombing on Hamburg, Jan. 1947, 6, 22, 34.
57Ibid., 6.
58Albert Speer interview for documentary film, Whirlwind, part of the ‘World at War’ series produced by Independent Television (ITV) in Britain.
59Albert Speer, Inside the Third Reich (New York: Avon Books 1970), 370.
destruction so great that the normal life of Berlin would cease – or to justify the bomber casualties.  

Although the weight of bombs falling on Germany steadily increased, with 60 percent of the overall tonnage falling between September 1944 and April 1945, the incessant attacks did not produce critical absenteeism in war industries. During the final eight months of the war, the overall absentee rate increased 15 percent above normal for all German industries, but ‘most Germans simply carried on in routine fashion’. The available evidence suggests that industrial workers endured the air raids with less neurosis than those who were unemployed. Like the indirect attacks on morale aimed at the industrial web, the RAF’s direct attack on civilian will (as well as the USSTAF’s radar bombing) failed to break the spirit of those turning the wheels of Hitler’s war machine.

According to the Strategic Bombing Survey, a majority of Germans based their support of the war on Germany’s overall progress during the conflict rather than on the destruction caused by Allied air raids. Forty-four percent of those interviewed by the Survey listed ‘military factors other than bombing’ as the main reason for declining wartime morale, while 36 percent stated that bombing was primarily responsible. Those numbers reflected the attitudes of Germans living in the Western occupation zones after the war. Had the Survey included inhabitants of East Germany, the percentage stressing ‘military factors other than bombing’ would likely have increased. The fear of Soviet Communist occupation caused most members of the German officer corps to continue to back Hitler until the final days of the Nazi regime, and the same can be said regarding the bulk of the German populace.

Two additional factors limited airpower’s ability to affect German civilian will: the widespread degree of popular support for Hitler and National Socialism; and the controlled nature of the Nazi state. For a large segment of the German populace, Adolf Hitler was the messiah who had erased the humiliation of Versailles, overcome the economic

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60Martin Middlebrook, *The Berlin Raids* (New York: Viking 1988; reprint ed. London: Penguin Books 1990), 325.
61USSBS, *Over-all Report (European War)*, 30 Sept. 1945, 7.
62USSBS, *Effects of Strategic Bombing on German Morale* (Vol. I), 65. Included in the 15 percent is absenteeism attributed to sickness and leave as well as to such direct effects of air attack as air raid alarms and bomb damage repair.
63Irving L. Janus, *Air War and Emotional Stress* (New York: McGraw-Hill 1951; reprint ed., Westport, CT: Greenwood Press 1976), 121–2.
64USSBS, *Effects of Strategic Bombing on German Morale* (Vol. I), 13. Other reasons given for declining morale were: personal losses, 13 percent; internal events (dissension, 20 July 1944 Bomb Plot, etc.), 7 percent. See also Seydewitz, 311.
65Robert A. Pape, *Bombing to Win: Air Power and Coercion in War* (Ithaca, NY: Cornell UP 1996), 302–11.
woes of the Depression, and restored Germany to its ‘rightful’ status as a great power.\textsuperscript{66} Nazism’s twin themes of \textit{Lebensraum} and racial dominance spawned unlimited war aims and touched receptive chords among many Germans.\textsuperscript{67} Nazi ideology also fanned rampant nationalism, and the Allied policy of ‘unconditional surrender’ tightened the nationalistic bond. By announcing that the German people had no recourse save total capitulation, Allied leaders greatly diminished the possibility that a single blow, or that even a series of disasters, could produce surrender.\textsuperscript{68} The Allied policy undercut resistance efforts in Germany, and caused many German generals to keep fighting after all hope of victory had vanished.\textsuperscript{69} For civilians struggling to survive the bombing, unconditional surrender strengthened their stoic determination to endure the ordeal. ‘The civilian population bore the burden placed on it because no one offered any alternative’, observed Hans Rumpf, a German civil defense official during the war. ‘There was nothing else they could do. There was no way out.’\textsuperscript{70}

While nationalism was a unifying factor, so too were the Nazis’ chief elements of state control, the Schutzstaffel (SS) and the Gestapo. The military organization of the Nazi Party, the SS contained five million members by the end of the war. In 1938 it absorbed the Gestapo, or state secret police, which ultimately totaled between 40,000 and 50,000 personnel.\textsuperscript{71} Together, the SS and the Gestapo permeated every facet of German life, and their grip on the populace remained firm until the final German collapse. ‘The effectiveness of the Nazis’ machinery of control and repression remained impressive to the

\textsuperscript{66}Alan Bullock, \textit{Hitler: A Study in Tyranny} (New York: Harper and Row 1971), 207–32; Detler J. K. Peukert, \textit{Inside Nazi Germany: Conformity, Opposition, and Racism in Everyday Life}, trans. by Richard Deveson (New Haven, CT: Yale UP 1987), 67–80; Jackson L. Spielvogel, \textit{Hitler and Nazi Germany: A History} (Englewood Cliffs, NJ: Prentice Hall 1992), 130–2.

\textsuperscript{67}Spielvogel, \textit{Hitler and Nazi Germany}, 194, 268–9; Peukert, \textit{Inside Nazi Germany}, 223–35.

\textsuperscript{68}Anne Armstrong asserts in \textit{Unconditional Surrender: The Impact of the Casablanca Policy on World War II} (New Brunswick, NJ: Rutgers UP 1961), 254, that ‘had the German generals been able to act to end the war and had the Allies been willing to negotiate, the war might have ended earlier, nine months to two years earlier depending on the degree of compromise’.

\textsuperscript{69}Johannes Steinhoff, Peter Pechel, and Dennis Showalter (eds.), \textit{Voices from the Third Reich: An Oral History} (Washington, DC: Regnery Gateway 1989), 387.

\textsuperscript{70}Hans Rumpf, \textit{The Bombing of Germany}, trans. Edward Fitzgerald (London: Frederick Muller 1963), 205.

\textsuperscript{71}Edward Crankshaw, \textit{Gestapo: Instrument of Tyranny} (New York: Viking Press 1956), 16, 91; Jacques Delarue, \textit{The Gestapo: A History of Horror} (New York: William Morrow 1964), 182–4.
end... Partly because of its reputation for ruthless use of all the means at its disposal, it served as a formidable deterrent to every sort of opposition to the regime', remarked the Strategic Bombing Survey. Many Germans actually supported the Gestapo because they believed that it guaranteed the maintenance of social order. Although bombing disrupted the ‘control functions’ of the SS and the Gestapo to some extent, it had a greater impact on resistance activities, especially those relying on communication or transportation. Airpower, applied selectively or indiscriminately, could not shred the tightly woven fabric of complete subservience that comprised Nazi Germany.

Given the totalitarian structure of the Nazi state, rampant nationalism, and the ever-increasing fear of Soviet occupation (factors that received minimal attention from American air planners), bombing’s ability to wreck German civilian morale was problematic. The ‘Thunderclap’ plan offered a different approach; attacking the top of the Nazi pyramid rather than its underpinnings. Portal contended that the essence of German morale was not civilian willingness to support the war, but the will to fight possessed by Nazi leaders. ‘Thunderclap’ would attack the leaders’ morale directly. However, the Combined Bomber Offensive lacked the capability to carry out ‘direct’ assaults on German leaders. Besides the difficulty of determining an individual’s whereabouts, the Anglo-American air forces could not hit specific targets with any degree of certainty. Thus, the attacks on German leadership that actually occurred, such as USSTAF’s raid on government buildings on 3 February 1945, were really ‘indirect’ assaults. The raids damaged the government’s administrative apparatus to some extent, but the degree of control exerted by the Nazis at all levels of German society was such that bombing could not sever their reins of power.

Although bombing caused many Nazi leaders great consternation, the raids did not cause them to abandon the war effort. Speer later remarked that ‘Hamburg had put the fear of God in me.’ Joseph Goebbels, Hitler’s Minister of Propaganda, wrote on 12 March 1945: ‘The air terror which rages uninterruptedly over German home territory makes people thoroughly despondent. One feels so impotent against it that no one can now see a way out of the dilemma.’ Yet Speer continued to work doggedly for German victory until late January 1945, and even then he ‘never did entirely abandon

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72USSBS, *Effects of Strategic Bombing on German Morale*, Vol. I, 96.
73Peukert, *Inside Nazi Germany*, 198.
74USSBS, *Effects of Strategic Bombing on German Morale*, Vol. I, 103.
75Speer, *Inside the Third Reich*, 370.
76Joseph Goebbels, *Final Entries 1945: The Diaries of Joseph Goebbels*, ed. Hugh Trevor-Roper (New York: G.P. Putnam’s Sons 1978), 113.
Hitler.\textsuperscript{77} Goebbels prefaced his 12 March diary entry by stating, ‘It must always be pointed out, however, that the present level of morale must not be confused with definite defeatism. The people will continue to do their duty and the front-line soldier will defend himself as far as he has a possibility of doing so.’\textsuperscript{78} In short, bombing could not remove the Nazi leadership from power.

Only the German Army had the force required to decapitate the Nazi state, and most generals refused to take that action. Hitler took great pains to cultivate the loyalty of his top commanders with an elaborate system of bribes that included estates in conquered territories.\textsuperscript{79} One indicator of the Führer’s overwhelming support from his generals was the decision that most made, when they received orders from the 20 July 1944 conspirators in Berlin as well as from Hitler’s East Prussia headquarters in the aftermath of the Bomb Plot, to side with the German dictator.\textsuperscript{80} A military coup, however, would not necessarily have eradicated the rampant nationalism that made Hitler’s rise to power possible. \textit{Had} the 20 July Plot succeeded, the peace terms initially offered by the new military government would have differed significantly from the ‘unconditional surrender’ required by the Allies. Notes historian Raymond G. O’Connor:

Essentially, the new masters would have demanded acquiescence to Germany’s 1939 borders, no occupation of the country, no interference in internal affairs, no denazification, no punishment of war criminals, and no demilitarization. So the Western Allies would have had to accept a virtual pact against Russia and allow Germany to retain all of the ingredients for mischief except one: the Führer.\textsuperscript{81}

Allied leaders would probably have balked at such terms, and a successful coup could have triggered in-fighting inside Germany between Nazi fanatics and German soldiers – the conspirators had carefully massed a ‘replacement army’ of 600,000 reserve troops in Germany to preserve order after Hitler’s overthrow.\textsuperscript{82} Ultimately,
though, whatever group assumed control could not have negotiated a peace other than ‘unconditional surrender’. The war, and its savagery, had gone on far too long by that point to permit less than total capitulation. ‘Unconditional surrender was the only option available to any 1944 regime’, contends historian Sir Max Hastings. ‘The Russians, with more than 20 million dead, wanted vengeance on an appropriately titanic scale … The US would have been as unwilling in 1944 as it was in 1945 to go to war with the Soviet Union for the freedom of Eastern Europe.’

That the conspirators viewed their unfettered peace terms as viable demonstrates the depth of appeal that German nationalism still had for an officer corps staring at defeat on all fronts.

The example of Nazi Germany illustrates that the will of a highly nationalistic populace, intimately tied to its leadership, is exceedingly difficult to break with bombs. Germany’s ‘will to resist’ included the will of its populace as well as the will of its leaders. Both were tightly interwoven, and neither could be wrecked with airpower alone. The bulk of the German people embraced Hitler and his message with open arms, and they continued to do so long after the tide of war turned against the Axis, the relentless Soviet advance in the East heightened German resolve. The Gestapo and the SS further assured that the German populace would continue to support Hitler’s war until the last shot was fired.

Finally, the Allied policy of unconditional surrender gave the German people no alternative to fighting, and increased the apathy of those enduring the bombs. Moreover, the policy removed the key ingredient from bombing that allows it to be an effective instrument against an enemy nation: its ability to threaten the enemy state’s survival. Unconditional surrender guaranteed that Nazi Germany would not survive if it lost the war; both its government and its way of life would disappear regardless of any action it took. Thus, airpower could provide no incentive to yield – or to revolt – because the leadership change that Allied air commanders sought to foster was already assured.

Using bombs to affect two major components of an enemy state’s will to fight, the morale of its people and its leaders, makes a difference only if the impact translates into a desired change in the enemy nation’s behavior. Given the enormous difficulty of changing enemy behavior by aiming an air offensive at either of those components, perhaps the answer lies elsewhere. American air planners on the eve of World War II stressed the destruction of Germany’s war-making capability as a means to destroy the nation’s will to resist, and the targets they recommended were all designed to wreck war-making capacity at its

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83 Max Hastings, ‘What if They had Killed Hitler?’ *Daily Mail*, 8 Sept. 2007.
84 Bullock, *Hitler*, 231–2; Steinhoff et al., *Voices from the Third Reich*, 395; Spielvogel, *Hitler and Nazi Germany*, 253.
source. For the men who designed AWPD-1, the ‘source’ of Hitler’s war machine was his industry, transportation, and natural resources, which were also deemed the key elements of the German public’s ability to sustain normal life. Yet the element of German military might most susceptible to cracking under a rain of bombs may well have been its cutting edge. University of Chicago Professor Robert A. Pape has argued that strategic bombing played a minimal role in disrupting both Germany’s capability and will to resist, and that the effort expended by the USSTAF (and RAF Bomber Command) could have been better employed against German troops in the field. Pape contends that a loss of an enemy’s war-making capability is central to affecting the will of its leaders, for it denies them the capability to accomplish their goals and hence causes them to eschew aggressive behavior. For him, the key to that denial is to use airpower against fielded forces to guarantee the destruction of their capability to fight, rather than counting on such an outcome resulting from attacks on factories, resources, or transportation lines. While Pape’s focus on front-line forces aims to wreck their capability, such an emphasis may also seriously degrade their will.

The use of airpower against German troops provides notable examples in which bombing diminished their desire to continue fighting. In Operation ‘Cobra’ on 25 July 1944, 1,495 American heavy bombers, 380 medium bombers, and 559 fighter-bombers blasted German positions in Normandy near Saint-Lo. The attacks continued almost constantly for more than three hours. The pummeling stunned the defenders in the German Panzer Lehr Division, the target of the barrage, and severed their communication lines. Major General Fritz Bayerlein, the division commander, noted that ‘the shock effect on the troops was indescribable. Several men went mad, and rushed dementedly around in the open until they were cut down by splinters.’ He added: ‘The long duration of the bombing, without any possibility for opposition, created depressions and a feeling of helplessness, weakness and inferiority. Therefore the morale attitude of a great number of men grew so bad that they, feeling the uselessness of fighting, surrendered, deserted to the enemy, or escaped to the rear.’ Bayerlein described the bombed area as ‘a lunar landscape’ and estimated that at least 70 percent of his personnel ‘were temporarily out

85Pape, Bombing to Win, 254–313.
86Craven and Cate, Army Air Forces in World War II, Vol. III, 232; Thomas Alexander Hughes, Over Lord: General Pete Quesada and the Triumph of Tactical Air Power in World War II (hereafter Quesada) (New York: Free Press 1995), 216.
87Quoted in Hughes, Quesada, 213.
88Quoted in Richard P. Hallion, Strike from the Sky: A History of Battlefield Air Attack, 1911–1945 (Washington, DC: Smithsonian Institution Press 1989), 213.
of action, either dead, wounded, crazed or dazed’. As the earth shook five miles from the front, American troops in reserve areas compared the attack to an earthquake. The ‘carpet’ bombing was not a perfect replication of the apocalypse, though, for 42 heavy bombers mistakenly dropped their ordnance on friendly troops and killed 111 of them, including observer Lieutenant General Lesley McNair. Journalist Ernie Pyle was with American front-line soldiers as the bombs crept towards his position and wrote afterwards: ‘An indescribable kind of panic comes over you at such times. We stood tensed in muscle and frozen in intellect.’

Despite the losses from ‘friendly’ fire, ‘Cobra’s’ thunder paved the way for American forces to break through dense German defenses in the hedgerows and begin the sweep across northern France. Bayerlein’s savaged troops somehow formed a makeshift line of resistance against the American ground advance that followed the bombing on the 25th, but when the air assault continued the next morning, their spirit broke. At dawn on the 26th, more than 200 medium bombers and five fighter groups blasted the German positions ahead of a massive thrust by American tanks. Bayerlein’s division responded with an undisciplined retreat, typified by three tank crews who jumped out of their vehicles and waved a white flag to passing P-47 Thunderbolt fighter-bombers overhead. The American advance that had previously been measured in yards continued for five miles on 26 July, and another five the next day. Bayerlein had reported on the night of the 25th that airpower had ‘annihilated’ his division; on the 27th a group of Sherman tanks captured his headquarters.

By 31 July, the American 4th Armored Division Commander, Major General Raymond Barton, issued an order for his unit to continue an unabated advance across the French countryside: ‘The Division is encountering only scattered resistance, some small-arms fire, but few defended positions. We face a defeated enemy, an enemy terribly low in morale, terribly confused. I want you to throw all caution to the wind. . . . Get on.’

A similar use of airpower following the invasion of southern France wrecked the morale of much of the German Nineteenth Army. That

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89Quoted in Hughes, _Quesada_, 213. See also Craven and Cate, _Army Air Forces in World War II_, Vol. III, 236. Field Marshal Gerd von Rundstedt, the German commander in the West, called Operation ‘Cobra’ ‘the most effective, as well as the most impressive, tactical use of air power in his experience’.
90Hughes, _Quesada_, 214–15.
91Quoted in ibid.
92Ibid., 220. See also Craven and Cate, _Army Air Forces in World War II_, Vol. III, 235.
93Quoted in Hughes, _Quesada_, 223.
army was in full retreat in the Rhone Valley, with its troops and vehicles comprising 30 solid miles of traffic, when P-47 Thunderbolt pilots spotted it snaking north. For two days in late August 1944 the medium bombers and fighters of Brigadier Gordon Saville’s XII Tactical Air Command mauled the German formation, destroying thousands of vehicles and killing many men. Once the pursuing American Seventh Army arrived on the scene, the demoralized Germans surrendered in droves.\footnote{Perret, \textit{Winged Victory}, 318.} Free French General Jean de Lattre de Tassigny painted a grim picture of the carnage inflicted by Saville’s airmen that had helped induce many of the 57,000 Germans to stop fighting: ‘Over tens of kilometers there was nothing but an inextricable tangle of twisted steel frames and charred corpses – the apocalyptic cemetery of all the equipment of the Nineteenth Army, through which only bulldozers would be able to make a way.’\footnote{Quoted in Martin Blumenson, \textit{Liberation} (Alexandria, VA: Time-Life Books 1978), 115.}

While American air forces demoralized German troops in the West in the summer of 1944, a resurgent Soviet Air Force also helped to wreck the morale of several German units along the Eastern Front. Unlike the Americans, the Soviets had shunned the notion of strategic bombing and developed an air force devoted exclusively to supporting their ground troops.\footnote{The Soviet Air Force devoted a meager 5 percent of sorties to long-range operations, and most of those were accomplished for propaganda purposes. See R.J. Overy, \textit{The Air War 1939–1945} (London: Macmillan Papermac 1987), 58.} The simply designed and ruggedly built Il’yushin Il-2 Shturmovik two-seater fighter-bomber epitomized the emphasis on ground support, and the Soviets built 36,000 of them during the war.\footnote{Von Hardesty, \textit{Red Phoenix: The Rise of Soviet Air Power, 1941–1945} (Washington, DC: Smithsonian Institution Press 1982, 1991), 169.} The aircraft had already demonstrated its ability to devastate opposing armies at the Battle of Kursk on 7 July 1943, when Il-2s, in 30 to 40-strong formations, destroyed 70 tanks of the German 9th Panzer Division in 20 minutes, and four hours of air strikes wrecked 240 tanks out of approximately 300 in 17th Panzer Division.\footnote{Ibid. See also Hallion, \textit{Strike from the Sky}, 258, and The Soviet General Staff Study, \textit{The Battle for Kursk 1943}, ed. and trans. David M. Glantz and Harold S. Orenstein (London: Frank Cass 1999), 254. At Kursk, the Soviets held a numerical advantage in the air that they used with devastating effect. During the fierce battles of 7–8 July, they maintained a daily sortie rate of 1,100–1,500 aircraft, while the German sortie rate of 829 on the 7th had fallen to 652 by the 8th. The Germans could gain only temporary local air superiority at certain points, and that dominance was fleeting. See David M. Glantz and Jonathan M. House, \textit{The Battle of Kursk} (Lawrence: Univ. Press of Kansas 1999), 137.}
The relentless assault of Soviet airpower continued as a centerpiece of Operation ‘Bagration’ against German Army Group Center in late June 1944. Near the town of Orsha, Soviet General K.A. Vershinin’s Fourth Air Army attacked 88mm guns placed to defend the retreat of the German Fourth Army. His aircraft wrecked the guns, strafed crews and knocked out command bunkers, and then assaulted the retreating army, inflicting heavy casualties and destroying 3,000 vehicles.  

In the meantime, the northernmost portion of the Soviet ground offensive met unexpected resistance that caused the Soviet commander to turn to support from the Sixteenth Air Army. After 300 bombers attacked the night before, Soviet pilots flew 3,200 day-sorties against the German defenses on 24 June; Soviet infantry resumed the attack the next day, and by noon had captured the German positions. Between 28 and 30 June, the Soviets flew another 3,000 sorties against the retreating German formations. On the 28th, Soviet airmen attacked the retreating Fourth Army as it tried to cross the Berezina River bridge 25 separate times, causing casualties and chaos on each strike. As the Soviet legions approached Minsk, thousands of German troops surrendered or deserted, and thousands more fled the city in a panic. The chain of command and communications of Army Group Center collapsed, and airpower played a key role in wrecking its will to fight.

After the Allied ground offensives in the West stalled in autumn, a massive bombing effort focused on a section of the German front lines might have produced another breakthrough, while a massive application of Soviet airpower on a specific part of the Eastern Front might have done so as well in the aftermath of Operation ‘Bagration’. Instead, for the next seven months, the American heavy bombers focused on oil and transportation targets inside the Reich, and Soviets continued to apply airpower only in concert with ground operations. Although the American raids significantly degraded Germany’s ability to fight, the conflict did not end until Allied ground forces had overrun most of the Nazi state. The bonds that tied together the will of the German populace, its government leaders, and the armed forces were simply too strong for a single episode of collapse to destroy the nation’s collective resolve to keep fighting.

Yet occasions like ‘Cobra’ and the Rhone Valley indicated that airpower could crack military will in individual operational instances. Another example had occurred in spring 1943, when three weeks of intense bombing by American and British aircraft had caused 11,000

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99 Earl F. Ziemke, *The Soviet Juggernaut* (Alexandria, VA: Time-Life Books 1980), 131.
100 Ibid., 132–4; Hardesty, *Red Phoenix*, 194.
101 Hardesty, *Red Phoenix*, 194.
102 Ziemke, *Soviet Juggernaut*, 135.
103 Ibid., 137.
Italian and 78 German defenders to surrender the fortified central Mediterranean island of Pantelleria rather than oppose an invasion.\textsuperscript{104} Pantelleria’s troops, though, were isolated and untested, plus their water supply had run out, while the Germans at ‘Cobra’ and the Rhone Valley were veteran forces – the Panzer Lehr Division was an elite unit composed of distinguished combat elements. A series of such front-line collapses like ‘Cobra’ – especially ones occurring simultaneously on the Eastern, Italian and Western Fronts – could have ultimately produced a widespread collapse of will from the Germany military. That loss of will may well have been the linchpin triggering a comprehensive collapse in the nation-state’s overall desire to continue the war.

Given that the aerial pounding of Nazi Germany’s domestic infrastructure, means of production, and leadership apparatus failed to stop either its public or government from supporting the war, the prospect of using bombs to break civilian will or the will of political leaders in today’s era of limited war remains problematic. An aim of ‘unconditional surrender’, which permitted the obliteration of German cities in an effort to destroy key industries or government buildings, is no longer an acceptable American goal in war. Still, to an enemy populace and its leaders, the seemingly finite war aims pursued in America’s more recent conflicts may appear as ultimatums that offer no recourse to fighting – or as tepid objectives that have no teeth – and either perception is likely to diminish the impact of bombs on morale. Moreover, the greatly enhanced accuracy provided by truly smart bombs has taken away the fear factor that Gorrell and Mitchell believed would induce a populace to rise against a government that could not protect it from air attack. Although the continued refinement of precision-guided munitions makes it less likely that air strikes will kill civilians or crack their morale, today’s accuracy significantly improves the prospects that airpower can break the will of troops in the field. The desertion of almost 100,000 Iraqi soldiers after 38 days of continual pounding from the air during the First Persian Gulf War provides just one example of the impact that ‘modern’ bombing can have on the psyche of front-line troops.\textsuperscript{105}

Nonetheless, since the air war against Germany, US Air Force doctrine has continued to stress airpower’s perceived ability to wreck enemy will, and it has equated will to civilian morale or the fortitude of government leaders. Part of the problem is that many American airmen have viewed subsequent examples of seemingly successful strategic

\textsuperscript{104}Perret, Winged Victory, 199–201; Christopher F. Shores, Pictorial History of the Mediterranean Air War, Vol. II: RAF 1943–45 (London: Ian Allan 1973), 14. The island surrendered on 11 June 1943.

\textsuperscript{105}Gulf War Air Power Survey Summary Report (Washington, DC: US Government Printing Office 1993), 93–4.
bombing, particularly those in which airpower was the main element of military force used prior to the conflict’s termination, as vindication for the notions that had germinated before World War II and solidified during the bombing of Germany. Part of the problem is also the reluctance of many airmen to forsake the independent mission of strategic bombing, viewed as their raison d’être, to achieve auxiliary objectives that support surface forces.

The 1944–45 bombing of Japan, which intensified significantly one month after the Combined Bomber Offensive raids against Dresden, seemed to provide air commanders with proof for their conviction that bombs could wreck an enemy’s will to resist. Yet by the time that Major General Curtis E. LeMay’s XXI Bomber Command began to torch Japan’s largely wooden cities, the destruction of the Japanese merchant fleet had eliminated much of the oil and other resources vital to the country’s ability to fight. In addition, the array of ‘cottage’ industries peppering Japan’s urban areas, the inability to bomb accurately through high-altitude jet stream winds, and the twin motivations of revenge and racism combined to produce an air campaign that targeted enemy will much more directly than the USSTAF’s effort against Germany; the two atomic bombs demonstrated how completely the focus had become to break Japan’s will to fight.106

Still, following massive B-29 Superfortress fire raids against Tokyo, Nagoya, and Osaka in March 1945, General Arnold directed LeMay to ‘continue hard hitting your present line that this destruction is necessary to eliminate Jap home industries and that it is strategic precision bombing’.107 Arnold further told LeMay to ‘guard against anyone stating this is area bombing’ despite efforts to create conflagrations in the most densely populated districts of major cities.108

106For analysis of the air campaign against Japan, see Sherry, Rise of American Air Power; E. Bartlett Kerr, Flames over Tokyo: The US Army Air Force’s Incendiary Campaign against Japan 1944–1945 (New York: Donald I. Fine 1991); Kenneth P. Werrell, Blankets of Fire: US Bombers over Japan during World War II (Washington DC: Smithsonian Institution Press 1996); William W. Ralph, ‘Improvised Destruction: Arnold, LeMay, and the Firebombing of Japan’, War in History 13 (Oct. 2006), 495–522; and Max Hastings, Retribution: The Battle for Japan, 1944–45 (New York: Alfred A. Knopf 2007), 281–318, 504–40. For the impact of racism on the Pacific War, see John W. Dower, War without Mercy: Race and Power in the Pacific War (New York: Pantheon Books 1986).

107Teletype message, COMAF 20 to COMGENBOMCOM 21, 14 March 1945, Subject: Osaka Coverage; Folder: Mission No. 42 Osaka PEACHBOWL 1, 13 March 1945; Box 45 – HQ 20th Air Force XXI Bomber Command Mission Reports, 1944–45; Record Group (hereafter referred to as RG) 18, National Archives, Washington, DC.

108Ibid.
After Hiroshima, General Carl Spaatz, who had transferred to the Pacific to oversee the B-29 campaign, informed reporters that the atomic bomb probably obviated an invasion of Japan and that a similar bomb against Germany could have shortened the European War by at least six months – remarks that drew the ire of Army Chief of Staff General George Marshall. Many American air commanders agreed that the atomic attacks had broken Japan’s will to fight. Yet many also, like LeMay, contended that Hiroshima and Nagasaki were unnecessary to produce Japan’s surrender and that ‘conventional’ bombing would have achieved that result without an invasion, an assertion supported by the US Strategic Bombing Survey.

Such convictions dismissed the Soviet Union’s entry into the Pacific War from 8 August and the condition of Japanese troops in Manchuria opposing the Soviet advance, factors that – along with the lack of resources, the relentless thrust of America’s island-hopping campaign, devastation of cities, and shock of the atomic bombs – likely combined to produce Japanese capitulation. For most American airmen, though, airpower made the decisive difference in breaking Japanese will. The example of Japan served as proof that the effort against Germany had been worthwhile and the principles that guided it were correct. The Japanese example further provided significant impetus to fulfill the airmen’s dream of service independence, a goal achieved in September 1947.

After gaining autonomy, the airmen hearkened to the teachings of the Air Corps Tactical School when they first committed their doctrine to paper during the early years of the Dwight Eisenhower administration. Most considered the recently concluded Korean War, with its political constraints on bombing, as an anomaly that would vanish in the era of ‘massive retaliation’. Yet they also believed that airpower was the answer to winning any conflict that appeared on the horizon. ‘Of the various types of military forces, those which conduct air operations are most capable of decisive results’, proclaimed the Air Force’s Basic Doctrine Manual in April 1955. ‘They provide the dominant military means of exercising the initiative and gaining

109 See Message, War Dept. to CG US Army Strategic Air Forces, Guam to War Dept., 8 Aug. 1945, eyes only for Spaatz from Marshall; and Message, Headquarters, US Army Strategic Air Forces, Guam to War Dept, 9 Aug. 1945, eyes only for Gen. Marshall; both contained in Folder: War Dept. Special Staff Public Relations Division Gen Records, Top-Secret Correspondence, 1944–46, File II: 1945; Records of the War Dept. Gen and Special Staffs, Box 3; RG 165, National Archives.
110 USSBS, Summary Report (Pacific War), 1 July 1946, 107, in The United States Strategic Bombing Surveys (European War) (Pacific War) repr. Air UP, Maxwell Air Force Base, ALA, Oct. 1987.
decisions in all forms of international relations, including full peace, cold war, limited wars of all types, and total war.'

For the Air Force, strategic bombing would produce future war’s ‘decisive results’. The service’s 1954 manual on Strategic Air Operations defined them as attacks ‘designed to disrupt an enemy nation to the extent that its will and capability to resist are broken’. Those operations would be autonomous, ‘conducted directly against the nation itself’, rather than auxiliary operations supporting friendly land and sea forces against an enemy’s deployed armies or navies. The manual observed that wrecking a nation’s war-making capacity would ‘neutralize’ its surface forces. It further concluded: ‘Somewhere within the structure of the hostile nation exist sensitive elements, the destruction or neutralization of which will best create the breakdown and loss of will of that nation to further resist.’

The essence of Air Force doctrine has changed little in the half-century since its first publication. During that span, examples of American bombing apparently breaking enemy will, such as the ‘Linebacker II’ air campaign against North Vietnam in December 1972 and the North Atlantic Treaty Organization (NATO) ‘Allied Force’ air offensive against Serbia in spring 1999, have reinforced the doctrinal conviction that the independent application of airpower can produce decisive success in war. Other factors that may affect the decision of enemy leaders to comply with American aims have received short shrift, especially those that define troop morale as a component of enemy morale. In the case of Vietnam, the desperate plight of North Vietnamese Army soldiers in the South, who had endured nine continuous months of savage bombing and whose survival was essential for occupying Southern territory at the time of the Paris Accords, probably helped persuade Northern leaders to conclude a temporary end to their war a month after ‘Linebacker II’.

111 Air Force Manual 1-2, United States Air Force Basic Doctrine, 1 April 1955, 10.
112 Air Force Manual 1-8, Strategic Air Operations, 1 May 1954, 6.
113 Ibid., 2.
114 Ibid., 4.
115 North Vietnamese General Tran Van Tra, commander of communist forces in the southern half of South Vietnam in 1972, later recalled: ‘Our cadres and men were fatigued, we had not had time to make up for our losses, all units were in disarray, there was a lack of manpower, and there were shortages of food and ammunition. . . . The troops were no longer capable of fighting.’ Quoted in Gabriel Kolko, Anatomy of a War: Vietnam, the United States, and the Modern Historical Experience (New York: Pantheon Books 1985), 444–5. President Richard Nixon’s 1972 diplomatic efforts, which severed substantial material support to North Vietnam from China and the Soviet Union, provided additional impetus for Northern leaders to reach an agreement. On the effectiveness of Nixon’s ‘Linebacker II’ air campaign against North Vietnam, see Mark
Concern about a potential ground invasion may also have helped persuade Serbian President Slobodan Milosevic to concede to NATO’s demands after 78 days of bombing. Yet for Air Force doctrine to stress airpower’s perceived effects against surface forces, rather than against ‘core’ elements of an enemy state, might call into question the underlying rationale for an independent Air Force. Air commanders like Arnold and LeMay had worked hard to achieve service autonomy based on the notion that airpower could singularly destroy an enemy’s capability and will to resist; in many respects, postwar air leaders have sought to justify their service’s independent status. It is time for them to realize, and for their doctrine to reflect, the complementary effects that airpower can have on achieving a nation’s war aims, and that bombs may affect the will of troops in the field far more than they impact the morale of civilians and government leaders behind the front lines.

As was true more than a half century ago, an enemy nation’s will to fight remains an elusive target for American airmen, yet it is a target that they continue to emphasize. Air Force doctrine has equated enemy will with popular support, and it has also highlighted the will of government leaders as a key component of a nation’s desire to fight. Although both of those elements help to comprise a collective resolve, the Air Force’s doctrinal guidance has omitted a third component that is an essential part of an enemy’s overall willingness to wage war: the morale of its armed forces. Those three elements, the will of the populace, government leaders, and the armed forces, together form a collective will that dictates whether a country keeps fighting.

The example of Nazi Germany illustrates that, for a unified, autocratic state waging an unremitting conventional war, the aerial pounding of a populace and its means of subsistence is unlikely to stop that people from supporting the conflict, nor are attacks aimed at

Clodfelter, The Limits of Air Power: The American Bombing of North Vietnam (New York: Free Press 1989), 177–209; Wayne Thompson, To Hanoi and Back: The U.S. Air Force and North Vietnam, 1966–1973 (Washington, DC: Smithsonian Institution Press 2000), 255–82; and Marshall L. Michel III, The 11 Days of Christmas: America’s Last Vietnam Battle (San Francisco: Encounter Books 2002).

116 Several works explore the role that a potential ground invasion by NATO forces had on Milosevic’s decision to end the conflict. See Stephen Hosmer, The Conflict Over Kosovo: Why Milosevic Decided to Settle When He Did (Santa Monica, CA: RAND 2001); Ivo H. Daalder and Michael E. O’Hanlon, Winning Ugly: NATO’s War to Save Kosovo (Washington, DC: Brookings 2001); Benjamin S. Lambeth, NATO’s Air War for Kosovo: A Strategic and Operational Assessment (Santa Monica, CA: RAND 2001); William M. Arkin, ‘Operation Allied Force: The Most Precise Application of Air Power in History’, in Andrew J. Bacevich and Eliot A. Cohen (eds), War over Kosovo (New York: Columbia UP 2001), 1–37; and Daniel L. Byman and Matthew C. Waxman, ‘Kosovo and the Great Air Power Debate’, International Security 24 (Spring 2000), 5–38.
leadership targets likely to deter its leaders from continuing the struggle. World War II Germany is not an exact match for any enemy that the United States has since confronted, nor does it provide a perfect blueprint for how bombs might affect enemy morale in a future conflict. Yet the impact that bombing had on the various components of Germany’s collective will provides useful considerations if America again employs airpower against a despotic enemy state, especially one with profound ideological or religious ties. Should the United States turn to bombing in such a conflict, the greatest airpower dividends in terms of breaking morale will most likely come from bombs aimed at deployed troops, and those positive results are likely to occur in singular instances. Multiplying those successful episodes offers the prospect of an overall collapse of the armed forces’ desire to fight, which may in turn undermine the nation’s collective will.

Clausewitz’s amorphous ‘will’ remains a vital part of an enemy’s power of resistance, and thus it is likely to remain a target for American airmen in any future air campaign. In this era of significantly restrained war aims and significantly enhanced technology, those airmen can best focus their efforts against the component of will that has shown itself most vulnerable to attack from the sky: the morale of those whose job it is to fight.

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