

Aiming for Strategic Effect: A Re-examination of the Allied Assaults on Schweinfurt

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In the fall of 1943, Chief of the United States Army Air Force (USAAF), General Henry “Hap” Arnold declared: “The success of the Schweinfurt attack will have a definite effect on [the] German war economy within a reasonably short period of time—in some

extremely important phases within a month—and will result in a shortening of the war.”¹ Commenting on the second major offensive against the German ball bearing industry that year—albeit in an ambiguous manner—Arnold remained steadfast in the conviction of the USAAF at the time that Schweinfurt would produce a devastating blow to Germany’s ability to wage war. History would fail Arnold and the USAAF would only return to Germany’s industrial heartland in the spring of the following year—by which stage they were too late. By 1944, Schweinfurt no longer represented the indispensable target it had initially been at the outset of the war. The potential of Schweinfurt had been wasted and the USAAF’s stalwart efforts throughout 1943 failed to disrupt the German war machine.² The Combined Bomber Offensive, the joint Anglo-American effort to materially cripple Germany’s war effort, had been forced to confront the infancy of their technology and the harsh realities of a war unlike any they had fought before. While the advent of the bomber offensive had rested on pre-war assumptions that enemy forces would struggle to mount a worthy defence against strategic bombing, skirmishes over the Reich culminated in a gruelling attrition-based warfare that departed from what anyone, including the authorities on aerial warfare, had expected.³

Given the gap between pre-war theory and reality, it is unsurprising that of all the major campaigns of World War II, the CBO remains one of the most controversial among historians.⁴ Much of the scholarship is divided over the supposed effectiveness or failure of the strategic targets, first laid out in an initial plan drafted for the CBO at Casablanca in 1943. Lieutenant Mancur Olson proffered one of the earliest revisions of the offensive, in which he

¹ General Henry Arnold, “Schweinfurt Raid: Toller Bearing Production Factories Decimated” *The Civil & Military Gazette*, Oct. 17, 1943, *Service Newspapers of World War II*, 1.

² Murray Williamson, *War, Strategy, and Military Effectiveness*, (Cambridge: Cambridge University Press, 2011), 240.

³ David M. Kennedy, *Freedom from Fear: The American People in Depression and War, 1929-1945* (Oxford: Oxford University Press, 1999), 602.

⁴ Sebastian Cox, *The Strategic Air War Against Germany, 1939-1945: Report of the British Bombing Survey Unit* (London, F. Cass, 1998): 231.

critiqued strategic target selection based purely on what he termed “the strategic supply question.”⁵ He admonished the attacks against the German ball bearing industry as indicative of the USAAF’s economic ineptitude. For Olson, fault lay with Allied efforts to seek the smallest and most indispensable target in Germany’s industrial complex. In permitting such oversight in selection, according to Olson, they had failed to recognize the ability of industrialized economies to reallocate labour and substitute goods with relative ease.⁶

Like Olson, British military historian Sebastian Cox dismissed the offensive against the ball-bearing industry as an “indecisive target.” Although Cox refuted Olson’s claim that the CBO had been formed to effect unconditional surrender through such specialized targets within Germany’s industrial core, he too recognized that both decisive and indecisive offensives had emerged from the initial plan. For Cox, the success of CBO was largely facilitated by the “mutual interaction” between assaults against the oil and transportation industries, in addition to the efforts of the infantry on the ground.⁷

In contrast to both Olson’s economic analysis and Cox’s “decisive” target selection, American historian James Parton awarded more significance to the offensives against the German ball bearing factories in Schweinfurt than most scholars, despite its failure. In a thought-provoking twist, for Parton, the German ball-bearing industry emerged as both a vital strategic target and one of Sir Arthur Harris’s “panaceas.”⁸ As head of the British Royal Air Force (RAF) Bomber Command, Harris was known to make disparaging remarks about what he labelled “panacea targets.”⁹ According to Parton, historians’—like Olson’s—fixation with the disconnect between pre-war ambitions and failure at Schweinfurt had fostered an “ivory-

⁵ Mancur Olson, “The Economics of Target Selection for the Combined Bomber Offensive,” *Journal of the Royal United Service Institution* 107, no. 628 (1962): 309.

⁶ *Ibid.*, 311.

⁷ Cox, *The Strategic Air War Against Germany*, 161.

⁸ James Parton. *Air Force Spoken Here: General Ira Eaker and the Command of the Air* (Maxwell Air Force Base: Air University Press, 2000), 309.

⁹ Olson, “The Economics of Target Selection for the Combined Bomber Offensive,” 328.

tower superficiality” that led to the misguided belief that Schweinfurt had cost the Allies aerial superiority.¹⁰ As Parton would conclude in his seminal work *Air Force Spoken Here*, “[c]ontrol of the air in the two and a half months after Schweinfurt II belonged to the clouds.”¹¹

With particular focus on the American campaign of strategic bombing, this paper will endeavour to prove that while the offensive against Germany’s ball bearing industry did not initiate its systematic collapse, its selection as a strategic target warrants more credit than previous scholarship suggests. Although the American assaults on Schweinfurt constituted a small and, ultimately, brief chapter of the CBO, ULTRA interceptions and interrogation records reveal that if the Allies had applied sustained pressure through the winter of 1943, the ball bearing industry might have collapsed and wreaked havoc across the Third Reich. Moreover, since the Allies were eventually forced to abandon Schweinfurt, this paper will also argue—in line with Cox and his contemporaries—that the combined effect of offensives against Germany’s synthetic fuel sources and communication lines delivered the devastating blow that ushered in Allied victory at Normandy.

Prior to Schweinfurt, the United States’ Eighth Air Force had only been equipped to strike shallow, poorly-defended targets in German-occupied France. Two-thirds of the Eighth Air Force’s strength had been siphoned toward operations in North Africa and more than half of their remaining resources were diverted to attack German submarine pens.¹² With their resources spread thin, the Eighth could not risk braving the heavily-defended skies over the Reich. By April 1943, 68 percent of the German Luftwaffe Air Force’s frontline strength had been redirected from the Mediterranean and Russia to defend the German home front.¹³ As

¹⁰ Parton, *Air Force Spoken Here*, 328.

¹¹ *Ibid.*, 328.

¹² Ronald H. Bailey, *The Air War in Europe* (Alexandria: Time-Life Books, 1979), 85.

¹³ Parton, *Air Force Spoken Here*, 285.

historian James Parton surmised, “[s]ince the eighth was functioning on a shoestring basis, it was something of a blessing in disguise to be obligated to make attacks in France instead of more desirable ones in the Reich.”¹⁴ On August 17, 1942, the remaining “mighty eighth” crews embarked on their first mission in France. Escorted by four squadrons of RAF spitfire fighters, a dozen American B-17 heavy bombers traversed the 400 mile round-trip to the French city of Rouen and offloaded their bombs on French marshalling lines with relative ease.¹⁵ Sustaining only superficial damage, they returned to France two days later where they targeted a German fighter base at Abbeville, again without punishing flak from the Luftwaffe. From August until the end of the year, the Eighth would complete an additional 25 missions of this calibre. Despite the fact that these offensives were small-scale, they consolidated American faith in precision daylight bombing much to the vexation of British bomber command, the RAF’s organizational leadership, who had hoped the United States would join its bomber forces in the RAF’s night area bombing campaign.¹⁶ The Americans maintained that, through daylight precision bombing, critical sections of German industry could be destroyed so effectively as to dislocate its economic system and paralyze the German war machine.¹⁷ The British, maintaining that daylight bombing in Germany would prove too costly, continued to align their faith with night area bombing. Most tellingly, in a joint meeting of the “Big Two”, General of the USAAF Ira Eaker concluded “[i]t is safe to and conservative to say, therefore that high-level day bombing will be at least ten times as effective for the destruction of a definite point as night area bombing.”¹⁸

¹⁴ Ibid., 283-284.

¹⁵ Bailey, *The Air War in Europe*, 84.

¹⁶ Luke W. Truxal, “The Failed Bombing Offensive: A Reexamination of the Combined Bomber Offensive in 1943.” (Masters diss., University of North Texas, 2011), 9-10.

¹⁷ Bailey, *The Air War in Europe*, 84.

¹⁸ Bailey, *The Air War in Europe*, 84.

Given the intense concentration and importance of the German ball bearing industry in the production of nearly all the specialized weapons of modern war, the modest successes in France strengthened American resolve to pursue Schweinfurt as a more desirable, and far-reaching, target. World War II had created an enormous demand for ball bearings—the “unsung trifles...of our fighting weapons,” as an American propaganda film *The Case of the Tremendous Trifle* labelled them—which served as vital anti-friction mechanisms in the tanks, airplanes, heavy artillery, and submarines used throughout the war.¹⁹ The German aviation industry alone used four thousand bearings in the production of a single Dornier Do 17 fighter jet and an additional two thousand bearings were necessary for a single-engine Focke Wolf.²⁰ In Schweinfurt, five plants churned out over two-thirds of these ball bearings.²¹ Significantly, it was this concentration that rendered the German ball bearing plants a vital target, second only to fighter aircraft factories.²² In the initial plan for the CBO submitted to the Combined Chief of Staff, operation analysts stressed that “[t]he critical condition of the ball bearing industry in Germany is startling, [its] concentration...renders it outstandingly vulnerable to air attack.”²³ On August 17, 1943, 200 Flying Fortresses flew unescorted from bases in England deep into the Bavarian city. The USAAF were able to make 80 direct hits on the ball bearing plants, causing production to dip below a third of its pre-raid level.²⁴ This was only the first of many raids against the sources of anti-friction bearings for the Nazi war machine and in October another 228 heavy bombers were

¹⁹ "The Case of the Tremendous Trifle: WWII Bombing Raid on Schweinfurt Ball Bearing Plant 22524" (1944) *Youtube* 03:14-03:24. Posted by “Periscope”, July. 18, 2020.

²⁰ "The Case of the Tremendous Trifle," 3:14-3:24

²¹ Bailey, *The Air War in Europe*, 130.

²² Combined Chiefs of Staff, *Plans for Combined Bomber Offensive from United Kingdom*. Washington, 1943, 244.

²³ *Ibid.*, 242.

²⁴ *The United States Strategic Bombing Survey Over-All Report (European War)* (Washington, States Government Print Office, Sept. 30, 1945), (accessed from National Library of Medicine ed. Bethesda, Maryland), 5.

dispatched to Schweinfurt in one of the most protracted air battles of the war.²⁵ The damage inflicted upon the ball bearing factories in the second attack was astounding. In total, more than half of the industry was destroyed, and what remained was heavily damaged.

Central to offensives, such as those in Schweinfurt, was a belief in America's aerial might. Particularly, that the air force would flatten the ball-bearing factories and consequently, erode all ball-bearing contingent industry, the success of which was believed to be measured by reconnaissance photographs.²⁶ These photographs captured plumes of smoke billowing from shell-torn ball bearing factories.²⁷ Yet, despite repeated attacks and the supposed visual proof thereof, by the Autumn of 1944, production returned to that of pre-raid levels.²⁸ The German industrial economy sustained significant damage, but it did not collapse. From its outset, the campaign against the German ball bearing industry faced complications that marred its success. The first offensive had been postponed due to poor weather over Germany, a recurring theme in bomber command's efforts as persistent fog throughout Europe limited bombers' visibility. As Arnold conceded in his memoir, good weather in Europe averaged only seven days a month.²⁹ Moreover, the extent of Eaker's material and manpower shortage was most blatantly exposed in the second Schweinfurt offensive. Of the 1,246 bombers deemed necessary for the mission, only 911 bombers were received.³⁰ In a similar vein, only 825 crews of the 1,039 planned took off from air bases in Britain. At Casablanca, Eaker had envisioned a fleet of a few hundred bombers as sufficient to accomplish the goal while accepting losses within an acceptable four percent.³¹ Both

²⁵ Ibid., 27.

²⁶ "The Case of the Tremendous Trifle," 9:38-15:24

²⁷ "(SAV-390/54-7)(14-10-43)(23327-7-22,900)(Schweinfurt)." Photograph, 14 October 1943. From American Air Museum, Roger Freeman Collection.

²⁸ *The United States Strategic Bombing Survey Over-All Report (European War)*, National Library of Medicine, 6.

²⁹ Arnold, General H. H. "Hap". *Global Mission*. (Tannenber Publishing, 2016) 420.

³⁰ *Plans for Combined Bomber Offensive from United Kingdom*, 241.

³¹ Bailey, *The Air War in Europe*, 84.

offensives at Schweinfurt exceeded this threshold. Never before had the B-17's faced such an onslaught of aerial power, as the Luftwaffe's Focke-Wulfs and Messerschmitts made light work of the unescorted bombers. In the first offensive, 36 of the 200 planes were shot down, producing a staggering 18 percent loss rate.³² The most notably costly operation in October included the loss of 62 bombers.³³ An additional 138 bombers were damaged to varying degrees with the majority flak-ravaged beyond repair. Significantly, photographs captured the wreckage of shell-torn B-17's who had nursed shell-torn bombers out of enemy airspace only to crash-land in England. Eaker initially attempted to justify these losses, explaining: "[w]e have lost 26 bombers, or a little over 10%,...our overall percentage losses [are] still, however, less than 5%." However, such rationalization failed to conceal nagging concerns.³⁴ One of Eaker's most pressing concerns stemmed from the absence of long-range escort bombers at Schweinfurt that had the potential to curtail the devastating losses. Unlike earlier offensives in France, the British spitfires did not have the "legs" or range to accompany the B-17 Flying Fortresses deep into German territory.³⁵ At best, Spitfires could penetrate Aachen, a city situated on the periphery of Germany's border with Belgium. By the end of October, the USAAF realized they could no longer sustain such prohibitive losses and attacks on the ball bearing industry were not renewed until the spring of 1944.³⁶

When the aforementioned operations were renewed, the likelihood of success at Schweinfurt was revealed to be dubious, if not impossible. Much to the surprise of the German Minister of the Armaments, Albert Speer, the United States' four-month hiatus afforded him the opportunity to disperse vital machinery to obscure locations throughout the

³² *The United States Strategic Bombing Survey Over-All Report (European War)*, National Library of Medicine, 5.

³³ *Ibid.*, 5.

³⁴ Parton, *Air Force Spoken Here*, 306.

³⁵ Bailey, *The Air War in Europe*, 135.

³⁶ *The United States Strategic Bombing Survey Over-All Report (European War)*, National Library of Medicine, 5.

Reich. Confronted with the burgeoning strength of the USAAF, Speer had initially been unable to disperse the ball bearing industry. Germany could ill-afford to halt production in the midst of the war. Thus, the Germans capitalized on this interim period to appoint a czar with the sole purpose of requisitioning all salvaged materials.³⁷ Speer himself had already sent delegates to Sweden and to Switzerland to purchase additional inventory.³⁸ When the offensive resumed in 1944, subsequent fluctuations in production could only be attributed to stagnation from the dispersal of the once concentrated industry. Much to the Allies' dismay, the strategic survey concluded, "there [was] no evidence that the attacks on the ball bearing industry had any measurable effect on essential war production."³⁹ When questioned by the Allies about the Schweinfurt offensives, Speer contended "[t]he Allies threw away success when it was already in their hands...[a]s it was, not a tank, plane, or other piece of weaponry failed to be produced because of lack of ball bearings."⁴⁰ To British bomber command's disdain Speer sniffed, "[t]he war could largely have been decided in 1943 if instead of vast but pointless area bombing the planes had concentrated on the centres of armaments production."⁴¹

In much of the scholarship on the Combined Bomber Offensive, historians have fixated on the judgments made by Speer as proof of Schweinfurt's indecisiveness as a "strategic" target. Yet, such judgments pale in comparison to an additional conclusion concealed in the comprehensive strategic survey—that Schweinfurt's outcome might have been different had the Eighth Air Force been able to press on through the winter of 1943.⁴² From Speer and the Luftwaffe's reactions at the time, it seemed that the CBO had drawn

³⁷ Ibid., 5.

³⁸ Parton, *Air Force Spoken Here*, 311.

³⁹ *The United States Strategic Bombing Survey Over-All Report*, 6.

⁴⁰ Albert Speer, *Inside the Third Reich* (Weidenfeld & Nicolson, 2015), 285.

⁴¹ Ibid., 258.

⁴² Williamson, *War, Strategy, and Military Effectiveness*, 240.

intense concern from the German military and posed a legitimate risk to the smooth-running of the German war machine. Noticeably, the threat to the armament industry forced Germany to rethink their strategy and gave the Germans no choice but to reorder their priorities. In 1943, an ULTRA intelligence intercept reported that the Luftwaffe had begun using night fighters for day defence to augment its strength against the American bombers.⁴³ On August 17 alone, the Luftwaffe lost 21 night fighters in daylight operations. These adjusted priorities lend credence to Arnold's own judgment that "[t]he more important the target, the more fiercely the Nazis fight to defend it."⁴⁴ Moreover, the chaos which engulfed the upper echelons of the German military is perhaps nowhere better evidenced than in the suicide of General. Hans Jeschonnek, Chief of General Staff in the Luftwaffe, leaden with disappointment in the aftermath of the first Schweinfurt offensive, put a bullet through his head.⁴⁵ Ultimately, Schweinfurt had failed, but not because of its "indecisiveness" as a strategic target. On the contrary, it had drawn extensive concern from German command and the industry was rapidly dispersed.

With the dispersal of the armament industry throughout the Reich, once offensives resumed in 1944, German communication lines and oil supplies emerged as vulnerable targets that would facilitate further disruption to the German war effort in anticipation of Allied invasion at Normandy.⁴⁶ Prior to 1944, the CBO had made sporadic attempts at curtailing German military vehicle and oil production. Like Schweinfurt, these early offensives yielded poor results.⁴⁷ The renewed offensives, however, coincided with the fortuitous arrival of the P-51 Mustang, the ideal bomber escort and the first Allied fighter

⁴³ Parton, *Air Force Spoken Here*, 285.

⁴⁴ "Schweinfurt Raid", 1.

⁴⁵ Parton, *Air Force Spoken Here*, 311.

⁴⁶ Roger Beaumont, "The Bomber Offensive as a Second Front," *Journal of Contemporary History* 22, no. 1 (1987): 14.

⁴⁷ Sloan L. Hollis, "The Effectiveness of the Combined Bomber Offensive" (Diss, Air Command and Staff College, 2010), 2.

plane with sufficient range to penetrate Germany.⁴⁸ As Arnold lauded, the P-51 “had ‘legs’ that enabled it to dart ahead of the Flying Fortresses, and Liberators, clearing the skies for 825 miles all the way across Germany.”⁴⁹ Hence, from 1944 onwards, emboldened by the protection of P-51 Mustangs, Allied bombers hit bridges and roads leading to the French coast with almost unerring precision.⁵⁰ In one unprecedented week-long aerial offensive in May, Allied forces dropped over 35,000 tons of bombs over railyards in France—the “funnel point for Nazi defences in Southern France.”⁵¹ Additionally, Allied freight car loadings within the German industrial Ruhr, a highly industrialized region of Germany, were reduced from 900,000 cars per week in April 1944, to 214,000 per week in December.⁵² With severed railway lines, every major commodity necessary to sustain the German war effort began to suffer a severe decline. Allied bombing was taking its toll and the German war machine began grinding to a halt.

Correspondingly, the disruption of communication lines interacted with the offensives against the oil industry to further cripple the German war machine because the burden placed on railways could not be alleviated with trucks or canals for a lack of oil.⁵³ Regarding fuel, Germany’s synthetic oil industry had been operating from a precarious position prior to the offensive—already serving as substitute for crude oil, itself—it was unlikely that Germany would be able to pivot to further substitutions upon the bombing of vital oil sites.⁵⁴ By May 1944, the RAF and USAAF had dropped a combined 509,206 tonnes of bombs on enemy targets. Damage assessment revealed that, between 1943 and 1944, motor gasoline

⁴⁸ Williamson, *War, Strategy, and Military Effectiveness*, 243.

⁴⁹ Arnold, “Schweinfurt Raid,” 421.

⁵⁰ Bailey, *The Air War in Europe*, 158.

⁵¹ “U.S. Bombers Again Batter Lyon Railyards: RAIDS,” *The Washington Post* (May 27, 1944).

⁵² *The United States Strategic Bombing Survey Over-All Report (European War)*, National Library of Medicine, 13.

⁵³ Cox, *The Strategic Air War Against Germany*, 161; Olson, Olson, “The Economics of Target Selection for the Combined Bomber Offensive,” 313.

⁵⁴ Olson, “The Economics of Target Selection for the Combined Bomber Offensive,” 313.

production fell from 1,133,000 tons to 935,000, while aviation gas plummeted from 1,788,000 tons to 998,000.⁵⁵ As the *Oil Division Final Report* confirmed, the shortages of liquid fuel became so acute that “tanks and armoured vehicles were moved to the front by oxen [and]...[e]very motor trip exceeding 60 miles had to be approved by a commanding general.”⁵⁶ When the United States officially landed boots on the ground in the European theatre in the spring of 1944, for lack of oil and secure railways, German reinforcements could no longer “blitzkrieg” to the battle lines.⁵⁷

Moreover, as the CBO’s efforts continued to send shock waves throughout the Reich, the strategic air war took another casualty—the Luftwaffe. Over the course of the offensive, skirmishes over the Reich coupled with the shortage of aviation gas from Allied operations against Germany’s oil supplies placed a rising and, ultimately, intolerable burden on the Luftwaffe.⁵⁸ Beginning in the late spring of 1943, American strategic bombing attacks against German industry had devastated the Luftwaffe’s fighter forces.⁵⁹ At the peak of American offensives, attrition of German pilots reached 90 percent.⁶⁰ Further exacerbating this situation was the fact that the Germans were forced to lower their standards for “operational” pilots as the war progressed, a direct result of offensives against German oil sources. In 1942, German pilots received at least as many training hours as their opponents in the RAF.⁶¹ By 1944, the shortage of aviation gas was so acute that Luftwaffe pilots received only half the flying hours of their Allied counterparts. As an Oil Division Final Report noted,

⁵⁵ Cox, *The Strategic Air War Against Germany*, 144.

⁵⁶ *Oil division final report*. (Washington, United States Government Print Office, Jan. 1947), 5.

⁵⁷ Blitzkrieg, translated to “lightning war”, referred to the strategy the Nazis adopted earlier in the war to galvanize quick victories. *Blitzkrieg* was predicated on manoeuvrability of the tanks and air support. Thus, given the prior dependence of the German war machine on mobility, the offensives against oil and railway lines delivered a devastating blow to Germans. See Kennedy, *Freedom from Fear*, 616.

⁵⁸ Hollis, “The Effectiveness of the Combined Bomber Offensive,” 7.

⁵⁹ *Ibid.*, 4.

⁶⁰ Hollis, “The Effectiveness of the Combined Bomber Offensive,” 7.

⁶¹ *The United States Strategic Bombing Survey Over-All Report (European War)* Washington: United States Government Print Office, Sept. 30, 1945. (University of Michigan Libraries), 21.

the unskilled German pilots became “sitting ducks” for the vastly superior Allied forces.⁶² By D-day at Normandy, the last bastions of the Luftwaffe—some 815 pilots—were only able to fly 100 sorties due to shortage of aviation gas.⁶³ They were outnumbered ten to one.⁶⁴ Over the course of the landing, some 8,000 Allied bombers flew over 14,700 sorties. As the comprehensive strategic bombing survey concluded, “by the spring of 1944, the Luftwaffe had ceased to be effective.”⁶⁵ The CBO had won aerial supremacy.

Ultimately, Schweinfurt failed, but not for the justifications employed by Sir Arthur Harris and factions of historians. Contrary to the notions that it was a “panacea” or “indecisive” target, the ball bearing industry proved to be vital to the operation of the German war machine. While the Allies were eventually forced to abandon Schweinfurt, and we can only hypothesize that the outcome would have been more favourable if they had they been able to press on, it was effective in applying the initial pressure that forced Germany to divert its fighter pilots from its ‘extended’ borders toward the home front and prompted a rapid dispersion of industry. With these shock waves reverberating throughout the Reich, offensives against Nazi communication lines and the synthetic oil industry picked-up where Schweinfurt left off to complete the systematic collapse of the German war machine and shatter the Luftwaffe's fighter force to the point where they no longer posed a genuine threat in the war by the storming of the beaches at Normandy. Looking back to Arnold’s premature prediction of victory, it is clear that the trajectory of the CBO was anything but linear. The protracted air battle would wage on through 1943 until the spring of 1944 when the infantry bore witness to Allied pilots hunting down the last vestiges of the Luftwaffe at Normandy.

⁶² *Oil division final report*, 5.

⁶³ Hollis, “The Effectiveness of the Combined Bomber Offensive,” 4.

⁶⁴ Bailey, *The Air War in Europe*, 164-165.

⁶⁵ *The United States Strategic Bombing Survey Over-All Report (European War)*, National Library of Medicine, 5.

Without the sustained, and occasionally erroneous, efforts of the CBO, Allied invasion on the continent on D-day and the subsequent defeat of the Third Reich was inconceivable.

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