Battle Analysis Methodology of the Battle of the Bulge (1944): Developing the Leadership Ethic and Profession of Arms

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Abstract

This article applies the Battle Analysis Methodology to a German Army tank unit and a United States Army combat engineer unit fighting in the Battle of the Bulge in Europe in December 1944. The battle analysis methodology is a staple in U.S. military education and training because it provides a teaching tool and systematic process to understand the outcomes of battles. There are four phases in a battle analysis: define the subject (who, when, where); set the stage (military context and compare opposing units); describe the action (narrative of the battle); and lessons learned (candid analyses and applications to present or future). Although technology, logistics, intelligence, or others can be explored using battle analysis methodology, this article concentrates on two topics – the US Army's principles of Leadership Ethic and Profession of Arms – that are critical to officer development in military academies. During the Battle of the Bulge, the opposing American and German commanders exhibited different styles of leadership and professionalism. Their respective styles affected their subordinates in combat. The final phase of lessons learned answers why German deficiencies combined with American efficiencies to cause an American victory. Battle analysis methodology inculcates good habits of mind in cadets to solve real-world problems.

Keywords: Battle Analysis, Leadership Ethic, Profession of Arms, Auftragstaktik, Combat Engineering, Battle of the Bulge, Lessons Learned

منهجية تحليل المعركة لموقعة الثغرة (1944): تطوير أخلاقيات القيادة ومهنة الأسلحة

الملخص

المعركة على وحدات الدبابات المدرعة التابعة للجيش الألماني والولايات المتحدة. وحدات مهندسي الجيش تقاتل في معركة الانتفاخ في أوروبا في ديسمبر 1944. تعد منهجية تحليل المعركة عنصرًا أساسيًا في التعليم والتدريب العسكري الأمريكي لأنها توفر أداة تعليمية وعملية منهجية لفهم نتائج المعارك. هناك أربع مراحل في تحليل المعركة: تحديد الموضوع (من، متى، أين)؛ تمهيد الطريق (السياق العسكري ومقارنة الوحدات المتعارضة)؛ وصف العمل (قصة المعركة)؛ والدروس المستفادة (تحليلات وتطبيقات صريحة للحاضر أو المستقبل). على الرغم من أنه يمكن استكشاف التكنولوجيا أو الخدمات اللوجستية أو الاستخبارات أو غيرها باستخدام منهجية تحليل المعركة، فإن هذا المقال يركز على موضوعين - مبادئ أخلاقيات القيادة في الجيش الأمريكي ومهنة حمل السلاح - والتي تعتبر حاسمة لتطوير الضباط في الأكاديميات العسكرية. خلال معركة الانتفاخ، أظهر القادة الأمريكيون والألمان المتعارضون أنماطًا مختلفة من القيادة والاحتراف. أثرت أساليبهم على مرؤوسيهم في القتال. تجيب المرحلة الأخيرة من الدروس المستفادة على سبب اجتماع أوجه القصور الألمانية مع الكفاءات الأمريكية لإحداث النصر الأمريكي. تعمل منهجية تحليل المعركة على غرس العادات الذهنية الجيدة لدى الطلاب العسكريين لحل مشكلات العالم الحقيقي.

الكلمات المفتاحية: تحليل المعركة، أخلاقيات القيادة، مهنة الأسلحة، التكتيك العسكري، هندسة القتال، معركة الثغرة، الدروس المستفادة.

Introduction

In the early hours of December 16, 1944, the German Army launched a surprise attack against the US Army units stretched along a 110-kilometer-long segment of front line in the Ardennes Forest in Belgium. The next month of combat between German and American forces is now known in history as the Battle of the Bulge. This article focuses on fighting from December 16 to December 20, 1944, in the northern area of the "bulge" (salient) along the Elsenborn Ridge that ran from east to west in the densely wooded Ardennes region.

This article employs the "Battle Analysis Methodology" to evaluate opposing units and their commanding officers. The Battle of the Bulge was a turning point in the Second World War in Europe; and the American and German leaders, their decisions, and the units' combat operations provide many useful lessons learned that illustrate how and why battle analysis methodology can be so helpful for service personnel to learn lessons from the past. Thus, the methodology and the lessons therein are qualitative in nature and research because they rely on available primary (first-hand) sources and second (historical) sources. Whenever possible, sources are corroborated to bolster realism and enhance analyses.[1]

The battle analysis methodology has for decades been a staple in US professional military education and training because it is a teaching tool, systematic process, and habit of mind that assesses the outcomes of battles. There are four phases in a battle analysis: Define the subject (who, when, where); set the stage (military contexts and opposing units); describe the action (narrative of the battle); and state the lessons learned (candid appraisals and applications to present or future operations). This article is both a sample battle analysis methodology and an illustration of how and why this methodology is valuable in military education across the globe.[2]

Although technology, logistics, intelligence, or other factors can be explored, this article on the Battle of the Bulge concentrates on two critical U.S. Army principles: Leadership Ethic and Profession of Arms. The first is a set of moral and behavioral standards of conduct that are tied to individuals and their military organizations. The second is a set of standards relating to expert training and professional discipline.[3] Both principles are

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1 For explanations of lessons learned in the U.S. Army, see Joe Donato, "A Framework for Foresight: Methods to Leverage Lesson of History," February 28, 2024, *War on the Rocks*, accessed March 16, 2024, https://warontherocks.com/2024/02/a-framework-for-foresight-methods-to-leverage-the-lessons-of-history/; and Jenny Solon, ed., (2011), *Establishing a Lessons Learned Program*, Fort Leavenworth, Kansas: U.S. Army Center for Lessons Learned.

2 For some resources on Battle Analysis Methodology that have informed this article, see US Army Combat Studies Institute, "Basic Battle Analysis: Kasserine Pass," accessed May 10, 2023, https://usacac.army.mil/sites/default/files/documents/cace/CSI/CSI_BM_BattleAnalysisSlides.ppt; and Rachel Tecott and Andrew Halterman, (2021), "The Case for Campaign Analysis: A Method for Studying Military Operations," *International Security* Vol. 45, No. 4, PP. 44-83.

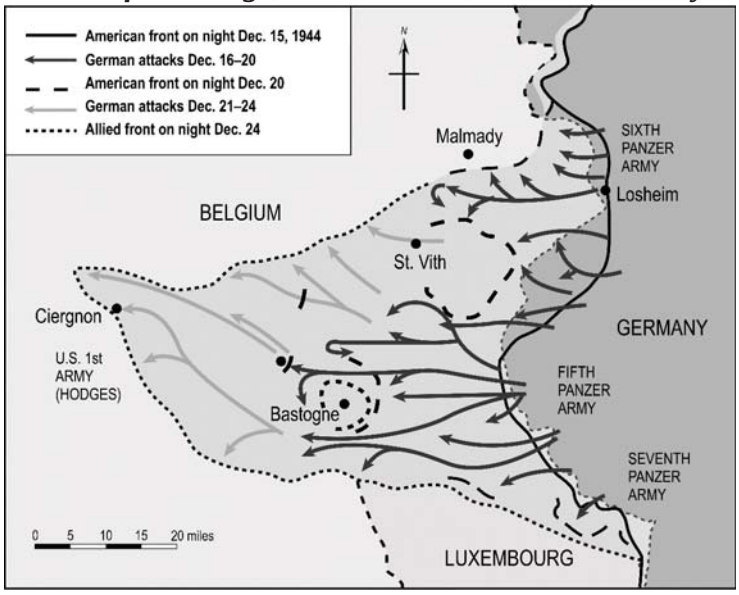
3 For explanations, see Christopher M. Barnes, and LtCol John Doty, (2010), "What does Contemporary Science Say about Ethical Leadership," *Military Review* Vol. 90, PP. 90-93; and "An Army White Paper: The Professional Arms," U.S. Army Training and Doctrine Command, 2 December 2010, https://www.milsci.ucsb.edu/sites/default/files/site-files/resources/The%20Profession%20of%20Arms.pdf (access March 16, 2024).

critical to officer education. In particular, the American commander of the 291st Engineer Combat Battalion (ECB) and the German commander of the *Kampfgruppe* (Battle Group) *Peiper* exhibited markedly different leadership ethics and professions of arms. Their respective command styles decisively affected the outcome of their small piece of the Battle of the Bulge, which spiraled upward to help determine the entire battle.

1. Define the Subject – Where, When, Who

This first phase is the shortest of the four phases. Just the facts are laid out in summary form. The subject – the Battle of the Bulge – lasted from December 16, 1944, to January 15, 1945. The fighting occurred in the Ardennes Forest in southeastern Belgium near the border with Germany. The Germans codenamed their surprise attack Operation *Wacht am Rhein* (*Watch on the Rhine*). They concentrated 250,000 soldiers and 1,000 tanks in the 5th, 6th, and 7th Panzer Armiesalong the front line. The elite *Kampfgruppe Peiper* formed the leading edge of the 6th Panzer Army.[4] The Germans initially faced 70,000 American soldiers in the 28, 99th, and 106th Infantry Divisions and elements of other American units. Among these were combat engineer units, including the 291st ECB.[5]

Map 1 – Battle of the Bulge, December 16, 1944 to January 15, 1945.



By permission: Lyons and Ulbrich, *World War II*, map 13.3.

4 For recent overviews of German's military situation in late 1944 and especially during the Battle of the Bulge, see Robert M. Citino, (2017), *The Wehrmacht's Last Stand: The German Campaigns of 1944-1945* (Lawrence, Kansas, USA: University Press of Kansas); and Anthony Tucker-Jones, (2022), *Hitler's Winter: The German Battle of the Bulge* (Oxford: UK: Osprey). For post-war interviews with German leaders, see Danny S. Parker, ed., *The Battle of the Bulge: The German View: Perspectives from Hitler's High Command* (London, UK: Greenhill Books, 1999);

5 For overviews of the American situation in late 1944, see John S. D. Eisenhower, (1969), *The Bitter Woods: The Dramatic Story, Told at All Echelons, from Supreme Command to Squad Leader, of the Crisis That Shook the Western Coalition* (New York: G.P. Putnam's Sons; Hugh M. Cole, (1965), *The Ardennes: Battle of the Bulge* (Washington, DC: Office of the Chief of Military History), 1-32; and Matthew S. Muehlbauer and David J. Ulbrich, (2018) *Ways of War: American Military History from the Colonial Era to the Twenty-first Century*, 2nd ed. (London, UK: Routledge), 373-81.

2. Set the Stage – Military Contexts and Opposing Units

Setting the stage in battle analysis requires understanding of the battle's contexts: Start with the strategic level of war, tighten the focus to the operational level, and reach down to the tactical level. Think of this as a funnel or triangle, where the widest area is at the top, and it narrows from the biggest context down to the middling context and, finally, to the lowest context.

The strategic setting for the Battle of the Bulge in December 1944 can be traced six months earlier to June 6 when, on D-Day, some 165,00 American, British, and Canadian (Allied) soldiers made amphibious and airborne assaults along the northern coast of Normandy Province in France. The Allied objective was simple and conventional, but not easy: Destroy the German Army in France, invade Germany, and win the war. However, because the Allies suffered from "victory disease" during the fall of 1944, they grossly underestimated the German Army's ability and will to resist. Later in December, the Americans, in particular, were also victims of their own success: Their rapid advance across France with two million soldiers outdistanced their supply lines, leaving the leading combat units without fuel or other logistical support. This not only forced the Americans to cease offensive operations by December to allow supplies to catch up but also gave the Germans a chance to regroup for a counterattack. [6]

From the German strategic perspective, the German Army failed to push the Allied forces back into the sea in June 1944. Then, after two months of intense combat in Normandy, the Allied forces overran the German defenders and liberated Paris in September. To the Allies, the Germans seemed to be bloodied and beaten, and in a head-long retreat east toward their homeland. In reality, however, they intended to bide their time and launch a counterattack along the German border with Belgium.[7]

Turning to the operational situation in December 1944 along the front lines in the Ardennes, the bitterly cold blizzard conditions made the troops on both sides miserable. Frostbite and exposure loomed as dangers just as severe as enemy gunfire. Engine oil froze. Snow-covered roads became nearly impassable because of muddy ruts. Transportation slowed to a few miles per day. Meanwhile, the Americans in the 28th, 99th, and 106th Infantry Divisions settled into what they assumed would be a quiet sector running 115 kilometers north to south in the Ardennes Forest. The units went into rest-and-refit mode and brought up replacement soldiers to refill units depleted by casualties.[8]

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6 See Rick Atkinson, (2013), *Guns at Last Light: The War in Western Europe, 1944-1945* (New York: Henry Holt and Company), 45-291; and Citino, *Wehrmacht's Last Stand*, 380. For American logistics problems, see James Kennedy Ohl, (1994), *Supplying the Troops: General Somervell and American Logistics in World War II* (Dekalb, Illinois, USA: Northern Illinois University Press), 229-37.

7 Tucker-Jones, *Hitler's Winter*, 35-52; and Citino, *Wehrmacht's Last Stand*, 226-71, 313-64.

8 Westinghouse Integrated Logistics Support, (not dated), "When Hell Froze Over," *Milestones* no. 13, PP. 3; and Cole, *Ardennes*, 46-57.

The inclement weather in December 1944 proved to be a boon for the Germans. Indeed, the cloud cover from the blizzard grounded the superior Allied air forces, and thus, the aircraft could not interdict German infantry or armor on the move. This literal fog of war played into a daring, if not foolhardy, scheme called Operation *Watch on the Rhine*. The codename's seemingly passive connotation belied the Germans' real goal: An offensive *blitzkrieg* (lightning war) campaign not seen since 1939-1941.[9]

In his role as Nazi Germany's dictator and commander-in-chief of the armed forces, Hitler expected that the wintry weather would linger long enough in mid-December for a massive force of 250,000 German soldiers to smash through the American lines in the Ardennes. Then, he expected the overwhelming German juggernaut to advance 200 kilometers northwest to the port city of Antwerp in Belgium. By late 1944, the port had become northern Europe's best Allied logistics hub, supplying both British and Americans. Hitler anticipated that driving to Antwerp would split the Anglo-American forces, and that capturing Antwerp would set the Allied war effort back several months. Indeed, Hitler even speculated that the British might negotiate a separate peace. Military historian Anthony Tucker-Jones labels Antwerp as Hitler's "holy grail."[10]

Although none of Hitler's assumptions were reality-based, the German dictator could not be dissuaded by his generals. As early as September 1944, Hitler started working out the details for his counterattack.[11] A few months later, on December 15 – one day before the German surprise attack – Hitler sent a rambling message to one of his generals with the following excerpts:

> The final decision has been made. . . everything points to victory. The magnitude and scope of which. . . depends entirely on the handling of the situation; . . . if the base principles for the conduct of the operations are adhered to, a major victory is assured.[12]

These words convey the magnitude of Hitler's delusions. His plan was dubious, not only on the strategic level but also on operational, tactical, and logistical levels. The Germans did not possess sufficient fuel for their tanks to reach Antwerp. Hitler gambled on the fact that they could capture American fuel depots along the way. Hitler also pre-determined exactly how the Americans would react, yet he failed to account for the American soldiers' resilience and creativity under fire.[13]

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9 Parker, *The Battle of the Bulge*, 48-56.

10 "Holy Grail" is the title of chapter 3 in Tucker-Jones, *Hitler's Winter*, 48.

11 Parker, *The Battle of the Bulge*, 28-32.

12 Hitler's word cited in Walter Warlimont, (1965), *Inside Hitler's Headquarters* (Westport, Connecticut, USA: Praeger), 485.

13 For a study of poor German logistics see Major James L. Kennedy, Jr., (2000), "The Failure of German Logistics during the Ardennes Offensive of 1944" (MA in Military Art and Science thesis, US Army Command and General Staff College), accessed May 20, 2023, https://apps.dtic.mil/sti/pdfs/ADA384410.pdf.

The tactical level of the soldiers' experiences also must be considered relative to combat readiness and terrain. Most of those American units along the frontlines were neither combat-ready nor combat-effective in early December. One of the veteran American divisions – the 28th – had suffered a 40 percent casualty rate during combat in the Battle of Hürtgen Forest in September through December 1944. The exhausted and cold soldiers wanted a tranquil Christmas. As for the 99th and 106th Infantry Divisions, the men in these units had only recently crossed the Atlantic Ocean and therefore lacked combat experience.[14]

At the tactical level, the geography of the Ardennes consisted of vast forests of fir tree areas spread across rolling hills that rose up to 800 feet above narrow valleys. Swift rivers, streams, and creeks meandered through those valleys. Unpaved roads connected villages while wooded or stone bridges spanned the waterways. The trees often stood along edges of those roads. For their part, the Germans knew the Ardennes Forest because they had used this region as their avenue of approach to invade France in 1940.[15] The Germans, now in 1944, would rely on speed and surprise to pass quickly through the narrow roads in the valley and cross the bridges. Their armor spearhead would break into the flat land beyond the Meuse River to the northeast. Once in the open, the German tanks could form up on line, maximize their combat power, and drive toward Antwerp.

Having tapered from the strategic level down to the operational level and, finally, to the tactical level, the second part of setting the stage requires comparing the opposing forces and their respective officers. The German *Kampfgruppe Peiper* formed the tip of the spear for the 80,000-man-strong 6th Panzer Army tasked with seizing Antwerp. *Kampfgruppe Peiper* was a *Waffen Schutzstaffel* (*SS*) unit named for its commanding officer, *Standartenführer* (Colonel) Joachim Peiper. The armor unit boasted more than 100 tanks – including the massive King Tiger II tank – and some 5,800 soldiers.[16]

Conversely, the American 291st ECB contained approximately 900 soldiers on paper, but in reality, more likely had 700 men in its ranks after several months of combat. This unit landed in Normandy on June 23, 1944, and the men saw action for the next six months in France. The 291st proved itself to be an effective unit due in part to training and leadership. [17] Writing in the prewar period in 1940, an American engineer officer claimed,

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14 David E. Pergrin, (1997), *Engineering the Victory: Battle of the Bulge: A History* (Atglen, Pennsylvania, USA: Schiffer Publishing), 16, 34; and Cole, *Ardennes*, 51-56.

15 Cole, *Ardennes*, 38-47; and Parker, *The Battle of the Bulge*, 48.

16 See David Cooke and Wayne Evans, (2008), *Kampfgruppe Peiper at the Battle of the Bulge* (Mechanicsburg, Pennsylvania, USA: Stackpole Books).

17 Pergrin, *First Across the Rhine*, 1-74, 95. See relevant sections in US War Department, *Engineer Field Manual – Troops and Operations* FM 5-5 (1941), accessed May 10, 2023, https://cgsc.contentdm.oclc.org/digital/collection/p4013coll9/id/726; and US Army Engineer School History Office, (2020), *Essayons: The Origins and History of the Us Army Engineer School* (Fort Leavenworth, Kansas, USA: Combat Studies Institute Press), 159-89.

"Engineers are equipped and able to construct the roadblocks which are intended to bring the mechanized vehicles to a halt … so that they can be destroyed by the covering fire of the infantry and artillery."[18] This officer looked ahead to the roles played by the 291st in the Battle of the Bulge in 1944.

The respective commanding officers of the *Kampfgruppe Peiper* and 291st ECB – *Standartenführer* Joachim Peiper and Lieutenant Colonel David Pergrin – were a study in contrasts. They bring this article's twin emphases on Leadership Ethic and Profession of Arms into sharp focus. The two commanders represented the souls of their units.

Photo 1 – Standartenführer (Colonel) Joachim Peiper of the Waffen SS in 1943 or 1944.

By permission: Bild 183-R65485, Bundesarchiv, Germany
Source: https://commons.wikimedia.org/wiki/File:Bundesarchiv_Bild_183-R65485,_Joachim_Peiper.jpg
(Creative Commons).

In a photograph from 1943, Peiper epitomized what a *Waffen SS* should look like. He has a menacing, far-away look in his eyes. He wears the Death's Head of the *SS* on his cap and the Iron Cross for valor around his neck. At 29 years of age in 1944, he attained his rank after five years of successful wartime service as a fearless and ruthless commander. Peiper commanded tank units in combat against the Soviets on the Eastern Front and against the British and Canadians in Normandy. By mid-December 1944, he prepared to

18 LTC Donald B. Adams, "Engineers in Combat," *The Military Engineer* 32 (November–December 1940): 460.

be the spearhead for the entire 6th Panzer Army in Operation *Wacht am Rhein*.[19] Due to the strict discipline in *SS* units where the commander's decisions could not be questioned or changes without risk of punishment, Peiper exhibited an authoritarian style of leadership. He stifled flexibility and autonomy among his subordinates, which proved to be a key factor in his unit's defeat in the Battle of the Bulge.[20]

Photo 2 – Lieutenant Colonel David Pergrin of the US Army in 1944.

By permission: US War Department Photograph. From the Photographic Vertical Files, Portraits in the Eberly Family Special Collections Library, Penn State University Libraries, USA.

The U.S. Army's Lieutenant Colonel David Pergrin cut a much different figure in a photograph likely taken in 1944. He is wearing glasses, and his affable smile does not look leader-like or professional. In fact, this image is chosen to emphasize that physical appearances can be deceiving. This photograph belies the fact that Pergrin was an exemplary US Army officer. Although a lieutenant colonel and battalion commander, he was only 27 years old. To put this in perspective in 2023, a US Army officer of similar rank is likely 10 years older than Pergrin, with more than 15 years of service, not four years.

19 Citino, *Wehrmacht's Last Stand*, 390-91; Michael Collins and Martin King, eds., (2011), *Voices of the Bulge: Untold Stories from Veterans of the Battle of the Bulge* (Minneapolis, Minnesota, USA: Zenith Press), 49; Tucker-Jones *Hitler's Winter*, 13-18

20 For an explanation of autocratic leadership style, see Laura Corddry, "What is Autocratic Leadership," December 30, 2020, National Society of Leadership and Success, accessed March 16, 2024, https://www.nsls.org/blog/what-is-autocratic-leadership.

In 1940, Pergrin graduated from college and the US Reserve Officer Training Corps (ROTC). He received his call to active duty as an Army second lieutenant thereafter. Pergrin took command of the 291st ECB in August 1943. He then spent the next 10 months molding his men into a cohesive fighting force. He wanted his men to attain professional expertise in engineering missions, whether those were general construction, offensive mobility, or defensive countermobility.[21]

Pergrin embraced path-goal leadership as part of his command philosophy and leadership style. This allowed him to adapt his leadership to his subordinates' strengths. They n turn could adapt their actions to incredible fluid circumstances of combat operation without being locked in a single lane of decision-making.[22]

Pergrin learned the names of his officers, non-commissioned officers, and enlisted men. He developed trust in them. And he, in turn, evoked their trust in him as a leader. He was confident that he could give his men (regardless of rank) an objective, set right and left limits, delegate tactical control to them, and expect them to make reasonable decisions during combat.[23]Such a relationship between leaders and followers can never be overemphasized as a key factor in success. Writing a chapter in a book on leadership in combat in 2011, retired US Army Colonel Patrick Sweeney and his co-authors assert that "trust is important to leadership because it determines the amount of influence leaders exercise and also creates the bonds that encourage people to work cooperatively to achieve a common purpose or mission."[24] Although not written with Pergrin in mind, the chapter by Sweeney and his co-authors could have been used Pergrin as a case study. Today, in the twenty-first century, the US military uses the term "mission command" to describe Pergrin's philosophy and style. In the 1700s, the Prussians coined a similar, though more nuanced, term – *Auftragstaktik* – that more accurately described Pergrin. Mission command connotes a process of decision-making and guidance-giving. In contrast, *Auftragstaktik* includes the same process, yet it offers a philosophical foundation

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21 Pergrin, *First Across the Rhine*, 1-21.

22 For an explanation of path-goal leadership, see Paul Anderson, "What is Path-Goal Theory?" June 26, 2016, Penn State University (USA), accessed March 16, 2024, https://sites.psu.edu/leadership/2016/06/29/what-is-path-goal-theory/.

23 See Trevor N. Dupuy, et al., (1994), *Hitler's Last Gamble: The Battle of the Bulge, December 1944-January 1945* (New York: HarperCollins), 394; Gustav Person, "Fort Belvoir's Engineer Replacement Training Center," *The Military Engineer* Vol. 103, No 4, PP. 36-39; and relevant sections on training in US War Department, *Engineer Field Manual*.

24 Patrick D. Sweeney, et al., (2011), "Trust: The Key to Leading When Lives are on the Line," in *Leadership in Dangerous Situations: A Handbook for the Armed Forces, Emergency Services and First Responders*, eds. Patrick D. Sweeney, et al., eds. (Annapolis, Maryland, U.S.A.: Naval Institute Press), 166. See also Jesper Stubbendorff and Robert Overstreet, (2019), "A Commander's First Challenge: Building Trust," *Air & Space Power Journal* Vol 33, No. 2, PP. 15-25; Christopher D. Koleda, ed., (2001), *Leadership: The Warrior's Art* (Carlisle, PA: Army War College Foundation Press); and Harry S. Laver and Jeffrey J. Matthews, eds., (2017), *The Art of Command: Military Leadership from George Washington to Colin Powell*, 2nd ed. (Lexington: University Press of Kentucky).

for how and why to decentralize authority and responsibility. [25]

Pergrin also exhibited great personal courage in the face of overwhelming odds. His leadership ethic and profession of arms would be sorely tested when the 291st ECB collided with *Kampfgruppe Peiper.*

3. Describe the Action – Narrative of the Battle of the Bulge

Having laid the foundation by defining and setting the stage for the Battle of the Bulge, the fighting can now be described in a narrative style. There is no need to break up the flow with lengthy tangents because the details have been discussed in the previous two phrases.

On December 16, 1944, the pre-dawn hours saw 250,000 German soldiers launch their surprise attack against American units along the front line. Joachim Peiper's *Kampfgruppe Peiper* formed spearhead of the German 6th Panzer Army's thrust deep behind the American lines. Meanwhile, the men in Pergrin's 291st ECB were busy repairing roads and bridges between 10 and 20 kilometers behind the front line.

The US Army's intelligence-gathering efforts failed to assess the coming attack. The winter weather grounded the American close air support. The American units' command, control, and communication (C3) quickly broke down, so that commanding officers of battalions and above could only determine what was happening at the front from those cold, scared, tired, and wounded soldiers retreating westward from the German onslaught. During the next several days, the Germans overran the US Army's 28th, 99th, and 106th Infantry Divisions and many other units on the front line. The Americans could not muster coordinated artillery or armor support. Left with only small arms or bazookas, the American infantrymen could not stop the determined German advance. This failure was not the frontline soldiers' fault, but rather, their reality. Thousands of Americans were killed, wounded, or missing in action. Thousands more surrendered and became prisoners of war.[26]

The Germans needed to meet strict timetables to reach Antwerp in a few days. They also did not possess enough fuel for their tanks, so they expected to capture American fuel depots along the way. Despite the initial German successes, American soldiers cobbled together ragtag units and stubbornly defended villages like Bastogne and St. Vith. That first village, in particular, has been emblazoned in the imaginations of soldiers, students,

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25 For explanations, see COL Charles O. Oliviero, (2022), *Auftragstaktik: The Birth of Enlighted Leadership* (Toronto, Ontario, Canada: Double Dagger Books), 1-2, 7-9; and Citino, *Wehrmacht's Last Stand*, 5, 15.

26 Citino, *Wehrmacht's Last Stand*, 381-94; Tucker-Jones, *Hitler's Winter*, 111-86; and Dupuy, et al., *Hitler's Last Gamble*, 47-69.

and enthusiasts.

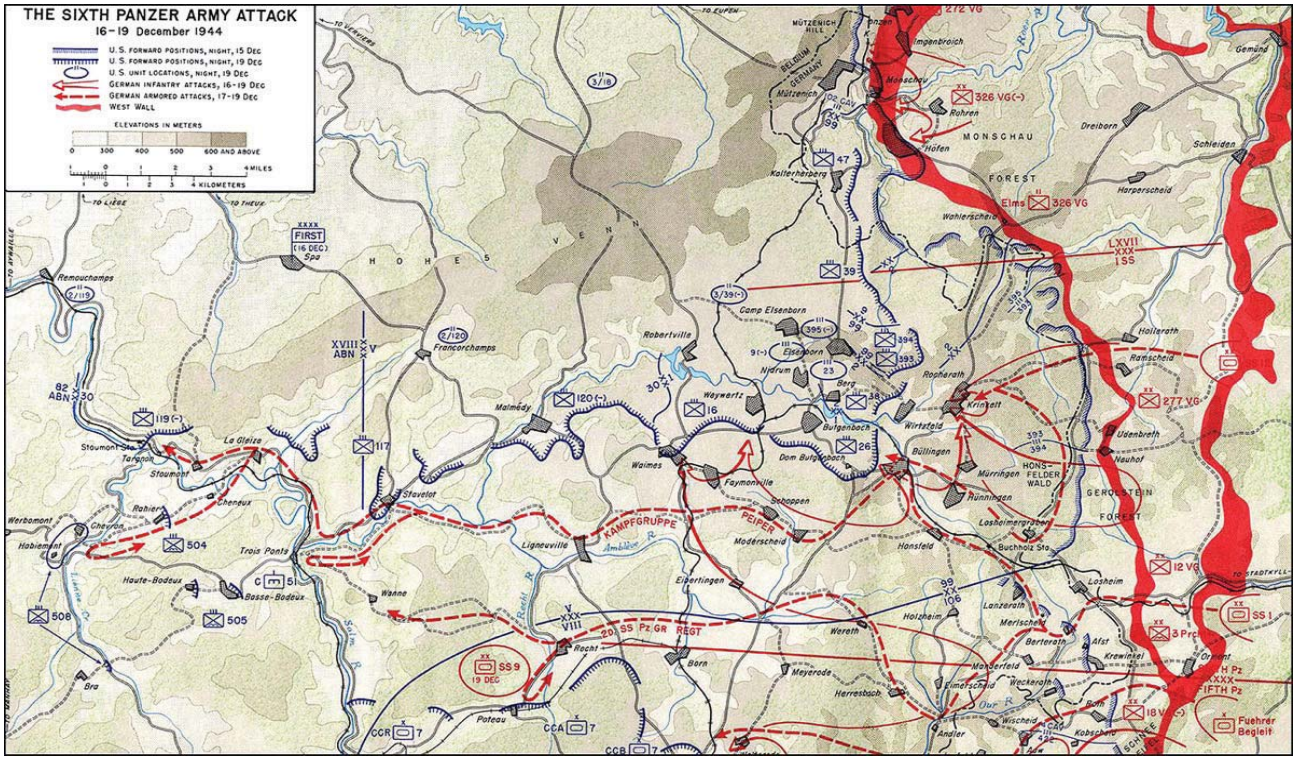
Nevertheless, this article concentrates on the 291st ECB that helped stem the tide of the *Kampfgruppe Peiper.* (It should be noted that many other American engineer units, to include the 35th, 51st, 158th, and 299th ECBs, also enjoyed similar successes. Many American infantry, armor, and airborne units also performed well under fire.) The combat engineers possessed the capacity and capability to delay, divert, channel, or halt the German advance. The men of the 291st executed their countermobility mission to deprive the enemy of maneuver options and to protect the American fuel depots. Engineers wired bridges for demolition to destroy the bridges; set explosive charges on trees to make them fall, crisscrossing the road and creating an abatis; and planted mines to destroy German vehicles. Consequently, an immobilized King Tiger II tank then would become an obstacle to other German vehicles in a column strung out for kilometers on the narrow roads in the Ardennes. [27]

By the evening of December 16, Lieutenant Colonel David Pergrin received word that Germans had launched their surprise attack about 10 kilometers east of Malmédy village, where he set up the 291st's headquarters. The tell-tale signs of American soldiers fleeing west near the village verified the German advance. Pergrin faced a decision point. He could have retreated to the west with other soldiers over the next few days. No superior officer and no historian would have negatively judged him. However, Pergrin did not run away. Instead, he recalled in his memoir: "For me, there was no turning back. I made my decision. I trusted my men and I believed they trusted me."[28] Pergrin scattered his men of the 291st ECB across the countryside. He gave his combat engineers clear command guidance: Hold the bridges and only destroy them with demolitions as a last resort to keep them from falling under German control.

27 Dupuy, et al., *Hitler's Last Gamble*, 394.

28 Pergrin, *First Across the Rhine*, 87-88; see also 99, 136-37.

Map 2 – Area of Operations on December 16-20, 1944.



Source: adapted from Cole, *The Ardennes*, Map II (public domain).

The topographical map shows the area of operations running 30 kilometers east to west and 10 kilometers north to south along the Elsenborn Ridge. The darker the shading on the map, the higher the elevation. Denoted in red lines, the Germans could not cross over top of the hills but remained confined to narrow roads in the valleys and a few bridges across the waterways. As dozens of tanks or other vehicles drove on those unpaved roads, the roads soon turned to muddy paths with deep ruts that slowed the German tanks and other vehicles. The columns stretched up to two kilometers. Two tanks could not pass each other on most roads. Because the trees often grew so close to the roads, the German tank turrets could not swivel more than 90 degrees. This made tanks and other heavy vehicles vulnerable to ambush and thus tactical and logistical liabilities. Writing in the US Army's official history of the Battle of the Bulge, author Hugh Cole explains why,

> The channelization of large troop movements east to west. . . will tend to force larger units to "pile up" on each other, and restricts freedom of maneuver once the direction of attack and order of battle are fixed. . . Movement cross-country is limited, even in good weather; movement along the narrow valley floors may be blocked there or in the villages at points of descent and ascent.[29]

29 Cole, *Ardennes*, 47.

Pergrin and his men expertly exploited terrain in their defensive countermobility missions.

Four case studies – the villages of Malmédy, Stavelot, Tres Pont, and Habiemont in this order – can illustrate the Americans' leadership ethic and profession of arms as they tried to impede the Germans' westward progress. These examples can likewise highlight the Germans' markedly deficient leadership and professionalism.

First, the village of Malmédy sat at a key point with three sturdy bridges over the Warche River. If Peiper's tanks could cross those bridges, he could move quickly toward the Meuse River and beyond to the west. Pergrin recognized that the 291st occupied a critical choke point, so he ordered his men to construct 15 roadblocks, thereby providing a 360-degree-defense of Malmédy on December 17. According to Pergrin's memoir, he resolved that the 291st "would hold Malmédy or die trying."[30] The roadblocks provided 360 degrees of protection because Pergrin was unsure of the German avenue of approach. A determined assault could have defeated Pergrin's meager force of a few hundred combat engineers and stragglers from other units, but not before he could blow those bridges. When Peiper arrived on the outskirts of the village, he believed it was too well-defended. He did not want to commit tanks, fuel, and men to a fight for Malmédy. Instead, Peiper pushed farther westward to the next village where he assumed he would find an undefended bridge.[31]

The day of December 17, 1944 is infamous in the history of the Second World War because, just to the south of Malmédy, some of Peiper's soldiers executed 84 American prisoners of war. They tried to kill more, but a few pretended to be dead and escaped to tell their story to Pergrin in the village. *Kampfgruppe Peiper* had to move fast; however, escorting thousands of surrendered American soldiers back to the German lines risked slowing progress. No concrete proof exists that Peiper gave a specific order to execute American prisoners of war. Even so, the brutal culture of the *Waffen SS* and the fact that the SS perpetrated other massacres makes such an order plausible. Regardless, Peiper as commanding officer bore responsibility.[32]

News of the German war crime spread quickly throughout American units. No soldier wants to be disarmed and killed without a fight, but rather they want to have a choice in when, where, how, or if they will be killed. The German massacre completely reversed the sagging American morale. No matter how tired, cold, hungry, or scared they might be, American

30 Pergrin, *First Across the Rhine*, 88.

31 Dupuy, et al., *Hitler's Last Gamble*, 47-62.

32 Jacques Nobécourt, (1967), *Hitler's Last Gamble: The Battle of the Bulge*. Translated by R. H. Barry. (New York: Schocken Books), 153-55. In their post-war interviews in Parker, *Battle of the Bulge*, 153-190, the German *Generaloberst* (Colonel General) Alfred Jodl and *Generalfeldmarschall* (Field Marshal) Gerd von Rundstedt fail to mention the Malmédy massacre. This was a black mark on the German Army.

soldiers would stand and fight to avoid any chance of being executed by Germans.[33]

During the evening of December 17, *Kampfgruppe Peiper* next moved toward the village of Stavelot with its bridge spanning the Ambléve River. One dozen of the 291st's combat engineers, led by a sergeant, defended the bridge. They set up a roadblock with anti-vehicle mines, wired the bridge for demolition, and awaited the German attack to come. They then expected to blow the bridge, instead of risking German seizure, as directed by Pergrin. The tense Americans could hear the rumble, rumble, rumble of the German tanks. As those tanks mover closer, the Americans started shooting at them with small arms and a bazooka. They disabled the lead German tank, leaving Peiper with no choice but to stop his column. The volume of American gunfire made Peiper worry that perhaps a battalion defended Stavelot. Meanwhile, on the far side of the river, other American soldiers drove empty trucks back and forth, dragging chains to make noise and with head- and taillights on, to make it seem like American reinforcements were arriving in the overnight darkness of December 17. These two clever ruses by the Americans made Peiper waste precious time debating whether or not to commit to combat and capture the bridge in Stavelot. His tanks attacked the next morning of December 18, seized the bridge, and moved across the river on the offensive. Despite this success, Peiper balked at driving deeper into American territory, and decided once again to send his tanks west to the next village in hopes of finding an undefended and intact bridge. He missed an excellent opportunity because just a short distance beyond Stavelot stood a large American fuel depot. Peiper had no idea that it was there within his grasp.[34]

Peiper next made his way west to Trois Pont on December 18. The village stood at the intersection of three rivers; thus, the name translates as "three points" in English. Late in the morning, Peiper decided to commit to an all-out assault on the Americans defending Trois Pont and capture its vital bridges across the three rivers. His attempt to take the village failed. Now, two full days into the Battle of the Bulge, the Americans began recovering command, control, and communications. The shock of the surprise attack had faded, turning instead to resolve and anger among the soldiers of the 291st and 51st ECBs and other units defending Trois Pont. The German attack entered the village. Not wanting to risk the bridge falling into enemy hands, the combat engineers opted to blow thebridge.[35]

With no hope of crossing the rivers on December 16 or 17, Peiper and the Germans shifted north and then west in the afternoon of December 18. He wanted to cross Leinne Creek at a

33 Collins and King, *Voices*, 87-94.

34 Pergrin, *First Across the Rhine*, 94-104; Cole, *Ardennes*, 267-68.

35 Pergrin, *First Across the Rhine*, 122-29; Cole, *Ardennes*, 267-68.

place named Habiemont. Riding in one of the lead tanks, the now-desperate Peiper needed to find fuel on the far side of the creek. In anticipation of the coming Germans, a platoon from the 291st had already wired the bridge for demolition and evacuated on the far side of Leinne Creek. The American combat engineers received the same guidance from Pergrin: Hold bridges and blow them only if necessary. They watched the first tank – the giant King Tiger II – come into view, open fire, and roll to within 200 meters of the bridge. The Americans waited until the last possible moment. Then they detonated 1,100 kilograms of explosives. They took no risks of failure.[36] According to journalist Janice Holt Giles, that bridge literally disappeared in "rainbows and thunder." The Germans were dismayed. Giles then recounts that *Standartenführer* Joachim Peiper "could only sit helplessly, pound his knee, and swear 'The damned engineers! The damned engineers!"[37] A platoon dealt Peiper a decisive defeat. For his part, Lieutenant Colonel David Pergrin praised his soldiers for their bravery and ingenuity: "Small groups of engineers purchased immeasurably valuable time so the whole division of American tanks and infantrymen could move in to begin sealing the battlefield and prepare to evict the German intruders."[38] Although Peiper continued his quest for river crossings, he exhausted his fuel supply by December 23, abandoned his tanks, and retreated with only 800 soldiers – out of 5,800 just one week earlier.[39]

4. Lessons Learned – Conclusions for the Present and the Future

The final phase of a battle analysis entails learning lessons and gleaning insights about why and how the battle ended the way it did. This process inculcates good habits of mind among cadets and officers alike to dissect and solve real-world problems. No matter what the situation cadets or officers might encounter in the twenty-first century, soldiers in history have dealth with similar situations. The past -- y in this article's case the Battle of the Bulge -- offers lessons learned to help achieve military objectives.

The two principles of leadership ethic and profession of arms affected the outcome of fighting between the German tank and American combat engineer units in the Battle of the Bulge: German deficiencies combined with American efficiencies set conditions for an American victory.

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36 Nobécourt, *Hitler's Last Gamble*, 161-71.

37 Janice Holt Giles, (1985), *The Damned Engineers*, reprint (Washington: Historical Division, Office of the Chief of Engineers), 261. Giles based her book on her husband's letters and journal entries during World War II and her own research. Pergrin, *First Across the Rhine*, 131-33; and Cole, *Ardennes*, 267-68.

38 Pergrin, *First Across the Rhine*, 136.

39 Holt, *Damned Engineers*, 363-69; Cole, *Ardennes*, 606-48; Pergrin, *First Across the Rhine*, 187-215. The losses were significant on both sides, but much more so for Germany with severely drained manpower and supplies in early 1945. The US Army endured nearly 90,000 casualties. Estimates of German losses run between 55,000 and 98,000, killed, wounded, missing action or prisoners. This marked the end of Germany's ability to resist either the onrushing Anglo-American-Canadian forces to the west or the crushing momentum of the Russian Army on the Eastern Front. On May 8, 1945, Nazi Germany surrendered to the Allies (see Lyons and Ulbrich, *World War II*, 307-28).

Among several traits of leadership ethic is courage.[40] Courage can be defined as an officer or soldier choosing to do what is right even though this decision may entail risks of injury or death. Courage to stand to post and resist temptations to retreat is part of the leadership ethic. Pergrin's personal fortitude filtered down the ranks of his unit. None of his men, regardless of rank, lost their nerve and ran away from the Germans. "Preparing followers to be courageous starts with a leader's behavior and is reinforced by the organization," as US Army Captain Paul Lester and psychologist Cynthia Pury wrote in 2011. "Simply including courage as an organizational value, however, will not always result in courageous behavior. Acting courageously is a complete process, but including courage as a value is a signal of what is expected of members of the organization."[41]

The profession of arms points to a group of military personnel who, according to contemporary authors, are "specialists who, willingly or unwillingly, assumed the burden of fighting, killing, and dying for the larger group. Whatever the formal name or title given to these groups, theirs is the profession of arms."[42] The military service members are professional because they receive ongoing training to attain or maintain proficiency in their roles and ranks. A code of behavior must also be followed. Failing in proficiency or breaking the code can result in possible ejection from the group. In this way, the profession of arms resembles the legal, engineering, or medical professions.

For purposes of analyzing the Battle of the Bulge, the profession of arms is intertwined with leadership ethic. The 291st ECB exemplified professionalism and ethics because Lieutenant Colonel David Pergrin consistently set the tone for his subordinates to trust him and to follow his guidance even under the extreme duress of combat. He exhibited a path-goal style of leadership. . Pergrin also demonstrated professionalism in training his unit so his men could be ready with flexible solutions during unexpected scenarios, such as a German surprise attack. Pergrin's training prepared his men with what amounts to default settings to act correctly despite unforeseen circumstances. The training, the preceding months of combat experience, and the trust developed in the 291st helped its men make their valiant stand that stemmed the German offensive tide long enough for American reinforcements to arrive.

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40 Christopher M. Barnes and Colonel Joseph Doty, "What does Contemporary Science say about Ethical Leadership?" *Military Review* (Special September 2010): 90-93.

41 Paul B. Lester and Cynthia Pury, (2011), "What Leaders Should Know about Courage," in *Leadership in Dangerous Situations: A Handbook for the Armed Forces, Emergency Services and First Responders*, eds. Patrick D. Sweeney, et al., eds. (Annapolis, Maryland, U.S.A.: Naval Institute Press), 28-29. See also relevant sections in Peter S. Kindsvatter, (2003), *American Soldiers: Ground Combat in the World Wars, Korea, and Vietnam* (Lawrence, Kansas, USA: University Press of Kansas), 229-45.

42 Richard M. Swain and Albert Pierce, (2017), *The Armed Forces Officer* (Washington, DC, USA: National Defense University), 15, accessed June 3, 2023, https://ndupress.ndu.edu/Portals/68/Documents/Books/AFO/Armed-Forces-Officer.pdf.

Conversely, he German *Kampgruppe Peiper* and its commanding officer, *Standartenführer* Joachim Peiper, entered the Battle of the Bulge with strict guidance and inflexible timetables. He and his men definitely possessed great courage. However, their type of courage was born out of a culture of fear in the hierarchical *SS* chain of command, where orders went unquestioned and creativity was no virtue. Despite the fact that Prussians developed *Auftragstaktit* two centuries earlier, Peiper promoted no such flexibility in command decision-making processes or trust in subordinates to make those decisions. The authoritarian leadership in the *SS* structure offered no adaptation beyond orders for Peiper to lead his tanks in the surprise attack and advance westward as quickly as possible. The myopia handicapped Peiper's ability to adapt to unforeseen events and thus helped cause his eventual defeat. Indeed, the German side of these small engagements in the Battle of the Battle become cautionary tales for a misguided profession of arms and a poor leadership ethic. Ultimately, Peiper's failure at the tactical level can be seen as a metaphor for German Army's failures of the entire Operation *Wacht am Rhein* at the operational and strategic levels.

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