

The US Army Corps: Getting Back to Being a Tactical Warfighting Headquarters?

A Monograph

by

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Abstract

The US Army Corps: Getting Back to Being a Tactical Warfighting Headquarters? by MAJ Kyle R. Abruzzese, US Army, 47 pages.

As the US Army transitions from fighting counterinsurgencies in Iraq and Afghanistan to large-scale combat operations, the role of the army's corps must also transition. The corps serves as one of the army's most versatile headquarters and helps bridge the gap between the operational and tactical levels of war. The US Army corps will win the fight in large-scale combat operations through the synchronization of operations and by providing tactical direction to the flexible combinations of forces required on the modern battlefield. These forces will include not only naval, air and land components, but cyber and space components as well. The primary means by which the corps can accomplish this is by shaping and setting conditions for its subordinate units. Additionally, the corps must set conditions that disrupt and divert enemy combat power and capabilities away from its main effort to enable it time to build combat power. Also, the corps will have to plan and coordinate with its higher, lower and lateral echelons, as well as manage and allocate resources for its units while executing large-scale combat operations. The 1918 Meuse-Argonne offensive, the examination of the army's professional military education efforts during the interwar period between World War I and II for its officer corps and Operation Husky will be used to highlight the main functions of the corps. As the US military continues into the 21st century, continued emphasis on training and professional military education will remain crucial for the US Army corps to remain postured to counter any global threats or contingencies.

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Abbreviations

ADP	Army Doctrine Publication
AEF	American Expeditionary Force
AGM	Attack Guidance Matrix
AO	Area of Operations
CFL	Coordinated Fire Line
CGSC	Command and General Staff College
CGSS	Command and General Staff School
CTC	Combat Training Center
FM	Field Manual
FSCL	Fire Support Coordination Line
FSE	Fire Support Element
GEN	General
HPTL	High Payoff Target List
IADS	Integrated Air Defense Systems
ISR	Intelligence, Surveillance and Reconnaissance
JACCE	Joint Air Component Coordination Element
JFACC	Joint Force Air Component Commander
JFC	Joint Force Commander
JFE	Joint Forcible Entry
JIIM	Joint, Interagency, Intergovernmental and Multinational
JOA	Joint Operations Area
JP	Joint Publication
LSCO	Large-scale Combat Operations
LTG	Lieutenant General

MCTP	Mission Command Training Program
OA	Operational Area
OE	Operational Environment
PIR	Parachute Infantry Regiment
PME	Professional Military Education
RCT	Regimental Combat Team
SAMS	School of Advanced Military Studies
SEAD	Suppression of Enemy Air Defenses

Introduction

To the Officers and Men of the VII Corps for whom this short account of our activities is primarily written, I want to say once more that all of our success has been the direct result of your splendid teamwork. The proof of this is in the fact that the fine divisions which have fought under us have been sorry to leave us and glad to come back. This means the Corps Troops and Staff know their business and look after the divisions as they should. That can be true only because each one of us has had the true interests of the Corps at heart and has played his part up to the hilt. I am eternally grateful to each and every one of you.

—LTG J. Lawton Collins, VII Corps Commander, 8 June 1945

The corps echelon of command has been a fixture as a standing formation in the US Army since the Korean War. Prior to that, it had served its purpose well as the army's highest "tactical unit of execution" in every major war it has fought from the American Civil War forward. The storied performance of its units and the commanders who led them occupy a special place in the chronicles of the army's history. While its organization and functions have changed over the years, it remains today a critical command and control formation in the army's force structure.¹

The US Army corps will win the fight in large-scale combat operations (LSCO) through the synchronization of operations and by providing tactical direction to the flexible combinations of forces required on the modern battlefield. These forces include naval, air, land, cyber and space components. According to Field Manual 3-94, *Armies, Corps and Division Operations*, the primary means by which the corps can accomplish this is by shaping and setting conditions for its subordinate units.² Additionally, the corps must set conditions that disrupt and divert enemy combat power away from its main effort so as to build combat power. Also, the corps will have to

¹ Colonel Steve Delvaux, "The History of the Corps in the US Army," in *Essential to Success: Historical Case Studies in the Art of Command at Echelons Above Brigade*, ed. Joe R. Bailey and Kelvin Crow (Fort Leavenworth, KS: Army University Press, 2017), 123.

² US Department of the Army, Field Manual (FM) 3-94, *Theater Army, Corps and Division Operations* (Washington, DC: Government Publishing Office, 2014), 4-1.

plan and coordinate with its higher, lower and lateral echelons, as well as manage and allocate resources for its units during a LSCO fight. Last, corps command will be a test of a general officer's ability, professionalism and not least their character.³

Large-scale combat operations will require the corps to shape operations ahead of their subordinate divisions in order to ensure mission accomplishment. The US Army's 1942 *Field Service Regulation* described the corps' function in order to enable mission accomplishment as follows: "The flexibility of its organization permits an increase or decrease in the size of the corps, or a change in the type of divisions and other nonorganic elements constituting the corps by the attachment or detachment of divisions and reinforcing units at any time during the operations."⁴ An example of how the corps may achieve this is by disintegrating enemy systems, such as the enemy's integrated fires command (IFC) and integrated air defenses (IADS), in order to facilitate current and future operations. In addition, the corps' ability to rapidly synthesize information, coordinate, and integrate joint assets at the decisive point and shape operations for their subordinate divisions is critical for mission success.

Harold Winton, in his book *Corps Commanders of the Bulge: Six American Generals and Victory in the Ardennes*, described the corps as such, "The corps is like an O-ring: easy to overlook, but a vital element in the system's functioning."⁵ In the conduct of LSCO the corps may find itself functioning as a tactical land headquarters under a joint or multi-national land component. While conducting LSCO the corps will need to be organized, trained, and equipped to command and control the operations of two to five divisions. In addition, the corps will need to figure out how to incorporate and synchronize new technologies and capabilities into its

³ Harold Winton, *Corps Commanders of the Bulge: Six American Generals and Victory in the Ardennes* (Lawrence, KS: University Press of Kansas, 2007), xiii.

⁴ Winton, *Corps Commanders of the Bulge*, 7.

⁵ Winton, *Corps Commanders of the Bulge*, xii.

organizations. This also includes managing and allocating the resources required of the other supporting organizations it may find under its command in order to achieve its assigned tasks.⁶

A historical example of being exposed to new capabilities, but not understanding how best to employ them, is that of Civil War Major General George McClellan. Stephen Sears wrote in his book *George B. McClellan: The Young Napoleon*, “For all the detail he amassed on the administration and equipment and foreign armies, he gave hardly a mention to the subject of high command. The ranks and numbers of officers on general staffs were listed, but not how this important innovation operated in the directing and moving of armies. On achieving high command himself, McClellan would lament nothing so much as the lack of an operations staff and the instructed officers to man it.”⁷ This quote, written about the former commander of the Army of the Potomac from 1861-62, is relevant for today’s commanders and the challenges which they face. The challenges and complexities involved with conducting LSCO and synchronizing the efforts of various capabilities across all domains will require a great deal of leadership from commanders and staffs alike.

As the army prepares for LSCO, the ability to shape and set conditions at the corps level remains just as important today as it was over 100 years ago. Corps commanders and staffs must remain vigilant in their efforts to create chances to seize positions of relative advantage by carefully analyzing all the factors that impact operations. Avoiding unsynchronized operations depends on the willingness of leaders and staffs too creatively and honestly approach problems. When problems and challenges occur, the corps commander must be able to understand and

⁶ US Army, FM 3-94, 1-5.

⁷ In April 1855, McClellan, and Majors Richard Delafield and Alfred Mordecai were sent as part of a military commission to study the latest developments in Europe. The commission was also to observe first-hand the war being fought in the Crimea between England, France and Russia. It was during this trip that McClellan witnessed how professional armies were trained and administered, as well as how they were supplied and transported. All lessons that he would carry forward with him into the American Civil War, particularly those of transporting and supplying forces by water, which he saw used effectively during his visit to the Crimean peninsula in 1855. Stephen W. Sears, *George B. McClellan: The Young Napoleon* (New York: Ticknor & Fields, 1988), 48.

visualize the problem. Upon understanding the problem, they must then be able to articulate to their staff what their intentions are in order to direct the staff to achieve the desired results for its subordinates. Doing so may make corps' and their subordinate units more adaptable while operating in complex environments, and it may help prevent relearning the bloodstained lessons of battles from yesteryear at the corps level.⁸

Literature Review

The study of World War I, the Interwar period and World War II is valuable for contemporary military professionals to understand and prepare for LSCO. Additionally, the study of US military doctrine and the US Army's Mission Command Training Program (MCTP) Warfighter Exercises key observations also provide a means to prepare for LSCO. This section describes the literature on the history of army corps' in World War I and II, doctrine, and MCTP's key observations that all contributed to the research, conclusions and recommendations for this paper.

The catalyst for the Army's interest in large-scale formation doctrine can trace its origins to the experiences of the American Expeditionary Force (AEF) in France during World War I.⁹ This is the first time that commanders at the division level and above, in particular V Corps, began to understand and apply combined arms adaptation, specifically in the Meuse-Argonne offensive in the fall of 1918.¹⁰ Through trial and error, V Corps' commander and staff began to

⁸ Major John M. Nimmons, "Escaping No Man's Land: Combined Arms Adaptation in the Meuse-Argonne," in *Bringing Order to Chaos: Historical Case Studies of Combined Arms Maneuver in Large-Scale Combat Operations*, ed. Peter J. Schifferle (Fort Leavenworth, KS: Army University Press, 2018), 89.

⁹ Nimmons, "Escaping No Man's Land," 75.

¹⁰ Nimmons, "Escaping No Man's Land," 75. Major Nimmons explained in this chapter how the use of combined arms maneuver in the first two phases of the Meuse-Argonne offensive for the AEF in World War I were a metaphorical "no man's land" for many in V Corps because many in the organization struggled to bridge the gap between operational processes at corps and divisional innovation on the front line. Staffs within V Corps oversimplified the complexity of the battlefield they faced because of an over-reliance on existing doctrine. As a result, V Corps and its divisions were slow to implement combined arms methods in the early phases of the Meuse-Argonne offensive, and this failure led to profound organizational and tactical change before the final phase.

understand and embrace the challenges inherit with this new kind of warfare.¹¹ The lessons learned in the handling of large-scale formations and combined arms maneuver would go on to shape the officer education and doctrine of the interwar period and serve the army well in World War II.¹²

Dr. Peter J. Schifferle's book, *America's School for War: Fort Leavenworth, Officer Education and Victory in World War II*, offered insight into the professional military education (PME) and shaping of the army's officer corps during the interwar period between World War I and II.¹³ To do the right thing under the extreme pressure of combat requires certain personal characteristics and leadership, but also requires professional knowledge and decision making skills-and the resulting professional self-confidence.¹⁴ Lastly, duty with troops was only a small portion of officers' professional life between World War I and II. A larger proportion of their time was spent as a student or instructor.¹⁵

¹¹ Nimmons, "Escaping No Man's Land," 75. Prior to the third phase of the Meuse-Argonne offensive, V Corps recognized that in-stride adaptation required an internal cultural shift that enabled leaders to balance integration of new technologies with deviations in doctrinal employment. Specifically, V Corps made changes to its leaders, planning methods, tactics and organizational structure to address the reality of emerging changes on the modern battlefield.

¹² Robert H. Ferrell, *America's Deadliest Battle: Meuse-Argonne, 1918* (Lawrence, KS: University Press of Kansas, 2007), 156. During the Interwar period between World War I and II, military doctrine formation and publication focused on the lessons learned by the AEF in World War I. However, the US Army following World War I returned to its pre-1917 cocoon, and the U.S Navy in turn constructed battleships and heavy cruisers that had little to do with the possibility of another German submarine threat.

¹³ Peter J. Schifferle, *America's School for War: Fort Leavenworth, Officer Education and Victory in World War II* (Lawrence, KS: University Press of Kansas, 2010), 1. Dr. Schifferle's work focused on the education of the army officers following World War I and how the intellectual and educational development of regular army officers enabled the fighting effectiveness of the United States Army in World War II. Furthermore, Dr. Schifferle expanded upon how the professional preparation of generals commanding large military formations, as well as the staff officers who did the detailed work required to effectively move, sustain and employ large formations contributed to victory over the totalitarian states and Axis Powers of Germany, Japan and Italy in World War II.

¹⁴ Schifferle, *America's School for War*, 5-6. Dr. Schifferle went on to explain that between World War I and World War II, the US Army's professional preparation, education and training of large-formation leadership existed only at Fort Leavenworth. Additionally, this influence of the senior World War II commanders, all of whom attended the peacetime Leavenworth course, was the foundation of effective command and staff functioning of US Army corps and divisions during World War II.

¹⁵ Schifferle, *America's School for War*, 7. Dr. Schifferle explained that personal leadership on the field of battle was no longer the purview of commanders above the rank of colonel; leadership by general officers was now made even more intellectually challenging by virtue of its disengagement from the battle

Winton in *Corps Commanders of the Bulge* drew the correlation between education and combat capability in the ability to shape and set conditions for the corps' subordinate units.¹⁶ In order to be a successful corps commander, one must develop a framework consisting of three key elements: the commander's personal qualities, his knowledge of his organization and his executive ability "to make the greatest possible use of this organization."¹⁷ Further regarding leadership, Winton wrote, "the commander, like an artist, first creates a mental sketch, which represents a tentative decision; after receiving more detailed information from his staff, he is able to create a completed canvas, which represents a final decision."¹⁸ Lastly, the commander must bear in mind that problem solving is the first essential skill in Lord Moran's definition of military leadership as "the capacity to frame plans which will succeed and the faculty of persuading others to carry them out in the face of death."¹⁹ This was especially true in the case of the 1943 Allied invasion of Sicily during World War II.

itself. The only school in the interwar army that taught the necessary principles, procedures and techniques for this new form of combined arms warfare (combined infantry-artillery-tanks-airpower, controlled by a staff and led by a commander separated from immediate tactical decisions) was the Command and General Staff School at Leavenworth.

¹⁶ Winton, *Corps Commanders of the Bulge*, 16. Winton wrote that of the six corps commanders in the Battle of the Bulge; Collins, Eddy, Gerow, Middleton, Millikin and Ridgway, three were at Leavenworth for the extended two-year course (Collins, Eddy and Ridgway). Of the three who attended the single-year course, two, Middleton and Millikin remained on the faculty for four years each. Additionally, Eddy served as a faculty member for four years following graduation from the longer course. In sum, these six officers spent a total of twenty-one years at Leavenworth between the wars, either as students or as instructors. Winton concluded that it does seem fair to suggest that what was taught at Leavenworth and how it was taught at least conditioned the way in which these officers approached their professional responsibilities.

¹⁷ Winton, *Corps Commanders of the Bulge*, 18. These three elements for successful command were given by Brigadier General Edward L. King, commandant of the Command and General Staff School (CGSS) in his welcome address to the CGSS class of 1925, in which Gerow and Millikin were students. BG King's address was devoted to the subject of command and his remarks elaborated those qualities that would allow the commander "to maintain, by his own ability and personality, that prestige which his military rank confers on him."

¹⁸ Winton, *Corps Commanders of the Bulge*, 19.

¹⁹ Charles McMoran Wilson was created 1st Baron Moran of Manton in 1943. During World War I he was awarded the Military Cross (MC) during the Battle of the Somme and the Italian Silver Medal for Military Valor for a raid. He was for twenty-four years Dean of St Mary's Hospital Medical School. In 1945 he published his observations of men under the stress of war in *The Anatomy of Courage*. He became Winston Churchill's doctor in 1940, as the curtain was rising on one of the greatest dramas in our history, and from 1941 to 1950 he was also President of the Royal College of Physicians. *Winston Churchill: the*

In Guy LoFaro's book, *The Sword of St. Michael: The 82ND Airborne Division in World War II*, and Carlo D'Este's book, *Bitter Victory: The Battle for Sicily, 1943*, both authors wrote about the impact of the 82d Airborne Division's actions during the Allied invasion of Sicily (Operation Husky) in helping to shape and set conditions for Lieutenant General (LTG) George S. Patton's Seventh Army.²⁰ The 82d's parachute drop into Sicily on the night of 9 July 1943 was a disaster and widely scattered from its intended drop zones. However, the dispersing and scattering of paratroopers across the island created much consternation and confusion for the German defenders. Most important, it provided valuable time for the Allied landing force to build combat power and move inland off of the beaches, particularly LTG Patton's Seventh Army.²¹ An examination of World War I, the interwar period and World War II offers insight into current army doctrine concerning large-scale formations.

The US Army's current doctrine for large-scale formations is Field Manual (FM) 3-94: *Theater Army, Corps and Division Operations (2014)*. This manual states that the distinguishing difference between corps and division tactical operations are their scope and scale. Additionally, the corps will focus on shaping conditions for its divisions through the use of its assets, enablers,

Struggle for Survival was first published in 1966, a year after Churchill's death. In his war memoirs, Winston Churchill called Lord Moran 'a devoted and personal friend' to whose 'unfailing care I probably owe my life.' Winton, *Corps Commanders of the Bulge*, 20n24; Lord Moran, *The Anatomy of Courage* (New York: Carroll & Graf, 2007), 190.

²⁰ Carlo D'Este, *Bitter Victory: The Battle for Sicily, 1943* (New York: HarperCollins, 1988), 238. For the Sicily operation the 505th Parachute Infantry Regiment (PIR) was reinforced with additional supporting units. Designated the 505th Parachute Regimental Combat Team (RCT), it consisted of the 505th PIR (1st, 2d and 3d Battalions); 3d Battalion, 504th PIR; 456th Parachute Field Artillery Battalion; Co. B, 307th Airborne Engineer Battalion; and miscellaneous Signal, Medical, Naval and Air support detachments.

²¹ LoFaro, *The Sword of St. Michael*, 104. Colonel James Gavin's 505th Parachute Regimental Combat Team had parachuted into Sicily on the night of 9 July 1943 and was meeting stiff German resistance. Colonel Reuben Tucker's 504th Parachute Regimental Combat Team parachuted into Sicily on 11 July 1943. Lieutenant General George S. Patton, the Seventh Army commander, needed Tucker's paratroopers dropped as soon as possible. The congestion on the beachheads was preventing Patton from pushing inland; a parachute drop was a way to bypass the congestion and get more troops into the fight quickly. If all went according to plan, Hal Clark's 52nd Troop Carrier Wing could deliver more than 2,000 paratroopers in approximately forty minutes (the time it would take the air column to pass over the drop zone). In Patton's eyes it was an option too good to pass up.

and leveraging joint capabilities. According to doctrine, the corps commander and staff must remain flexible and adaptive, as its task organization and subordinate divisions can increase and decrease as the tactical situation dictates. In the end, this flexibility allows the commander and staff to bridge the gap between the tactical and operational levels of warfare.²² Focusing efforts on training and studying lessons learned from large-scale training exercises provides insight into preparing for LSCO.

Finally, the review of MCTP's key observations for Warfighter Exercises during the past four years provided additional context and information regarding corps level operations in training for LSCO. These exercises prepare army corps commanders and their staffs to serve as a higher headquarters for multiple divisions and enablers, as well as train the commanders and staffs in the shaping and setting of conditions for subordinate units in a LSCO environment.²³ However, both the commander and staff must remember that they are one team and that neither staff nor command can be adequately presented as separate principles. The commander and staff must remain flexible in their thinking, study the trends of future warfare and adapt their thinking to the possible weapons and thinking of the next war, and not to those weapons that were used in the last one.²⁴

²² US Army, FM 3-94, 4-1; Winton, *Corps Commanders of the Bulge*, 266. Winton wrote of Ridgway's experience as the XVIII Airborne Corps commander regarding the structure of his corps; when committed to battle, XVIII Airborne Corps functioned as any other corps with a flexible organization, it also had units that were permanently assigned or in support during periods of preparation for future operations. Thus, Ridgway had to stay abreast of things that affected these units and maintain relations with their commanders, even when they were not directly involved in his immediate activities.

²³ Mission Command Training Program, *FY 20 Mission Command Training in Large-Scale Combat Operations: Mission Command Training Program (MCTP) Key Observations* (Fort Leavenworth, KS: U.S. Army Center for Army Lessons Learned, 2020), 7. MCTP observed corps and division staffs are continually challenged to maintain planning horizons in large-scale combat operations. Planning horizon challenges are closely related to the lack of collaborative staff planning and synchronization during the planning process. Lack of synchronization impacts staff development of accurate running estimates to effectively visualize future operations out to 72 to 96 hours.

²⁴ Winton, *Corps Commanders of the Bulge*, 348, 349nn15-16.

Echelonment

US Army Field Manual 3-94 defines the corps as an echelon of command and tactical formation that employs divisions, multifunctional brigades, and functional brigades to achieve objectives on land.²⁵ As previously stated, the corps headquarters will normally function as a tactical land headquarters under a joint or multi-national land component. The corps headquarters is organized, trained, and equipped to control the operation of two to five divisions, together with supporting organizations. Divisions are the tactical units of execution for the corps.²⁶

The latest changes to army doctrine now make the corps in essence responsible for helping to ensure that the diplomatic (multinational) and governmental (interagency) components of warfare are working in conjunction with the military/tactical arm of warfare. With these additions, the corps is now the echelon responsible for overseeing the simultaneous application of all four types of military operations; offensive, defensive, stability, and defense support of civil authorities in order to achieve its operational objectives on the battlefield. The subsequent extension of the corps' warfighting functions with the addition of its joint, interagency, multinational and full-spectrum responsibilities from its traditional tactical role into the operational realm, offers further proof of the corps' agility and versatility and its ability to adapt its doctrine and structure in an effort to be ready to respond to global contingencies as they arise.²⁷

Despite the additions of joint, interagency, multinational, and full-spectrum responsibilities, to include cyber and space operations, the corps remains a warfighting

²⁵ US Army, FM 3-94, Glossary-2.

²⁶ US Army, FM 3-94, 1-5.

²⁷ Delvaux, "The History of the Corps in the US Army," 136; US Army, FM 3-94, 4-21. In reference to the corps and the latest changes to army doctrine now making the corps in essence responsible for helping to ensure that the diplomatic (multinational) and governmental (interagency) components of warfare are working in conjunction with the military/tactical arm of warfare, FM 3-94 highlights, because large-scale combat operations generally involve allied or partner forces, the corps is more likely to receive attached or operational control (OPCON) of multinational forces and liaison elements from other alliance contributors and across the JIIM community.

headquarters that is designed to fight. As the corps continues to do so, reacting to changing technology, changing strategic interests and the resulting changes in army doctrine (Multi-domain operations and greater emphasis on cyber and space operations in the future), the corps will need to focus its efforts, and remain, in its simplest form, a warfighting headquarters that is designed to fight, shape operations and set conditions for its subordinate units through the employment of operational planning.²⁸

Corps Operational Planning

But even the man who planned the operation and now sees it being carried out may well lose confidence in his earlier judgment.... War has a way of masking the stage with scenery crudely daubed with fearsome apparitions. Once this is cleared away, and the horizon becomes unobstructed, developments will confirm his earlier convictions—this is one of the great chasms between *planning and execution*.

—Carl von Clausewitz, *On War*

The corps is the Army's most versatile headquarters, and is maintained and employed for two primary reasons. The first reason is to prevail in LSCO against peer adversaries. Second, the corps helps enable political and strategic-level leaders to compete effectively against threats in theaters where peer adversaries have demonstrated the capability to challenge US strategic interests with military means, above or below the threshold of overt armed conflict. The corps functions as one of the principal integrators of land-power into campaigns. When a field army is not present, a corps is the primary link between the operational and tactical levels of war.²⁹

²⁸ Delvaux, "The History of the Corps in the US Army," 137; US Army, FM 3-94, 1-7. It is important to note that, of the four major roles envisioned for the corps in the army's current doctrine; JTF HQs, ARFOR, Joint or Multinational Land Component Command and tactical headquarters (its original role) three of them are concerned primarily with major operations and campaigns.

²⁹ US Army, FM 3-94, 1-13, 1-17. The ability to rapidly converge effects is central to modern operations. First, a peer threat's ability to contest the joint and multinational force in all environments means that army forces cannot rely on capabilities in only a few domains. They must be able to leverage capabilities from across all domains in the event that threats are able to secure initial advantages during competition or conflict. Second, by converging capabilities from multiple directions and domains, army forces present threats with multiple interrelated dilemmas that are difficult to overcome. These dilemmas can allow the joint and multinational force to offset an enemy's superior numbers or advantages in niche capabilities, seize the initiative, and exploit fleeting windows of opportunity to defeat the enemy.

Regardless of its role, the corps executes both operational and administrative responsibilities for its subordinate formations.

Large-scale combat operations may require a corps headquarters to function as a tactical formation under a land component command or subordinate to a field army equivalent established under an alliance or coalition. The corps commander and staff synchronize the employment of joint capabilities in conjunction with army decisive action. Corps operations shape an operational environment (OE) and set the conditions for tactical actions by the divisions and lower echelons. In LSCO, the corps task organizes and maneuvers divisions to destroy enemy land forces, seize key terrain and critical infrastructure, and dominate the land portion of the joint operations area (JOA).³⁰

Through planning and coordination, the corps staff prepares the formation to bring all of its capabilities and effects to bear on decisive points at each portion of an operation to achieve objectives and accomplish its mission. In order to set the conditions for enabling and sustaining subordinate units to achieve objectives and accomplish the mission, the corps manages and allocates resources within the corps formation and sets priorities for tasks and support. The corps uses joint capability (both lethal and non-lethal) to facilitate many of these other functions, especially shaping operations and massing effects at decisive points.³¹

³⁰ US Army, FM 3-94, 4-2. A corps conducts continuous and simultaneous offensive, defensive, and stability operations or defense support of civil authority tasks through a series of synchronized division and separate brigade operations. These operations achieve and exploit positions of relative advantage across multiple domains to destroy or defeat an enemy and achieve the operation's overall purpose. The six primary functions of a corps are: conduct shaping operations within the corps area of operations (AO); task-organize and employ divisions and brigades; integrate and synchronize operations of divisions and brigades; mass effects at decisive points; allocate resources and set priorities; leverage joint capabilities.

³¹ US Army, FM 3-94, 4-2; Major Glen L. Scott, "Considerations for Deep Maneuver: Operation Crusader," in *Deep Maneuver: Historical Case Studies of Maneuver in Large-Scale Combat Operations*, ed. Jack D. Kem (Fort Leavenworth, KS: Army University Press, 2018), 27-28. A fundamental requirement for planning success in corps level operations is accurate and realistic targeting or selection of the maneuver force objective. Essential to accurate "targeting" for the maneuver force during the planning phase is adequate intelligence concerning both enemy tactical dispositions and their operational situation, to include intentions. Next is the adequacy of the maneuver force to accomplish the mission, and ensuring it has sufficient combat power to force a favorable decision at the decisive point. Last, achieving local

The AEF's experience during the Meuse-Argonne offensive in 1918 and the Allied invasion of Sicily in 1943 offer insight into the planning and coordination required in the execution of a major operation. These two separate examples, encompassing two world wars, exemplify what happens when planning and coordination are properly and improperly conducted. However, the Meuse-Argonne offensive also shows the army becoming a learning organization as it learned from and corrected its mistakes during the offensive.

V Corps and the Meuse-Argonne Offensive 1918

Two immense tasks confronted the United States on 6 April 1917, when the nation entered World War I: industrial mobilization, and preparation of the army to fight in France. Both ultimately affected the battle of the Meuse-Argonne in 1918. The first, industrial mobilization was nearly a failure because President Woodrow Wilson simply could not manage it. He was not the manager of mobilization that the country needed in 1917-1918 and could not put his mind to the great projects he had begun. The second was preparation of the army to fight in France brought about through the civilian and military disconnect and civilian leadership unwilling to interfere with military affairs.³²

Fortunately, Army Chief of Staff, General Peyton C. March was able to bring order out of chaos and saw to it that draftees received training and then embarked to France in order to fight. He provided the divisions that General John Pershing, commander of the AEF, needed. Had General March not been in charge of the War Department in the spring of 1918, the troops may

superiority at the decisive point through security and surprise enhances the maneuver forces' likelihood of success.

³² Regarding the AEF's lack of preparedness, Marshall noted that in the opening days of the Meuse-Argonne offensive, "everywhere on the battlefield individuals were paying the price of long years of national unpreparedness. They paid with their lives and their limbs for the bullheaded obstinacy with which our people had opposed any rational system of training in time of peace, and with which the Congress had reflected this attitude." The AEF succeeded due in large part to the splendid aggressive spirit and freshness of its troops, and the relentless determination of its officers and non-commissioned officers, starting at the top with its Commander-in-Chief, General Pershing. Ferrell, *America's Deadliest Battle*, 1, 11; General of the Army George C. Marshall, *Memoirs of My Services in The World War, 1917-1918* (Boston: Houghton Mifflin, 1976), 167.

very well never have gotten to France. However, once in France mobilization problems continued to hamper the AEF's efforts and troops, in particular lack of trucks to transport them to and from the battlefield. Due to this lack of transport, and prior to the Meuse-Argonne offensive commencing, many of the troops had to walk the fifty miles between St. Mihiel and the Meuse-Argonne carrying most of their equipment, supplies and eighty-pound packs. This resulted in the troops being in less than optimal physical condition when the offensive commenced.³³

V Corps headquarters began its planning for the Meuse-Argonne offensive on 26 September 1918, as a newly formed organization. The corps was unprepared for the combined arms challenges it experienced at the beginning of the offensive. In particular, the corps maneuver plan failed to coordinate and synchronize divisional infantry maneuver with artillery, aviation and tank employment. As result, over the next five days, the divisions of V Corps struggled to achieve the First Army mandated objective of Montfaucon. This failure and lack of planning and coordination cost the corps time and resources as it struggled to move supplies and artillery over rough terrain while maneuvering poorly trained formations.³⁴

Trouble with planning and coordination amongst the V Corps staff can be attributed to the over-reliance on existing doctrine, which stemmed from the lack of experience and training for the commanders and staffs within V Corps. Leaders focused primarily on infantry divisions instead of coordinating and synchronizing efforts in concert with artillery, tanks, aviation, and machine-gun employment. As a result, V Corps and its divisions did not understand and fully

³³ Ferrell, *America's Deadliest Battle*, 5, 14n13; *Marshall*, *Memoirs*, 149. The transfer of a division was usually carried out by the employment of 900 trucks for the foot troops, and by marching the artillery, motor supply trains and other vehicular transportation. The trucks could usually make the full distance in the Meuse-Argonne concentration in one night, but it required three to six days for the horse-drawn equipment. One serious problem lay in the difficulty of coordinating the movements of trucks or tractors, animal-drawn vehicles and foot troops, all having different rate of speed. All movements were confined to the hours of darkness, and to carry out the project it was necessary that every road be filled solid throughout the night. Needless to say, the roads became very congested with traffic and almost impossible to command and control, however, the concentration of men, weapons and equipment was put through and the offensive commenced on 26 September 1918.

³⁴ Nimmons, "Escaping No Man's Land," 76.

employ the combined arms capabilities of its formations and equipment.³⁵ Despite the initial setbacks that plagued V Corps at the beginning of the Meuse-Argonne offensive, the commanders and staffs within the corps learned from their mistakes and corrected the problems that they initially faced as the offensive progressed.

In the later phases of the Meuse-Argonne offensive, V Corps began to integrate intelligence reports regarding German positions gained through the use of aviation into its planning. These reports enabled the corps and its subordinates to fight off of a common operating picture and resulted in critical information where future planning efforts could concentrate. Planning efforts began shifting from top-down objectives to a mix of focused bottom-up intelligence collected through the use of aviation, divisions and V Corps reconnaissance. Also, the corps' ability to integrate and synchronize artillery fire in support of its infantry improved through the use of artillery displacement tables. These tables enabled the synchronization between artillery, infantry, tanks, and machine guns and also accounted for the sustainment requirements to ensure continuous artillery support. This planning effort facilitated the corps in combining all its assets it could bring to bear in a synchronized manner. Most important, these efforts created flexible plans that allowed the corps to continue concentrated attacks against the defending German forces in the Meuse-Argonne.³⁶ Twenty-five years following the Meuse-Argonne offensive, planners would again be put to the test in planning for the Allied invasion of Sicily in July 1943.

³⁵ Nimmons, "Escaping No Man's Land," 76n5. In reference to an over-reliance on doctrine mentioned above, Nimmons wrote that leaders approached planning one-dimensionally by focusing primarily on infantry divisions rather than combining and synchronizing artillery, tanks, aviation and machine gun employment. As a result, V Corps and its divisions did not understand and fully employ the combined arms capabilities of its formations and equipment.

³⁶ Nimmons, "Escaping No Man's Land," 84-87. During this time, staff officers worked diligently to produce documents that were simple, effective and could be used by multiple echelons to coordinate efforts. Doing so finally combined the capabilities of new technologies with the American offensive spirit, creating a lethal combined arms approach toward combat that turned the tide of the Meuse-Argonne offensive.

Operation Husky (Sicily 1943)

The invasion of Sicily began to take shape in January 1943, when at the Casablanca Conference the decision was made by the Allied leadership to invade Sicily once the Axis forces in North Africa were defeated.³⁷ The planning of the Sicily operation would be a joint undertaking with Allied land, air and naval forces all having a role in the invasion's planning, coordination and execution. The planning and coordinating for the invasion of Sicily began while the Allies were still fighting in North Africa. Despite the fact that much of the men, weapons and equipment required for the Sicily campaign were primarily still fighting in North Africa, planning efforts for Sicily continued, and 9 July 1943 was chosen as the day the invasion would begin.

The Allied invasion force would consist of a Western and Eastern task force. General Sir Bernard Montgomery commanded the Eastern task force (Eighth Army) and LTG Patton commanded the Western Task Force (Seventh Army). Seventh Army consisted primarily of LTG Omar Bradley's II Corps, whose initial role was to protect the left flank of Eighth Army.³⁸ Seventh Army's amphibious landing was to take place along a seventy-mile front in the Gulf of Gela. Its initial objectives were the port of Licata and the following airfields: Licata, Ponte Olivo, Biscari and Comiso. Upon seizing their initial objectives, both armies would then link-up and together seize the port of Catania and the Gerbini airfields.³⁹ The seizure of these airfields would

³⁷ Present at the January 1943 Casablanca Conference were US President Franklin D. Roosevelt, British Prime Minister Winston Churchill and Soviet leader Joseph Stalin. For some time Allied planners had been pondering various options for future operations. Churchill and the British Chiefs of Staff were firmly committed to a Mediterranean strategy which would not only exert pressure on the Axis (Germany, Italy and Japan) but which would support the Red Army by drawing German reinforcements away from the beleaguered Eastern Front. Moreover, Churchill was anxious to knock Mussolini and the Italians out of the war for good, and by nibbling away at the 'soft underbelly' of Germany the Prime Minister was buying time for the planning and preparation of a cross-Channel invasion of Northern France. D'Este, *Bitter Victory*, 18.

³⁸ D'Este, *Bitter Victory*, 151. After making contact with Eighth Army, Seventh Army and II Corps were to protect the airfields and Montgomery's left flank from enemy interference. Additionally, on 15 July, Patton established a Provisional Corps Headquarters which consisted of the 2d Armored Division and 9th Infantry Division in an effort to speed up his progress and continue his push inland.

³⁹ D'Este, *Bitter Victory*, 148.

provide basing and operational reach for the Allies once the invasion of the Italian mainland began.

In planning for the invasion, the US Seventh Army relied heavily on Colonel James Gavin's airborne knowledge and experience, particularly regarding the seizing of high ground near the army's landing sites. In an effort to fill the planning gap between Seventh Army and II Corps, the 82d Airborne planned to seize the high ground surrounding the amphibious landing sites. In his memoirs, General of the Army Omar Bradley explained that the task of planning and coordinating the airdrop fell to Seventh Army and became LTG Patton's responsibility in the American zone. Further, Bradley indicated that he wanted the paratroopers to occupy the high ground behind Gela where they could protect the beaches from counterattack. Bradley noted that where a beachhead is rimmed by high ground, the landing is always imperiled until the invader can secure it and secure the beaches against observed enemy fire.⁴⁰

Given that both Patton and Bradley wanted the paratroopers to protect the invasion beaches, Gavin fashioned and communicated a plan to the Seventh Army and II Corps staffs that enabled his paratroopers to do this, even against enemy armor. The key to Gavin's plan was to use the rugged, mountainous terrain to his advantage. His plan called for the seizing of a road junction about seven miles east of Gela and four miles inland from the beaches. This junction allowed Gavin to seal off the II Corps beaches from attacks from the east and northeast. Most important, securing this junction would cut one of Sicily's few major thoroughfares, Highway 115, which paralleled the island's southern coast. Without Highway 115, the enemy would have a difficult time shifting forces from the western part of the island to meet the Allied invasion in the east.⁴¹

⁴⁰ General of the Army Omar N. Bradley, *A Soldier's Story* (New York: Henry Holt and Company, 1951), 113.

⁴¹ LoFaro, *The Sword of St. Michael*, 69.

Throughout the winter and spring of 1943, Allied planners toiled over the Sicily invasion plan. The final plan, adopted in mid-May, called for simultaneous amphibious landings in the east, southeast, and south of the island. The plan also recognized the importance of securing Sicily's ports and airfields. The Sicily invasion plan called for Allied naval and air forces to neutralize enemy naval efforts and to gain air supremacy, as well as for the air forces to transport both American and British airborne and glider forces to their intended drop zones. Naval and air supremacy in and around Sicily gave the Allied land forces greater chance for success and accomplishing their mission.⁴² The mission was to secure Sicily's airfields and ports, through which the Allies could receive supplies after established onshore and ultimately "reduce the enemy presence on the island."⁴³

Through the coordinated planning efforts of Seventh Army, II Corps, and the 82d Airborne Division, Seventh Army's and II Corps' amphibious assault met little enemy resistance. By sealing off one of the major routes to the II Corps landing sites, the 82d Airborne helped it to build combat power when it was most vulnerable. In particular, Colonel Gavin's ability to understand the terrain and the enemy situation, as well as his ability to communicate his intentions to both his superiors and subordinates was paramount to the successful amphibious landings conducted by II Corps during the invasion of Sicily.⁴⁴

⁴² Edmund Ball, a staff officer in Fifth Army at the time of the Sicily invasion wrote, "We on the ground were not notified that the drop was to be made. Apparently the Navy ships over whom the flights passed were not notified and they fired on the C-47's coming in over the sea." The lack of planning and coordination between the Army, Navy, and Army Air Corps cost the 82d Airborne dearly during the parachute assault of the 504th PIR. It was one of the most terrible debacles of the whole war and is a classic example of what ought not to happen under a unified command but does in the confusion of war. The thorough investigation which followed the incident was at best inconclusive, but it did establish stringent guidelines for future operations that established 'safety corridors' ten miles in width. A practice which was enforced for both the Salerno and Normandy parachute drops. Edmund F. Ball, *Staff Officer with the Fifth Army: Sicily, Salerno and Anzio* (New York: Exposition Press, 1958), 162; D'Este, *Bitter Victory*, 309.

⁴³ LoFaro, *The Sword of St. Michael*, 59-60.

⁴⁴ D'Este, *Bitter Victory*, 253.

The planning and coordination which occurs between a corps and its higher and lower echelons is critical for mission success. Prior planning and coordination can help reduce some of the friction and problems that may appear on the battlefield. A review of the AEF's V Corps performance during the Meuse-Argonne offensive in 1918 and II Corps efforts in the 1943 invasion of Sicily highlight the planning and coordination required to execute combat operations involving large-scale formations and offer insight to planners into the intricacies and detailed planning required to execute combined arms operations in large-scale combat.⁴⁵

In planning for an operation or campaign, managing and allocating resources for subordinate units must be given careful consideration. The next section discusses the difficulties that the AEF experienced during the 1918 Meuse-Argonne offensive in managing and allocating resources for its formations.

⁴⁵ Major General Gary M. Brito and Major Keith T. Boring, "Disrupted, Degraded, Denied, but Dominant: The Future Multi-Domain Operational Environment," in *Deep Maneuver: Historical Case Studies of Maneuver in Large-Scale Combat Operations*, ed. Jack D. Kem (Fort Leavenworth, KS: Army University Press, 2018), 238. Army forces in the future will fight on more lethal battlefields in degraded conditions, as enemy adaptations and procurement of advanced technologies will allow successful disruption and denial of American advantages. The army must be capable of effectively projecting combat power beyond land into all domains as cross-domain maneuver. Army forces in the future may find themselves fighting semi-independently, better integrating reconnaissance and security operations and empowering leaders with disciplined initiative to fully realize mission command. These synergistic advances, with American technological innovation, will best ensure US forces overmatch and dominance against future enemies.

Corps Management and Allocation of Resources

Strategy includes the working out of its consequences. The ranks of martial authority from multiple star to modest chevron correspond to an ordering of reality in which plans produce orders, orders produce actions, and actions produce isolated episodes of swirling fury where the issue hands or falls on the skill and fortitude of individual human beings, under conditions of indescribable repulsiveness and stress.

—Eric Larrabee, *Commander-in-Chief*

Future war against peer or near-peer adversaries will require the US Army to fight for access to decisive physical spaces and gain positions of advantage from which campaign objectives will be achieved in pursuit of conflict termination and negotiated settlements. This position of advantage is a dynamic exchange of constructive, destructive, and informational activities that enable friendly forces freedom of maneuver while denying that of the enemy. This dynamic exchange of activity in future large-scale combat calls for a reimagined appreciation for integrating and synchronizing all elements of combat power at the tactical and operational levels, especially in the corps deep area.⁴⁶

During LSCO, the corps is responsible for the management and allocation of resources in its deep area.⁴⁷ Most often, the purpose of operations in the corps deep area is to set conditions for future events in time and space. Operations in the corps deep area involve efforts to prevent uncommitted enemy forces from being committed in a coherent manner. Planning for operations in the corps deep area includes considerations for information collection, airspace management,

⁴⁶ Major General Kent D. Savre, “Large-Scale Combat Operations: Mobility Operations in the Future,” in *Into The Breach: Historical Case Studies of Mobility Operations in Large-Scale Combat Operations*, ed. Florian L. Waitl (Fort Leavenworth, KS: Army University Press, 2018), 211.

⁴⁷ John Masters writes of his time fighting in Burma during WW II under Field-Marshal Slim and the importance of procuring and managing resources during that campaign. Masters writes, “There was a great sense of purpose in the air. Slim had transformed the forgotten 14th Army into a vivid extension of his own personality.” Slim’s 14th Army was near the bottom of the barrel for resources and supplies, with the priority being the European Theater of Operations (ETO). However, whatever was needed by his army and was not readily available, they made for themselves, i.e. roads, bridges, airfields, etc. John Masters, *The Road Past Mandalay* (London: Orion Books, 2002), 310.

joint fires, obstacle emplacement, maneuver (both air and ground), special operations, and information and deception operations.⁴⁸

The corps manages and allocates its resources by setting priorities to achieve its objectives. The corps uses management techniques to ensure it has the resources to shape the deep area and that its subordinate divisions and brigades have the necessary resources to accomplish their assigned missions. If needed, the corps can change the allocation of resources by condition or phase of an operation to switch between the priority of a main effort or shaping operations in the deep area.⁴⁹ A means by which to do this is through the use of ground-based and joint fires.

The employment of ground-based and joint fires is perhaps the most critical requirement for the army to optimize for LSCO because it directly counters the enemy's strength of its long-range fires and Integrated Air Defense Systems (IADS).⁵⁰ The corps depends on joint fires and maneuver provided by fixed-wing aircraft to support many of the corps' decisive, shaping, and

⁴⁸ US Army, FM 3-0, Glossary-8; US Army, FM 3-94, 4-21. The deep area is the portion of the commander's area of operations that is not assigned to subordinate units. A corps deep area generally extends beyond division boundaries out to the limits of the corps designated area of operations (AO). Operations in the corps' deep area might disrupt the movement of operational reserves, prevent enemy forces from employing long-range fires, or neutralize a portion of enemy integrated air defenses.

⁴⁹ US Army, FM 3-94, 4-22. A corps sets priorities to achieve objectives. A corps uses management techniques to ensure it has the resources to shape the deep area and that its subordinate divisions and brigades have the necessary resources to win in their assigned missions. Task-organizing the corps includes allocating assets to subordinate divisions and functional and multifunctional brigades, and establishing their command and support relationships. This occurs within tailored force packages as the corps organizes subordinate units for specific missions and employs doctrinal command and support relationships. As task-organizing continues, the corps reorganizes units for subsequent missions. The ability of a corps to task-organize gives it extraordinary agility by configuring its units to best use available resources. It also allows the corps to match unit capabilities to tasks. The ability of sustainment forces to tailor and task-organize ensures commanders have freedom of action to change with mission requirements.

⁵⁰ Major General Wilson A. Shoffner and Colonel Christopher D. Compton, "The Future of Fires: Dominating in Large-Scale Combat Operations," in *Lethal and Non-Lethal Fires: Historical Case Studies of Converging Cross-Domain Fires in Large-Scale Combat Operations*, ed. Thomas G. Bradbeer (Fort Leavenworth, KS: Army University Press, 2018), 206. At the corps level, effective multi-domain convergence includes employing the lethal fires capability of field artillery rockets and missiles and protective air missile defense capability along with non-lethal fires capability from intelligence, cyber, electronic-warfare and space. These capabilities allow a corps to be fully capable of executing core operational fires requirements such as Joint Suppression of Enemy Air Defenses (JSEAD), operational strike and shore-to-ship fires through enhance sensor-to-shooter linkages over an integrated fires network.

sustaining operations to include the US Air Force air functions of Intelligence, Surveillance and Reconnaissance (ISR); close air support; air interdiction; cyberspace and electromagnetic activities, and airlift missions.⁵¹ Fixed-wing apportionments and allocations from the Joint Force Commander (JFC) and the Joint Force Air Component Commander (JFACC) enable the corps and its subordinate units to accomplish their mission.⁵² The corps can then apportion and allocate fixed-wing assets based upon phases of the operation and main and supporting efforts.⁵³ The corps commander and staff distribute lethal and non-lethal fires assets through targeting, which allows the commander to manage and allocate lethal and non-lethal assets in the conduct of LSCO.⁵⁴

⁵¹ US Army, FM 3-94, 4-15; US Department of the Army, Army Techniques Publication (ATP) 3-09.32, *Multi-Service Tactics, Techniques, and Procedures For Joint Application of Firepower (JFIRE)* (Washington, DC: Government Printing Office, 2019), 169-170. Air interdiction is air operations conducted to divert, disrupt, delay, or destroy the enemy's military surface capabilities before they can be brought to bear effectively against friendly forces, or to otherwise achieve objectives that are conducted at such distances from friendly forces that detailed integration of each air mission with the fire and movement of friendly forces is not required. Close air support is the air action by aircraft against hostile targets that are in close proximity to friendly forces and that require detailed integration of each air mission with the fire and movement of those forces.

⁵² US Department of Defense, Joint Staff, Joint Publication (JP) 3-30, *Joint Air Operations* (Washington, DC: Government Publishing Office, 2019), II-1, II-2. The JFC has the authority to organize both assigned and attached forces to best accomplish the assigned mission. The JFC establishes subordinate commands, assigns responsibilities, establishes or delegates appropriate command relationships, and establishes coordinating instructions for subordinate commanders. The JFC normally designates a JFACC to establish unity of command and unity of effort for joint air operations. The JFC will normally assign JFACC responsibilities to the component commander having the preponderance of forces to be tasked and the ability to effectively plan, task, and control joint air operations. However, the JFC will always consider the mission, nature, and duration of the operation, force capabilities, and the C2 capabilities in selecting a commander.

⁵³ US Department of Defense, Joint Staff, Joint Publication (JP) 3-56.1, *Command and Control for Joint Air Operations* (Washington, DC: Government Publishing Office, 1994), IV-7, Glossary-5. Apportionment is the determination and assignment of the total expected effort by percentage and/or priority that should be devoted to the various air operations and/or geographic areas for a given period of time. Allocation is the translation of the apportionment into total numbers of sorties by aircraft type available for each operation/task.

⁵⁴ US Department of the Army, Army Techniques Publication (ATP) 3-60, *Targeting* (Washington, DC: Government Printing Office, 2015), Glossary-3. Targeting is the process of selecting and prioritizing targets and matching the appropriate response to them, considering operational requirements and capabilities.

Fires at the corps level must be integrated and synchronized through operational targeting and planning.⁵⁵ While different corps staff sections aid the commander in managing and allocating assets to shape and set conditions in the corps deep area, the corps fire support element (FSE) and intelligence section (G-2) execute much of the work necessary to set these conditions.⁵⁶ Through the use of the fire support coordination line (FSCL), attack guidance matrix (AGM) and high payoff target list (HPTL) the corps is able to manage its joint and surface-to-surface assets to set conditions for its subordinate units.⁵⁷ The corps commander, FSE and remainder of the staff integrate and synchronize the operations of its divisions and brigades in depth so that their timing multiplies their effectiveness across multiple domains throughout the corps area of operations (AO).⁵⁸

The ability of the corps commander and staff to manage and allocate resources for its subordinate units is integral to the success in the conduct of large-scale combat operations. An example is the AEF's logistical problems, which began in the United States in 1917 and carried

⁵⁵ Shoffner and Compton, "The Future of Fires," 207. To support the corps as a JTF, fires formations must be organized to maximize interoperability with JIIM partners. These capabilities give a corps headquarters what it does not have today, a force fires headquarters with the ability to engage the enemy beyond the FSCL at ranges well beyond current rocket and missile capabilities (~300km). The robust cross-domain fires capability, including the integrating functions residing within the headquarters, will provide a corps or JTF commander with true operational reach to strike peer adversaries attempting to engage US forces from standoff ranges.

⁵⁶ US Department of Defense, Joint Staff, Joint Publication (JP) 3-09, *Joint Fire Support* (Washington, DC: Government Publishing Office, 2019), Glossary-7. That section of the corps operations staff section responsible for targeting coordination and for integrating fires under the control or in support of the corps.

⁵⁷ US Joint Staff, JP 3-09, Glossary-6-7; US Army, ATP 3-60, Glossary-2. The fire support coordination line is a fire support coordination measure established by the land or amphibious force commander to support common objectives within an area of operation, beyond which all fires must be coordinated with affected commanders prior to engagement and, short of the line, all fires must be coordinated with the establishing commander prior to engagement, also known as the FSCL. The attack guidance matrix is a targeting product approved by the commander, which addresses the how and when targets are engaged and the desired effects. The high payoff target list is a prioritized list of high-payoff targets by phase of the operation.

⁵⁸ US Army, FM 3-94, 4-22. The timing could be simultaneous or sequenced in a way to maneuver friendly forces or compel enemy forces to move. A corps must consider its entire AO, enemy forces, and information collection activities as it synchronizes combat power to conduct operations that fix, suppress, or surprise enemy forces. Such actions help to hinder an enemy force's ability to react in a coherent fashion.

forward into France. Fortunately, determined leaders within the AEF, such as General John Pershing, Colonel George C. Marshall and Major General Charles Summerall, were able to correct some of the mismanagement of resources. In his memoirs, Marshall wrote of his time on the AEF staff where he learned how to get what he wanted with minimum friction and that it was his policy to make every minor concession without question, which usually resulted in settling the more important matters to his advantage.⁵⁹

Meuse-Argonne Offensive 1918

Prior to the Meuse-Argonne offensive commencing, the AEF needed to transport 500,000 troops, 900,000 tons of supplies and ammunition and 2,000 pieces of artillery from St. Mihiel to the Meuse-Argonne sector. The problem plaguing the AEF's leadership and logistical situation was that it only possessed 900 trucks in which to move all of its men, weapons, and equipment into the Meuse-Argonne, a number drastically lower than required. Many of the infantrymen had to walk the fifty miles from St. Mihiel to the Meuse-Argonne sector because no trucks were available to transport them. The trucks could make the move in a single night, but the horse-drawn vehicles took three to six days. According to Colonel George Marshall, the principal planner of the movement, shifting the artillery pieces was the hardest task to coordinate. Just the seventy-two artillery pieces of a single division took up nine miles of road space. Large numbers of critically needed horses died during the move.⁶⁰

Many of the logistical problems hampering the AEF's progress in France manifested themselves one year prior, before the AEF departed the United States for France. First, the US's

⁵⁹ Marshall, *Memoirs*, 152. Marshall notes that in dealing with the French Army staff over time, he learned how best to get what he wanted and with minimal friction and effort. This aided his ability to procure the necessary transport and supplies needed for the upcoming Meuse-Argonne offensive. Also, he notes that in movements of the magnitude of those which he was currently engaged (Meuse-Argonne offensive preparation), the initial order is merely a base of departure, subject to many amendments or modifications as the various complications of the numerous organizations concerned became apparent.

⁶⁰ Major General (Ret.) David T. Zabecki, *The Generals' War: Operational Level Command on the Western Front in 1918* (Bloomington, IN: Indiana University Press, 2018), 234-235.

shipbuilding capacity could not keep pace with the requirements to transport large numbers of troops to France. The total US transatlantic tonnage was only one million, and in 1917 there were hardly enough transport ships to carry more than a fraction of a large army to France. Fortunately, Great Britain and France came to the aid of the AEF and provided transport ships to bring AEF soldiers to France. The lack of ships adversely affected the American contribution to the war and when the Allies realized this, they did something about it. Early in 1918, fearful of a great German offensive, the British government removed ships from the Mediterranean and sent them to the US to bring over American divisions. However, with much of the space onboard the ships devoted to troops, little space remained for horses, mules, and trucks.⁶¹ This significantly hampered the AEF's logistical ability to resupply and reposition its forces once committed to battle in France.⁶²

Additionally, production of artillery was another mobilization failure. Major General Charles Summerall, who later commanded V Corps during the Meuse-Argonne offensive, an artillery officer, advocated for more artillery but to no avail. The AEF leadership allotted each division one artillery brigade, no more. During the Meuse-Argonne offensive, Summerall's position proved correct. In the first weeks of battle, the divisions needed more artillery and quickly outdistanced the range of the 75mm guns. These were short-range guns, and due to the lack of transport, it was difficult to reposition them in order to continue supporting the maneuver forces. The guns could not maneuver well on the poor roads and taking them through open terrain was awkward. Lastly, the army could have used many more 155mm howitzers and guns with

⁶¹ Ferrell, *America's Deadliest Battle*, 3-5.

⁶² Marshall, *Memoirs*, 149. The concentration of men, weapons and equipment from St. Mihiel to the Meuse-Argonne sector involved the movement of approximately 500,000 men and over 2,000 guns, not to mention 900,000 tons of supplies and ammunition. The bulk of the troops and guns had to be withdrawn from St. Mihiel, moved westward and then northward into the control zone for the Meuse-Argonne offensive. In general, only three roads were available for this movement. When one realizes that the 72 guns of a division occupy 15km of road space, an idea can be gained of the problem involved in the movement of 2,000.

longer ranges to better support the infantry and tanks. However, on 1 November 1918, artillery enabled one of Summerall's division's to sweep through the German defenses within its sector, destroying everything in the division's path to the enemy's defenses.⁶³

The Meuse-Argonne offensive stretched the AEF staff and its fledgling logisticians beyond what they would have believed possible.⁶⁴ The support structure was already understrength, especially for trucks and horses; the axis of advance for the offensive lay perpendicular to the standard gauge railroad meaning that the distance from the railheads increased with every tactical success. The AEF had limited use of a narrow-gauge railroad, but the principal means of resupply lay through miserable, muddy roads. The AEF's inexperience caused them to place engineers who might have repaired roads in the rear of the columns, creating massive traffic jams. Further, constant rain threatened to reverse progress at road repairs.⁶⁵

The absence of meaningful doctrine regarding the managing and allocating of resources for large formations affected the logistical and personnel activities throughout World War I. The experience of those years helps illustrate that doctrine does more than describe tactics,

⁶³ Ferrell, *America's Deadliest Battle*, 7-8; Nimmons, "Escaping No Man's Land," 83-84. Summerall implemented a counter-battery system to better prioritize and synchronize corps-level fires. Corps counter-battery freed divisional artillery to better support maneuvering infantry. When Summerall's two divisions became the point units in the attack of 1 November 1918, the First Army was under a new and imaginative artillery commander, and with the corps commander's delighted assent, he gave the 2nd Division three artillery brigades and the 89th two artillery brigades. This increased artillery capability resulted in the destruction of many of the German positions in front of the attacking divisions and enabled the infantry to move forward without opposition.

⁶⁴ Leo P. Hirrel, "World War I and the Emergence of Modern Army Sustainment," in *The Long Haul: Historical Case Studies of Mobility Operations in Large-Scale Combat Operations*, ed. Keith R. Beurskens (Fort Leavenworth, KS: Army University Press, 2018), 7. An example of the AEF learning to respond accordingly to the obstacles faced in WW I arose from the need to feed its troops under extended combat conditions. To prepare meals closer to the front, the Quartermaster Corps developed a rolling kitchen, essentially a cooking apparatus on wheels. To cover the final distance to the troops, the army created an insulated food container upon observing the French. In the event that poison gas or the pressures of combat prevented normal meals, the army used canned food. Lastly, fresh water was always needed at the front and the AEF improved upon European water purification methods by mounting the equipment on trucks in order to reach the troops at the front.

⁶⁵ Hirrel, "World War I and the Emergence of Modern Army Sustainment," 10; See *Organization of the American Expeditionary Forces* (Washington, DC: Government Printing Office, 1948), 344.

techniques, and procedures. It lays out tasks to be performed and allocates the resources for those tasks, including optimal ratio of support to combat soldier. It also describes the proper lines of authority. The AEF and World War I community had none of those advantages.⁶⁶

The AEF found itself in the Meuse-Argonne almost before it knew what was happening, and it reacted clumsily to what it was up against.⁶⁷ In terms of managing and allocating resources to its fighting formations, the AEF did not initially execute this well, but over time it began to figure it out before the armistice ended hostilities on 11 November 1918. A reason for this turnaround in events and better managing and allocating of resources came about from the revamping of the AEF staff structure. General Pershing implemented the staff system first into the AEF, and later into the army while serving as the chief of staff, after adopting it from the French military. It is the system the army uses today; G-1, personnel; G-2, intelligence; G-3, operations; G-4, logistics.⁶⁸

The managing and allocating of resources that occurs between the corps staff and its higher and lower echelons is critical for mission success. The proper managing and allocating of resources can help reduce much of the consternation that can appear on the battlefield. It can also help ensure mission success for subordinate units. A review of the AEF's managing and allocating of resources during the Meuse-Argonne offensive in 1918 highlight the complexities in executing combat operations involving large-scale formations.⁶⁹ In addition to managing and allocating resources, the corps must also shape operations ahead of its subordinate units in an

⁶⁶ Hirrel, "World War I and the Emergence of Modern Army Sustainment," 11.

⁶⁷ Ferrell, *America's Deadliest Battle*, 149.

⁶⁸ Zabecki, *The Generals' War*, 303.

⁶⁹ Marshall, *Memoirs*, 175. The short days and the frequent rains of this season in Northern France made it increasingly difficult to maintain an army in the open. The transportation of ammunition and supplies was rendered difficult over the water-soaked ground; the long cold nights were depressing to the troops, who were seldom dry and constantly under fire; and the normally leaden skies of the few daylight hours offered little to cheer the spirits of the men. Life became a succession of dangers, discomforts and hungers, with a continuous pressure being exerted on the individual to do more than he felt himself or his organization capable of accomplishing.

effort to set conditions for those units to be successful. The next section will focus on corps shaping operations.

Corps Shaping Operations

The bleaker the situation, with everything concentrating on a single, desperate attempt, the more readily cunning is joined to daring. Released from all future considerations, and liberated from thoughts of future retribution, boldness and cunning will be free to augment each other to the point of concentrating a faint glimmer of hope into a single beam of light which may yet kindle a flame.

—Carl von Clausewitz, *On War*

The basic function of the modern army corps has not changed significantly since World War II. Winton noted that the corps was to act as a flexible command module, to which the army commander could attach a variable number of maneuver divisions, artillery groups and other combat support assets with which to fight an extended portion of a major operation in accordance with the shifting requirements of a dynamic battlefield. Not only is the corps responsible for shaping and setting conditions for organizations that could potentially number anywhere from 50,000-80,000 soldiers.⁷⁰

In helping to shape and set conditions, the corps commander and staff have to take into account the relative capabilities of various types of divisions as well as the diverse human capabilities of the division commanders. The fluidity of the battlefield and the extended lead times required to move divisions into place means that the corps commander and staff have to anticipate emerging tactical requirements earlier than those of the corps commander's

⁷⁰ Before World War I, the corps had been a fixed organization. However, the early European experience of “wastage suffered by divisions in the line” led to the practice of withdrawing divisions for rest, refitting, and recuperation and inserting new divisions into the line. Thus, “a division could not remain in the same army, much less the same corps.” This organizational scheme was “forced on the American Expeditionary Forces” and retained after the war. Winton, *Corps Commanders of the Bulge*, 7n15, 8

subordinates in order to create conditions for the subordinate units' success.⁷¹ The 1942 *Field*

Service Regulations expressed the corps function as follows:

The corps is primarily a tactical unit of execution and maneuver. It consists of a headquarters, certain organic elements designated as corps troops, and a variable number of divisions allocated in accordance with the requirements of the situation. The composition of the corps will depend upon its mission, the terrain and the situation. The flexibility of its organization permits an increase or decrease in the size of the corps, or a change in the type of divisions and other nonorganic elements constituting the corps by the attachment or detachment of divisions and reinforcing units at any time during the operations.⁷²

Winton described the corps “as an anonymous entity, whose identities were amorphous. Further, the corps had no permanent structure, divisions, and supporting units shifted from one to another, often with bewildering speed. Even their designation by roman numerals made it just that much more difficult to tell them apart amid the I’s and X’s.”⁷³ However, despite the anonymity and amorphousness, the corps is still responsible to shape and set conditions for its subordinate divisions and enablers. According to Field Manual 3-94 (2014), the characteristics distinguishing corps operations from those of the division are scope and scale. Instead of focusing on tactical maneuver, the corps focuses on shaping conditions for its divisions by use of its assets, enablers, and leveraging joint capabilities.⁷⁴

⁷¹ In discussing his own elevation from command of the 82d Airborne Division to that of XVIII Airborne Corps, Matthew Ridgway described the mental and human dimensions of corps command as follows: “The corps commander is almost exclusively concerned with battle tactics. He is responsible for a large sector of the battle area, and all he must worry about in that zone is fighting. He must be a man of great flexibility of mind, for he may be fighting six divisions one day and one division the next as his higher commanders transfer divisions to and from his corps. He must be a man of tremendous physical stamina, too, anticipating where the hardest fighting is to come, and being there in person, ready to help his division commanders in any way he can.” Winton, *Corps Commanders of the Bulge*, 8.

⁷² Winton, *Corps Commanders of the Bulge*, 8n15; War Department, *Field Service Regulations: Larger Units* (Washington, D.C.: Government Printing Office, 1942), 56-57.

⁷³ Winton, *Corps Commanders of the Bulge*, xii.

⁷⁴ US Army, FM 3-94, 4-1. Joint capabilities are the primary means available to the corps commander for setting conditions and shaping the environment for division operations. The ability to conduct deliberate and dynamic targeting is a critical capability of the corps regardless of its assigned role. Likewise, the corps ability to comply with the theater airspace control plan, process subordinate unit airspace plans, and integrate organic and supporting airspace users is essential to executing operations in the air domain.

Large-scale combat operations require the corps to shape operations ahead of their subordinate divisions. The corps can employ different methods to shape operations, such as cyber and joint assets to disintegrate enemy systems and capabilities, such as the enemy's integrated fires command. Prior to, the corps task organizes its subordinate units with the necessary capability and capacity to achieve objectives and to weight the main effort. During their employment, the corps integrates and synchronizes the operations of its assigned divisions and brigades.

As the corps performs these functions, it prepares the formation to bring all of its capabilities and effects to bear on decisive points at each portion of an operation to accomplish its mission. The corps uses joint capability (both lethal and non-lethal) to facilitate many of these other functions, especially shaping operations and massing effects at decisive points.⁷⁵ The next section will discuss the use of Joint Forcible Entry (JFE) operations as a means to shape operations for subordinate units through diverting and disrupting enemy combat power and capabilities away from certain areas on the battlefield.

⁷⁵ Army fires systems are tasked to deliver fires in support of offensive and defensive operations to create specific lethal and non-lethal effects. To accomplish this, the fires warfighting function must accomplish three critical tasks: 1) deliver fires; 2) integrate all forms of army, joint and multinational fires; 3) conduct targeting. As commanders and leaders conduct decisive action during LSCO to seize, retain and exploit the initiative, fires weight the decisive operation or main effort to ensure mission success. This remains particularly important at the commencement of LSCO, as there is a high probability that US Army forces will need to defend against an enemy with locally superior capabilities. In LSCO, successful employment of American field artillery requires an array of forces that sets the conditions to mass, flexibility by adapting to conditions as they change in the operational environment, maneuverability to gain an advantage and synchronized action with maneuver forces to achieve greater effects. Major Jeffrey S. Wright, "The Kasserine Pass Battles: Learning to Employ Artillery Effectively in Large-Scale Combat Operations," in *Lethal and Non-Lethal Fires: Historical Case Studies of Converging Cross-Domain Fires in Large-Scale Combat Operations*, ed. Thomas G. Bradbeer (Fort Leavenworth, KS: Army University Press, 2018), 115; US Army, FM 3-94, 4-2; US Department of the Army, Army Doctrine Publication (ADP) 3-19, *Fires* (Washington, DC: Government Publishing Office, 2019), 1-8; US Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: Government Publishing Office, 2017), 5-5.

Joint Forcible Entry Operations

One way that the corps can divert and disrupt enemy combat power from a particular point or points is by conducting a joint forcible entry (JFE) operation or operations.⁷⁶ For the purposes of this paper, an airborne force in support of an amphibious landing force securing a beachhead will conduct joint forcible entry operations.⁷⁷ When properly planned, coordinated, and executed, JFE operations present the corps commander and staff with a viable option to divert and disrupt enemy combat power and capabilities away from a particular area(s).⁷⁸

Forcible entry demands careful planning and thorough preparation; synchronized, violent, and rapid execution; and leader initiative at every level to deal with friction, chance, and opportunity in order to rapidly exploit the initiative gained through conducting a forcible entry. Forcible entries can present an option when the US seeks to gain and maintain operational access in areas of strategic importance throughout the world. Operational access is the ability to project military force into an area with sufficient freedom of action to accomplish the mission. Operational access is the joint force contribution to a whole of government approach to assured access that includes, for example, the diplomatic and economic instruments of national power.⁷⁹

⁷⁶ US Department of Defense, Joint Staff, Joint Publication (JP) 3-18, *Joint Forcible Entry Operations* (Washington, DC: Government Publishing Office, 2018), Glossary-5. JP 3-18 defines forcible entry as seizing and holding of a military lodgment in the face of armed opposition or forcing access into a denied area to allow movement and maneuver to accomplish the mission.

⁷⁷ US Department of the Army, Field Manual (FM) 3-99, *Airborne and Air Assault Operations* (Washington, DC: Government Publishing Office, 2015), Glossary-5. FM 3-99 defines an airborne assault as the use of airborne forces to parachute into an objective area to attack and eliminate armed resistance and secure designated objectives. An airborne operation is defined as an operation involving the air movement into an objective area of combat forces and their logistic support for execution of a tactical, operational, or strategic mission.

⁷⁸ US Joint Staff, JP 3-18, I-1. Forcible entry operations are inherently joint in nature because there are many Service and functional component-unique forcible entry capabilities, techniques, and procedures the US has developed since World War II, primarily consisting of amphibious assault, airborne assault, air assault, and special operations. Despite these Service-oriented capabilities, techniques, and procedures, forcible entry operations are inherently joint as evidenced by the need for using resources (e.g., command and control [C2], transportation, sustainment) from all elements of the Department of Defense (DOD) and often other resources (e.g., multinational and other US Government departments and agencies).

⁷⁹ US Joint Staff, JP 3-18, I-1.

Joint forcible entry operations aim to seize and hold lodgments against armed opposition. A lodgment is a designated area in a hostile or potentially hostile operational area (OA) (such as an airhead, a beachhead, or combination thereof) that affords continuous landing of troops and materiel while providing maneuver space for subsequent operations. The lodgment and the means to seize a lodgment will depend upon the objectives of the operation or campaign.⁸⁰

Corps commanders and staffs executing a JFE operation should consider leveraging established basing, access, and security cooperation agreements, as well as the regional expertise developed through pre-crisis engagement activities at the national, regional, and local levels. Also, corps commanders and staffs must consider and plan for the shaping operations necessary in order to ensure mission success. They must also consider the operational access or lack thereof to the area(s) that needs seizing and securing, as well as neutralizing the enemy forces in and around the lodgment in order to facilitate the establishment of airheads and beachheads in an effort to provide for the immediate protection of the force. Next comes expanding the lodgment, managing the impact of environmental factors and finally, integrating supporting operations, such as the integration of special operations forces into the plan.⁸¹

Although conducting forcible entry comes with the expectation and due preparation for armed opposition, prudent commanders and staffs have always sought to conduct such operations in a manner that avoids enemy defenses to the greatest extent possible.⁸² Through the application of education, experience and the principles and considerations laid out in *JP 3-18*, commanders and staffs can facilitate the setting of conditions and risk mitigation to their formations in an effort to conduct successful forcible entry operations.

⁸⁰ US Joint Staff, JP 3-18, I-1; US Army, FM 3-99, 1-19.

⁸¹ US Joint Staff, JP 3-18, I-6. For more detailed information regarding some of the considerations when planning for joint forcible entry operations reference JP 3-18, pgs. I-5 - I-7.

⁸² US Joint Staff, JP 3-18, I-12.

A form of maneuver which the corps can employ when conducting JFE operations is a vertical envelopment. A vertical envelopment is a tactical maneuver in which troops that are air-dropped, air-landed, or inserted via air assault, attack the rear and flanks of a force, in effect cutting off or encircling the force. Commanders conduct vertical envelopment to occupy advantageous ground to shape the operational area and accelerate the momentum of the engagement. Furthermore, a vertical envelopment allows the commander to threaten enemy echelon support areas, causing the enemy to divert combat elements to protect vital bases or installations and hold key terrain or exploit combat power by increasing tactical mobility.⁸³

The Allied invasion of Sicily in July 1943 was the US military's first endeavor in using a parachute force as a corps level shaping operation by conducting a forcible entry ahead of the II Corps amphibious landings. The parachute force was able to draw German combat power away from the amphibious assault force. This provided the amphibious assault force time to build combat power and begin its march inland towards Palermo. This forcible entry example helps to illustrate the impact that a properly trained and led force can have on distracting enemy combat power away from a critical point on the battlefield.⁸⁴

Operation Husky (Sicily 1943)

As previously mentioned, in July 1943 Allied forces invaded the Italian island of Sicily. This was mainly due to the island's strategic importance in the Mediterranean and serving as the gateway to mainland Italy. In addition to its strategic importance, the island's resources were

⁸³ US Army, FM 3-99, 1-19. Vertical envelopment and airborne operations, allow a tactical commander to do the following: Threaten enemy echelon support areas, causing the enemy to divert combat elements to protect vital bases or installations and hold key terrain; Overcome distances quickly, overfly barriers, and bypass enemy defenses; Extend the area over which the commander can exert influence; Disperse reserve forces widely for survivability reasons while maintaining their capability for effective and rapid response; Exploit combat power by increasing tactical mobility.

⁸⁴ US Army, FM 3-99, 3-11. Airborne operations may be designed as a sudden attack in force to achieve decisive results or as a shaping operation to create and preserve conditions for the success of a larger operation or campaign. When planning indicates the future requirement for an airborne assault, appropriate shaping operations or activities emphasize identifying and neutralizing an enemy's anti-access capabilities.

crucial to the Axis war effort. Before the war, Sicily was the world's largest producer of Sulphur outside the United States. In 1940, Sicily produced about 500,000 tons and since then had supplied two-thirds of all this vital resource used by the Axis.⁸⁵

As mentioned previously, Sicily was the first major Allied airborne operation of the war, utilizing American and British airborne and glider forces, and like any radical new form of military endeavor it proved to be exceedingly crude.⁸⁶ The invasion plan called for II Corps to control a sizeable portion of the assaulting echelon (1st, 3rd, and 45th Infantry Divisions) and eventually the 82d Airborne upon its link-up with the 1st Infantry Division. II Corps had three primary tasks: first, capture the Ponte Olivo airfield; second, capture the Comiso and Biscari airfields; third, extend its beachhead from Mazzarino in the west to Vizzini in the east and gain contact with the Eighth Army.⁸⁷ Bradley assessed that he could handle one out of these three tasks without assistance from the 82d; the extending of his beachhead. However, he would rely heavily upon the 82d in helping him to accomplish his first two tasks; the capture of the airfields.⁸⁸

As previously stated, Colonel Gavin's 505th RCT parachuted into Sicily on the night of 9 July 1943 with the objective of securing the high-ground to the north and east of Gela in order to

⁸⁵ D'Este, *Bitter Victory*, 28, 148.

⁸⁶ D'Este, *Bitter Victory*, 241. The use of pathfinders to land first and mark the drop zones with homing devices had not yet evolved, nor had the employment of more sophisticated navigational aids used in later operations. Navigation was visual and thus subject to the vagaries of human error and the unpredictability of the weather. The use of pathfinders, homing devices and navigational aids would be corrected in subsequent airborne operations in Salerno and then later on in Normandy during the Allied cross-Channel invasion on 6 June 1944.

⁸⁷ Albert N. Garland and Howard M. Smyth, *Mediterranean Theater of Operations: Sicily and the Surrender of Italy*, US Army in World War II (Washington, DC: Center of Military History, 1986), 94, 98.

⁸⁸ Garland and Smyth, *Sicily and the Surrender of Italy*, 169-173. The appearance of Gavin's paratroopers drew attention away from Piano Lupo and the Gela beaches, where the entire 1st Division was continuing to come ashore. In addition, Gavin received additional paratroopers to his formations as they began making their way back to their units after the scattering of the jump. Gavin also received anti-tank weapons from the 45th Infantry Division which helped him in his attack of the *Hermann Goering Division*. The paratrooper stand on Biazzo Ridge prompted the Germans to change their plans regarding a breakthrough and their tanks never reached the II Corps beaches.

block a likely enemy approach from that direction and disrupt any enemy formations that may be moving towards the II Corps amphibious landing sites. Additionally, Gavin and his troopers were to disrupt enemy communications and assist the corps in the capturing of the Ponte Olivo airfield.⁸⁹ The parachute drop missed its intended drop zones and scattered paratroopers some 25-50 miles from the originally planned drop zones throughout southern Sicily.

Ironically, the scattered parachute drop aided the 505th's ability in shifting the enemy's focus and combat power away from the amphibious landing sites. Their purpose remained cutting enemy communication lines, diverting the enemy's attention and creating general havoc in areas where they were least expected to be. The result was fear and frustration in the Axis ranks and chaos and confusion in their headquarters. Italian and German soldiers alike could not or would not leave the safety of their bases at night because they believed they were surrounded by paratroopers who would ambush them if they did.⁹⁰ The chaos and confusion caused by the scattering of the 505th RCT resulted in keeping German and Italian troops away from the II Corps amphibious landing sites and enabled the build-up of combat power.⁹¹

In their efforts to divert and disrupt enemy combat power away from the Allied beaches, Colonel Gavin and his men engaged the *Hermann Goering Division* (10 and 11 July), primarily

⁸⁹ D'Este, *Bitter Victory*, 151-152.

⁹⁰ What none of the men of the 82d Airborne ever knew was what the Germans had to say about them. In a report issued by OB South on 20 July, the German High Command said: "Paratroops have greatly delayed the advance of our own troops and have inflicted considerable casualties on our troops. Small groups of parachutists who had jumped into overgrown country made themselves noticed in a particularly unpleasant manner. In the future this fact must be taken into account through the setting aside of security detachments in every formation for the purpose of guarding the zone of the advance and to give battle to appearing paratroops without creating a substantial delay of the marching troops." D'Este, *Bitter Victory*, 253; LoFaro, *The Sword of St. Michael*, 84-85.

⁹¹ Bradley highlighted in his memoirs that the dispersion of the 82d Airborne's parachute assault into Sicily was not wholly without its own reward. For the scattering of US airborne troops throughout that target corner panicked the enemy and caused them greatly to exaggerate the Allied strength. Paratrooper raiding parties plundered the countryside, demolishing bridges and severing the enemy's communications. Afterwards Patton was to estimate that, despite its miscarriage, the air drop speeded his ground advance inland by as much as 48 hours. Bradley, *A Soldier's Story*, 127.

composed of armor and mechanized infantry.⁹² This division formed the backbone of the Axis counterattack force trying to breakthrough to the Allied beaches. Gavin and his men began battling elements of the *Herman Goering Division* in and around the heights of Biazzo Ridge, as the enemy was on the march towards the Seventh Army's and II Corps amphibious landing sites. Gavin and his men captured the ridge and drove the remnants of the division away.⁹³

In one day of fighting, the 505th RCT beat back the Axis' primary counterattack force, the *Hermann Goering Division*, which lost more than one third of its armor capability. More important, the efforts of the 505th during 10 and 11 July helped break the will of the Axis commanders and any hopes that they had of breaking through to the Allied beaches.⁹⁴ With the arrival of Colonel Reuben Tucker's 504th Parachute Infantry Regiment, Lieutenant General Patton was able to bolster his airborne forces and continue to thwart enemy combat power away from the amphibious landing sites.⁹⁵

Operation Husky served as the proving ground for Allied forcible entry operations and the enemy was decidedly impressed with the Allies ability to conduct forcible entry operations. Forcible entry operations in Sicily significantly impeded the *Hermann Goering Division's* advance and helped to prevent it from promptly attacking the Allies after the amphibious landings

⁹² LoFaro, *The Sword of St. Michael*, 88. The paratroopers' armament consisted only of M-1 Garand rifles, Thompson submachine guns, grenades and bazookas. Later on, the paratroopers were able to procure anti-tank weapons from the 45th Infantry Division once the 45th came ashore.

⁹³ In a 1985 letter written by Gavin to D'Este, Gavin noted that "One of the most vigorous supporters of the airborne concept was the unflappable Bradley." Gavin recalled 'Bradley's excitement upon coming upon the Biazzo battlefield. He was particularly impressed by the knocked-out German Tiger tanks...After that experience, he insisted upon the paratroopers going in first.' Further, Bradley carried his commitment to airborne operations into the Normandy campaign. When the Allied air C-in-C, Air Chief Marshal Sir Trafford Leigh-Mallory, attempted to scrap the US airborne drops onto the Cotentin peninsula on grounds that they would lead to yet another disaster, Bradley resolutely refused, stating that he would not make the invasion without them. D'Este, *Bitter Victory*, 309n3.

⁹⁴ LoFaro, *The Sword of St. Michael*, 101n91.

⁹⁵ Bradley, *A Soldier's Story*, 132. Early in June Eisenhower had approved a plan to speed Patton's build-up on the beaches by flying the two remaining regiments of Ridgway's 82d Airborne Division into Sicily and dropping them behind our lines. This would give Patton all three combat commands of the 82d Airborne to be used as infantry in the first few days ashore. However, once the beachhead was safely established and the danger of counterattack had passed, the paratroopers were to go into reserve.

at Gela and elsewhere. The German airborne pioneer, Kurt Student, called the Allied airborne operations in Sicily decisive “despite the widely scattered drops which must be expected in a night landing,” for had it not been for the delay imposed on the *Hermann Goering Division* by American paratroopers, “that the division would have driven the initial seaborne forces back into the sea.”⁹⁶

Joint forcible entry operations, when properly planned, coordinated and executed offer the corps commander and staff an option to divert and disrupt enemy combat power and capabilities away from the corps main effort.⁹⁷ This allows the corps to build and mass its combat power. The forcible entry operation which preceded the II Corps amphibious assaults during Operation Husky, while not without its flaws and a great deal initially going wrong, showed that a forcible entry unit can dislodge and hamper enemy combat power from the friendly main effort and facilitate the massing and building of friendly combat power.

While planning, managing and allocating resources and shaping operations are important tasks for a corps to perform, education and training are equally important. The next section will focus on the peacetime professional military education and training that occurred during the interwar period. The majority of this education and training occurred at Fort Leavenworth, and focused on the lessons learned from the AEF’s experience in World War I, so as not to repeat the mistakes made in that war.

⁹⁶ LoFaro, *The Sword of St. Michael*, 124n90.

⁹⁷ US Army, FM 3-99, 1-1. A forcible entry operation is conducted to gain entry into the territory of an enemy by seizing a lodgment as rapidly as possible to enable the conduct of follow-on operations or conduct a singular operation. The operations must be designed to provide maneuver space for subsequent operations and drawing enemy combat power and capabilities away from a certain area(s).

Peacetime Professional Military Education and Training

A military historian recently asked me how the United States, indifferent and even contemptuous of the military in peacetime, had been able to produce a group of generals proficient enough to lead armies successfully against German might.... I am now convinced that the intensive and imaginative training at the Command and General Staff College had a great deal to do with it.... Most of us saw Armageddon as a certainty.

—Major General Ernie Harmon, *Combat Commander*, 1970

The development of a senior military commander is a complex undertaking that requires both institutional processes and individual effort.⁹⁸ The lessons from World War I, particularly the massive amounts of men and material needed to wage large-scale war, influenced the instruction of the army officer corps during the interwar period. Additionally, these officers earnestly desired to be prepared, and the motivation to distill the lessons of World War I so the next generation of army officers would not be condemned to repeat the mistakes of 1917 and 1918, were essential contributions to the nation's ability to win the next great struggle, whenever and wherever that might be.⁹⁹

Throughout the interwar period, many World War II general officers experienced time as both students and instructors at the Command and General Staff College (CGSC) and the Army War College. Throughout this time, the army officers during the interwar period expected to return to Europe to finish the “unfinished business of the world war” and also expected that the tactical and operational challenges of the 1918 Meuse-Argonne offensive would be repeated, in essence in the next Great War. For these officers, from the interwar period perspective, the most important thing to avoid at all costs was a repeat of the disasters and near-disasters that the AEF experienced in France in 1917 and 1918.¹⁰⁰

⁹⁸ Winton, *Corps Commanders of the Bulge*, 31.

⁹⁹ Schifferle, *America's School for War*, 188-189.

¹⁰⁰ Schifferle, *America's School for War*, 189.

The lessons from World War I influenced the instruction at Leavenworth from 1919 through World War II. Resonating throughout the halls and classrooms at Leavenworth was the overlap and continuity of the faculty, an abundance of World War I veterans themselves, and combined with the combat and noncombat experiences of student veterans, Leavenworth embraced the lessons of the war in France. However, despite focusing the Leavenworth curriculum on how best to avoid the mistakes of the AEF in France, one issue from World War I remained unresolved. It was the issue of whether to focus on teaching future commanders or teaching future staff officers and the preparedness of these officers to serve on a general staff.¹⁰¹

The inability to decide whether or not to focus on teaching future commanders vice teaching future staff officers actually assisted many of the division and corps commanders of World War II. The commander as the single animating force and solely responsible agent of and for his command dominated the interwar military psyche.¹⁰² Leavenworth students were continually informed that as general staff officers they needed to know everything the generals had to know so they could assist them with proper staff work. Further, as potential general officers, they were told they would need to know everything that their staff knew to better teach less qualified subordinates and to better appreciate the estimates and recommendations they would receive from a staff during combat.¹⁰³

Another factor that stood out in Army instruction on command was a type of mental acuity that rapidly and accurately captured the essence of complex situations. This skill, dreadfully absent in much of the Meuse-Argonne offensive, was mastered by the interwar army,

¹⁰¹ Schifferle, *America's School for War*, 189-190; Marshall, *Memoirs*, 7. Marshall wrote, one example of our unpreparedness for war was the fact that the staff of the division met for the first time aboard the boat which was transporting us to France. It was not until we were aboard the *Tenadores* that most of the staff was informed of the organization prescribed for the division of which we formed a part. Considering that we were starting on an expedition with an objective 3,000 miles across the sea, it seemed rather remarkable that we should have embarked without knowledge of the character of the organization we were to fight.

¹⁰² Winton, *Corps Commanders of the Bulge*, 27.

¹⁰³ Schifferle, *America's School for War*, 191.

primarily at Fort Leavenworth, and was put into effect during combat in World War II.¹⁰⁴ It is apparent that in the interwar period, the army actively strove to develop a concept of command that it believed would help equip it for another contest with a major adversary.¹⁰⁵

A commander's ability to understand their staff's functions and processes, as well as their competence and ability to train their staff remains paramount in today's army, just as it did in World War II.¹⁰⁶ An example of this is the actions taken by Field-Marshal William Slim in World War II upon taking corps command. In June 1942, Field-Marshal William Slim assumed command of 15 Indian Corps in the China, Burma and India Theater of operations. He noted the importance of his chief of staff, Brigadier Tony Scott, in helping to organize, rectify problems and provide purpose to the corps staff.¹⁰⁷

¹⁰⁴ Schifferle, *America's School for War*, 185.

¹⁰⁵ Winton, *Corps Commanders of the Bulge*, 27, 29.

¹⁰⁶ Slim wrote, "Meanwhile, we had really got down to training ourselves, the Corps Headquarters." He stressed the importance of having a battle fighting headquarters that is mobile and efficient, his was neither. First, he needed to make the individuals who composed his corps headquarters mobile. This included staff officers, signalers, cooks, clerks, mess waiters and menials. Physical training started the day, with route marches increasing in length and toughness as time went on. Slim noted, "It had been vividly impressed on me during the retreat from Burma that in the jungle there are no non-combatants, so, with the physical toughening, we introduced weapon training for everybody." The whole headquarters from the corps commander downwards went through qualifying courses in rifle, pistol, Bren gun, bayonet, mortar and grenade. Field-Marshal Viscount William Slim, *Defeat into Victory: Battling Japan in Burma and India, 1942-1945* (New York: Cooper Square Press, 2000), 138.

¹⁰⁷ Slim said of Scott, "with his judgment, energy and dash of the dramatic, was just the man to act as yeast in a rather lumpy headquarters and get it moving, physically and mentally." Slim also noted that upon first look, his headquarters had been static and not a fighting headquarters. It is hard to ask men, whose lives had for years been a matter of routine, to change not only the tempo of their work but their whole scale of values in it. Some staff officers can and do. Then their experience and sense of duty are invaluable. Some cannot, and the only thing then is to find some niche where they can still be useful; a mobile, live, fighting headquarters is no place for this type of staff officer. Slim, *Defeat into Victory*, 132.

Conclusion

I cannot understand these Americans. Each night we know that we have cut them to pieces, inflicted heavy casualties, mowed down their transport. But—in the morning, we are suddenly faced with fresh battalions, with complete replacements of men, machines, food, tools and weapons. This happens day after day.

—German division commander in Normandy,
quoted in Richard Overy, *Why the Allies Won*

As the US military continues into the 21st century, the US Army corps must remain postured to counter any global threats or contingencies across the domains of sea, air, land, cyber and space. The corps' planning and coordination with its higher, lower and lateral echelons, as well as the managing and allocating of resources, can help ensure success in a LSCO environment. Regardless of domain, if the corps is properly manned, trained and equipped, it can facilitate the success of those echelons assigned to it in LSCO by shaping and setting conditions. In addition, the corps can facilitate success through efforts to divert and disrupt enemy combat power and capabilities away from its main effort. Last, the peacetime education and training of army officers, particularly the studying of history, is important for success in LSCO.

Operational planning, as well as managing and allocating resources for its subordinate units rests upon the corps to accomplish. The AEF's 1918 Meuse-Argonne Offensive provides an example into what can happen when an operation is not properly planned or resourced. The Meuse-Argonne offensive claimed 26,277 American lives, mainly due to the American government failing to mobilize the economy for war and lack of training. Failure to mobilize meant that inadequate numbers of ships were available to transport soldiers to France. This inadequacy also hampered the shipping of trucks needed to transport the soldiers to the front once in France and keep them supplied. Once in France, AEF soldiers experienced open warfare, even

though they had been trained for and planned on conducting trench warfare, and before they could train on this new style of warfare, they were thrown into the Meuse-Argonne offensive.¹⁰⁸

The primary way that a corps enables its subordinate units' success is through the conduct of shaping operations and setting conditions prior to committing its formations to battle. In some instances, a subordinate unit assigned to the corps enables the corps to shape and set conditions through diversionary efforts. The corps can accomplish this through the execution of JFE operations. This occurred during the Allied invasion of Sicily in July 1943, in which the 82d Airborne Division conducted a nighttime parachute assault onto the island. This JFE operation created enough diversion and disruption to allow LTGs Patton and Bradley's forces to conduct a successful amphibious landing on the beaches at Gela. In the modern day LSCO fight, disrupting and diverting enemy combat power and capabilities, such as the degradation of enemy IADS, will be paramount for the conduct of successful JFE operations.¹⁰⁹

The shaping of a corps commander through peacetime professional military education and training is just as important as planning, managing and allocating resources and shaping operations for subordinate units' success. The use of interwar period instruction offered army officers the education and training required to be successful in large-scale combat during World

¹⁰⁸ In regards to the training of the AEF, Marshall wrote, "If General Pershing had waited until his troops were properly trained, the war would have carried on into 1919, while casualties by the thousands and tens of thousands mounted up, and billions were expended." Further, for many of the troops in the AEF the Meuse-Argonne offensive was their first experience in fighting. They had been required to operate in exceedingly difficult terrain, with a resulting disorganization in regiments and brigades. They suffered numerous casualties, and had become greatly fatigued mainly in part due to the novel and terrific experience they had undergone. It is likely that their exhaustion was more of nervous exhaustion rather than physical. The explanation for this is simple; there were virtually no veterans of major warfare in the regiments to assure them that their experience was typical of a battlefield. Ferrell, *America's Deadliest Battle*, 149; Marshall, *Memoirs*, 167-168.

¹⁰⁹ US Army, FM 3-99, 1-2. Counter-air integrates offensive and defensive operations to attain and maintain a desired degree of air superiority and protection in the operational area to protect the force during periods of critical vulnerability and to preserve lines of communications. At a minimum, the joint force must neutralize the enemy's offensive air and missile capability and air defenses to achieve local air superiority and protection over the planned lodgment. The joint force controls the air through integrated and synchronized air and missile defense operations. Air interdiction of enemy forces throughout the operational area enhances the simultaneity and depth of the forcible entry operation.

War II. The lessons learned by the AEF in World War I served as a reminder to the army officers in the interwar period of what can happen if not properly trained and prepared for future conflict.

As an example, in 1993, two years after the Gulf War, in a talk given at Fort Leavenworth, General (GEN) Fred Franks, commander of VII Corps during Operation Desert Storm listed the principles he believes should govern a commander in battle: getting the entire organization in the fight, maintaining a “balanced stance,” dealing face-to-face with subordinates, paying attention to logistics and reinforcing success.¹¹⁰ The army corps today must apply these same principles which guided the actions of General Franks and VII Corps during Operation Desert Storm as it prepares for a potential LSCO environment.

The US Army corps can win the fight in large-scale combat operations through shaping and setting conditions for its subordinate units. The lessons to ensure the success of the corps in LSCO have already been learned, dating back to World War I and the Meuse-Argonne offensive. The ability of the army to learn from past wars and experiences, as well as its ability to adapt to a changing battlefield environment, means that the corps, when properly manned, equipped and trained will accomplish its mission when called upon to execute large-scale combat operations.

Recommendations

Training

One recommendation in giving corps commanders and their staffs more exercise in commanding and controlling larger formations is to increase the scope and scale of the army’s current Warfighter Exercises. The scale, tempo, lethality and complexity of large-scale combat operations requires significant changes in how the army trains its forces at echelon to shape, prevent and prevail in LSCO, and consolidate gains to win against peer threats in contested

¹¹⁰ Richard M. Swain, “*Lucky War:*” *Third Army in Desert Storm* (Fort Leavenworth, KS: US Army Command and General Staff College Press, 2011), 338.

domains. Warfighters need to be much more robust and incorporate elements of the joint force, as well as interagency and multinational players.

A way to achieve this is by incorporating aspects of live, virtual, constructed and gaming approaches into the Warfighter execution. This would allow the corps commander and staff to exercise shaping and setting conditions in a contested environment all the way from departing home-station until mission complete, wherever and whenever that may be. Being able to take advantage of scheduled Combat Training Centers (CTC) rotations for Brigade-sized elements, with Division oversight, the corps can exercise command and control of its subordinate divisional units. In addition, virtual and gaming capabilities offer corps commanders and staff an opportunity to exercise commanding and controlling joint forces, as well as shaping and setting conditions with JIM assets without any of those entities having to be physically present at the corps' home-station, which helps to maximize training time.

Also, the army's Warfighter exercises provide an opportunity to practice the planning, coordinating and execution of JFE operations. One of the most significant challenges a corps will face in the current operational environment is forcing the enemy to react to friendly maneuver formations in order to expose enemy formations and capabilities to both lethal and non-lethal effects. Through careful planning, coordination and synchronization, a corps can accomplish this by conducting JFE operations using brigade-sized light infantry air assaults, airborne operations or a combination of the two. These attacks can potentially cause enemy forces to deploy from their defensive positions, improving the corps' ability to collect, acquire, and dynamically target enemy forces using joint fires. Further, these operations offer the corps staff an opportunity to work alongside joint and multinational partners in an effort to plan and coordinate the desired effects required for a successful JFE, such as suppression of enemy air defenses (SEAD) and adversarial cyber-electromagnetic degradation just to name a few.

Lastly, by making Warfighter exercises more robust in execution, it will allow corps commanders and their staffs to better plan for and allocate resources in a LSCO environment.

Through the use of live and virtual means, individual staff sections can practice exercising planning and allocating resources. As an example, through the use of the target working group and target decision board, the corps commander and corps fire support element allocate both surface-to-surface and air-to-surface fires to best support ground forces. In addition, through the use of virtual and constructed means, the corps sustainers can practice resupply operations for joint and multinational partners.

Professional Military Education (PME)

In preparing for large-scale combat operations, officers' attendance at PME courses will be very important. Courses such as the Command and General Staff College (CGSC), the School of Advanced Military Studies (SAMS) and the Army War College provide a venue in which to teach and prepare intermediate and senior level officers for LSCO. In preparing the future generation of officers for planning and executing LSCO, Dr. Schifferle summed it up best in the conclusion of his book, *America's School for War*, when he wrote:

The national decision not to maintain a large-unit readiness in the US Army, with resultant losses in the Philippines and the western Pacific, did not preclude the eventual victory in World War II. The sheer ability of the army, and the nascent Army Air Corps, to handle huge, newly built formations, the forces that eventually turned the tide in World War II, was learned during World War I and was saved from extinction during the interwar years at Leavenworth.¹¹¹

Studying and learning from the past can best prepare the army for the future.

¹¹¹ Schifferle, *America's School for War*, 196.

Bibliography

- Ball, Edmund F. *Staff Officer with the Fifth Army: Sicily, Salerno and Anzio*. New York: Exposition Press, 1958.
- Blumenson, Martin. *Breakout and Pursuit: U. S. Army in World War II (European Theater of Operations)*. Atlanta: Whitman Publishing, 1960.
- Bradley, Omar N. *A Soldier's Story*. New York: Henry Holt and Company, 1951.
- Brito, Gary M., and Keith T. Boring. "Disrupted, Degraded, Denied, but Dominant: The Future Multi-Domain Operational Environment." In *Deep Maneuver: Historical Case Studies of Maneuver in Large-Scale Combat Operations*, edited by Jack D. Kem, 233-239. Fort Leavenworth, KS: Army University Press, 2018.
- Bunting, Josiah. *The Lionheads*. New York: George Braziller, 1972.
- Delvaux, Steve. "The History of the Corps in the US Army." In *Essential to Success: Historical Case Studies in the Art of Command at Echelons Above Brigade*, edited by Joe R. Bailey and Kelvin Crow, 123-142. Fort Leavenworth, KS: Army University Press, 2017.
- D'Este, Carlo. *Bitter Victory (The Battle for Sicily, 1943)*. New York: HarperCollins, 1988.
- Ferrell, Robert H. *America's Deadliest Battle (Meuse-Argonne, 1918)*. Lawrence, KS: University Press of Kansas, 2007.
- Freedman, Lawrence. *Strategy*. New York: Oxford University Press, 2013.
- Garland, Albert N., and Howard M. Smyth. *Mediterranean Theater of Operations: Sicily and the Surrender of Italy, US Army in World War II*. Washington, DC: Center of Military History, 1986.
- Grant, Ulysses S. *The Complete Personal Memoirs of Ulysses S. Grant*. ReadaClassic.com, 2010.
- Hirrel, Leo P. "World War I and the Emergence of Modern Army Sustainment." In *The Long Haul: Historical Case Studies of Mobility Operations in Large-Scale Combat Operations*, edited by Keith R. Beurskens, 1-39. Fort Leavenworth, KS: Army University Press, 2018.
- Kotter, John P. *Power and Influence: Beyond Formal Authority*. New York: The Free Press, 1985.
- LoFaro, Guy A. *The Sword of St. Michael (The 82ND Airborne Division in World War II)*. Cambridge, MA: Da Capo Press, 2011.
- Marshall, George C. *Memoirs of My Services in the World War, 1917-1918*. Boston: Houghton Mifflin, 1976.
- Masters, John. *The Road Past Mandalay*. London: Orion Books, 2002.

- Nimmons, John M. "Escaping No Man's Land: Combined Arms Adaptation in the Meuse-Argonne." In *Bringing Order To Chaos: Historical Case Studies of Combined Arms Maneuver in Large-Scale Combat Operations*, edited by Peter J. Schifferle, 75-92. Fort Leavenworth, KS: Army University Press, 2018.
- Reardon, Mark J. *Victory at Mortain: Stopping Hitler's Panzer Counteroffensive*. Lawrence, KS: University Press of Kansas, 2002.
- Savre, Kent D. "Large-Scale Combat Operations: Mobility Operations in the Future." In *Into The Breach: Historical Case Studies of Mobility Operations in Large-Scale Combat Operations*, edited by Florian L. Waitl, 211-219. Fort Leavenworth, KS: Army University Press, 2018.
- Scott, Glen L. "Considerations for Deep Maneuver: Operation Crusader." In *Deep Maneuver: Historical Case Studies of Maneuver in Large-Scale Combat Operations*, edited by Jack D. Kem, 11-32. Fort Leavenworth, KS: Army University Press, 2018.
- Sears, Stephen W. *George B. McClellan: The Young Napoleon*. New York: Ticknor & Fields, 1988.
- Shoffner, Wilson A., and Christopher D. Compton. "The Future of Fires: Dominating in Large-Scale Combat Operations." In *Lethal and Non-Lethal Fires: Historical Case Studies of Converging Cross-Domain Fires in Large-Scale Combat Operations*, edited by Thomas G. Bradbeer, 203-209. Fort Leavenworth, KS: Army University Press, 2018.
- Slim, William S. *Defeat into Victory: Battling Japan in Burma and India, 1942-1945*. New York: Cooper Square Press, 2000.
- Schifferle, Peter J. *America's School for War: Fort Leavenworth, Officer Education, and Victory in World War II*. Lawrence, KS: University Press of Kansas, 2010.
- Swain, Richard M. *Lucky War (Third Army in Desert Storm)*. Fort Leavenworth, KS: US Army Command and Staff College Press, 2011.
- US Department of the Army. Army Doctrine Publication 3-19, *Fires*. Washington, DC: Government Publishing Office, 2019.
- . Field Manual 3-0, *Operations*. Washington, DC: Government Publishing Office, 2017.
- . Field Manual 3-09, *Fire Support and Field Artillery Operations*. Washington, DC: Government Publishing Office, 2020.
- . Field Manual 3-94, *Theater Army, Corps and Division Operations*. Washington, DC: Government Publishing Office, 2014.
- . Field Manual 3-99, *Airborne and Air Assault Operations*. Washington, DC: Government Publishing Office, 2015.
- . Field Manual 100-5, *Operations*. Washington, DC: Government Publishing Office, 1986.

- . Army Techniques Publication 3-09.32, *Multi-Service Tactics, Techniques, and Procedures For Joint Application of Firepower (JFIRE)*. Washington, DC: Government Printing Office, 2019.
- . Army Techniques Publication 3-09.90, *Division Artillery Operations And Fire Support For The Division*. Washington, DC: Government Printing Office, 2017.
- . Army Techniques Publication 3-60, *Targeting*. Washington, DC: Government Printing Office, 2015.
- US Department of Defense. Joint Staff. Joint Publication 3-0, *Joint Operations*. Washington, DC: Government Publishing Office, 2017.
- . Joint Publication 3-09, *Joint Fire Support*. Washington, DC: Government Publishing Office, 2019.
- . Joint Publication 3-18, *Joint Forcible Entry Operations*. Washington, DC: Government Publishing Office, 2017.
- . Joint Publication 3-30, *Joint Air Operations*. Washington, DC: Government Publishing Office, 2019.
- . Joint Publication 3-56.1, *Command and Control for Joint Air Operations*. Washington, DC: Government Publishing Office, 1994.
- Wilson, Charles M. *The Anatomy of Courage*. New York: Carroll & Graf, 2007.
- Wright, Jeffrey S. “The Kasserine Pass Battles: Learning to Employ Artillery Effectively in Large-Scale Combat Operations.” In *Lethal and Non-Lethal Fires: Historical Case Studies of Converging Cross-Domain Fires in Large-Scale Combat Operations*, edited by Thomas G. Bradbeer, 107-118. Fort Leavenworth, KS: Army University Press, 2018.
- Zabecki, David T. *The Generals’ War: Operational Level Command on the Western Front in 1918*. Bloomington, IN: Indiana University Press, 2018.