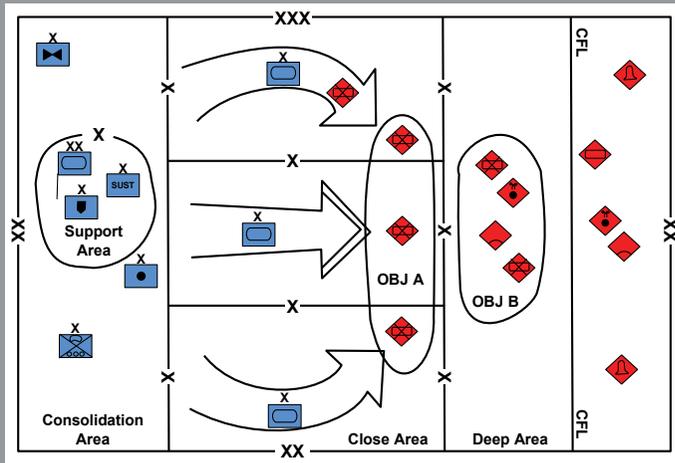# Large-Scale Combat Operations

The Division Fight

Edited by Dennis S. Burket

The Art of Tactics Series

US Army Command and General Staff College Press
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THE ART OF TACTICS SERIES

LARGE-SCALE COMBAT OPERATIONS
The Division Fight

Edited by Dennis S. Burket

Editor
Diane R. Walker

Foreword

In 1915, the Department of Military Art of the Army Service Schools at Fort Leavenworth, Kan., revised and published *Studies in Minor Tactics*. In the preface of this volume, Lt. Col. W. A. Holbrook, cavalry officer and senior instructor for the department, wrote: "It is believed this book will prove of great value to those officers seeking information as to the practical handling of small units in field operations, and of marked assistance to those preparing themselves for admission to The Army Service Schools."

More than 100 years later, the Department of Army Tactics (DTAC) aspires to deliver a volume of similar value as our Army orients on large-scale combat operations. In this inaugural contemporary compendium, several DTAC faculty members—representing both active-duty and retired Army officers—have put their ideas on paper to reinforce our emerging Operations doctrine and continue the professional discourse required to stimulate and improve our profession of arms.

The chapters in this volume are intentionally focused on large-scale combat operations at the division level. While there was no specific guidance to address any particular warfighting function, most of the work is oriented on mission command or movement and maneuver. There is a nod to fires and intelligence, as well as the broader areas of leadership and information within the elements of combat power. All chapters adhere to the aim of contributing to our body of knowledge and assisting the force.

A project of this type does not just happen, and I am grateful to the authors who chose to put themselves out there and to the many peers and colleagues who critically reviewed their work. I also wish to thank Dennis S. Burket, the current Gen. George S. Patton Jr. Chair of Tactical Studies, for his exceptional dedication to the quality and production of what we intend to be an ongoing publication from DTAC.

Jim Dunivan
Colonel, Armor
Former Director
Department of Tactics (DTAC)
US Army Command and General Staff College

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Introduction

The art of tactics *consists of three interrelated aspects: the creative and flexible array of means to accomplish missions, decision-making under conditions of uncertainty when faced with a thinking and adaptive enemy, and understanding the effects of combat on soldiers.*[1]
   —Army Doctrine Publication (ADP) 3-90, *Offense and Defense*

The Art of Tactics is a Department of Army Tactics (DTAC) series focused on warfighting at the brigade through corps echelons. The intended audience for this book is field grade officers who plan and execute ground combat operations. This first *Art of Tactics* volume is titled *Large-Scale Combat Operations: The Division Fight*. Chapters were written by DTAC faculty members then peer-reviewed by subject matter experts within or outside of the Tactics Department. Future volumes will have different themes, but all will be grounded in combined arms operations.

During the last two decades, our adversaries watched closely as the US Army shifted from a focus on conventional combined arms maneuver training to one of executing stability and counterinsurgency (COIN) operations, mainly in the US Central Command (CENTCOM) area of operations. While the US Army was adapting to fighting in this operational environment, our adversaries studied us and developed capabilities to counter conventional warfighting advantages we had taken for granted. The US Army decided that to counter emerging threats, it needed an updated operational doctrine that used existing technology, force structure, and capabilities.

In October of 2017, the US Army published a new version of its capstone doctrinal manual, Field Manual (FM) 3-0, *Operations*. This new doctrine returned the warfighting focus to large-scale combat operations (LSCO) against a peer threat and added the consolidation area to the operational framework. With this new doctrine came the need to shift the culture of the Army from its focus on stability and counterinsurgency operations to relearning the skills needed to conduct LSCO. The need to inculcate this change throughout the Army created the need for professional works such as this book.

This book serves several purposes. First, it will help inform the intended audience about the transition from stability operations to LSCO. Second, it will help the audience understand the division's fight against peer threats on an extended battlefield. And third, it will promote and

support the professional development of the Department of Army Tactics (DTAC) faculty.

This compendium is organized into eighteen stand-alone chapters. Each chapter was written by a different author with a different style and focus. Some used historical vignettes to better the reader's understanding, while others used graphics or quotes; all focused on how the division fights in large-scale combat operations.

Chapter 1, "The Evolution of the Division Formation," discusses the primary role of the division headquarters in large-scale combat operations as a tactical headquarters and how the division shapes operations for the subordinate brigades, resources the brigades for missions, and coordinates, synchronizes, and sequences operations in terms of time, space, and purpose.

Chapter 2, "Large-Scale Combat Operations: Relearning an Old Concept," describes the difference in characteristics between limited contingency operations and large-scale combat operations and examines a historical case study in which the characteristics of large-scale combat operations manifest themselves.

Chapter 3, "Operations in the Security Area," discusses security area operations as they pertain to large-scale combat operations and proposes potential near-term and long-range solutions to counter threat forces operating in this contested area.

Chapter 4, "Operational Framework: Enabling Tempo and Decision-Making," describes how a division commander can use the operational framework to delineate areas of responsibility as well as explaining the purposes of different activities, resource allocation, and what activities will occur in time, space, and purpose.

Chapter 5, "Consolidating Gains at the Division," focuses on current Army division doctrine for consolidating gains after large-scale combat operations and the utilization of the support area command post as a means to synchronize the various tactical tasks necessary to assist divisions with consolidating gains.

Chapter 6, "Division Intelligence: Looking Deep to Win Close," sets the context and perspective of intelligence support to a division and a division commander. It is a discussion of the role of intelligence in the resurgent division headquarters as a starting point for understanding how intelligence supports the division commander and subordinate brigade combat teams.

Chapter 7, "Fire Support in Division Large-Scale Combat Operations: Shifting the Focus from Counterinsurgency-Centric Fires," analyzes current US Army field artillery structure, doctrine, training, and manning. It compares and contrasts the similarities between a 1942 battle and now, with a specific focus on the Fires warfighting function in division-level operations in large-scale combat operations.

Chapter 8, "Information Operations at the Division Echelon," discusses the conduct of information operations according to the concepts of unified land operations as defined by the new FM 3-0, paying particular attention to the division echelon. It discusses the division as the lowest tactical echelon that has a robust enough staff and force structure to employ all aspects of information operations.

Chapter 9, "US Army Aviation- Setting Conditions and Creating Effects across the Operational Framework in Large-Scale Combat Operations," addresses how Army Aviation, a critical component of combined arms maneuver, must understand how to apply, integrate, and synchronize the capabilities of Army Aviation in large-scale combat operations. It explains how the transition to FM 3-0, *Operations*, must be most prevalent at the Army's primary tactical headquarters for commanding brigades in decisive action—the division.

Chapter 10, "The Return of Large-Scale Combat Operations: River Crossing Operations," revisits doctrine for the enduring mission requirement to conduct river crossings **i**n light of the new FM 3-0, *Operations*, and the focus on large-scale combat operations. Using a World War II example, it discusses training to prepare leaders to execute this difficult task.

Chapter 11, "Engineer Support to Large-Scale Defense Operations," explains how the unique capabilities of engineer organizations support defensive operations in large-scale combat operations through the examination of updated doctrine in FM 3-0, *Operations*, and the use of historical examples.

Chapter 12, "Mobility Operations in the Offense," examines new doctrine in FM 3-0, *Operations*, through the use of a historical vignette. This chapter discusses mobility operations in the offense and provides commander and staff considerations for planning and execution of those operations at the division and higher level.

Chapter 13, "Transitions: Adapting to Change in Division Large-Scale Operations," focuses on change as it relates to a division conducting large-scale combat operations. It looks at both transitioning from offensive

to defensive combat operations and the transition from defensive to offensive combat operations.

Chapter 14, "Living with the Dead: Casualties and Consequences in Large-Scale Combat," acknowledges the inevitable potential for massive numbers of casualties and unimaginably uncomfortable consequences that can and will likely occur, especially during the high-intensity chaos of large-scale combat operations. In preparing for war, we have a distinct obligation to prepare for the worst.

Chapter 15, "Controlling Chaos: Rethinking Mission Command," is about commanding divisions and corps in large-scale combat operations. Its purpose is to help commanders and staff officers think about how to command and control these formations in combat against capable near-peer competitors.

Chapter 16, "Mission Command and the Division Fight," discusses the philosophy of mission command and its role in large-scale combat operations. The first part of this chapter explores mission command. The second part provides an understanding of how mission command is incorporated into large-scale combat operations while examining the idea of initiative.

Chapter 17, "Interoperability in Large-Scale Combat Operations," describes interoperability in current doctrinal terms, illuminates interoperability friction points, and then briefly discusses the levels of interoperability. The reader will gain an understanding of how the Army, as part of the joint force, approaches interoperability.

Chapter 18, "The Division Fight in Urban Terrain," explains how a division fighting in a large-scale combat operation in an urban environment performs the same functions as a division performing in any other terrain. However, those functions differ depending on three variables: the dimensions of the urban terrain, the density of the urban terrain, and the higher order of effects of the urban terrain.

This book is dedicated to field grade officers who plan and execute ground combat operations.

Notes

1. Department of the Army, Army Doctrine Publication (ADP) 3-90 (Washington, DC: 2019), 1-9.

Chapter 1
The Evolution of the Division Formation
Dennis S. Burket

Throughout much of the history of the United States Army, the division formation has played a key wartime role. From the Civil War to current operations, our Army has fielded many different types and variations of combat divisions, each designed to defeat the threats of their time. Starting with the World War I division, the constant has been that these organizations were designed to be capable of executing independent operations. This first chapter provides context for the rest of the book by examining the current US Army division formation in terms of its roles and responsibilities in large-scale combat operations (LSCO).[1] The discussion begins with an overview of past division organizations and then explores current division organization roles and responsibilities—*what the division is and what it does*.

The Division-Based Army

The United States Army first used divisions during the Revolutionary War when Gen. George Washington created them as administrative commands.[2] During the Civil War, divisions supported corps and were numbered as such: 1st, 2nd, and 3rd division, but there were no tables of organization for divisions.[3] European armies were fielding permanent divisions by the 1890s, but there were no permanent US combat divisions until the National Defense Act of 1916.[4] Prior to 1916, division formations were created and then disbanded when no longer needed.

The 1905 version of the United States Army *Field Service Regulations* (FSR) is recognized as the first Combined Arms doctrine published by the US Army.[5] Previous to the 1905 FSR, US officers relied upon European doctrinal publications or doctrinal references that were published by individual army branches, i.e., the infantry, cavalry, or artillery.[6] The 1905 FSR pre-World War I division was both a tactical and an administrative unit that formed the basis of US Army organization. It was to be "complete in all its parts and capable of acting independently at any time."[7] Organized as regiments during peacetime, in time of war both regular and militia troops were to be organized into brigades, divisions, corps, and armies. Similar to the components of a current combat division, a 1905 division consisted of three brigades of infantry, one regiment of cavalry, nine batteries of field artillery, one battalion of engineers, one company of signal corps, four field hospitals, and associated supply trains.

The United States declared war on the Central Powers in April 1917 and the American Expeditionary Forces (AEF) begin arriving in France mid-1917. Prior to the deployment of US forces, the French and British armies sent delegations to the United States with the hope of coordinating for American forces to be integrated into other Allied units. The AEF commander, Gen. John J. Pershing, decided against this integration effort necessitating the design of a standardized AEF division and staff to quickly grow divisions capable of independent operations. By the end of the war in November 1918, the US Army had deployed forty-two divisions to fight in France.

General Pershing created divisions that were organized to maintain their momentum during offensive operations, not fight the attrition-style trench warfare that the British and French armies wanted the AEF to adopt. To accomplish this, Pershing chose to field divisions of 28,000 officers and men that were much larger than those of the other armies fighting on the western front. The WWI British division was about 15,000 officers and men while the French and German divisions were about 12,000 each.

The large AEF divisions consisted of two infantry brigades of two regiments each, a field artillery brigade of three regiments, three machine-gun battalions, an engineer battalion, and a signal battalion. Pershing developed a standardized division staff structure or table of organization for his divisions consisting of twenty-nine officers and 135 enlisted men. To meet the demand for staff officers experienced at planning and conducting corps and division-sized offensive operations, the Staff College at Fort Leavenworth was closed and replaced with the quickly created Army General Staff College (AGSC) in Langres, France. The AGSC conducted four courses during 1917–18, each about three months in length.[8]

The 1918 FSR grouped land forces under two headings: the *Mobile Army* and the Coast Artillery. The *Mobile Army* was designed for offensive operations in Europe and as its name implied, it was designed to have the maximum degree of mobility possible. The basis of organization for the mobile army was the division: "A division is a self-contained unit made up of all necessary arms and services, and complete in itself with every requirement for independent action incident to ordinary operations."[9] During WWI, sixty-four divisions were created following a numbering system that has continued with a few exceptions. The numbers one to twenty-five were reserved for the Regular Army; numbers twenty-six to forty-five for the National Guard; and numbers forty-six to 106 for the Army of the United States.[10]

Between WWI and WWII, the 1930 version of Field Manual (FM) 100-15, *Large Units*, described the composition and characteristics of an infantry division as:

[T]he unit by which the army corps executes its maneuvers and engages the enemy in battle. It is the basic large unit, of which the corps and armies are formed. It is the largest permanent unit. It is the largest unit in which officers learn to know one another well enough to form a closely knit organization. It is the smallest unit that is composed of all the essential arms and services, that is designed to be tactically and administratively self-sustaining, and that can conduct, by its own means, operations of general importance. . . . It is the organization which officers and men love and cherish and about which their recollections cluster in aftertimes. It is therefore the unit which promotes morale and a spirit of service. It forms a whole which should never be broken up.[11]

The 15 June 1944 version of FM 100-5, *Operations,* described the WWII infantry division as "the basis of organization of the field force" while the armored division was described as the "basic large armored unit of the combined arms."[12] Both were tactically and administratively self-contained and capable of independent action "to a considerable extent." The 1944 infantry division was designed with the ability to operate with other services and conduct combined arms operations "over a considerable period of time" and to "absorb reinforcing units easily." The armored division was designed for "offensive operations against hostile rear areas" and to execute "decisive missions" requiring great mobility and firepower. During WWII the US Army mobilized ninety-one divisions: sixty-one infantry, sixteen armored, five airborne, two cavalry, and one mountain.

During the Korean War, the US Army mobilized twenty divisions: fifteen infantry, two airborne, two armored, and one cavalry. Only eight of these divisions participated in combat on the Korean peninsula. These were triangular divisions that were designed like and fought like the divisions of WWII but were augmented with Korean soldiers in the ranks.[13] After the Korean War, Army Chief of Staff Gen. Matthew B. Ridgeway saw the need for divisions that were less vulnerable to "atomic" attack. He directed a new organization with divisions that were more mobile, flexible, and could sustain operations where organic units were farther distances apart.[14] One outcome of this redesign was the "pentomic division" that eliminated infantry regiments as tactical units and replaced them with flexible combined arms brigades.

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In 1961, President John F. Kennedy, no longer thinking that general nuclear war was likely, led in the creation of what became known as the doctrine of "flexible response:"

> I am directing the Secretary of Defense to undertake a reorganization and modernization of the Army's divisional structure, to increase its non-nuclear firepower, to improve its tactical mobility in any environment, to ensure its flexibility to meet any direct or indirect threat, to facilitate its coordination with our major allies, and to provide more modern mechanized divisions in Europe and bring their equipment up to date, and [provide] new airborne brigades to both the Pacific and Europe.[15]

The outcome of this reorganization was the end of pentomic divisions and the creation of divisions designed with a standardized base that could easily be tailored for specific threats with the addition of interchangeable infantry, mechanized, armor, or airborne battalions. These reorganization objective army divisions (ROAD) were popular with the Army because of the ability to tailor brigade-size task forces with a mix of combat battalions from within the division.[16] In 1965—the year President Lyndon B. Johnson committed Regular Army combat troops to South Vietnam—the Army had forty-five divisions: sixteen Regular Army (eight stationed overseas), twenty-three National Guard, and six Army Reserve.

During the Vietnam War years of 1965 to 1973, the ROAD concept of tailoring units for specific missions had been proven to be effective. After the war in Vietnam, the Army reverted to an all-volunteer force and transitioned to the "Total Army" which used National Guard battalions and brigades to "round out" Regular Army divisional units. By the end of 1978, the Army was organized as twenty-four divisions and twenty-four brigades.

Greatly influenced by the outcome of the 1973 Arab-Israeli War, the US Army adopted the *AirLand Battle* (ALB) doctrine with the publishing of the 1982 version on FM 100-5, *Operations*. The focus of ALB doctrine was simultaneous engagement of the first and second echelons of an attacking Soviet force. By the time of Operation Desert Storm in 1991, the "Big 5" weapons systems considered necessary to conduct ALB had been fielded, providing divisions with much greater firepower.[17] Seven US divisions, operating as part of two US corps, conducted large-scale operations using ALB doctrine during Operation Desert Storm with great success.[18] During Operation Iraqi Freedom in 2003, the US Army 3rd Infantry Division, operating as part of V Corps, conducted large-scale combat operations during "the march up country" using essentially the same ALB doctrine and equipment and again realizing great tactical success.

Conversion to a Brigade-Centric Force

In 2003, Army Chief of Staff Gen. Peter Schoomaker made the decision to convert the Army to a modular, brigade-based force.[19] Schoomaker's initial guidance included analyzing the possible elimination of one of the three echelons above brigade by consolidating the functions of the division, corps, and field army into two *Units of Employment*. After extensive analysis by Task Force Modularity, in October 2005 the decision to retain all three echelons was formally announced.[20] The Army soon became brigade-centric, optimized for stability and counterinsurgency (COIN) operations generated by way of the Force Generation Model.

Several reasons were given for changing from what had been a division-based force since WWI to a brigade-based force: 1) the brigade had become the planning and deployment echelon for Afghanistan and Iraq, 2) brigade combat teams (BCTs) were routinely being moved around in Iraq and placed under the operational control of different headquarters, 3) divisions often controlled BCTs that did not wear their division patch, and 4) the Army could grow from sixty-nine total maneuver brigades to between seventy-seven and eighty-two BCTs, helping reduce the tempo of operations—how much time BCTs had between deployments.

As early as 2009, officers deployed as part of Operation Iraqi Freedom recognized the need for a return to division-centric organizations:

> The Army is at a crossroads. Do we continue to remain fixated on brigade combat teams? Or do we expand our thinking to include not only combat teams but also divisions operating in complex and dynamic environments? We will continue to build, train, and deploy extremely capable brigade combat teams, but the Army must now give division-level operations their due by resourcing and shaping the modern division headquarters for full spectrum operations.[21]

Return to a Division-Based Force

In 2014, the Russian Federation attacked and then annexed part of the Ukraine. The tactics and techniques used by the Russians during this conflict and aggressive activities from countries like China, Iran, and North Korea alerted us that while our Army was executing COIN and stability operations in Iraq and Afghanistan, our adversaries had observed us and identified gaps in our ability to execute LSCO.[22] The four-year Combined Arms Center (CAC) LSCO Study determined that "the scale, tempo, lethality, and complexity of large-scale MD [multi-domain] combat operations required significant changes in how we equip, organize, and structure the force to

enable the Army to prevail against peer threats in contested domains—in both the fielded and future force."[23] Lt. Gen. Michael D. Lundy, CAC commander, explained, "The proliferation of advanced technologies, the adversary's emphasis on training and modernization, and the ever-increasing speed of human interaction make large-scale ground combat against a peer threat more likely today than at any point in the last two decades."[24]

In 2016, Gen. Mark A. Milley, US Army Chief of Staff, directed the US Army Training and Doctrine Command (TRADOC) to revise the capstone publication FM 3-0, *Operations* (2011), to provide the needed doctrinal basis for defeating peer enemies in LSCO.[25] The resulting publication of the October 2017 version of FM 3-0, *Operations*, returned the Army to a division-based force where the division once again operated as a fighting formation that employs subordinate units instead of only functioning as their stationary headquarters.[26] Because it was one of the Army's two capstone doctrine publications—the other being Field Manual (FM) 1, *The Army*—this version of FM 3-0 necessitated revisions of most of the other doctrinal publications.[27]

The Current Division Formation

Army Doctrine Publication (ADP) 3-0, *Operations*, published in July 2019 is the Army's current doctrinal basis for prevailing in LSCO. A departure from previous capstone manuals, this ADP 3-0 is focused on fighting in the current operational environment against current peer or near-peer adversaries.[28] Corps and subordinate divisions are again the primary tactical formations for the conduct of LSCO, a change from the modular organization where divisions were usually just stationary headquarters. No longer focused on a BCT-centric fight, corps and divisions with associated capabilities are now intended to be the *most decisive* organizations in LSCO.

The current division is organized to perform four roles: 1) as a tactical headquarters under a corps commanding brigades in decisive action (DA), 2) a platform around which joint and/or multinational headquarters can be formed, 3) an Army force (ARFOR) headquarters within a joint task force, and 4) a platform around which a Joint Task Force (JTF) can be formed for limited contingency operations.[29] Of these, the primary role for the division is the first one described: a tactical headquarters employing brigades in large-scale ground combat operations that combine continuous, simultaneous combinations of offensive, defensive, and stability tasks (decisive action).[30] Historical designations of current divisions do not always reflect the capabilities of subordinate forces task-organized under them (see Figure 1.1).[31]
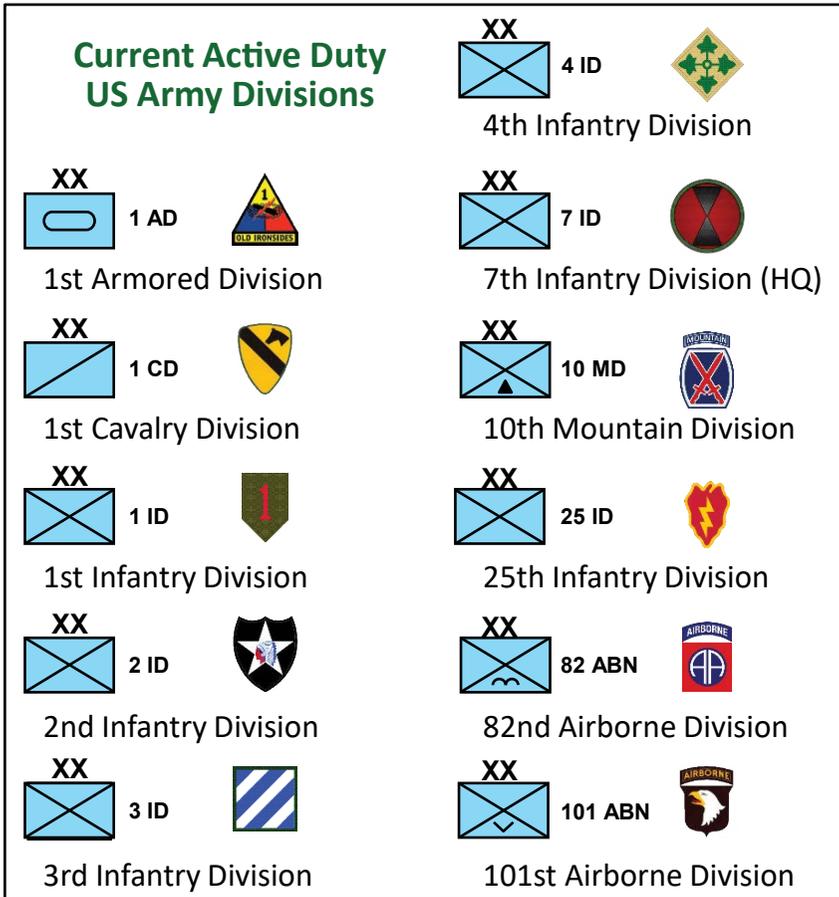
Figure 1.1 Current Active Duty US Army Divisions. Created by Damien E. Fosmoe.

Although there is no standard LSCO configuration for current divisions, to conduct independent combined arms operations the division requires division artillery (DIVARTY), a combat aviation brigade, an enhanced-military intelligence brigade (E-MIB), a maneuver enhancement brigade with engineer battalions, and a sustainment brigade. The higher corps commander determines the number and types of BCTs and allocates additional enabling capabilities needed based on assigned missions. Division formations have responsibilities associated with the conduct of large-scale combat operations:

• Conduct shaping operations within the division area of operations (AO).

• Task-organize and employ BCTs and multi-functional brigades.

• Integrate and synchronize operations of BCTs and multi-functional brigades.

• Mass effects at decisive points.

• Allocate resources and set priorities.

• Leverage joint capabilities.[32]

The division sets tactical conditions necessary for the success of its decisive operation by conducting shaping operations within its assigned AO. This includes shaping operations twenty-four to ninety-six hours out in time and space to attrit or destroy enemy forces not yet in contact with friendly units.[33] Divisions are capable of conducting multiple shaping operations simultaneously, each focused on achieving the purpose of the decisive operation. If the division designates a consolidation area, the higher corps provides an additional dedicated BCT. This BCT operates similar to a brigade tasked to conduct a follow-and-support mission; it defeats bypassed forces, controls key terrain and facilities, and secures population centers. These consolidation of gains operations provide freedom of action for units conducting the division's decisive, shaping, and sustainment operations and assist in maintaining momentum.

BCTs are the *striking power* of the US Army in combined arms operations. The division employs between two and five BCTs, nesting their purposes with that of the units conducting the decisive operation. Divisions task-organize and employ a mix of BCT types, both organic and those allocated from corps including National Guard units. The capabilities of multi-functional brigades are employed—providing mobility, protection, and sustainment assets needed to ensure momentum is maintained.

The division *integrates its capabilities* (the warfighting functions, WfFs) by way of integrating processes in order to *synchronize the actions* of subordinate units in time, space, and purpose to produce maximum relative combat power at a decisive place and time. Along with the integrating cells, the continuing integrating processes of the military decision making process (MDMP), intelligence preparation of the battlefield (IPB), information collection, targeting, risk management, and knowledge management (KM) ensure integration of all available capabilities. The division commander follows a *battle rhythm* of logically sequenced meetings where the output of one informs the next meeting and decisions are made based on the results of the integration processes and guidance is given for current and future operations.

Attacking decisive points is the way to access the enemy's center of gravity (COG). Divisions determine the decisive point(s) of the operation and mass the effects of combat power, not units to achieve it. The decisive operation is developed around an accessible decisive point. If the division lacks the needed operational reach to achieve a decisive point, it may have to conduct an operational pause to set conditions by building up needed overwhelming combat power. BCTs participating in the decisive operation are usually weighted by more combat power, given priority of Army and Joint enablers, or given a smaller frontage or AO in which to its focus combat power.

The division allocates resources and set priorities for its subordinate units. The division commander designates main and supporting efforts to establish clear priorities of support and resources among subordinate units and shifts them as necessary. According to the 2019 ADP 3-0, *Operations*, "The main effort is a designated subordinate unit whose mission at a given point in time is critical to overall mission success."[34] The main effort designation temporarily prioritizes support and resource allocation to meet the commander's intent. The unit with primary responsibility for the decisive operation becomes the main effort upon execution of the decisive operation.

Unified Land Operations is the Army's operational concept and contribution to unified action. The goal of unified land operations is to establish conditions that achieve the joint force commander's (JFC) end state by the application of landpower as part of unified action.[35] To accomplish this, the division leverages joint capabilities and is "the first echelon able to effectively plan and coordinate the employment of multi-domain capabilities across the operational framework."[36] The division conveys requirements through the corps for joint shaping and controls ground forces while synchronizing joint combat power in support of the JFC's goals.

The division formation has played a key wartime role since the beginning of our Army. It has continually evolved to meet the challenges presented by an ever-changing operational environment while remaining the largest independent tactical formation. During the Cold War years (2 September 1945 to 26 December 1991), the US was part of a strong North Atlantic Treaty Organization (NATO) and had forward-deployed divisions and corps in Europe. Now as part of an expeditionary army which is part of the joint force, the current division, as part of a corps, is organized to prevail in sustained ground combat against identified adversaries in the current operating environment.

Notes

1. Department of the Army, Field Manual (FM) 3-0, *Operations*, change 1 (Washington, DC: 2017), 2-13.

2. John B. Wilson, *Maneuver and Firepower: The Evolution of Divisions and Separate Brigades* (Washington, DC: Department of the Army, 1998), 3.

3. *United States Army Regulations of 1861 with an appendix containing the changes and laws affecting army regulations and articles of war to June 25, 1863* (Washington, DC: Government Printing Office, 1863), 480.

4. Russell Frank Weigley, *History of the United States Army,* vol. 323 (Bloomington, IN: Indiana University Press, 1984), 37–38.

5. Walter Edward Kretchik, *US Army Doctrine: From the American Revolution to the War on Terror* (Lawrence, KS: University Press of Kansas: 2011), 113.

6. Napoleonic concepts of organization were translated for use by American officers during the Civil War; see for example: Silas Casey, *Infantry Tactics: for the instruction, exercise, and manœuvres of the soldier, a company, line of skirmishers, battalion, brigade, or corps d'armée*, vol. 2 (New York: D. Van Nostrand, 1862).

7. War Department Document No. 241, *Field Service Regulations United States Army* (Washington, DC: Government Printing Office, 1905), 13.

8. James G. Harbord, *The American Expeditionary Forces: Its Organization and Accomplishments* (Evanston, IL: Evanston Publishing, 1929), 66–67.

9. War Department Document No. 475, *Field Service Regulations United States Army* (Washington, DC: Government Printing Office, 1918), 10.

10. Before conversion to regular army airborne units during WWII, the 82nd and 101st divisions were part of the Organized Reserve. Kent Roberts Greenfield et al., *United States Army in World War II: The Army Ground Forces: The Organization of Ground Combat Troops* (Washington, DC: Historical Division Department of the Army, 1947).

11. War Department, *A Manual for Commanders of Large Units (Provisional) Volume 1*, FM 100-15 (Washington, DC: Government Printing Office, 1930), 39.

12. War Department, Field Manual (FM) 100-5, *Field Service Regulations, Operations* (Washington, DC: Government Printing Office, 1944), 297 and 305 passim.

13. Wilson, *Maneuver and Firepower*, 240.

14. Wilson, 265.

15. From John Fitzgerald Kennedy's, "Special Message to the Congress on Urgent National Needs," on 25 May 1961, before a joint session of Congress, Section VI, Our own Military and Intelligence Shield; also known as the "Man on the Moon Speech." *Public Papers of the Presidents of the United States, John F. Kennedy: Containing the Public Messages, Speeches, and Statements of the President, January 20, 1961 to November 22, 1963* (Washington, DC: Government Printing Office, 1962).

16. Wilson, *Maneuver and Firepower*, 318.

17. The "Big 5" weapons systems consisted of the M1 Abrams tank, M2 Bradley Fighting Vehicle, AH-64 Apache Attack Helicopter, UH-60 Iroquois Utility Helicopter, and Patriot Air Defense Missile System. The Multiple Launch Rocket System (MLRS) was also fielded, but it was not part of the original "Big 5."

18. The XVIII Corps consisted of the 82nd Airborne Division, the 101st Airborne Division (AASLT), and the 24th Infantry Division (Mech). The VII Corps consisted of the 1st Armored Division, the 3rd Armored Division, the 1st Cavalry Division, and the 1st Infantry Division (Mech).

19. William M. Donnelly, *Transforming an Army at War: Designing the Modular Force, 1991–2005* (Washington, DC: US Army Center of Military History, 2007), 19.

20. Donnelly, 78.

21. Allen Batschelet, Gregory Meyer, and Mike Runey, "Breaking the Tactical Fixation: The Division's Role," *Military Review* 89, no. 6 (November–December 2009): 42.

22. Department of the Army, "Division Redesign, Operational and Organizational Concept 2020–2025," US Army Combined Arms Center and the Mission Command Center of Excellence, 22 August 2018, 2.

23. Combined Arms Center (CAC) Multi-Domain Large-Scale Combat Operations (LSCO) Study, to be published by CAC in October 2019. This classified study analyzed four years of data from training, current operations, and experimentation and identified capability/capacity gaps that must be addressed in current and future forces.

24. Department of the Army, "Division Redesign," 2.

25. Lt. Gen. Mike Lundy and Col. Rich Creed, "The Return of US Army Field Manual 3-0, *Operations*," *Military Review* 97, no.6 (November–December 2017): 14.

26. Department of the Army, FM 3-0, 2-13.

27. Department of the Army, Army Doctrine Publication (ADP) 1-01, *Doctrine Primer* (Washington, DC: 2019), 2-4 and v.

28. Lundy and Creed, "The Return of US Army Field Manual 3-0," 16. Peer and near-peer adversaries are Russia, China, Iran, and North Korea. FM 100-5 and AirLand Battle focused on one enemy, the USSR; previous iterations of FM 3-0 weren't focused on a specific adversary.

29. An example for #1: the way most US divisions fought during Operation Desert Storm and how the 3rd Infantry Division and the 101st Airborne Division (AASLT) fought in Operation Iraqi Freedom in 2003 during the "march up country." Regarding #2, a division can become a JFLCC headquarters commanding Marine Corps units if augmented with Marines. Examples for #4: Task Force 123, 82nd Airborne Division during Operation Urgent Fury in Grenada 1982, and the 10th Mountain Division, Combined Joint Task Force Mountain during Operation Enduring Freedom, 2001–02.

30. Department of the Army, Army Training Publication (ATP) 3-91, *Division Operations* (Washington, DC: October 2014), 1-1.

31. For example: the 1st Cavalry Division and the 101st Airborne Division.

32. Department of the Army, FM 3-0, 2-13.

33. The division inputs to the air tasking order (ATO) twenty-four to ninety-six hours out.

34. Department of the Army, Army Doctrine Publication (ADP) 3-0, *Operations* (Washington, DC: 2019), 4-6.

35. ADP 3-0, 3-1.

36. Lundy and Creed, "The Return of US Army Field Manual 3-0," 16.

Chapter 2

Large-Scale Combat Operations: Relearning an Old Concept

Lt. Col. James D. Scrogin

Over the last fifteen years the US Army's involvement in limited contingency operations (LCO) in Iraq and Afghanistan required the current cohort of field grade officers, commissioned between 2001 and 2007, to focus on executing stability and counterinsurgency (COIN) tasks. The tactical execution of those tasks was the primary responsibility of brigade combat teams (BCTs), while divisions and corps focused on the operational level of war. The introductory comments of the recently revised Field Manual (FM) 3-0, *Operations,* necessitate the current cohort of field grades to participate in a cultural shift: relearn an old concept and shift the focus for training and operations away from LCO to large-scale combat operations (LSCO).[1]

This chapter describes the difference in characteristics between LCO and LSCO and examines a historical case that exhibits and highlights the characteristics of LSCO. The case study illuminates the concept of LSCO and posits that its intrinsic characteristics, while potentially new to currently serving field grade officers, are not new concepts in the annals of maneuver warfare for the US Army. The observations and conclusions drawn from the case study will assist these officers in reorienting the US Army's operational focus to LSCO and shift training to support this new focus.

Necessitating this shift is the emergence of near-peer competitors who repeatedly demonstrate a proclivity to use their military forces aggressively in pursuit of their national strategic objectives. After closely studying American operations in Iraq and Afghanistan, Russia, China, Iran, and North Korea aggressively adapted, modernized, and developed capabilities with an eye toward surpassing, or at least achieving parity with, American advantages in technology, equipment, and training.[2] The publication of the new FM 3-0, *Operations*, was in response to the activities of Russia, China, Iran, and North Korea and the changes in the security environment. This latest iteration of the US Army's iconic operations manual provides a baseline doctrine for how Army forces, as part of a joint team with unified action partners, conducts large-scale combat operations.[3] FM 3-0 focuses on operations using current Army capabilities, formations, and technology. FM 3-0 also provides overarching fundamental principles describing how all echelons work together to successfully conduct operations across the spectrum of conflict, from limited contingency operations to large-scale ground combat operations.[4] Finally, FM 3-0 also introduces

the concept of working with joint partners, other military forces, and both governmental and nongovernmental organizations to consolidate gains in order to achieve strategic outcomes in today's operational environment.[5]

Limited Contingency Operations

When currently serving field grade officers entered the Army in the mid-2000s, training for operations in Iraq and Afghanistan centered on stability or COIN tasks. Operational experiences and lessons learned in Iraq and Afghanistan led to the 2006 publication of Field Manual (FM) 3-24, *Counterinsurgency*, the first new manual exclusively devoted to COIN operations in more than twenty years.[6] When the current cohort of field grade officers attended their basic officer leader course, training focused on major combat operations rather than LCO and did not reflect the reality of operations in Iraq or Afghanistan. Deploying almost immediately as platoon leaders into an operational environment for which they were unprepared, these officers learned "as they went" and essentially implemented the Army's just-published doctrine for the first time, many without having read the new doctrine first.

Shortly after the publication of the FM 3-24 and as current field grade officers were starting to show success in LCO using FM 3-24 in Iraq and Afghanistan, the Army published another new doctrinal field manual in October 2008, an updated Field Manual (FM) 3-07, *Stability Operations*. Again, the Army fielded an updated manual to help current field grade officers navigate the operational environment in Iraq and Afghanistan during the years 2006–12. FM 3-07 characterized stability operations as military operations to stabilize the environment long enough for the host nation to begin resolving the root causes of conflict and state failure.[7] As these field grade officers deployed to Iraq or Afghanistan, they began conducting operations in accordance with a lengthy list of stability tasks that generally fell into three categories:

• Tasks for which forces retain primary responsibility.

• Tasks for which civilian agencies or organizations likely retain responsibility but military forces are prepared to execute.

• Tasks for which civilian agencies or organizations retain primary responsibility.[8]

Doctrine writers at the Combined Arms Center eventually refined the list of stability tasks into the five primary stability tasks:

• Establish civil security.

• Establish civil control.

• Restore essential services.

• Support governance.

• Support economic and infrastructure development.[9]

As operations continued in Afghanistan and then resumed in Iraq in 2014, the stability tasks became the guiding framework for current field grade officers entering their captain years. The current cohort of field grade officers used these stability tasks, as well as the previously introduced COIN tasks, to prepare their units and themselves for operational deployment. In general, these tasks served the US Army well during LCO.

Experiences in Iraq and Afghanistan taught current field grade officers that LCO exhibited the following characteristics:

• US forces hold a relative position of advantage over their adversaries.

• Operations are methodical.

• Units of action are brigade or below.

• The largest forces at risk for catastrophic casualties are platoon sized or smaller.

• Tempo of operations is sporadic.

• Violence is episodic.

• Divisions and corps operate at the strategic and operational level.

• US forces hold domain superiority.

• Restrictive rules of engagement (ROE) are designed to protect the population and the infrastructure of the host nation.[10]

Field grade officers were prepared by their pre-commissioning sources (i.e., the United States Military Academy and the Reserve Officer Training Corps) to focus on major combat operations with the deliberate planning and execution of offensive and defensive tasks. During their operational deployments, they demonstrated an ability to think critically and creatively as they learned to adapt the new doctrine developed in response to LCO in Iraq and Afghanistan.

Large-Scale Combat Operations

In locations where the possibility of LSCO remains, the probability of it occurring in the very near future remains low in spite of the emergence, or re-emergence, of threats in the form of near-peer competitors: Russia, China, Iran, and North Korea.[11] However, the threat posed by these near-

peer competitors drove the introduction of the new FM 3-0 much like the LCO in Iraq and Afghanistan drove the introduction of new and updated FMs 3-24 and 3-07. In the case of LSCO, current field grade officers can expect to find themselves conducting operations characterized by the following conditions:

• Operations conducted at an accelerated tempo as both sides attempt to gain or maintain the initiative.

• An environment of chaos.

• Starting from a position of disadvantage, reacting to an attack conducted by a near-peer adversary that US forces will have to reverse.

• Conflict across all domains: air, land, sea, space, and cyber.

• Exponential lethality when fighting against a near-peer adversary, putting brigades and battalions at risk for catastrophic casualties.

• Units of action that are echelons above brigade—corps and divisions.

• ROE that is more permissive than in LCO.

• Operations conducted in conjunction with coalition partners, including the attachment of advisors and enabling units to coalition formations.

• An operational framework that includes a consolidation area, which is a designated portion of the commander's area of operations designed to facilitate stability or COIN tasks that allow freedom of action in the close area and to support the consolidation of gains made by LSCO.[12]

In addition to these characteristics, the FM 3-0 writers envisioned an environment where US Army forces defeat the enemy in order to achieve campaign objectives and national strategic goals after the commencement of hostilities.[13] In order to defeat near-peer threats, US Army forces conduct decisive action to seize, retain, and exploit the initiative and consolidate gains. Decisive action involves the simultaneous orchestration of many unit actions across multiple domains in order to defeat a near peer.[14] While conducting LSCO, the demands to orchestrate unit actions will consume the efforts of those field grade officers who serve on tactical staffs.

FM 3-0 uses multiple historical case studies and vignettes to illustrate key points that the doctrine writers are trying to make. The remainder of this chapter will apply the characteristics of LSCO, in the order previously listed in this chapter, to a historical case study in order to illustrate that these characteristics are not a new concept.

The Summer of 1950—The First Ninety Days of the Korean War

The possibility of LSCO on the Korean peninsula provides the opportunity to examine the 1950–53 Korean War, specifically, the first ninety days of the conflict during the summer of 1950, for the purpose of applying the doctrine included in the new FM 3-0. This will allow a better understanding of the doctrine and its implications. This timeframe includes the surprise invasion of South Korea by the North Korean People's Army (NKPA), the US Eighth Army's desperate defense of the Pusan Perimeter, the landing at Inchon by the US X Corps, and the subsequent transition of US and United Nation (UN) forces from defense to offense. Despite these events taking place more than a half century ago, the congruence of the war's early characteristics with those of the contemporary battlefield described by the writers of the new FM 3-0 warrants an analysis to draw parallels between what is "old" and what is "new" in an effort to present the new doctrine relative to its application to the past.

Operations Conducted at an Accelerated Tempo

Army Doctrine Reference Publication (ADRP) 3-0, *Operations*, published in November 2016 describes tempo as the relative speed and rhythm of military operations over time with the respect to the enemy.[15] According to US Army doctrine, rapid tempo serves to overwhelm an enemy's ability to counter friendly actions; by controlling tempo, commanders can maintain the initiative while controlling events and denying the enemy a position of advantage.[16] There is more to tempo than speed. While speed can be important, the US Army aims to mitigate speed to achieve endurance and optimize operational reach.[17]

During the Korean War, North Korean forces initially seized the initiative by operating at an accelerated tempo. In the early morning hours of Sunday, 25 June 1950, ten NKPA divisions initiated a surprise attack across the 38th parallel in a series of blows across the Korean peninsula that progressed from west to east and caught the Republic of Korea (ROK) Army by surprise.[18] The timing of the attack, on a Sunday morning, caught many ROK officers and their American advisors away from their frontline units on pass in Seoul or other cities.[19] The lack of present leadership, coupled with the fact that the NKPA knew the location of every ROK unit, contributed to the early success of the NKPA as they drove south toward the ROK capital at Seoul.[20] By the end of June, Seoul was in the hands of the NKPA while their forces continued to advance south, pushing the ROK Army and recently introduced US Army units into the "Pusan Perimeter,"

a natural defensive perimeter around the southeastern corner of the Korean peninsula with the port city of Pusan at its far southeast corner.
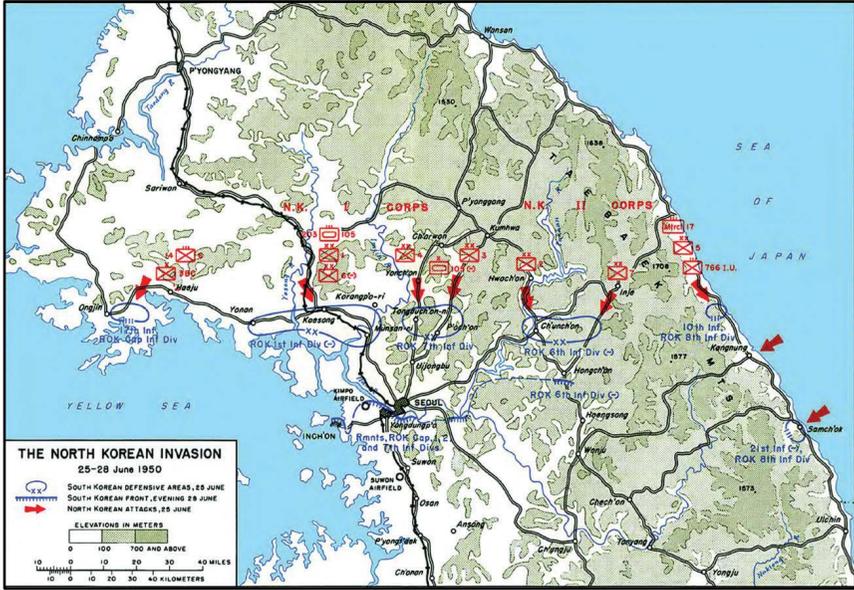
Figure 2.1. The NKPA Seizes the Initiative. From Robert K. Sawyer, *Military Advisors in Korea: KMAG In Peace And War* (Washington, DC: US Army Center of Military History, 1992), 115.

In order to regain the initiative, General Douglas MacArthur, the commanding general of all UN forces in Korea, came up with an audacious plan to launch an amphibious landing just south of Seoul at the port city of Inchon. Considered the most brilliant stroke of the Korean War, US X Corps landed at Inchon on 15 September 1950.[21] The landing force, consisting of 70,000 hastily assembled troops from the US 1st Marine Division with an attached ROK Special Marine unit and the US 7th Infantry Division, faced little resistance in its effort to establish a beachhead. Within twenty-four hours, the 1st Marine Division encircled Inchon.[22] As the ROK Special Marines began "mopping up" operations, the 1st Marine Division began advancing on Seoul, only eighteen miles away.[23] As the 1st Marine Division moved inland, the 7th Infantry started unloading at Inchon and moved to the 1st Marine Division's right flank to secure the US X Corps southern flank in order to prevent the NKPA from re-tasking a unit that was assaulting the Pusan Perimeter to attempt to repulse the X Corps landings.[24]

Figure 2.2. The Pusan Perimeter. From Roy Appleman, *South to the Naktong, North to the Yalu: United States Army in the Korean War* (Washington, DC: US Army Center of Military History, 1992), 236.

Only seven days after the landings at Inchon, on 22 September 1950, US Eighth Army commander Gen. Walton Walker detected a decrease in the tempo of NKPA attacks along his front and ordered his units to break out of the Pusan Perimeter:

Enemy resistance has deteriorated along the EUSA [Eighth US Army] front permitting the assumption of a general offensive from present positions. In view of this situation it is mandatory

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that all efforts be directed toward the destruction of the enemy by effecting deep penetrations, fully exploiting enemy weaknesses, and through the conduct of enveloping or encircling maneuver get astride enemy lines of withdrawal to cut his attempted retreat and destroy him.[25]
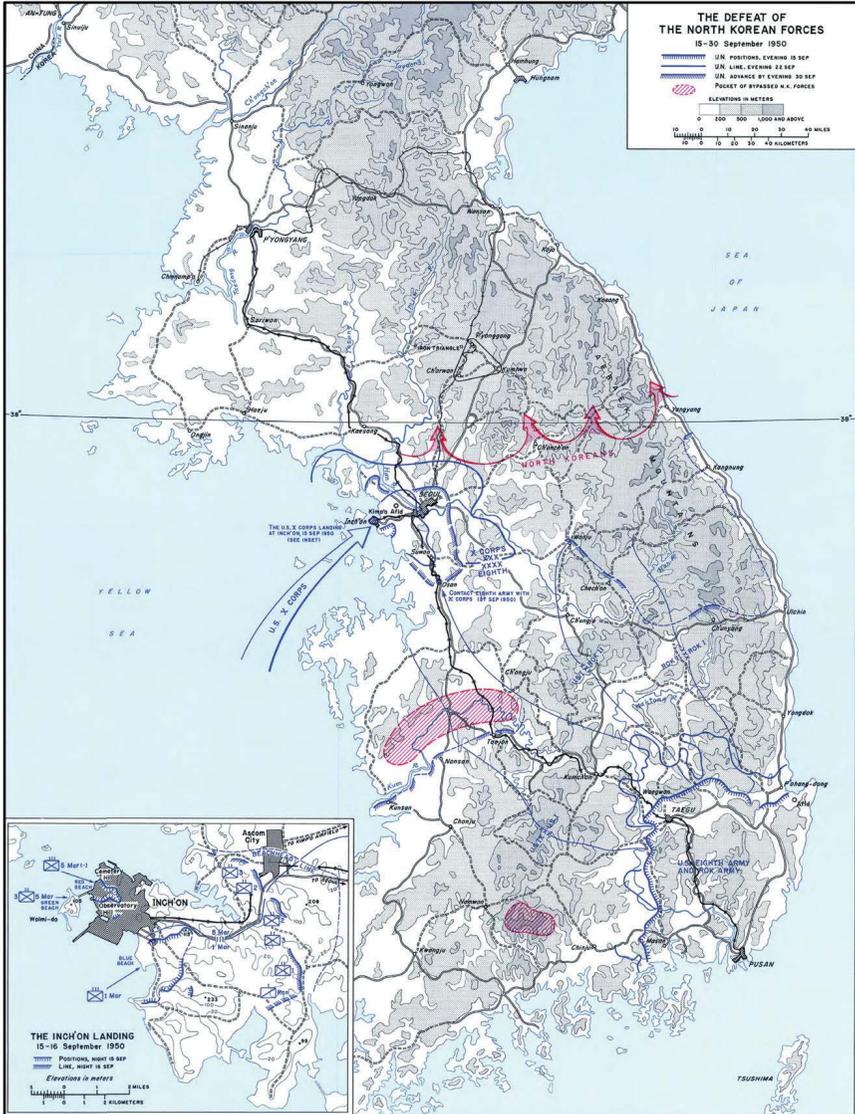
Figure 2.3. United Nations Forces Set the Tempo. From James F. Schnabel, *Policy and Direction: The First Year; United States Army in the Korean War* (Washington, DC: US Army Center of Military History, 1992), 173.

The newly formed US I Corps, consisting of the US 1st Cavalry Division, US 24th Infantry Division, ROK 1st Division, United Kingdom (UK) 27th Infantry Brigade, and US 5th Regimental Combat Team, was the US Eighth Army's main effort with orders to attack through the towns of Taegu, Kumch'on, Taejon, and Suwon.[26] The axis of advance given to the I Corps allowed the Eighth Army to link up with X Corps just south of Seoul near Osan.[27] On 28 September 1950, elements of X Corps crushed the last NKPA attempts to hold Seoul. Just a few days after the recapture of Seoul, US and ROK forces destroyed the last NKPA units in South Korea near Uijonbu. In the span of two weeks, General MacArthur had enveloped the NKPA, seized the initiative, forced the NKPA to react to the tempo of UN forces, and destroyed the offensive capability of NKPA units in South Korea.

An Environment of Hyper-Active Chaos

Chaos is defined as a state of utter confusion, a state of things in which chance is supreme, or the inherent unpredictability of a complex natural system.[28] The definition of chaos as a state of things in which chance is supreme parallels Prussian military theorist Carl von Clausewitz's dictum that war is the realm of chance.[29] Continuing with the theme of chance, Clausewitz also states: "Everything in war is simple, but the simplest thing is difficult. The difficulties accumulate and end by producing friction. This tremendous friction . . . is everywhere in contact with chance."[30] This is the key to the characterization of large-scale combat as an environment dominated by chaos brought on by an accelerated tempo of operations. In theory, LSCO is simple to plan, but the friction caused by difficulties inherent to chaos makes LSCO planning complicated. Current field grade officers will benefit from understanding these difficulties. The Korean War provides clear examples of the difficulties derived from chaos.

As the NKPA rolled across the 38th parallel, chaos in the form of confusion and panic gripped the higher echelons of the ROK military and government. A senior member of the ROK Ministry of Defense ordered the destruction of the bridges across the Han River, located just south of Seoul.[31] This order countermanded an earlier agreement between Col. William Wright, Chief of Staff for the US Korean Military Advisor Group (KMAG), and Maj. Gen. Chae Byong Duk, Deputy Commander of the ROK Armed Forces, to not blow the bridges until NKPA tanks appeared on the streets in front of the ROK Army headquarters.[32] KMAG officers attempted to stop the destruction of the bridges, but they were too late. In the early morning hours of 28 June 1950, explosives set by ROK sappers

destroyed the bridges and trapped the majority of the ROK Army on the north side of the Han River with their backs to the river and the NKPA to their front.

To counter the NKPA's advance down the Korean peninsula and to bolster the ROK Army, the US Eighth Army—then headquartered in Japan—ordered its 24th Infantry Division to send a battalion to Korea. A delaying action by this battalion would allow US and UN forces to arrive in the Pusan area, prepare a defense, and prepare a counter attack. For this task, Maj. Gen. William Dean, 24th Infantry Division commander, chose the 1st Battalion, 21st Infantry Regiment. Dean's mission type orders to Lt. Col. Charles Smith, the 1-21st's battalion commander:

> Get to Pusan, and head for Taejon. Stop the NKPA as far from Pusan as you can. Block the main road as far north as possible. Make contact with Major General Church, who General MacArthur had sent forward to South Korea on his behalf to conduct an assessment. If you can't find him, go to Taejon and beyond if you can. Sorry I can't give you more information—that's all I have.[33]

The 1st Battalion, 21st Infantry Regiment, known as Task Force Smith, arrived in Pusan on 1 July and began movement toward the advancing NKPA forces. This understrength battalion, two companies instead of the required three, with a supporting US artillery battalion moved north to the vicinity of the village of Osan. Task Force Smith, the most combat-ready battalion in the 24th Infantry Division at the time, was comprised primarily of eighteen- and nineteen-year-old soldiers with no combat experience and only eight weeks of basic training.[34] To accomplish its mission, Task Force Smith was only equipped with six obsolete M9A1 bazookas, two 75-mm recoilless rifles, two 4.2-inch mortars, four 60-mm mortars, and standard-issue infantry rifles and side arms.[35] On 5 July 1950, Task Force Smith encountered lead elements of the NKPA advance. Task Force Smith initially engaged the tanks of the NKPA's 105th Armored Division and found that their bazookas and recoilless rifles were ineffective against the T-34s fielded by the NKPA.[36] Thinking they were up against only a small force, the 105th Armored Division made no real attempt to engage the task force infantry and continued their attack south.[37] As the 105th Armored Division continued driving south, it encountered Task Force Smith's supporting artillery battalion. During this engagement, the artillery battalion quickly fired the only six high-explosive anti-tank rounds on hand with little to no effect on the column of tanks. Unable to locate the howitzers, the NKPA tanks continued on, unintentionally driving over the communication wires connecting the US artillery battalion to the task force's infantry

battalion.[38] Shortly after the 105th Armored Division bypassed Task Force Smith, the NKPA's 4th Infantry Division arrived at the task force's defensive position. During a chaotic engagement that lasted most of the day, the NKPA routed Task Force Smith. Causes for the rout ranged from an inability to call for artillery support due to the cut communication wires, ineffectiveness of the bazookas and recoilless rifles, and a high rate of casualties stemming from taking on an entire NKPA division.[39] Task Force Smith was the first American unit to face the difficulties associated with the chaos of war since the end of World War II.

Starting from a Position of Disadvantage

The NKPA's surprise attack across the 38th parallel put both the ROK Army and nearby US Army forces stationed in Japan at a significant disadvantage. By the end of June, Seoul was in the hands of the NKPA and the ROK Army, which had numbered 98,000 men at the start of the NKPA invasion, now numbered around 54,000 men, most without small arms or a coherent chain of command.[40] Only two ROK divisions, the 6th and the 8th, managed to escape the aftermath of the Han River bridges destruction with their order and arms intact.[41] This was a stunning defeat for the ROK Army, which just three weeks earlier *Time* called "the best doggone army outside of the United States" in a quote attributed to former KMAG commander Brig. Gen. William Roberts.[42] Considering the ROK Army on the eve of the NKPA invasion fielded only five battalions of light artillery to support its infantry divisions and did not have any tanks, medium artillery, recoilless rifles, or even one combat aircraft, Brigadier General Roberts might have mischaracterized his counterparts.[43]

In order to counter the position of disadvantage facing their ROK allies, the US Eighth Army began deploying the US 24th Infantry Division, of which Task Force Smith was the lead element. However, this took time as the 24th Infantry Division was scattered the length and breadth of Japan, near six separate ports, with no ships immediately available.[44] By early July, MacArthur and Walker realized that stopping the NKPA's advance would require more forces than those available in Japan. Walker ordered the entire Eighth Army to deploy to the peninsula from Japan, including the US 1st Cavalry Division and the US 25th Infantry Division.[45] MacArthur requested additional troops from the continental United States: the 2nd Infantry Division, a regimental combat team from the 82nd Airborne Division, a regimental combat team from the Fleet Marine Forces with heavy Marine air and beach parties, Army engineers, and three tank battalions.[46]

To form his amphibious striking forces, General MacArthur requested Marine battalions from the regiments in the Sixth Fleet, stationed in the Mediterranean, and asked the Chairman of the Joint Chiefs of Staff to recall Marine reservists with World War II experience for the US 1st Marine Division.[47] The US 7th Infantry Division received recruits straight from basic training and veteran NCOs from the artillery and infantry schools.[48] Additionally, at the direction of MacArthur, the Eighth Army in Pusan rounded up approximately 8,000 South Korean males and shipped them to Japan. These Korean Augmentees to the United States Army (KATUSAs) filled additional shortfalls in the manning of the 7th Division.

By August 1950, Eighth Army units, along with reconstituted ROK army units, were in defensive positions along the Naktong River and holding the Pusan Perimeter against NKPA attacks. US X Corps, under Maj. Gen. Edward Almond, continued to build an amphibious force in Japan in preparation for their landings at Inchon. Hastily mobilized UN forces also began deploying to the Korean theater and the US-led coalition was prepared to reverse the early disadvantages.

Conflict across Multiple Domains: Air, Land, Sea, Space, and Cyber

FM 3-0 envisions peer threats contesting US forces across multiple domains, including air, maritime, land, space, and cyberspace.[49] Enemies are likely to employ anti-access strategies to prevent US forces from projecting and sustaining combat power into a region.[50] The assured access of the global commons and selected sovereign territory, waters, airspace, and cyberspace is key to the projection of the instruments of national power and not just US forces.[51] FM 3-0 directs commanders to leverage cyberspace operations, space capabilities, and information-related capabilities in a deliberate fashion to support ground maneuver and to use ground maneuver, along with other land-based capabilities, to enable maneuver in other domains.[52]

While early 1950s-era technology precluded conflict in the nascent space and cyber domains, operations took place across the sea, air, and land domains. The decisive operation of the first ninety days, the amphibious landings at Inchon, included simultaneous operations across all three domains. The associated airpower designated to support the landings was so massive that there was not enough airspace over the battlefield to accommodate it.[53] The shaping of the battlefield by an overwhelming combination of the aerial bombardment that started on 9 September 1959 and sporadic concentrated naval gunfire attack beginning on 13 September

ensured the success of the amphibious operation.[54] Additionally, as part of operations to interdict the NKPA's lines of communication to the forces attacking the Pusan Perimeter, the US 5th Air Force as well as US and British warships patrolling the east coast of the peninsula attacked NKPA convoys and trains moving south.[55] They specifically targeted railroad and highway bridges during a week-long campaign in early August.[56]

Exponential Lethality That Put Brigades and Battalions at Risk for Catastrophic Casualties

During LCO, the largest unit facing catastrophic casualties is typically the platoon.[57] In comparison, LSCO near-peer adversaries will bring weapons and systems to bear against US forces that are exponentially more lethal than those weapons used by US adversaries in LCO. As the NKPA attacked south, they brought to bear an assortment of weapons that was equal or superior to the equipment in use by the ROK Army, Task Force Smith, and the other advance elements deployed by the US Eighth Army. Russian T-34 tanks led the NKPA's advance across the 38th parallel. Perhaps the best all-around tank developed during World War II, the T-34 provided high mobility, a low silhouette, and sloped armor plating.[58] The T-34 proved more than a match for the ROK Army units, which were not equipped with any tanks, heavy artillery, or anti-tank weapons of their own. [59] During Task Force Smith's engagement at Osan, shells from their 75-mm recoilless rifles and the 2.36-inch bazookas bounced off the front, side, and rear armor of the T-34.[60] It wasn't until the deployment of US tank battalions equipped with M4A3 Shermans mounted with high-velocity 76-mm cannon or M46 Patton, and the delivery to Eighth Army units of 3.5-inch rocket launchers that US forces were able to counter the onslaught of the T-34.[61]

The scale of casualties experienced by US and ROK units during the summer of 1950, while the norm in LSCO, were outside the experience of field grade officers serving on division staffs. Task Force Smith lost forty percent of its strength: sixty killed in action (KIA) and 103 wounded in action (WIA) or missing in action (MIA).[62] The defeat of Task Force Smith at Osan was just the first setback suffered by US combat forces in the defense of the Korean peninsula. By July, the rest of Task Force Smith's parent 24th Infantry Division was committed to the peninsula. In its first major engagement at the Battle of Taejon, 14–21 July 1950, the NKPA forced the 24th Infantry Division to retreat and captured the division's commander, Maj. Gen. William Dean.[63] Shortly afterward on 27 July 1950, the 25th Infantry Division's 3rd Battalion, 29th Infantry Regiment suffered more than fifty-percent casualties in the Battle of Hadong Pass.[64] By the end of July

when the 24th Infantry Division turned over its area of the front to the 1st Cavalry Division, the division had lost enough equipment to outfit a full-strength infantry division and had suffered a thirty-percent casualty rate.[65] An unusually high percentage of those casualties was senior officers.[66] As July rolled into August, the ROK army had lost an estimated 70,000 men and the US Army more than 6,000 men.[67]

NKPA formations were not immune to catastrophic casualties either. The forces available to the NKPA at the start of the war numbered approximately 135,000 soldiers divided into thirteen divisions.[68] By its final push on the Pusan Perimeter, the NKPA consisted of fourteen divisions and two separate armored brigades divided into two corps.[69] By the end of September 1950, the NKPA was shattered and fleeing north in much the same manner as the ROK Army had fled south at the end of June. The thirteen divisions spearheading the invasion south were no longer a cohesive fighting force. Following the destruction of the last NKPA cohesive formations south of the 38th parallel in the vicinity of Uijonbu at the end of September, US forces estimated that not more than 25,000 to 30,000 disorganized NKPA troops managed to reach North Korea. [70] Additionally, US survey teams reported 239 destroyed or abandoned T34 tanks and seventy-four destroyed or abandoned self-propelled 76-mm guns, almost the total number of these weapons available to the NKPA at the start of the war.[71]

Units of Action That Are Echelons Above Brigade: Corps and Divisions

According to FM 3-0, Army forces organized into corps and divisions generally constitute the preponderance of land combat forces.[72] Corps and divisions execute decisive action tasks in order to seize the initiative to gain and exploit positions of relative advantage in multiple domains in order to dominate an enemy force and consolidate gains.[73] The units of action for both sides during the period examined included corps and divisions. The NKPA forces that invaded South Korea included thirteen divisions and by the time of the NKPA's final push on the Pusan Perimeter consisted of fourteen divisions, and two separate armored brigades divided into two corps.[74] In the Pusan Perimeter, the NKPA faced a US Eighth Army that included four US Army divisions divided into two corps, IX and I.[75] ROK forces under the Eighth Army included five divisions divided into two corps.[76] Additionally, the Eighth Army had the UK 27th Infantry Brigade and a provisional US Marine brigade at its disposal.[77] The US X Corps with the US 1st Marine Division, the US 7th Infantry Division, and elements of the ROK Marine Corps conducted the landings at Inchon.[78]

Rules of Engagement That Are More Permissive Than for LCO

Joint Publication (JP) 1-04, *Legal Support to Military Operations*, defines rules of engagement as directives issued by competent military authority delineating the circumstances and limitations under which US forces will initiate or continue combat engagement with other forces encountered.[79] FM 3-24 describes LCO as operations with "tighter" rules of engagement (ROE) requiring US forces to accept more risk.[80] However in LSCO, US forces will operate under more permissive ROE.[81] The US Eighth Army conducted LSCO during the Korean War while operating under a permissive set of ROE. During the landings at Inchon, bulldozers were loaded on the lead Landing Ship, Tank (LST) to help break through the seawall. Bulldozers also proved useful in pushing dirt into slit trenches occupied by defending NKPA troops who were firing on the landing forces.[82] During the defense of the Pusan Perimeter, positive identification of friend of foe was problematic, especially for UN aircraft, which on at least one occasion fired on a friendly ammunition train.[83] The resulting explosions killed numerous South Korean civilians in close proximity to the explosions.[84] After the Eighth Army overran NKPA forces during its breakout from the Pusan Perimeter, bypassed NKPA troops began to conduct guerrilla operations. To counter the effects of guerrilla operations, Eighth Army soldiers adopted the custom of shooting anyone in civilian clothes who they caught moving at night.[85]

Operations Conducted with Coalition Partners

Recent LCOs in Iraq (2003–11), Afghanistan (2001–present), and the Balkans (1996–present) as well as the recent LSCO in Kuwait and Iraq (1991) suggest the United States will conduct operations with coalition partners in the future. Operations on the Korean peninsula during the summer of 1950 reflected a coalition environment. In the early hours of the NKPA invasion of South Korea, UN Secretary-General Trygve Lie called an emergency meeting of the UN Security Council. During this meeting, the council passed Resolution 82 calling for:

1. An immediate cessation of hostilities.

2. North Korea to withdraw its forces back to the 38th parallel.

3. All UN members to render every assistance to the execution of the resolution and refrain from giving assistance to North Korean authorities.[86]

In response to this call, a coalition of forces, including land, air, and naval units from the United States, United Kingdom, Australia, New Zealand, the Netherlands, and South Korea prepared to mount a desperate

defense of South Korea centered on Pusan, a port city in the southeast corner of the Korean peninsula. Eventually sixteen nations would contribute forces to the UN effort in Korea, including brigades from Turkey and the Philippines, a regiment from Thailand, and a battalion each from the Netherlands, France, Colombia, Belgium, and Ethiopia.[87]

US forces can also expect to provide advisors and enabling units to coalition partners during LSCO. As the defense of the Pusan Perimeter solidified in early September, Maj. Gen. Paik Sun Yup was the commander of the 1st ROK Division, which with its American advisors, was holding an area around the town of Taegu. Paik received a message summoning him to a meeting with "an important American general officer."[88] At this meeting, Paik met with Maj. Gen. Frank Milburn, commander of the recently formed US I Corps. Milburn informed Paik that the US Eighth Army had assigned the ROK 1st Division to I Corps along with the US 1st Cavalry and 24th divisions.[89] During this meeting Milburn commented to Paik that the 1st ROK Division had performed admirably around Taegu, despite a lack of firepower. To rectify this, Major General Milburn stated that he would attach corps artillery assets to the 1st ROK in order to bolster its firepower.[90] Subsequently, I Corps attached the US 10th Anti-Aircraft Artillery Group commanded by Col. William Henning. This artillery group consisted of the 78th Anti-Aircraft Artillery Battalion, 9th Field Artillery Battalion, and the 2nd Heavy Mortar Battalion and was the equivalent of the artillery support provided to a US division.[91] Upon his assignment to the ROK 1st Division, Henning urged Paik "to not be stingy with requests for fire support; we've got plenty of ammo."[92]

The attachment of the 78th Anti-Aircraft Artillery Group to the ROK 1st Division was to support the division's crossing of the Naktong River and destroy the NKPA's 1st Division in the vicinity of Palgong-san and Kasan in conjunction with the 1st Cavalry's attack toward Sangu.[93] During that attack, which enabled the breakout of coalition forces from the Pusan Perimeter, Major General Paik recounted that Henning "provided every practical cooperation and that for my part, I placed the highest priority on seeing to the needs of these invaluable American gunners."[94] Both Henning and Paik agreed that they were able to maintain an agreeable relationship that contributed to both units' success despite the rigors of combat that they experienced.[95] Paik felt the secret of success in combined operations was in scrupulously caring for the needs of foreign supporting units. He stated that "any number of combined operations go awry because of unnecessary friction between host-country and foreign troops."[96]

An Operational Framework That Includes a Consolidation Area

FM 3-0 introduces the concept of consolidation of gains inside a designated consolidation area. The operational framework for future operations designed by field grade officers now includes a consolidation area, in addition to the already defined deep, close, and support areas.[97] A consolidation area is a designated portion of the commander's area of operations designed to facilitate stability or COIN tasks that allow freedom of action in the close area and to support the consolidation of gains made by LSCO.[98]

While not formally part of 1950s US Army doctrine, consolidation areas were established by elements of the US Eighth Army. In the days prior to and immediately following General Walker's order to break out of the Pusan Pocket, the ROK 1st Infantry Division conducted "mop up" operations and consolidation of gains in the US I Corps area of operations.[99] Those operations enabled other I Corps elements to exploit the success of the breakout from the Pusan Perimeter and continue pursuing retreating elements of the NKPA north. While the ROK 1st Division was consolidating gains for the I Corps, the ROK Special Marines were doing the same in the urban area of Inchon, as the 1st Marine Division moved on toward Seoul and the 7th Infantry Division defended in the south in order to prevent the NKPA from reacting to the changing situation on the Korean peninsula.[100]

Conclusion

During the early days of the Korean War, combat operations spanned the length of the Korean peninsula. These operations, which involved multiple corps echelon units exercising mission command over numerous divisions, exhibited the characteristics of LSCO as envisioned by Combined Arms Center (CAC) doctrine writers and included in the recently published FM 3-0. While a second Korean War may never come, field grade officers benefit from understanding the LSCO that took place on the Korean peninsula during the summer of 1950. Tempo was key to success in LSCO, both for the NKPA and the UN forces. During the early days of the invasion, the NKPA's surprise attack enabled its forces to maintain the tempo. The Inchon landings by the US X Corps seized the initiative from the NKPA and transferred it to the UN forces, which maintained the initiative until the Chinese People's Army entered the conflict in the fall of 1950.

Further examination of the characteristics of LSCO enables a deeper understanding of those characteristics and prepares field grade officers

to relearn old concepts in preparation to conduct LSCO anywhere in the world against a near-peer competitor. As young lieutenants, these officers demonstrated an ability to be critical and creative thinkers who learned quickly and were able to quickly translate that learning into action during the limited contingency operations that the US Army conducted in Iraq and Afghanistan. When it comes time to conduct LSCO, these officers will undoubtedly react in the same manner.

Figure 2.4. Frontline of UN Forces during the Korean Conflict, 1950–51. From Richard W. Stewart, ed. *American Military History*, vol. II, *The United States Army in a Global Era, 1917–2008* (Washington, DC: US Army Center of Military History, 2010), 225.

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Chapter 3
Operations in the Security Area
Marty M. Leners

The US Army's ability to successfully execute decisive-action operations hinges on its ability to execute and win the security area fight. While not clearly defined in current Army doctrine, the security area fight, both in the offense and in the defense, enables successful subsequent operations. Army units make initial contact in the security area and set the conditions for follow-on combat and stability missions. Hence, this is an area of critical importance for any large-scale combat operations (LSCO) in the near future.

Despite the ever-increasing proliferation of—and reliance on—technological sensor-based systems, the US Army must retain the capability to ensure tactical and operational security and freedom of maneuver. This fight begins in the security area. During a February 2012 news conference, Secretary of Defense Donald Rumsfeld stated:

> Reports that say that something hasn't happened are always interesting to me, because as we know, there are known knowns; there are things we know we know. We also know there are known unknowns; that is to say we know there are some things we do not know. But there are also unknown unknowns—the ones we don't know we don't know. And if one looks throughout the history of our country and other free countries, it is the latter category that tend to be the difficult ones.[1]

Overreliance on technological sensors may answer the "known unknowns," but they cannot attempt to address the "unknown unknowns," those information requirements that Rumsfeld clearly articulated as the most difficult. It is these "unknown unknowns" where the Army's ground forces must fight for information. Due to the rapid pace of modifications to its doctrine and terminology, the US Army does not currently define the term "security zone." As such, the term "security area operations" will be used throughout this chapter to refer to combat-enabling operations in the security area.

The purpose of this chapter is to discuss security area operations as they pertain to LSCO and to propose potential near- and long-term solutions to counter threat forces operating in this contested area. Current US

Army doctrine as noted in Field Manual (FM) 3-98, *Reconnaissance and Security Operations*, does state that in support of the division's scheme of maneuver:

> [T]he BCT [brigade combat team] must fight for information to develop the situation while in contact with the enemy and near the civilian population. Commanders and staffs must understand the tactical, human, and political dynamics associated with current and future armed conflict because of the requirements and challenges of the operational environment.[2]

The security area is not linked to any one facet of decisive action, but rather it is an integral aspect of offense, defense, and stability. Likewise, the security area is not tethered to a specific domain; it is equally applicable in the physical or cyber domains.

Threats in the Security Area

Understanding the criticality of information dominance and operational security, the US Army's opponents will actively fight to protect their information as well as their combat forces while attacking ours. For LSCO, this fight begins in the security area, or as threat doctrine identifies this area, the disruption zone.[3] Regardless of whether the adversary is a peer or near-peer threat, there are certain characteristics of the threat disruption zone that US Army forces must first understand in order to counter.

Our threat's areas of responsibility (AORs) doctrinally consist of three principal zones: disruption, battle, and support.[4] Within the disruption zone, "The enemy employs combinations of lethal . . . and nonlethal . . . actions to disrupt United States forces to shape the environment, influence key actors, and consolidate gains and efforts to accomplish the mission."[5] The threat disruption zone is the primary area in which the enemy operational-level commander will employ long-range joint fires and strikes. They will establish kill zones within their disruption zone for integrating the actions of long-range fire elements and disruption force elements.[6]

Nowhere is the threat doctrine of the security area fight better manifested than in the recent Russian military intervention in Ukraine and the Crimea, most notably the 2014 Russian cross-border artillery shelling.[7] This Russian hybrid approach to combat has direct implications to American forces fighting in security area operations. Russian forces rely heavily on massed artillery fires, and these indirect fires rely heavily on target

acquisition.[8] In a recent article in *The National Interest*, Dr. Phillip Karber, a noted scholar of the Russian military, states:

> The increased availability of overhead surveillance combined with massed area fires of artillery and the Multiple Launch Rocket System have produced a new level of intensity in modern conventional combat. Data from the Ukraine conflict show that [Russian] artillery is producing approximately eighty percent of all casualties.[9]

Infusing historical artillery doctrine into their next-generation combat, the Russians based their current doctrine largely on the tenet that "once adequate fires have been delivered, ground forces begin to maneuver, preferably with an armored element to secure time and space for indirect fire and protection platforms to move forward and begin the cycle again."[10] This cycle of precision fires, followed by tactical maneuver reinforced by massed fires, is the tactical challenge US Army forces must counter in future security area operations.

Not only is an effective security area required on the physical battlefield, but also it is needed on the cyber battlefield. Threats and adversaries continue to establish and refine their hybrid approach to combat. During the Russian incursion into the Ukraine, Dustin Voltz commented to *Reuters* that "a hacking group linked to the Russian government likely used a malware implant on Android devices to track and target Ukrainian artillery units from late 2014 through 2016."[11] The *Reuters* article continues: "The malware was able to retrieve communications and some locational data from infected devices, intelligence that would have likely been used to strike against the artillery."[12]

Whether targeted by hacked cellphone, unmanned aerial vehicles, or other more traditional intelligence, surveillance, and reconnaissance (ISR) platforms, it is clear that the Russia military continues to emphasize "shaping the battlefield" with their long-range surveillance and fires. As such, American and Allied forces need to be able to "set the conditions" for LSCO success. Our ground forces must fight to counter what the Asymmetric Warfare Group is calling "Russian New Generation Warfare." This new generation warfare is not limited to the Russians or other high-tech disruption forces. American military commanders and planners can expect similar disruption zone fights from the Chinese People's Liberation Army (PLA), Iranian Army, Korean People's Army (KPA), and other peer or near-peer competitors.[13]

The purpose of the threat disruption force is to prevent US forces from conducting an effective attack. A successful threat disruption zone and degradation of friendly designated components or subsystems begins the disintegration of US command and control, thus creating vulnerabilities for threat exploitation in the battle zone. Skillfully conducted enemy disruption operations will effectively deny US Army operations synergy and synchronization.

US Army Operations in the Security Area

In order to counteract the threat disruption zone, US Army commanders routinely employ reconnaissance and security forces to defeat or neutralize enemy forces in the disruption zone, thus enabling main body forces to conduct their attack unencumbered by early threat actions. While not emphasized in current US Army doctrine, brigade and division commanders and their planning staffs need to understand the importance of security area operations, and the necessity of resourcing and planning for this critical phase of the operation. Field Manual (FM) 3-0, *Operations*, states, "Security operations can be either offensive or defensive. The main difference between security operations and reconnaissance operations is that security operations orient on the force or facility being protected, while reconnaissance is enemy and terrain oriented."[14]

Field Manual (FM) 3-90-1, *Offense and Defense*, amplifies this criticality without directly addressing the verbiage of the security zone: "Contact with enemy forces before the decisive operation is deliberate, and designed to shape the optimum situation for the decisive operation."[15] This shaping operation for the "optimum situation" is critical. Commanders and planners constantly consider this as they plan for the security area fight. This manual, along with Army Doctrine Publication (ADP) and Army Doctrine Reference Publication (ADRP) 3-0, *Operations,* forms the foundation for the task and purpose of the divisional unit tasked with conducting security area operations in the offense. Even with this doctrinal foundation for the security area operation's task and purpose, confusion remains. Regardless of the orientation or the tactical task of reconnaissance or security, US Army units habitually struggle with the security fight.

Security Area Operations in the Offense

Predominately, military planners emphasize reconnaissance over security while developing offensive operations. However, security area operations are equally important. ADRP 1-02, *Terms and Military Symbols*, defines counter-reconnaissance as "a tactical mission task that encompasses all measures taken by a commander to counter enemy reconnaissance

and surveillance efforts. . . . [It] is not a distinct mission, but a component of all forms of security operations."[16] While defined as such in doctrine, the term counter-reconnaissance is simply another way of describing operations in the "security area."

We discover yet another underlying cause of the misunderstanding and lack of doctrinal clarity of security area operations as we examine this concept through the battlefield framework. Where on the battlefield is security planned and executed? FM 3-0, *Operations*, states: "A commander may conduct security operations to the front, flanks, or rear of the friendly force."[17] However, this same doctrinal manual fails to graphically portray any dedicated security or security area (outside of the intra-theater joint security area) as it illustrates the current doctrinal battlefield framework.
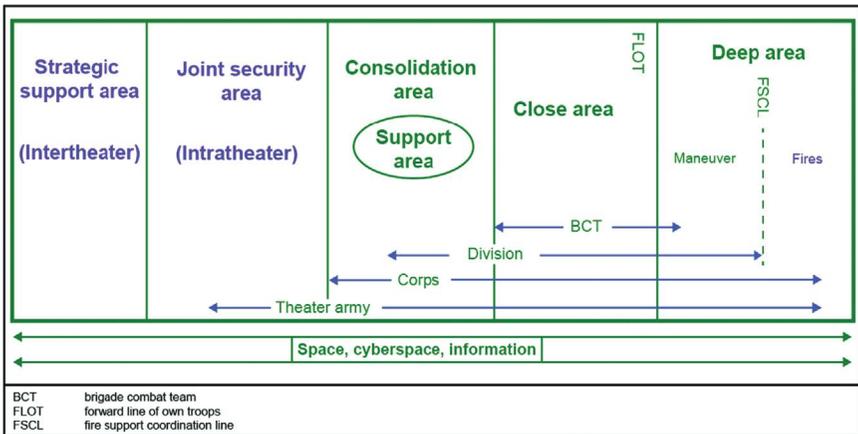
Figure 3.1. Corps Area of Operations within a Theater of Operations. From Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017), 1-30.

According to FM 3-0, "The division close area is primarily where brigades operate. Brigades focus on reconnaissance and security, defending areas, and securing or seizing objectives."[18] Army units execute the security fight along the transitions from the division deep area to the division close area along the forward line of troops (FLOT). This is also where the Army's doctrinal consternation is found. If the division assumes responsibility for security area operations, thus allowing its BCTs to focus on the pending offensive close fight, then the questions of who, when, and where become paramount to planners:

> A corps or division normally . . . provides security before making contact with the enemy main body. However, once the corps or division commits its main body forces, that attacking subordinate echelon, a division or BCT, provides its own security. The intro-

duction of another corps- or division-controlled element between the deep area and attacking forces in the close area only tends to increase the coordination necessary between units and complicates the control and execution of close operations.[19]

For a division attack, planners must account for the security area force and for the transition from this unit to the brigade's security force. Regardless of the tasked unit, planners must remember "reconnaissance [and security] is a mission undertaken to obtain, by visualization or other detection methods, information about the activities and resources of an enemy or adversary."[20] The security area force must fight for information. This fight is planned and conducted to assist the division staff in its information collection and provide its higher headquarters commander the ability to maneuver to positions of relative advantage well before main body forces make contact.

Security Area Operations in the Defense

This requirement to fight for information and protect our forces is equally important in the defense. While security area operations in support of the defense may be better understood conceptually, several areas of confusion remain with regard to defensive security areas. In a division or BCT defense, "security operations are those operations undertaken by a commander to provide early and accurate warning of enemy operations, to provide the force being protected with time and maneuver space within which to react to the enemy, and to develop the situation to allow the commander to effectively use the protected force."[21]

Center for Army Lessons Learned Bulletin 17-28 on Combat Training Center trends uses the dated term "security zone" but clearly states:

A successful defense relies on the deliberate and timely execution of engagement area development. However, before an element can begin its engagement area development, the unit must secure itself through establishment of a security zone. Successful establishment of the security zone enables battalions the freedom of maneuver required to build obstacles in support of the defensive plan. The absence of obstacles prevents battalions from effectively massing the effects of both direct and indirect fires.[22]

The purpose of successful defensive security area operations is clear: unimpeded engagement area development, obstacle establishment and integration, rehearsals, and other preparations. The impacts of unsuccessful security operations in the defense are equally clear, but far more disas-

trous. Because the impacts are more readily visible, there is better understanding and supporting doctrine for defensive security area operations.

FM 3-0 illustrates a doctrinal corps contiguous area defense with clearly delineated corps and division security areas and notional or suggested brigade-sized units within each. However, this two-division corps requires twelve BCT-sized units to accomplish its deep, close, and consolidation area operations. While doctrinally correct, current US Army force structure makes such an employment unlikely. Division and brigade planners must address this resource-constrained environment in the defensive deep as well as in the close fights. The key to successful security operations, either offensive or defensive, is planning that facilitates rapid decision-making to exploit opportunities, mass indirect and direct fires, properly use terrain, minimize visual and electromagnetic signatures, disperse and rapidly maneuver, protect networks, and sustain brigades.[23]
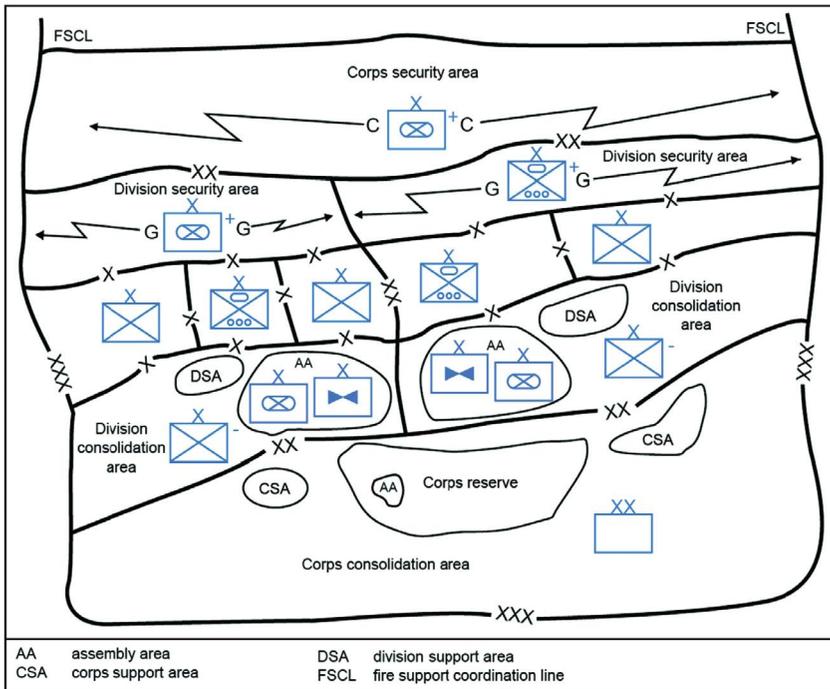
Figure 3.2. Corps Contiguous Area Defense. From Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017), 6-29.

Security Area Operations in Support of the Military Decision-Making Process

"Scouts Out" is a phrase often heard around tactical assembly areas and command posts with reconnaissance and security forces moving into

their area of operation well before orders completion. Reconnaissance and security are paramount. Whether a unit is conducting offensive, defensive, or stability operations, the task of early scout movement is well understood. However, the linkages between security area operations and subsequent reporting and planning are not. All too often, the "fight for information" is lost in command post reporting channels and not incorporated into the military decision-making process (MDMP).

The Center for Army Lessons Learned's "Reconnaissance and Security Commander's Handbook no. 17-12" discusses the linkage between the BCT's military decision-making process and reconnaissance and security operations. As illustrated in Figure 3.3, the brigade MDMP timeline drives the cavalry squadron's operational timeline. The BCT warning order (WARNORD) #2 initiates the squadron's mission execution of subsequent "recon pull" of cavalry troop-collected information to squadron-developed intelligence.[24] Too often, squadrons are not effectively tasked to answer the brigade commander's information requirements, and those information requirements that are collected do not adequately assist the commander in visualizing the pending BCT's mission. Reports from the security area will reveal either unforeseen opportunities or unforecasted threats or, as Secretary of Defense Rumsfeld called them, "unknown unknowns." In their recently published research report on "The Effects of Simple Role-Playing on the Wargaming Step of the Military Decision Making Process," a group of Command and General Staff College faculty members defined these unforeseen opportunities or unforecasted threats as "exceptional information." This study defined the term as "information that would have answered one of the CCIR [commander's critical information requirements] if the requirement for it had been foreseen and stated."[25]

Too often, military planners fail to understand the criticality of this "exceptional information" or to process this information into intelligence. Compounding these oversights, this "fought-for" information does not assist the staff during the MDMP, either at course-of-action development, course-of-action analysis, or course-of-action comparison adjustments. "As a result, reconnaissance [and security] operations routinely fail to provide informational inputs necessary to drive the operations of the ground force commander (GFC)."[26] This failure to link information requirements to planning, coupled with the failure to adequately shape the close fight for the brigades and battalions, magnifies the deficiency of security area operations planning and execution. The ability of the cavalry squadron to confirm or deny the enemy situation template is critical to the *Understand, Visualize, Describe, and Direct* model.[27]
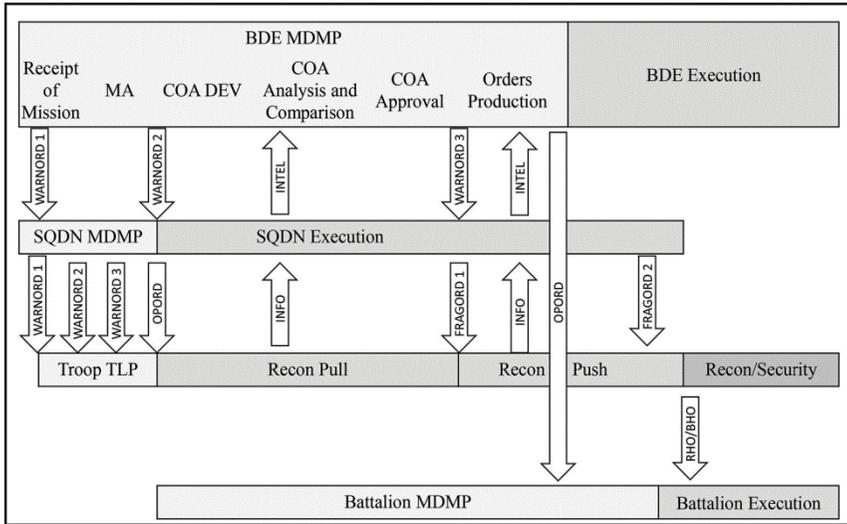
Figure 3.3. Reconnaissance and Security Interactions with Military Decision-Making Process (MDMP). From Center for Army Lessons Learned, Publication 17-12, *Reconnaissance and Security Commander's Handbook* (Fort Leavenworth: 2017).

Security Area Operations in Support of Large-Scale Combat Operations

Regardless of the threat the US Army faces, the available force structure within our units, or the range of military operations called upon to execute, commanders and planners must apply their critical and creative talents to address the crucial requirements of effective security area operations. In the December 2016 *ARMY* magazine, Lt. Gen. H. R. McMaster wrote, "Trends in armed conflict that include contests across all domains, increased lethality and range of weapons, complex and urban terrain, and degraded operations, all argue for reconnaissance and security at all echelons."[28] This argument for increased reconnaissance and security calls for renewed emphasis on security area organization, planning, and execution.

The difficulty of planning and executing security area operations, coupled with the importance of its success to flank and higher headquarters, demands a dedicated unit that is trained and prepared for this critical mission. Historically at the division level, the unit tasked with the security area fight was the divisional cavalry squadron. However with the current force structure, the division has no dedicated ground combat force for this mission, forcing it to delegate the security area task and purpose to a subordinate BCT or task-organize a unit for this task.

Several interim solutions present themselves. One potential solution is to simply task-organize an existing cavalry squadron from a supporting effort or a reserve BCT to conduct the division's security area operations. A benefit of this task organization is that this squadron should have habitually trained with the other BCT cavalry squadrons to ease the reporting and target handover from the division close area to the BCT deep area. While this offers a "quick fix" for the division's security area operation, it is not without issue. This task organization solution strips away a critical asset from one of the BCTs and leaves its commander without an organic, dedicated reconnaissance and security asset. Using the same planning methodology, the reserve or supporting effort BCT commander might reconstitute his or her security force by task-organizing from within his or her remaining forces. However, the commander must assume risk at some level.

Another solution is to assign a dedicated battlespace to each subordinate BCT with a clear task and purpose to conduct their own internal security area operations with organic assets. At the BCT level, FM 3-98, *Reconnaissance and Security Operations,* states, "The cavalry squadron is the brigade combat team commander's primary asset to develop the situation and provide the combat information that will ultimately refine subsequent courses of action for the BCT's decisive operations."[29] However, this concept is also problematic as it violates unity of command and introduces unneeded complexity to an already complex tactical problem. Unfortunately, these stop-gap measures fail, as routinely reported by the combat training centers.[30]

A third solution, although outside of the purview of division commanders and staffs, is to reestablish dedicated reconnaissance and security elements at each level of tactical command. Using the two-levels-down planning methodology, the battalion/task force commander needs to retain his or her scout platoon. The BCT commander needs to have his or her brigade reconnaissance troop reinstated. Each BCT then reassigns one of its current cavalry squadrons to serve at the division level while one of the other BCT cavalry squadrons serves as the "bill payer" for this table of organization adjustment.

Finally, to ensure adequate security area operations from the deep to the close fight, the Army Corps must have a dedicated ground force capable of independent operations to provide timely reconnaissance and adequate security for not only the corps, but also the subordinate divisions and brigades (see figure 3.4).
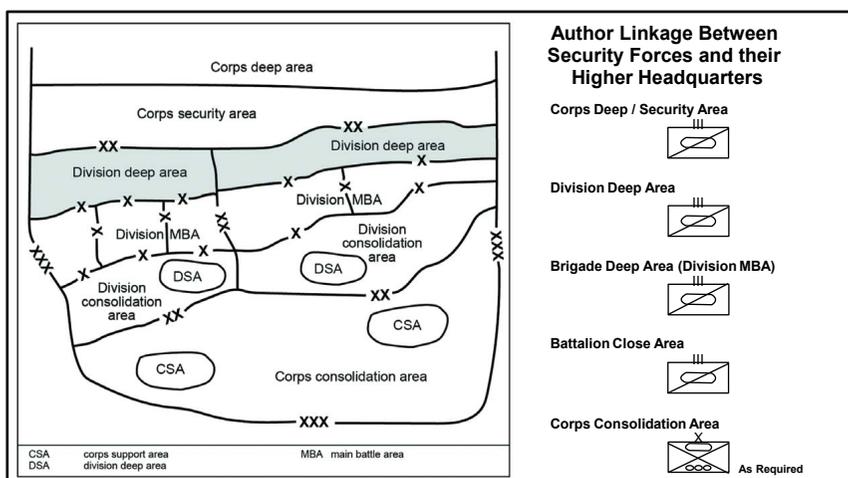
Figure 3.4 Corps Main Battle Area with Proposed Unit Responsibilities for Security Operations. From Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017), 6–7.

Conclusion

Even with the lack of a clear doctrinal framework for the security area, current Army doctrine does address the need for security area operations. ADP 3-0, *Operations*, clearly states: "Commanders fight for information to develop the situation while in contact with the enemy across multiple domains and gain information through close association with the population."[31] This "fighting for information" is far more complex than simply tasking a unit or sensor to collect on a named area of interest. The unit dedicated to security area operations, regardless of echelon, must be able to employ direct and indirect fires (both lethal and non-lethal) in order to answer the commander's priority information requirements and set the conditions for follow-on forces to either attack or defend. This unit must have the training and equipment necessary for its task. It must understand how its timely and accurate reporting in support of the commander's critical information requirements refines the planning process for main body forces, and it must fight to maintain options for the commander. As noted in the Army's *Offense and Defense* field manual:

Effective offensive action capitalizes on accurate and timely intelligence and other relevant information regarding enemy forces, weather, and terrain. . . . Protection tasks, such as security operations, operations security, and information protection prevent or inhibit the enemy from acquiring accurate information about friendly forces.[32]

The timely employment of well-trained and properly resourced forces into security area operations is paramount. Reconnaissance and security operations are critical not only to the successful planning and execution of the unit's mission but to that of its higher headquarters. Regardless of the threat or the tactical solution commanders employ, it is of the utmost importance to remember the ultimate goal of security operations is to protect the force from surprise and reduce the unknowns in any situation.[33]

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17. Department of the Army, FM 3-0, 5-66.

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Chapter 4

Operational Framework: Enabling Tempo and Decision-Making

Edward V. Rowe

The division conducting large-scale operations (LSCO) employs the operational framework to identify and assign subordinate tasks clearly in time, space, and purpose. This framework enables the division to control the tempo of operations and allows the staff to better inform the commander's decisions. The skilled employment of the operational framework construct by a commander and his staff assists the division in seizing, retaining, and exploiting the initiative—allowing the commander to control the tempo of an operation. The framework also allows the staff to monitor actual results against predicted results, allowing the staff to inform commander decisions with the perspective those differences may reveal. The operational framework becomes a context in which the division commander can articulate a flexible plan that accounts for the dynamic interaction between friendly forces and the enemy. The operational framework helps the commander direct and lead the unit in the execution of that plan while assessing the results to determine what decisions to make and when to make those decisions.

The Operational Framework Defined

As Field Manual (FM) 3-0, *Operations,* describes:

The operational framework has four components. First, commanders are assigned an AO (area of operations) for the conduct of operations, from which, in turn, they assign AOs to subordinate units based on their visualization of the operation. Units should be assigned AOs commensurate with their ability to influence what happens within them. Second, within their assigned AO, commanders can designate deep, close, support, and consolidation areas to describe the physical arrangement of forces in time, space, and purpose. Third, within an AO, commanders conduct decisive, shaping, and sustaining operations to articulate an operation in terms of purpose. Finally, commanders designate the main and supporting efforts to designate the shifting and prioritization of resources.[1]

Notably, this description of the operational framework replaces the previous cognitive planning construct known as the battlefield framework. However, the designation of main and supporting efforts to focus resource allocation is not new. Prior to the publication of FM 3-0 in October 2017,

a commander would usually choose between either close, deep, and security areas or decisive, shaping, and sustaining operations. The new FM 3-0 encourages a commander to identify deep, close, and support areas to establish a spatial relationship but also to identify the decisive, shaping, and sustaining operations to establish a purposeful relationship of what is occurring in these areas.

At the division level, the commander may also, as the definition directs, designate a consolidation area when needed. A consolidation area is an AO under control of a maneuver brigade combat team (BCT) that accounts for bypassed and/or latent threats as well as what would otherwise be poorly resourced stability task requirements. Consolidation areas are designated to allow a force (usually a BCT) to contribute to maintaining the tempo of the close fight by mitigating the hazard and probable disruptive effects of bypassed forces and stability tasks. The consolidation area allows the BCTs in the close area to continue the fight, reducing their exposure to near-peer forces anticipated in LSCO before those forces can fully bring their expected destructive fires against friendly forces. Employed effectively, the consolidation area can help extend operational reach and prevent culmination.

Operational Framework Enables Tempo

Tempo is the relative speed and rhythm of military operations over time with respect to the enemy.[2] Tempo refers to the commander's ability to control the rate that an operation proceeds. A commander inherently desires to control the tempo of an operation to optimize the unit's opportunities for success while he is dictating the terms of the fight to the enemy. Controlling the tempo is a dividend of seizing and retaining the operational initiative.

The Army's operational concept requires that forces operate with operational initiative. The concept is known as *unified land operations* and is defined in Army Doctrinal Reference Publication (ADRP) 3-0, *Operations*:

> Simultaneous offensive, defensive, and stability or defense support of civil authorities tasks to seize, retain, and exploit the initiative to shape the operational environment, prevent conflict, consolidate gains, and win our Nation's wars as part of unified action.[3]

The operational framework assists the division commander in seizing the operational initiative by dividing a complex environment into scaled areas purposefully assigned to brigades to best fit their capabilities, tasks, and purposes. The commander employs the concept to delegate authority

to subordinate commanders and assign their units purpose-driven tasks which together accomplish the mission at once or sequentially in phases.

For the operational framework to be effective, the BCTs in the close area must possess the ability to accomplish their tasks. Each BCT must possess and skillfully apply superior relative combat power to the threat within its AO. The assigned task, opposing threat, and size of the AO define the minimum friendly brigade resource requirements allocated by the division to the BCT. The division does this through task organization, designating the BCT as main or supporting effort, and allocating divisional capabilities in time and space. If the division's operational framework generates superior relative combat power within each AO, the division will seize the initiative. Once the division possesses the initiative, the division will control the tempo of the operation.

Seizing and retaining the initiative in the close area is directly related to the effects achieved in the deep area. Shaping operations in the deep area must achieve effects that allow BCTs in the close fight to succeed in the current fight and prepare for the next fight. Shaping operations in the deep area should prevent threat forces operating in that area from massing combat power against friendly forces in the close area. At the same time, these operations create conditions for the force to move forward in space toward its objectives. The link between close area and deep area is spatial while the link between shaping operations in the deep area and decisive operations in the close area is purposeful.

The distribution of effort in spatial terms between deep and close areas allows the division staff and commander to continuously evaluate friendly and threat conditions against anticipated results identified in planning. The division must maintain flexible applications of combat power—including fires, allocated close air support (CAS) and air interdiction (AI)—as needed to make adjustments in the deep area to achieve desired effects or exploit opportunities.

Individual initiative differs from, yet invaluably contributes to, seizing the operational initiative. Individual initiative occurs when a subordinate commander uses his authority to act freely (implicitly adjusting from an approved course of action) within an assigned area of operations. It becomes disciplined initiative when informed by and executed toward the higher commander's intent. Disciplined initiative accounts for changes in the operational environment not anticipated during divisional and brigade planning.

Within the division's operational framework, the assignment of the AO to a subordinate establishes precisely where disciplined initiative can

occur. The division commander delegates to the BCT commander the authority and responsibility to act in an AO. The division also focuses and generates potential for the BCT commander's freedom of action by assigning purpose, the tasks anticipated to achieve that purpose, and—through allocation of resources—the capacity to achieve the purpose.

It is important to note that the operational framework itself cannot enable disciplined initiative absent the trust required between division and BCT commanders. Additionally, the operational framework does not affect the individual commander's leadership potential, which is a far greater determinant of relative combat power.

The Operational Framework Informs Decisions

Once the commander designates the operational framework and subordinate commanders are executing their plans (or adjusting them by way of disciplined initiative), the division assesses progress against planned benchmarks to support decision-making. In light of the discussion about tempo, one decision the division commander makes is to adjust the close and deep areas and, if applicable, establish or broaden the consolidation area. As the shaping operations in the deep area achieve the desired effects to move the BCTs in the close fight forward, the division commander adjusts the forward boundaries of both to capitalize on progress.

The division reviews the predicted relative combat power before advancing to new deep and close areas and identifies probable adjustments to all sustainable operations over time. For each decision the commander makes, the staff monitors friendly force information requirements (FFIR) and those things about the enemy linked to that decision. That information becomes priority information requirements (PIR). Collectively the FFIR and PIR are known as commander's critical information requirements (CCIR)—those things the commander must know about the enemy and his own force to make a decision, in this case to advance the operation a phase line or more. If the anticipated conditions to make the decision positively exist, the staff makes that recommendation to the commander who decides whether to advance or not. If the desired conditions do not exist, the commander decides which resources to apply to achieve those conditions—time, additional combat power, or other. In other situations, the commander may accept the risk of making that decision positively even though the desired conditions do not yet exist.

Planners analyze the division course of action in a recurring process called war-gaming to identify relative combat power in each of the areas

of operation and shaping efforts. One result of this analysis is estimated consumption rates based on anticipated usage of divisional forces over time. Consumption in terms of supply and loss rates is essential information that planners need to anticipate requirements whose fulfillment at the right location would otherwise take longer than the operation itself. Each planning staff functional cell also maintains a running estimate of usage of the assets they are responsible for monitoring. Examples of these assets include maneuver forces, intelligence platforms, artillery ammunition expenditure, and engineer effort.

Planners with operational experience in specific areas of expertise identify potential times and places at which assets will be stressed to the point where continued effective use will be threatened through loss, fatigue, or commitment. The planners identify potential culmination thresholds—hazards that pose risk to the operation. Once identified, planners mitigate these hazards by adjusting the tempo of the operation, supplementing or replacing an asset through task or resource reallocation, or—in instances of loss—through resupply, maintenance, or replacement.

Another way divisional planners can prevent culmination in the close fight is by revising effects on high-payoff targets or formations in the shaping operations conducted in the deep area. Shifting flexible applications of combat power such as artillery fires, CAS, or AI can preclude a dilemma that threatens culmination. These types of adjustments are the reason why division planners and targeting team must work seamlessly throughout all activities of the operations process. (See Figure 3.1 on page 45.)

The support area also relates to operations in the close area and in the consolidation area, if assigned (see Figure 3.1). BCTs and other brigades operating in the close area rely on sustainment, perhaps through the consolidation area, to prosecute the fight. Limitations may occur when there is a shortage of supplies, a shortage of distribution capacity, or enemy activity that hinders the distribution of supplies and services. Planners are obligated to identify these potential hazards and propose ways to mitigate residual risk during planning.

Sustainment requirements in the close area must meet the requirements of forces generating effects in both the close area and the deep area. Artillery units, which may generate effects in both the close and deep areas, consume substantial amounts of ammunition. Similarly, armor BCTs operating in the close area consume significant amounts of fuel, and perhaps ammunition, while generating maintenance requirements for both

parts and service. The aviation brigade, wherever located, also consumes significant amounts of fuel and ammunition. As the attack succeeds and distribution distances grow, these challenges only increase in difficulty. This is partly a result of the support area's limited ability to displace at a rate that would keep pace with the BCTs in the close area.

Operations in the consolidation area designed to interdict bypassed regular and irregular enemy forces directly affect the security of supply routes. If the BCT in the consolidation area can secure these supply routes, the distribution of supplies works efficiently—with items arriving where and when they are needed. If supply routes are not secure, supplies will not get to where they are needed when they are needed and, consequently, operational tempo is affected. This disruption in operations is the adversary's goal. If operations in any of the operational areas make support operations more vulnerable to threat disruption, the division commander might need to make an adjustment, such as adding combat power to the consolidation area to secure these routes or protect convoys. Any combat power moved from the close area to the consolidation area will likely have secondary and tertiary effects on operations in the close area, potentially affecting operational tempo.

Proper use of the operational framework is essential to preserving combat power—trained soldiers, crews, and units—allowing them to contribute to future operations. Perhaps most critical is the proper estimation of relative combat power in each of the operational areas and in their related efforts, because this a great predictor of success and correlating reduction of losses over time. Skilled application of the operational framework allows planners to predict more accurately the use of limited resources such as intelligence collection, fires, rotary, and fixed wing air within their capabilities and allows logistical preparation for the current and future fights. Proper use of the framework and resource allocation within its component areas preserves the combat power potential of maneuver forces.

Summary

The use of the operational framework requires clearly defined areas of operation for brigades and BCTs to enable commanders to operate with freedom of action, guided by their disciplined initiative. Planners must help the division commander visualize and describe the fight in time, space, and purpose through use of the deep area, close area, consolidation area (when applicable), and support area. Similarly, planners help the commander visualize and describe the fight in purposeful relation between shaping operations, decisive operations, and sustaining opera-

tions. Finally, planners must help the commander visualize and describe resource and risk distribution through the mechanism of designating main and supporting efforts.

Enabling tempo and informing decisions are two useful byproducts of the commander's use of operational framework. A division commander can use the operational framework to delineate areas of responsibility, purposes of different activities, resource allocation, and sequence of activities in time, space, and purpose. The framework is a useful way for the commander to allocate resourcing efforts from all different warfighting function capabilities to achieve desired effects through massing of superior relative combat power in different locations and activities. Correspondingly, it is a useful tool to monitor existing and emerging hazards that pose risks to the execution of a planned operation. As the commander deploys resources, inversely and perhaps intentionally, he allocates risks to subordinate commanders. At each place the commander allocates risk, his staff should reserve flexible combat power applications ready to quickly change the relative combat power equation.

Notes

1. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017), 1-26.

2. Department of the Army, Army Doctrine Reference Publication (ADRP) 3-0, *Operations* (Washington, DC: 2016), 2-7.

3. ADRP 3-0, vi.

Chapter 5
Consolidating Gains at the Division
Kenneth J. Miller

The Army's renewed focus on large-scale combat operations (LSCO) has challenged military leaders with issues that the Army has historically overlooked. One of these issues is how to consolidate gains after successful LSCO. US military forces forcibly removed the governments of Afghanistan, Iraq, and Libya through combat operations, but were unable to capitalize on these military successes to institute measures to ensure long-term peace and stability in all three countries.

Gen. Mark Milley, Army Chief of Staff, placed renewed emphasis on consolidating gains after major combat operations. The recently published Army Field Manual (FM) 3-0, *Operations*, devotes a chapter to this subject and makes it clear that consolidating gains is not synonymous with stability tasks, counterinsurgency, or nation building.[1] Recent rotations at the Mission Command Training Program highlighted divisions and corps difficulties in the consolidation area and with consolidating gains. This chapter focuses on current Army division doctrine for consolidating gains after LSCO and the utilization of the support area command post (SACP) as a means to synchronize various tactical tasks necessary to assist divisions with consolidating gains.

Army Doctrine Reference Publication (ADRP) 3-0, *Operations*, defines consolidation of gains as the activities that make permanent any temporary operational success and set the conditions for a sustainable stable environment which will allow the transition of US military control to a legitimate civil authority.[2]

The requirement to conduct a combination of stability and counterinsurgency (COIN) operations alongside nation-building tasks remains in order to ensure lasting peace and stability. FM 3-0 does not specify that commanders designate a consolidation area, but the battlefield framework of deep, close, support, and consolidation areas implies one is necessary at the division level. As the graphic illustrates, the consolidation area is defined by two areas: the division support area and the consolidation area.

The consolidation area is the area that a commander designates to ensure freedom of action and tempo through operations designed to facilitate security and stability. FM 3-0 states that a properly tasked combat organization is necessary to conduct operations in the consolidation area.[3] FM

3-0 defines the support area as the area for operations designed to facilitate the employment, positioning, and protection of sustainment assets that are required to sustain, enable, and control operations.[4] FM 3-0 recommends establishing a support area command post (SACP) with an assistant division commander to lead the functions found in the consolidation area. The functions of the SACP include a wide array of responsibilities and tasks.
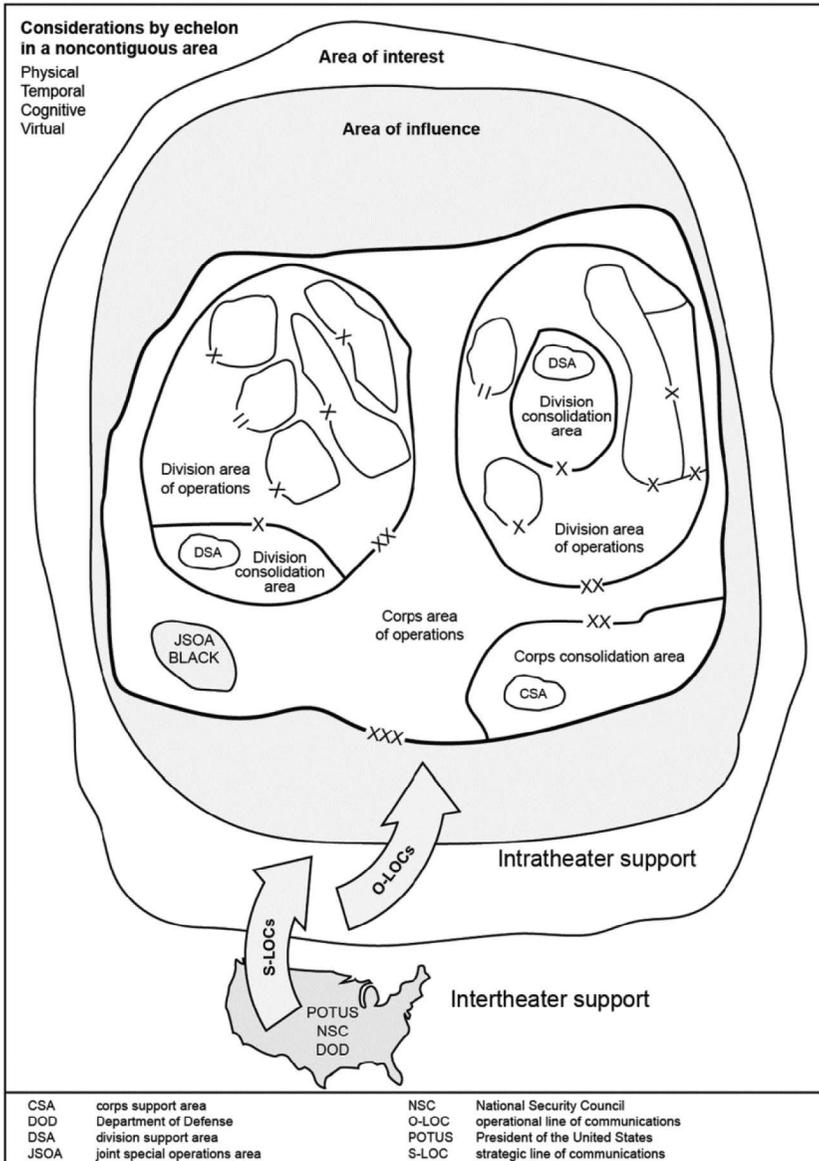
Figure 5.1. Consolidating Gains after Large-Scale Combat Operations. From Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017).

Support area tasks that the SACP is responsible for include sustainment operations, support operations, terrain management, line of communication security, movement control, mobility operations, and clearance of fires.[5] Recent Mission Command Training Program (MCTP) rotation trends highlight the limitations of using a maneuver enhancement brigade (MEB) as the command and control headquarters within the consolidation area. This is readily apparent when discussing the division support area, because the MEB does not have command authority over any support units found in the division support area. In most cases, the division will not have direct command authority over any support units, but rather will have a support relationship with those units.

As the division maneuvers during offensive operations, the depth of the division's consolidation area will increase. Support units may have great difficulty displacing and remaining within the division's enlarged consolidation area. Support activities may have to continue from a corps or land component consolidation area and will require detailed planning and synchronization with either a corps or land component command (LCC) to ensure proper movement control, clearance of fires, line of communication (LOC) security, and terrain management to maintain the tempo of offensive operations. Ideally, the division rear boundary will collapse in order to give the division a more manageable consolidation area, but this collapse will be predicated more on the corps or LCC capabilities to assume a greater control of the consolidation area.

Consolidation area tactical tasks may include disarming belligerents, resettling internally displaced persons (IDP), and detention and return of enemy prisoners of war (EPW) either by the host nation or warring party following a peace agreement. The consolidation task force also may perform additional tasks, such as demining operations, clearing rear areas of bypassed or stay-behind units, cease fire agreement enforcement, enforcing exclusion zones between warring nations, and reinforcing or training host nation security forces until they are capable of conducting operations independently of coalition forces. The key task is civil control and civil security as divisions occupy territory.

Historically, the Army has relied extensively on formations consisting of military police, engineers, civil affairs, military intelligence, signal, and sustainment organizations to conduct non-combat operations necessary to consolidate gains. These units are in addition to or to reinforce existing organizations found within the corps or division structure. Missing at the division level are combat organizations tasked to conduct combat operations anticipated within the consolidation area. Typically, commanders are

hesitant to allocate much combat power to the consolidation area due to risk associated with reducing combat power available in the main battle area. Commanders who designate a tactical combat force (TCF) or other combat unit to consolidate gains usually do so as an economy-of-force operation predicated upon the level of threat they anticipate in the consolidation area.[6]

During Operation Iraqi Freedom I (OIF I), as the 3rd Infantry Division (3ID) attacked toward Baghdad, the V Corps commander, Lt. Gen. William "Scott" Wallace, was presented with a problem to the rear of the 3ID. Significant enemy forces threatened the ground line of communication primarily in and around the towns of An Najaf and Samawah. The 3ID bypassed these towns to maintain speed and tempo of the attack to Baghdad. Lieutenant General Wallace asked the Combined Forces Land Component (CFLCC) commander to release one brigade from the 82nd Airborne and the 101st Airborne Division then tasked them to secure the extended LOCs from Kuwait to the 3ID rear boundary. Essentially, these two units took control of the 3ID and V Corps consolidation effort, enabling V Corps to maintain the offensive tempo toward Bagdad.[7]

Securing the consolidation area was not deemed as a separate mission, but rather as a shaping operation necessary to isolate Baghdad. Additionally during 3ID's attacks toward Baghdad, numerous cities and units were bypassed presenting V Corps with the problem of securing their LOCs. The corps had to pause briefly in order to get the 82nd and 101st units into position and refocus them in the consolidation area toward a different phase of the fight.

This example illustrates the possible challenges for any division conducting offensive operations. Discussions between the division and corps concerning the consolidation area are critical to maintain tempo and freedom of action. Divisions cannot get bogged down fighting in the consolidation area and require additional resources to manage these critical tasks. Ideally, the division rear boundary will shift forward and the corps or land component will take over many of these critical tasks. A corps or land component with a division capable of managing the consolidation area would clearly lessen the division's load on the offense and enable them to focus on tempo and freedom of action.

V Corps was fortunate to have two division headquarters in its consolidation area to execute these missions. The division staffs were capable of planning, executing, and synchronizing operations and had sufficient resources to accomplish their tasks and enable V Corps to maintain tem-

po and apply maximum pressure on the Baathist Regime. Future LSCO may require the corps to maintain a robust division or two with necessary enablers in order to adequately address problems presented by the consolidation area. Ideally, National Guard brigades and divisions along with security force assistance brigades will become the formations assigned to conduct consolidation operations.

Support Area Command Post in the Consolidation Area

Mission command of the consolidation area remains an unresolved issue. Current doctrine and manning levels at the division and corps, as well as equipment necessary to conduct operations in the consolidation area, have led many units to utilize ad hoc solutions to this problem set. FM 3-0 addresses the idea of a support area command post (SACP), but divisions and corps are not manned or equipped for this function without stripping personnel and equipment from the main command post to augment the SACP. Units have attempted to utilize the maneuver enhancement brigade (MEB) to accomplish this function; however, the consolidation area may include multiple division and corps units, and the MEB has no command authority over these units.[8]

In the previous edition of Field Manual (FM) 71-100, *Division Operations*, the division maintained three command posts: the main, the tactical command post (TAC), and the rear command post.[9] Usually, the rear command post was co-located with the division support command (DISCOM), but the functions of each were different. Currently, the support area may have a SACP as well as a division support area commanded by a support area commander (SACO), normally located in the vicinity of the MEB; FM 3-0 states that the SACP has four primary functions: planning and directing sustainment, terrain management, movement control, and area security.[10] The SACP is not capable of doing these functions without significant augmentation, and that augmentation cannot come from the SACO or the MEB.

The SACO's primary mission is to ensure that sustainment operations maintain the desired tempo of division combat operations. The SACO does not have a command relationship with the division, but rather a supporting relationship. This relationship does not allow the SACO to task units outside of those doing support missions. The MEB has specific missions across the division area of operations in addition to the mission of providing security within the consolidation area. Under current task organizations, the MEB does not have the combat power to assume this mis-

sion. The addition of a brigade combat team for combat operations in the consolidation area would complicate mission command.

Utilizing the MEB staff to augment the SACP stresses the MEB commander's ability to plan and execute missions. With a reduced staff, the MEB commander may not be able to control current and future operations. The SACP must plan and control division combined arms operations, manage airspace, and employ fires, all of which will require more capabilities than the MEB or division main could augment.[11] Depleting the MEB staff in order to perform these functions would greatly hinder the MEB commander's ability to conduct normal doctrinal operations.

The SACP requires augmentation above resources available in the MEB in order to meet mission command requirements in the consolidation area. To do this, often the assistant division commander or deputy corps commander is assigned to lead the SACP. The SACP will struggle with the demands of security, sustainment, engagement, and coordination with the host nation and interagency. Additionally, the SACP must have similar capability to plan operations as the main command post and to maintain a current combat outpost in the event the main command post is damaged or displaced. Like all command posts, the SACP must maintain running estimates; control operations; assess operations; develop and issue orders; coordinate with higher, lower, and adjacent units; conduct knowledge management; and perform command post operations.[12]

Local security within the consolidation area will require maneuver and intelligence units to mitigate risks associated with enemy threats in the support area. A TCF will probably be necessary to respond to various threat levels; its composition will need to address the most dangerous threats posed to the consolidation area, including saboteurs, bypassed conventional forces, or special forces, as well as electronic warfare (EW), indirect fire, air threats, and intelligence-based operations. Developing priority intelligence requirements (PIR) to address these consolidation area issues, as well as developing an information collection plan, is just as important as developing PIR for close and deep fights.

Recent division warfighter exercises indicated that along with functions and tasks identified in FM 3-0, the SACP was critical in synchronizing sustainment support with the host nation for rail, roads, and airfields. The SACP had mobility issues and, as the consolidation area expanded, they had difficulty displacing to keep pace with corps and divisions units. The SACP organic communication and power generation capabilities were insufficient to meet the demands of the fight.[13]

The function of the SACP outside of maintaining the tempo and sustainment of operations is to work with the HN and civil affairs units to begin stability tasks and provide for local population control. This function is unique to the SACP and in recent warfighter exercises, division commanders assigned this responsibility to the SACP. Integration with Army civil affairs teams or the joint force civil military operations center was critical to establishing civil control in the consolidation area.

Division commanders will conduct civil military operations in the consolidation area, and it is essential for the division staff to understand the joint force commander's civil-military objectives during the planning process to ensure a unified effort of action toward designated goals.[14] A crucial element to secure long-term peace is for military leaders to develop initial relationships during and after LSCO. Population control is essential during this phase of operations, and divisions must consider various control measures to ensure stability, including curfews, movement restrictions, identification of personnel, and voluntary or involuntary resettlement. The SACP has a critical role in synchronizing these functions with civil affairs units. Successful civil-military operations allow the division to hand over responsibility of the rear area operations to friendly host-nation security forces, thereby allowing the corps and divisions to maintain tempo, shorten lines of communications, and free up combat power for unanticipated threats or opportunities.

The SACP may also work with host nation security forces, if available, to secure or seize weapons on the battlefield, ammunition, fuel, data centers, radio and television stations, barracks, police stations, and key terrain that controls bridges, borders, and other transportation nodes. Control of enemy security services includes accountability for those not already captured or killed, rapid physical control of population centers and the establishment of public order, and use of information operations to shape public opinion, discredit enemy narratives, and promote friendly host nation narratives. It is essential during this period to synchronize information operations with actions on the ground. If US forces communicate an idea, the local populace needs to see that actions on the ground support that message.

These tasks and missions are varied, complex, and in some cases enduring over time, and require specialty formations, but the capability to accomplish all these tasks will ensure the division's freedom of action and maintain the tempo required for combat operations. Yet, though some of these tasks are necessary while LSCO are ongoing, others are necessary only after combat operations have ceased. Current doctrine is not clear and presents a dilemma for the division: do divisions assume consolidation

missions or solely focus on necessary tasks to ensure tempo and freedom of action long enough for a corps or land component to assume more of the consolidation mission?

Conclusion

Consolidating gains after LSCO will continue to challenge military leaders and staffs. Doctrine, manning, organization, and equipping issues will continue to evolve over time to successfully meet these challenges, but until then, units will continue to struggle with consolidating gains after LSCO. The Army has recognized the fact that officers require training and education in order to successfully plan operations in the consolidation area. The following ideas represent a way ahead for consolidating gains.

Change the name of the *Stabilize* phase in joint and army planning doctrine to *Consolidating Gains and Transition*. In this way, commanders will fully understand their responsibilities during and after major combat operations and can plan accordingly for this specific task. *Consolidating Gains* activities should focus on consolidating operational objectives with such tasks as security, enabling basic public services, and building local governing capacity that will set the conditions for national-level governing.

Divisions conducting LSCO may not be able to consolidate gains appropriately; the pace of the fight and the continuing lines of communication will tax the capabilities of divisions to fully consolidate gains. Divisions can accomplish support activities and may be able to consolidate tactical gains for a short period, but ideally a corps or land component command will have forces readily available to assume consolidation duties from divisions in combat. If forces are not available, it is paramount for the division to work with civil affairs units and the host nation to transfer security tasks to them as soon as feasible.

Divisions and corps require the manning, equipment, and capabilities to conduct consolidation missions. The present way of forming a SACP and over-reliance on the MEB to conduct these missions will only continue the challenges of consolidating gains during and after LSCO. The Army needs to offer resources necessary for divisions to accomplish these tasks and must train and educate officers on how to plan and execute consolidation of gains operations. This function is more than a civil affairs mission; it is the responsibility of unit commanders to ensure long-term political gains are achieved following military operations. It is possible that in the near future, US governmental organizations will deploy enough personnel to execute the *whole of government approach*. Until that time, however, the mil-

itary will have to consolidate gains and provide civil control. The military should acknowledge this fact and incorporate this idea into its doctrine.

Divisions will have to coordinate and synchronize consolidation area activities and transition ongoing operations to a corps, land component, or host nation. Divisions should begin this transition during the initial planning phase of the operation to ensure actions are coordinated and synchronized before combat operations begin to ensure long-term stability. The military should work with the State Department to transition military functions to the State Department and eventually to the host nation. In the end, the US military cannot count solely on military victories to lead to strategic outcomes. Developing a proactive military that understands and successfully consolidates gains is the best way to ensure we are not placing soldier lives at risk and misusing political power throughout the world.

No matter how many battles the Army wins, failure to stabilize a country after LSCO will always result in strategic failure. Use of the SACP along with necessary manning, equipment, and units will go a long way toward setting the conditions for victory before fighting even begins.

Notes

1. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017), chap. 8.

2. Department of the Army, Army Doctrine Reference Publication (ADRP) 3-0, *Operations* (Washington, DC: 2016), 3-8.

3. Department of the Army, FM 3-0, 8-1.

4. FM 3-0, 1-34.

5. Center for Army Lessons Learned, Publication 18-04, *Mission Command in the Division and Corps Support Area Handbook* (Fort Leavenworth, KS: 2017), 5.

6. Publication 18-04, 53.

7. Gregory Fontenot, E. J. Degen, and David Tohn*, On Point: The United States Army in Operation Iraq Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), 209.

8. Center for Army Lessons Learned, Publication 18-04, 2.

9. Department of the Army, Field Manual (FM) 71-100, *Division Operations* (Washington, DC: 1996), 3-5.

10. Department of the Army, FM 3-0, 2-37.

11. Department of the Army, FM 71-100*,* chap. 3.

12. Center for Army Lessons Learned, Publication 18-04, 45–46.

13. Publication 18-04, 9.

14. Joint Chiefs of Staff, Joint Publication (JP) 3-57, *Civil Military Operations* (Washington, DC: 2008), III-2.

Chapter 6

Division Intelligence: Looking Deep to Win Close

Robert S. Mikaloff

The purpose of this chapter is to establish the context in which a division and its commander use intelligence. Field Manual (FM) 3-0, *Operations*, reenergizes the role of the division as a tactical headquarters and with that comes a need to understand the framework and perspective required of the intelligence warfighting function (IWfF) at the echelon of division. A discussion of the role of intelligence in a resurgent division headquarters is a starting point for understanding how intelligence supports the division commander and subordinate brigade combat teams (BCT). The objective is to describe the conceptual underpinnings of effective intelligence support to division operations.

The re-emergence of the division as the principle echelon for action requires a close examination of the role of division intelligence. The imperatives of division intelligence are best understood in the context of division operations. Once this context is understood, a discussion of the fundamentals of intelligence will foster a deeper examination of division G2 (intelligence) contributions to the commander's visualization, decision-making, and targeting processes. An important consideration in providing intelligence support to a commander is changes in division structure driven by modularity and the resulting impact on the ability of the IWfF to support the commander.

Division Context

A good point of departure for any discussion of division intelligence is the operational framework of deep, close, support, and consolidation areas. As a headquarters that commands BCTs, divisions—through the division intelligence staff—have the responsibility to predict the nature and scale of future battles and engagements executed by those BCTs.[1] Although these threats are clearly manifested in the division close area, the evolution of these threats, to include their strength and composition, is revealed in the division and corps deep areas. A principle responsibility of division intelligence is to identify and track enemy formations anticipated in the division deep area to inform division targeting. Division deep operations are focused on shaping enemy formations that may engage in the division close area. This is accomplished through shaping operations in

division deep areas and requesting similar actions from corps in the corps deep area.

FM 3-0, *Operations*, provides a glimpse of the breadth of division operations, ranging from division deep to support consolidation areas (see Figure 5.1 on page 64). This figure can be deceptive since it is a snapshot in time. During rapid, high tempo operations the ability to shape or engage enemy forces is dependent on identifying, finding, tracking, and targeting those high-payoff targets that facilitate the ability to achieve stated objectives. This extends the area of intelligence interest well beyond the division forward boundary, possibly into corps or land component deep areas and potentially deeper. The concept of deep battle and deep operations is central to the success of division operations.

The idea of deep operations or deep battle is not new. The idea of operations in depth, beyond the front line of own troops (FLOT), came to prominence after World War One. During the interwar period, the Soviets conducted a deliberate examination of the failures of France and the United Kingdom on the western front. Soviet general and military theoretician Georgii Isserson noted that early in the war when confronted with tactical stalemate, all the belligerents attempted to extend the battlefield laterally.[2] This lateral extension eventually led to a grossly extended front line and an inability to act decisively anywhere along the front. A potential answer was to extend the battlefield in a different direction, in depth. The Soviets embraced the concept of deep battle and by 1929 had developed doctrine to conduct deep battle.[3] The US Army formally adopted the concept of extending the battlefield through deep battle and deep operations with ideas fostered by General Donn Starry in 1981.[4] FM 3-0, *Operations*, reacquaints us with deep operations executed by divisions.

To execute deep operations, divisions are reliant on capabilities resident in the corps, the land component, and the joint force. To extend the battlefield in depth through leveraging capabilities residing at higher echelons, a division commander must identify and request those assets in advance of any battle or operation. This process requires division commanders to visualize future operations in even greater depth in time and space than the time required to request and plan for those assets. The best example is the use of close air support (CAS) or nominating targets for air interdiction (AI) from the joint force. In order to leverage CAS or AI, the division anticipates the location and operations of enemy units and high-payoff targets expected in the division area of operations no later than seventy-two hours in advance in order to meet air tasking order (ATO) time requirements.[5]

A division commander's visualization of activities on the battlefield is further complicated by the idea of sustained land combat. In any conflict with a near-peer threat, this process of visualization becomes iterative. Divisions can expect to execute a series of operations in support of corps or land component objectives. With this extension of operations in time and space across a battlefield extended in depth, the division commander's estimate must include a range of branches and sequels to the plan beyond his current objective.

The nature of large-scale combat operations (LSCO) causes divisions to operate at the juncture between tactics and operations. Consequently, it is evident that divisions operate in a gray area between the tactical and operational levels of war. As a headquarters that commands BCTs in the execution of battles and engagements, the division operates as a tactical headquarters. Iterative planning and execution of tactical actions by BCTs, as well as shaping operations in advance of those battles and engagements, elevates the division out of the category of a purely tactical formation. The division commander's requirement to visualize rises to the operational level of war. Joint Publication (JP) 1, *Doctrine for the Armed Forces of the United States* (2017)*,* defines the term *operation* as "a sequence of tactical actions with a common purpose or unifying theme."[6] When a BCT's tactical actions are linked by division purpose, the division is engaged in planning an *operation*. The implication of this is a deeper understanding of an operation as it unfolds in time and space. This leads to a more holistic view as opposed to a more simplistic conception of an operation as a series of discrete battles and engagements.

Intelligence Fundamentals

The fundamental doctrinal requirements of any intelligence section, regardless of echelon, are to support the commander's understanding of the operational environment and improve both visualization and inform commander decision-making. This is achieved in part by the intelligence preparation of the battlefield (IPB) process and in part by requirements generated in discussion with the commander.

Fulfilling these requirements is governed by a series of qualitative measures or general characteristics of effective intelligence. These characteristics include accuracy, timeliness, usability, completeness, precision, reliability, relevance, predictability, and tailoring.[7] The division G2 must evaluate information collection and intelligence assessments using these intelligence characteristics as a guidepost. The first six characteristics can

be considered the result of due diligence by any intelligence professional. The last three (relevance, predictability, and tailoring) are keys to success for a division intelligence staff.

Information for the sake of information, regardless of whether that information is pertinent to current or future operations, does nothing but cloud understanding of the environment. The division's area of interest is an expansion of the area of operations and, often, the area of influence. Not all information within the described area of interest is relevant. Relevance is a function of the commander's requirements and the friendly course of action and is informed by the level of risk accepted by the command.

As addressed earlier, there is an absolute need for division intelligence to be predictive. The timing required to leverage intelligence, surveillance, and reconnaissance (ISR) assets from higher and to generate effects demands that G2s predict enemy activities. These include composition and strength to some level of fidelity in excess of ninety-six hours out. In LSCO, the time horizon is expanded in order to assist the commander's requirement to visualize beyond initial division objectives to any sequels or branches that present themselves.

There are some differences in requirements based on the consumer of intelligence products. The G2 is responsible not only to the commander, but to the six other warfighting functions (WfF). Division intelligence informs the running estimates of other staff sections with varying requirements for precision, accuracy, and timeliness. For example, the nature of information required by the protection warfighting function cell differs from that required by the fires cell. There is also some difference in the requirements based on echelon.

Division intelligence supports subordinate BCT intelligence efforts and informs intelligence or targeting assessments by higher headquarters. Although all intelligence information is graded against the general characteristics of intelligence, the level of required fidelity varies. The variation between echelons is a matter of granularity and perspective of enemy disposition and actions in time and space. The lower the echelon of supported command or commander, the more explicit and timely the required information. The higher the echelon, the deeper the assessments/estimates must be in time and space resulting in less initial fidelity. Those initial assessments must be refined over time to meet the level of fidelity required for targeting by higher echelons. For example, the requirement to meet standards expressed in the Fires Cell Attack Guidance Matrix or on the Joint Tactical Air Strike Request DD1972.

The Division G2's Perspective

The G2 must respond to intelligence requirements across the entire operational framework of deep, close, support, and consolidation areas. Additionally, the G2 must anticipate enemy actions, intent, and objectives in depth of time and space beyond the division's primary objective. Functionally, this is not a solitary effort. Division assessments are informed and guided by higher headquarters assessments and by continuous dialogue among intelligence staffs between echelons. A commander's intelligence staff must respond to the command's needs for intelligence information. This requires a holistic view of the operation at echelon ranging from anticipated battles and engagements for BCTs to the decisive operation to achieve the division objective. This view surpasses current division operations to branches and sequels to the current operation and requirements generated by consolidation of gains. While the division commander visualizes the orderly arrangement of actions of the battlefield, the G2 must do the same for any enemy. Subsequently the division G2 must translate this visualization into the operational framework of deep, close, and support areas in order to inform the commander's decisions.

The intelligence requirements of deep, close, support, and consolidation areas each require a different focus. Each has its own form of complexity and differing levels of fidelity. Intelligence operations supporting the division deep area is complex due to the predictive nature of the information needed to support division deep operations. The G2 must develop a holistic view of enemy intent, capabilities and objectives and use that view to provide intelligence support to targeting. Being dependent on the joint force and other components for assets that can engage in the deep area demands that the G2 predict and nominate as high payoff targets (HPT) enemy capabilities and formations in a timely enough fashion to permit joint fires to plan for and deliver effects. A complicating factor is the requirement to ensure that targeted formations or capabilities are relevant to the division operation. Joint fires are a constrained resource in any conflict with a peer or near-peer threat. Targeting an enemy formation with operational or joint fires merely because you have good locational data may render that fires asset unavailable when it is truly needed. A disciplined approach to targeting, maintaining consistency with corps or land component targeting objectives, and appreciation of the need to enable operations in the close area all inform intelligence support to deep operations and targeting.[8]

Division intelligence in the close area is a convergence of predictive assessments, targeting, and assessment of the effectiveness of targeting by

division and corps and emergent information relevant to BCT operations. There is a relationship between predictive assessments, targeting, and the assessment of the result of targeting. One informs the other. Intelligence estimates of enemy forces expected in the division close area inform division course of action development and the associated targeting process which in turn informs BCT planning. The planned effects of targeting by division are accepted as a fact in intelligence estimates used for planning at a subordinate BCT. During execution, the effectiveness of fires in division deep informs the enemy situation passed to BCTs and can adjust the focus of targeting both at division and at the BCT.

The Division G2 section has always held responsibility for intelligence support from the division forward boundary to the division rear boundary, but the division rear or support areas received little emphasis. The 1993 version of Field Manual (FM) 71-100-2, *Infantry Division Operations*, describes G2 presence in the rear area operations center (RAOC). The responsibilities of this element included refinement of IPB as it pertained to rear area operations and recommendations for priority intelligence requirements (PIR) and adjustments to the information collection matrix (ICM) to meet requirements in the division rear areas.[9]

The re-emerging concept of division support area (DSA) and emergence of the consolidation area spotlight the requirements of intelligence support to rear areas and consolidation of gains. Based on descriptions of the requirements of support areas and consolidation areas in FM 3-0, the G2 must merge some of the requirements of division close areas with information needed for stability operations and counter insurgency (COIN). These tasks include description of likely enemy activity in the support or consolidation area, screening of refugees, and staff supervision of detainee operations for the G2. These are traditional G2 responsibilities. The most compelling change is the idea that significant enemy formations are bypassed in the division close area as a result of speed and tempo of division operations and are operating in the division rear and consolidation areas.

Enemy formations operating in the division rear areas expand G2 requirements for support to the consolidation and division support areas to include information and information collection activities that largely mirror requirements for division close and deep areas. Prior to the October 2017 version of FM 3-0, *Operations,* typically the dominant intelligence disciplines in division rear areas were human intelligence (HUMINT) and counter-intelligence (CI). The focus was internally displaced persons, operations security (OPSEC), detainee operations, and level 1 through level 3 threats. The concept of significant enemy maneuver forces in the rear

area broadens ISR requirements in the rear to more conventional efforts such as situational development and intelligence support to targeting.

Challenges for Division Intelligence

The emerging importance of large-scale combat operations and the re-emergence of the division as the primary unit for tactical action begs the question of assured capability in a division task organization to conduct information collection and the processing, exploitation, and dissemination of intelligence. Simply stated, how does a division intelligence staff plan for information collection and analysis to inform the division commander? Modularity reduced the tools available to support the division commander and the intelligence staff. Prior to modularity, divisions had collection assets that were directly responsive to division information requirements.[10] Modularity eliminated these assets as sources of spaces for building modular brigades. This left the division G2 completely dependent on capabilities organic to subordinate brigades or joint, theater, or national assets.

Levying intelligence collection tasks on subordinate BCTs raises issues. First and foremost are the number and complexity of tasks a BCT must perform in LSCO. It becomes an analysis of the priority assigned to any specified task directed to the BCT given an extant mission and objective. Any intelligence collection task competes against all other tasks in the absence of a commander's stated priority.

An intelligence warfighting function specific issue is the organization of the military intelligence company (MiCo) in the brigade engineer battalion (BEB).[11] In response to requirements that emerged in Iraq and Afghanistan, the MiCo was optimized for mission requirements in those conflicts. Rather than providing a broad-based brigade-wide intelligence architecture appropriate for LSCO, the MiCo is designed to pursue discrete targets such as high-value individuals (HVI).[12]

Support from higher echelons is a key element of any information collection plan, regardless of echelon. Intelligence is a pull system, meaning an intelligence staff must ask the "smart question" in order to get a "smart answer." The plethora of collection systems from corps through national systems suggests there is no shortage of assets. The issues for division are priority and responsiveness. These assets feed information into databases that are readily accessed by a division intelligence staff, but the priority of collection for those assets is set by another commander. Based on that priority, the information collected might not be tailored to the immediate information needs of the division commander.

Current dedicated intelligence and electronic warfare assets available for divisions are resident in expeditionary military intelligence brigades (EMiB). These brigades are composed of a number of expeditionary military intelligence battalions (EMiBn) available to divisions based on corps or land component analysis. Based on priority, these battalions may or may not be included in the task organization of a division. There are not enough EMiBns to task-organize one for each Army division. The current structure of the EMiBs optimizes them for irregular warfare and COIN. These organizations are HUMINT-centric with some ability to conduct other disciplines. The centerpiece of the EMiB is multi-function teams designed for task organization under lower tactical echelons. These teams seek to merge at a low tactical level the capabilities of multi-discipline intelligence in pursuit of HVIs, a critical mission in COIN and stability operations. What is missing is the ability to provide the broad-based division collection architecture that links and nests collection assets from BCT to division and to higher echelons to support division-based operations in large-scale combat operations.

Conclusion

Division intelligence is complex due to the perspective in time and space required for analysis. A US Army division involved in LSCO during a sustained campaign acts at the intersection of tactics and operations. A division G2 must be able to speak to tactics with some granularity and transition those tactical actions into the broader perspective of the operational level of war—a requirement unique among the echelons or roles of headquarters.

FM 3-0, *Operations*, initiated the transition in focus from the brigade to the division. This change in doctrinal focus does not change the basic organization which still aligns more closely with the brigade. The IWfF at division finds itself at a disadvantage in terms of assured capability to conduct information collection. While the emerging priority is placed on division-level operations, the division remains the one echelon without a dedicated military intelligence unit directly responsive to the information requirements of its commander. In the absence of an EMiBn in the division task organization, the G2 must leverage capabilities resident in subordinate brigades or rely on corps, land component, joint, or national collection which may have differing priorities or availability. Unless addressed, this arrangement risks rendering the G2 irrelevant in critical situations during division operations.

Notes

1. Department of the Army, Field Manual (FM) 2-0, *Intelligence* (Washington, DC: 2004), 2-1.

2. Brig. Cmdr. Georgii Samoilovich Isserson, *The Evolution of Operational Art* (Fort Leavenworth, KS: Combat Studies Institute Press, 2013), 23–38.

3. Frederick Carleton Turner, "The Genesis of the Soviet 'Deep Operation': The Stalin-Era Doctrine for Large-Scale Offensive Maneuver Warfare" (PhD diss., Duke University, 1988), 197–239.

4. General Donn A. Starry, "Extending the Battlefield," *Military Review* 61, no. 3 (March 1981): 32–50.

5. US Joint Forces Command, *Joint Fires and Targeting Handbook* (Suffolk, VA: 2007), IV-1–IV-34.

6. Joint Chiefs of Staff, Joint Publication (JP) 1, *Doctrine for the Armed Forces of the United States* (Washington, DC: 2017), x.

7. Department of the Army, FM 2-0, 2-1–2-2.

8. Lt. Col. Blue Huber, "1st Armored Division Warfighter Exercise: Intelligence Warfighting Function Tactics, Techniques, and Procedures for Victory," *Military Intelligence Professional Bulletin* 43, no. 4 (December 2017): 18–21.

9. Department of the Army, Field Manual (FM) 71-100-2, *Infantry Division Operations* (Washington, DC: 1993), 2-65–2-67.

10. Department of the Army, Field Manual (FM) 71-100, *Division Operations* (Washington, DC: 1990).

11. Stuart E. Johnson et al., *A Review of the Army's Modular Force Structure* (Washington, DC: RAND, 2018), https://www.rand.org/pubs/technical_reports/TR927-2.html.

12. Kristen Kushiyama, "Vigilant Pursuit System Aims to Improve Field Intelligence," *Army News* (18 January 2018), https://www.army.mil/article/72132/.

Chapter 7

Fire Support in Division Large-Scale Combat Operations: Shifting the Focus from Counterinsurgency-Centric Fires

Lt. Col. Michael D. Vick

The US Army that entered World War II was a large but inexperienced force. In retrospect, it is not surprising that in its earliest campaigns of the war, the Army struggled to conduct combined arms warfare efficiently and effectively. One of the most serious of the army's shortcomings was the inability to provide effective indirect fire support to its maneuver units. This deficiency played a major role in the defeat at Kasserine Pass during the 1943 offensive into Tunisia. Lt. Col. John W. McPheeters, commander of the 91st Field Artillery Battalion, 1st Armored Division, recalled one specific instance during that battle in which an artillery commander failed to understand his role in the larger operation:

> I got so Godamn mad at this 155-mm gun battery next to my command post. Because the German 170-mm guns had fired on his battery, [the battery commander] wanted to move back out of range. . . . General Ward (commanding general, 1st Armored Division) said yes, he could displace forward anywhere he wanted.[1]

The defeat at Kasserine came after victory over a weaker French Vichy force in the initial landings on the North Africa coast. Because of the relative easy victory over the French, some US commanders had entered the Tunisian campaign anticipating a quick victory over Axis forces. However, Erwin Rommel's *Afrika Korps* dealt a swift and humiliating defeat to American units at Kasserine Pass, revealing the US Army's shortcomings in doctrine, training, organization, manning, and equipping. Rommel's numerically inferior forces proved vastly more capable in each of these areas. The insights gained from the battle specifically regarding the employment of field artillery not only benefited the US Army in 1943 but also can be applied to current US Army artillery doctrine, structure, and manning. This chapter analyzes current US Army field artillery structure, doctrine, training, and manning, highlighting the similarities between the army at Kasserine and that of today, with a specific focus on the division level during large-scale combat operations (LSCO).

As a result of the 2011 Budget Control Act, the US military's global position has arguably deteriorated because of a defense strategy shaped around key assumptions. These assumptions concern containing the threat

in the Middle East, maintaining strategic patience toward North Korea, keeping a nuclear deal with Iran, improving relations with Russia, and rebalancing the effort with China.[2] These problematic assumptions resulted in a significant cut in defense spending with the Budget Control Act of 2011. At the same time, potential peer threats continued to equip, man, modernize, and organize their conventional forces, including fire support systems, to fight a large-scale war. The indirect fire systems fielded by these potential peers, including rocket and cannon systems, currently outmatch US indirect fire support systems.

Figure 7.1. A 155-mm howitzer in World War II. Courtesy of Getty Images with limited distribution.

Today, the US ranks sixth in rocket projector strength behind Russia, North Korea, China, Egypt, and Iran; and in cannon systems, the US ranks fourth behind Russia, North Korea, and South Korea (see Figures 7.2 and 7.3).[3] These potential threats outrange US artillery platforms. Specifically, these potential adversaries have at least twelve artillery platforms to the US military's seven. These adversaries possess multiple rocket launcher (MRL) platforms to include the 9A52 300-mm MRL (SMERCH), which can outrange almost all US Army systems.[4] The US Army has only two MRL platforms to include the multiple-launch rocket system (MLRS) and

the high-mobility artillery rocket system (HIMARS), which can fire an array of munitions to include the guided MLRS unitary, extended range (ER) MLRS, and the army tactical missile system (ATACMS). The ATACMS is the only munition that can outrange the SMERCH. The potential threats possess at least fourteen cannon or mortar platforms versus three platforms in the US Army inventory.[5]
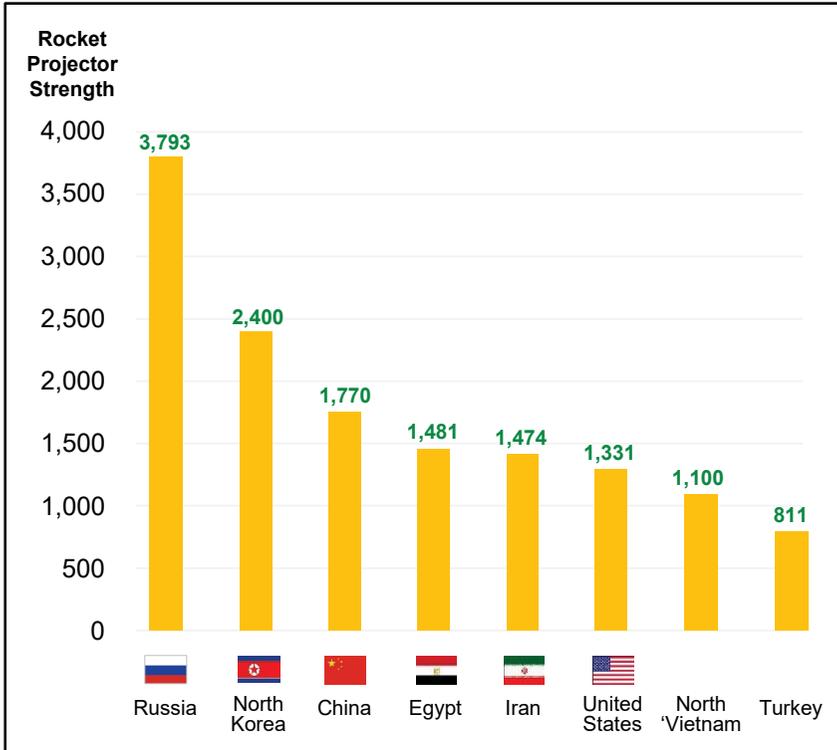
Figure 7.2. Rocket Projector Strength. Created by Army University Press.

While recent spending by the Department of Defense has authorized upgrades and improvements to many of these US platforms and systems, will that be enough to match the potential threat fires capabilities? Having more platforms and munitions is not necessarily an advantage if you do not have the proper sustainment and support infrastructure. With an increase in quantity comes an increase in logistical challenges. In a LSCO, the peer threats will have to maintain and resupply their larger—and older—systems, including repair parts, fuel, and the various munition types. However, the artillery overmatch still remains a significant concern in situations where our potential threats can maintain and resupply these systems.
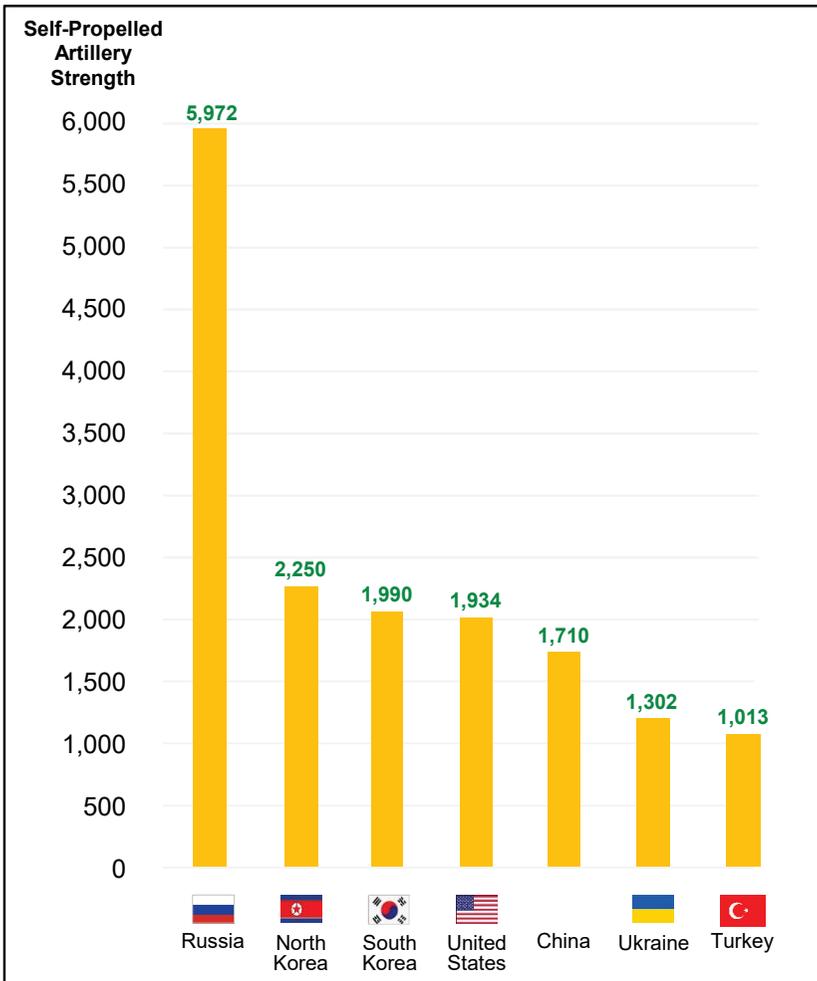
Figure 7.3 Self-propelled Artillery Strength. Created by Army University Press.

Further compounding this challenge is the fact that over the past fifteen years, the US military has focused on counterinsurgency (COIN) operations in Iraq and Afghanistan. The interwar period between 1918 and 1941 offers a rough parallel for the situation the US military faces today. In that period, the US military downsized and became less ready to fight large-scale combat operations. Military historian Martin Blumenson describes the mobilization process for war, which began in 1940, as "hasty and improvised."[6] Blumenson identifies atrophied soldier and command skills, equipment and weapon shortages, and insufficient training opportunities as the main culprits that hamstrung the process. Consequently, when they began combat operations in the early campaigns of World War II, US

forces did not enjoy the doctrine, skills, and equipment needed for industrial-age mechanized warfare.[7] It was not until late in the North African Campaign that US forces began to overcome these shortcomings.

The US Army during Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF) did not deteriorate like the army of the interwar period, but rather transformed from a force focused on large-scale combat operations in 2001 to one focused on counterinsurgency. This transformation included increased manning, more rapid fielding of key equipment, training focused on COIN (at the expense of conventional combat operations), and deployment schedules that allowed little opportunity for preparing for anything other than rotations to Iraq and Afghanistan.

Figure 7.4. Westervelt Board Interwar Years (1919–39) Chief of Artillery with American Expeditionary Force (AEF) Staff. Courtesy of Morris Swett Library.

It was not until 2017 that the US Army began a formal shift from the COIN-centric mindset to one focused on LSCO against a peer threat. The 2018 Defense budget authorized almost $700 billion in defense spending to include funding for force modernization and, specifically, fire support systems. However, the improvement of existing fire support systems was not enough to close the gap with the peer threat fires systems. The US Army arguably requires both additional modern systems and a change in mindset. The additional funding and a shift in training will help this process. But critical to success in LSCO will be a concurrent movement away from brigade-based operations. The US Army has begun reconstructing doctrine with the 2017 publication of Field Manual (FM) 3-0, *Operations,* and the further conforming of each warfighting function's doctrine to the

multi-domain operations concept. This "reconstruction" of the army's paradigm, shifting from COIN to LSCO, should be treated as a long-term goal, one that will require engagement from Army staff at all levels.

Because the campaigns in Iraq and Afghanistan featured brigade-based COIN-centric operations, division and corps staffs did not practice the synchronization of fires in large-scale combat operations. Further, many field artillery units at lower levels saw their individual and collective skills deteriorate as they were forced to conduct non-standard missions such as convoy security.[8] Another result of the shift to brigade-centric COIN operations was the 2005 deactivation of the division artillery (DIVARTY). The recent reactivation of the DIVARTY is a step in the right direction to address the shortfall in field artillery capabilities. However, the reestablished DIVARTYs do not include organic indirect fire systems which are critical to provide deep shaping fires. The lack of organic indirect-fire assets challenges the DIVARTY to accomplish fire support tasks with either attached indirect-fire assets from corps or with brigade combat team (BCT) organic artillery battalions. These issues primarily revolve around four overarching challenges: DIVARTY organization, training and doctrine, sustainment, and the joint air-ground integration center (JAGIC).

Division Artillery (DIVARTY) Organizational Challenges

Commanders at Kasserine Pass struggled with field artillery task organization in ways that are similar to the challenges faced by today's artillery leaders. For the optimal delivery of fire support, the ability to establish strong command and support relationships is paramount. During COIN and other stability operations, the ability to conduct precision fires in dense urban terrain becomes the most important task. In large-scale combat operations, however, massing, focusing, and synchronizing fires at increased range are all critical. Frequently at Kasserine Pass, maneuver units fought without adequate fire support because artillery units were out of position to support, and command relationships were weak. In one of the opening engagements of the Kasserine battle, one infantry battalion from the 1st Infantry Division fought with only minimal artillery support provided by a small detached French artillery element rather than an American unit. Only later in the battle did the US Army 33rd Field Artillery Battalion become available to support the 1st Infantry Division's forces. But rather than employ the battalion's guns to provide fires for the division, the 33rd Battalion was held in reserve status and placed out of range.[9]

Recently, US Army division warfighter exercise observers have found problems with task organization and positioning of artillery similar to those at Kasserine Pass. For example, Fires observers consistently find artillery units out of position, unable to mass fires, and not synchronized with the other warfighting functions.[10] To be fair, actual combat operations at Kasserine Pass were not precisely the same as operations during modern day warfighter simulation exercises. The similarities, however, are evocative and certainly warrant further analysis. Many of these current challenges concern the DIVARTY commander's lack of formal authority and capacity to standardize artillery training across the division as well as the lack of organic field artillery systems at the division level.

Figure 7.5. M142 High-Mobility Artillery Rocket System (HIMARS). Department of Defense photo by Lance Cpl. Joseph Scanlan.

Army Forces Command's (FORSCOM) decision to reestablish DIVARTYs in divisions without organic field artillery battalions could result in similar challenges to those experienced at Kasserine Pass. The FORSCOM implementation order included the attachment of the BCT field artillery battalions to the DIVARTY, while the battalions remain organic to the brigade combat teams.[11] Many division commanders are empowering DIVARTY commanders to standardize training and further certify the direct support battalions. However, an attached relationship rather than an organic relationship limits the DIVARTY commander's ability to accomplish this task.

Having different BCT training and deployment schedules proves problematic in synchronizing and standardizing the training across all three brigades in a division. De-conflicting training schedules to align with the maneuver training tables and schedules is nothing new to these commanders. However, training a division for a LSCO rather than a COIN operation requires the participation of all the BCT's artillery battalions, which presents significant sustainment challenges. Moreover, the attachment situation challenges the DIVARTY commander in that it creates an extra level of coordination to achieve fire support training objectives and certification. Although DIVARTY commanders can certainly set the conditions through battery- and battalion-level training, the challenges significantly increase in the brigade, division, and corps training tables within a decentralized organization.

Command and support relationships influence the ability to mass fires, which significantly contributes to successful maneuver operations as commanders learned at Kasserine Pass, and those principles prove valid today. In LSCO, a habitual relationship generally works well when shaped around the roles of direct support, general support, reinforcing, and general support reinforcing. After seventeen years of COIN, US Army staffs are, at best, partially trained if not untrained in understanding fire support roles in the targeting process during large-scale combat operations. The task organization of artillery systems provides the baseline of fires to support the maneuver plan and then artillery weights the main effort. The DIVARTY commander is limited in the ability to weight the main effort when artillery battalions are organic to the BCTs and there is a lack of organic fires assets at the division level.

It was not until modularity and the formation of modular brigades that the Army decided to make artillery battalions organic to BCTs. Col. Douglas Macgregor served in the Gulf War at the Battle of 73rd Easting and contributed significantly to the body of literature concerning US Army task organization challenges. In his book *Breaking the Phalanx,* Macgregor argues that the BCT should be modeled on the armored cavalry regiment.[12] In that type of unit, the howitzer batteries were decentralized down to the squadron level. Many times, these batteries became marginally trained as a result of the lack of experienced senior-level artilleryman at the squadron level. Moreover, some maneuver commanders lacked the necessary skills to train artillery formations. Sometimes these batteries were highly trained and provided timely and responsive fires to the squadron; however, this was the exception. Because of this situation, commanders have discussed the centralization of the howitzer batteries at the regimental level. This

dynamic allows the regimental commander to further standardize training across all three batteries and gain a higher level of training proficiency. A similar dynamic exists at the division level with the reestablishment of the DIVARTYs under the modular brigade concept.

With modularity, the BCT commander owns the artillery battalion as an organic asset and is therefore responsible for training them, a relationship similar to that which the squadron commander in the armored cavalry regiment has with the howitzer batteries. The BCT commander, much like the squadron commander, has challenges in training these artillery formations to standard, command and support relationships, massing fires, and timeliness of fires. Exacerbating this situation is the fact that the last seventeen years of COIN-centric operations required minimal artillery support, with many artillery units conducting non-standard missions instead. This has resulted in the degradation of artillery skills required for effective fire support during large-scale combat operations.

In a 2007 white paper titled "The King and I," three former maneuver brigade commanders explained the continued challenges that the artillery branch faced as a result of modularity and the COIN-centric operational focus.[13] These commanders stressed that young battery commanders who grew up conducting COIN-centric, non-standard missions will be inadequately prepared to command a fires battalion that is organic to a BCT.[14] While this decentralized organization worked well for small-scale brigade-level COIN operations, it has proven problematic for division- and corps-level operations where command support relationships, the ability to mass fires, the execution of precision fires, and the shaping of deep areas are keys to success.

The concept of centralized versus decentralized artillery is nothing new to the US Army. US military leaders in the 1920s struggled with a similar conundrum. In 1921, one officer addressed the issue in this way: "What should be the principles of training? They must vary somewhat to meet circumstances, but surely the basis should be decentralization."[15] The concept of decentralization shaped the mindset of the US Army in the 1920s and 1930s just as it has in the Army since the end of the Cold War. As illustrated in the battle at Kasserine Pass, decentralization created significant challenges for US forces and generally proved to be ineffective against a conventional threat in a large-scale battle.

Decentralization resulted in mostly negative consequences for Maj. Gen. Lloyd R. Fredendall at Kasserine. Fredendall, the II Corps commander at the Battle of Kasserine Pass, has been criticized by historians

for his role in the battle, especially his unwillingness to array his forces properly in order to defend against the experienced *Afrika Korps*. Lessons learned from the battle highlighted Fredendall's acquiescence to the dispersion of his combat power before the battle.[16] At Kasserine Pass, he only commanded portions of his three organic divisions as his higher headquarters directed the corps commander to detach significant elements of his divisions to support Allied units.[17] With artillery units detached and decentralized across the battlefield, II Corps struggled to establish effective command and support relationships as well as the massing of effective fires. Currently, the US Army modernization efforts emphasize range, precision, and rate of fire rather than adding additional artillery systems. Modernization efforts alone will not close the gap with our potential peer threats. Ideally, if overmatch is the ultimate goal, the US Army would need to continue to emphasize range, precision, and increased rate of fire but also add rocket systems at the division level. If they do not, artillery commanders will be challenged in achieving effective fires against a peer-threat with minimal artillery assets, decentralized organizations, and problematic command and support relationships.

The principles of strong command and support relationships and massing fires remain two of the key lessons learned at Kasserine Pass and in the North African campaign. Maj. Gen. Ernest N. Harmon, commanding general of the 1st Armored Division in North Africa, referred to the principle of mass as it relates to fires: "If you think you can take an objective with a toothpick, use a baseball bat to make sure."[18] The "toothpick" refers to precision fires while the baseball bat symbolizes massed fires. Commanders today should continue to train on the "toothpick" approach with precision fires in an urban environment; however, the commander must also achieve focused and massed fires against a peer threat in a LSCO. Division artillery commanders today face similar challenges with problematic command and support relationships in achieving mass with the three artillery battalions organic to the BCTs if not given the opportunity to centralize and train these battalions to achieve division-level massing or be given organic fires assets in the DIVARTY.

The DIVARTY commander can provide the best fire support for division operations if the BCT artillery battalions are organic to the DIVARTY, and with the organization of additional organic multiple rocket launch artillery battalions in the DIVARTY. The additional multiple rocket launcher battalions would allow the division to best achieve deep shaping fires in the general support and reinforcing roles. This dynamic would

prove critical in an expeditionary capacity. Centralizing the cannon and rocket artillery battalions at the division level is critical if the division commander is to enjoy stronger command and support relationships which in turn facilitate timely, synchronized, and massed fires. This centralization would also allow the DIVARTY commander to train and prepare these artillery formations in expeditionary requirements for a LSCO. As noted earlier regarding the Battle of Kasserine Pass, the artillery formations became detached, decentralized, and dispersed resulting in ineffective command and support relationships and fires. Similarly, in an expeditionary LSCO, the current decentralized BCT artillery battalions would be widely dispersed and challenged with fragile command and support relationships, again affecting their ability to mass fires at the division level. Conversely, a DIVARTY commander given the authority and centralized organization could best train the formation from the individual level through the division level on collective skills to achieve success.

Flexibility proved to be an important factor at the Battle of Kasserine Pass and continues to apply today. The Army's official lessons learned published after the battle of Kasserine Pass noted: "[a]ll the reports point to the axiom that flexibility in planning and execution is one of the most vital elements in all artillery operations."[19] An organic and centralized relationship allows flexibility, giving the DIVARTY commander authority over the BCT artillery battalions through battery- and battalion-level certification. Only by exception will the BCT be able to provide the level of expertise required to effectively certify artillery formations at battery and battalion levels, while the DIVARTY can provide that higher-level staff expertise through the collective tasks at the battery and battalion level. Using a DIVARTY Red Book (artillery standard operating procedures) standards and the artillery table training methodology, the DIVARTY would train and certify the batteries and battalions, always staying one step ahead of the maneuver training. Subsequently, the artillery battalions should be attached back to the BCTs for collective maneuver training and certification leading up to a warfighter exercise, combat training center (CTC) rotation, or deployment. It is at the collective level of training (above battery) where artillery units often struggle to achieve effective command and support relationships, timely fires, massed fires, and focused fires. The issue remains if the army can best achieve this with battalions organic to the DIVARTY or organic to the BCTs. The DIVARTY would be allowed the necessary flexibility to train these artillery formations to a high standard through its centralized and organic organization.

The primary responsibility of the DIVARTY commander as the fire support coordinator (FSCOORD) is to coordinate, integrate, synchronize, and employ fires for the division commander. Moreover, the DIVARTY must be able to mass fires, employ radars, plan and oversee resupply rates, and execute division-level suppression of enemy air defenses (SEAD). The DIVARTY provides mission command for training management and certification for the BCT's field artillery battalions and fire support cells. Finally, the DIVARTY oversees the training and certification of the division fire support cell to achieve coordination, integration, and synchronization of fires.[20] Commanders will find it difficult to achieve these ends under the current decentralized organization and command relationship.

Leading up to Kasserine Pass, the Army grappled with challenges on how to effectively organize artillery. The difficulties that contemporary leaders now face are hauntingly similar. To effectively achieve massed and focused fires against a peer threat, the DIVARTY should include organic multiple rocket launchers. Assigning a field artillery brigade as a force field artillery headquarters has proved problematic without a habitual relationship. In their white paper titled *The King and I,* Sean MacFarland, Michael Shields, and Jeffrey Snow argued this point and moreover contended that the habitual relationship would lead to improved training, mentoring, and support.[21] The best way to achieve the most effective division-level fire support is to centralize cannon battalions at the division-level and add multiple rocket launchers.

As early as 1921, military leaders had discussed the advantages and disadvantages of artillery centralization or decentralization. In a 1921 article in the *Field Artillery Journal*, Lt. Col. W. H. F. Weber stated: "There are doubtless advantages in allowing the Artillery to run itself, but the deciding factor appears to be that unless you have trained together and close neighborhood in peace, you will not get genuine cooperation in war."[22] By "running itself," Weber refers to a centralized organization that allowed "training together" to further achieve unit cohesion, improved bonding, and command and support relationships. Centralizing the artillery at the brigade level worked well for brigade-level operations. But current and future division-level operations require centralization at the division level. Division-level artillery centralization will facilitate the establishment of habitual relationships during training and will lead to effective fire support in wartime.

Training and Doctrine Challenges

Like artillery leaders at Kasserine in 1943, today's DIVARTY commanders have challenges related to the ability to standardize artillery bat-

talion training across the division. Currently, the commander is limited in the ability to standardize training under the current structure due to task organization and command and support relationship challenges. Operations at Kasserine Pass suffered as a result of atrophied training readiness and experience; in some cases, improvement came when new commanders arrived on the battlefield. For example, Brig. Gen. Stafford Le Roy Irwin, division artillery commander of the 9th Infantry Division, arrived at Kasserine Pass five days after the battle started and achieved success after he re-organized his guns, concentrating them in a three-mile arc to effectively mass and counter enemy fires.[23] The 2014 FORSCOM DIVARTY implementation order gives the DIVARTY commander authority to plan, execute, and assess all field artillery (FA) individual and collective training to include training guidance and approval of unit training plans and programs. This includes mission essential task list (METL) guidance to ensure the FA battalion METL supports the BCT's METL, to include unit and section training and certifications.[24] However, the current command authority and the attached relationship limit the DIVARTY commander's ability to achieve these ends. Therefore, if not corrected, today's DIVARTY commander could experience a similar situation on a modern battlefield as Brig. Gen. Irwin faced at Kasserine in 1943.

The artillery units at Kasserine Pass lacked a commonly practiced doctrine to support a fight against the peer threat that they faced in the German forces. To prevent a similar situation, US Army artillery commanders standardize training across the division artillery formation in the form of standard operating procedures (SOP). Traditionally, US Army field artillery soldiers communicate these SOPs in the form of a Red Book; and this standardization can best be accomplished through an organic relationship by centralizing the brigade artillery battalions at DIVARTY, assigning additional artillery battalions to DIVARTY, or both. The latest version of FM 3-0, *Operations*, with a focus on LSCO against a peer threat is a step in the right direction.[25] However, much of accompanying field artillery doctrine has yet to conform to FM 3-0 and must be updated to allow a fully nested Red Book. New doctrine and subsequent Red Book production will help in deconstructing the COIN-centric field artillery mindset and reconstructing it to focus on becoming a combat multiplier in large-scale combat operations.

Leading up to Kasserine Pass, there were significant indicators that US units lacked proficiency in combat skills. Many of these same indicators are apparent in recent training observations. Based on observations from warfighter exercises, fires are not consistently timely. Further, artillery units are often out of position to support the fight, or they move too

aggressively forward of maneuver units and find themselves in a direct fire fight.[26] With flexibility in mind, a feasible option is to allow the DIVARTY to centralize the BCT cannon battalions in an organic organization and further include organic multiple rocket launcher battalions in the DIVARTY. The cannon battalions can be attached back to the BCTs leading up to the maneuver battalion collective training during a CTC rotation. Also, senior army leaders should consider habitually aligning fires brigades to divisions. With these relationships, the DIVARTY which enjoys reinforcing fires from a fires brigades could not only focus on the division deep area but could also reinforce the BCT artillery battalions in the close area.

Sustainment Challenges

In large-scale combat operations against a peer adversary in the near future, artillery units will likely face critical sustainment issues. Army Doctrine Publication (ADP) 3-09.90, *Division Artillery Operations and Fire Support for the Division,* indicates that division artillery can be task-organized with up to five cannon or rocket battalions. This requires a close relationship between the division artillery and the sustainment brigade supporting division operations. Unlike a field artillery brigade, DIVARTYs do not possess organic sustainment battalions. The Army's decision to field DIVARTYs without this type of battalion further challenges the DIVARTY to achieve sustained indirect fires. In a combined arms operation against a peer threat, a force with multiple-launch rocket system (MLRS) or high-mobility artillery rocket system battalions (HIMARS) task-organized to the DIVARTY would challenge the DIVARTY to sustain these additional battalions (especially with Class V ammunition). A reliance on precision fires in LSCO, which results in less Class V usage, will result in ineffective fires against large enemy formations.

The DIVARTY lacks the support of a sustainment battalion staff built around the DIVARTY, most notably the support operations officer (SPO) who plans and coordinates the delivery of supplies. Therefore, the DIVARTY S4 must conduct sustainment operations while many commanders task-organize the forward support companies alongside their habitually supported battalion when placed under the division artillery. This situation results in extended lines of communication (LOC), creating additional resupply challenges. To overcome this present challenge, the DIVARTY sustainment leaders (principally the DIVARTY executive officer and S4) develop a close supporting relationship with the division G4 and supporting sustainment brigade to enable a sustained level of resupply in an extended operation. The inclusion of a sustainment battalion to support the

DIVARTY with multiple artillery battalions would be necessary to provide effective sustainment operations in a division LSCO.

Joint Air Ground Integration Center (JAGIC) Integration and Kasserine Pass Air Operations

US Army divisions face obstacles in the integration of the joint air-ground integration center (JAGIC) into the division current operation integration cell (COIC). This ineffective integration results in inefficient fire support. Commanders in the North African campaign struggled with similar integration challenges. In after-action reviews, these commanders emphasized that air operations were insufficient to achieve effective close combat air support. Maj. Gen. Omar Bradley reported in his notes on the 1st Armored Division Operations in North Africa: "Air-ground support has not yet approached the satisfactory stage. Air support must be made more available to ground combat units to enable them to exploit air-mission targets of opportunity."[27] Maj. Gen. Ernest N. Harmon echoed Bradley's comments, noting that there was minimal close air support for US troops in North Africa and that air-to-ground coordination was "lacking."[28] Similarly, the current division and corps struggle with integrating air assets into operations. US Army division staffs remain challenged with effectively executing air-ground support. The inclusion of a JAGIC in the division is a step in the right direction, but the integration of that organization has proved problematic. In the current division organization, integrating the JAGIC into the COIC and the fires cell is critical in coordinating and synchronizing fires in support of the maneuver commander's objectives and dramatically affects shared understanding. As a result of lessons learned in multiple warfighter exercises and named operations, the JAGIC allows the division commander to integrate and coordinate fires to synchronize Joint and Army fires; and based on Mission Command Training Program (MCTP) warfighter exercise observations, divisions are challenged with integrating the JAGIC into the COIC and the fires cell.[29]

The COIN-centric mindset still resonates within the COIC, preventing the effective integration of the JAGIC. The division COIC remains focused on such things as the battle update brief (BUB) and predominantly dynamic targeting (both remnants of COIN) rather than the execution of the deliberate targeting plan. This fixation could, upon the initiation of large-scale combat operations, result in air-to-ground coordination problems similar to those experienced in North Africa in 1943. MCTP observers frequently report inefficient COIC and JAGIC operations because events such as the BUB take

priority over the execution of a time-sensitive high payoff target (HPT) that the JAGIC is attempting to engage. Moreover, many staffs do not have battle drills in place to ensure that the common operational picture (COP) remains updated across systems in the JAGIC, COIC, and the DIVARTY. Ineffective system integration results in a failure to keep fire support coordination measures updated so that critical measures such as the coordinated fire line (CFL), the fire support coordination line (FSCL), and friendly troop locations remain current.[30] Without efficient integration of the JAGIC in the division main, the division will continue to struggle with timely, synchronized, and effective close air support (CAS) and air interdiction (AI).

Figure 7.6. Navy F/A-18E Super Hornet from the Flight Deck. Navy photo by Petty Officer 3rd Class Kaysee Lohmann.

Integrating the DIVARTY, JAGIC, and COIC is critical to managing airspace to synchronize CAS, AI, and surface-to-surface fires. The JAGIC provides a joint team to control division airspace for integrated and more efficient synchronization of fires.[31] Training to achieve full integration of the COIC, JAGIC, and the fires cell should start months before a warfighter exercise, CTC rotation, or deployment. Much of this integration training should include digital sustainment training. Further, the lessons learned in this preparation must be captured and codified in the form of doctrine, SOPs, and battle drills.

The JAGIC is critical to executing air operations in the division airspace in a LSCO. The JAGIC leverages elements of the air support operations squadron (ASOS) while the air support operations center (ASOC) serves as the headquarters element and could augment the ASOS in a division COIC. If effectively integrated into the division COIC, the JAGIC allows divisions to better shape their own deep area with more responsive fires. However, this becomes more problematic within the corps. The corps is responsible for shaping its own deep area, which will become the division's next deep area in an offensive operation. However, the corps does do not have a JAGIC, the organization critical to executing this effort. Because of this, divisions must understand how to best integrate the JAGIC to allow for division-level rapid execution and clearance of fires and airspace deconfliction, both in the close area and the deep area.

Although the corps has an ASOC, its command post does not have a JAGIC. This forces the division JAGIC to coordinate corps AI targets. In a 2014 *eArmor* article, Brig. Gen. Joseph P. Harrington and Dr. William M. Rierson described the effective integration of the JAGIC into 1st Armored Division's Division-Main (D-Main) Command Post (CP) to provide improved airspace deconfliction and coordination. The division improved in its ability to dynamically re-task previously distributed joint air assets in real time to support the division commander's priorities. Yet, the division was challenged with integrating the JAGIC into the division fires cell, air and missile defense (AMD), and G3/aviation sections. Not everyone on the division staff fully understood the roles, responsibilities, and functions of each JAGIC member.[32]

Summary

The process of shifting the Army's focus from COIN to large-scale combat operations will not occur overnight. This process of shifting mindsets in some ways mirrors the challenges faced by US units at Kasserine Pass. The consequences of not institutionalizing this shift today could lead to the types of failures experienced in Tunisia in 1943. Much of the problem concerns the doctrine that shapes the thinking of our soldiers and leaders. An in-depth analysis of field artillery doctrine which largely drives the way we train, organize, man, and equip is needed. A clear understanding and implementation across warfighting functions of the decide, detect, deliver, and assess (D3A) targeting methodology as a synchronizing function is necessary. Staffs tend to gravitate toward dynamic targeting because that is what they have done over the last seventeen years. COIN-centric

dynamic targeting alone will almost certainly result in desynchronized, unfocused, and minimal massing of fires in a LSCO.

In order to change the COIN-centric mindset, commanders and their staffs must deconstruct habits associated with COIN-centric targeting. However, they should not forget lessons learned in COIN operations. There is certainly a need for dynamic targeting; however, targeting in LSCO should be predominantly of the deliberate type using the D3A methodology with occasional dynamic target execution. Moreover, commanders and their staffs must effectively integrate the JAGIC into the COIC and organize the DIVARTY in a division-centralized manner as the force's field artillery headquarters, preferably with organic multiple rocket launcher artillery battalions. These long-range systems allow the division to shape the deep area and achieve massed and focused fires. Additionally, these organizational adjustments will simplify the DIVARTY commander's ability to standardize training for the BCT field artillery battalions across the division and result in improved fire support in the close and deep areas.

Notes

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2. John McCain, *Restoring American Power: Recommendations for the FY 2018-FY 2022 Defense Budget* (Washington, DC: Senate Armed Services Committee, 2017), 2.

3. "Global Firepower (GFP) Strength in Numbers," accessed 23 August 2019, https://www.globalfirepower.com/countries-listing.asp.

4. "Global Firepower (GFP) Strength in Numbers."

5. These potential adversaries possess the 2S7 203-mm, 2S19 152-mm, 2S5 152-mm, 2S3 152-mm, and the 2S1 122-mm. The US Army cannon platforms include the M109A6 155-mm SP Paladin, the M777A1 155-mm towed cannon, and the M119A1/2 105-mm towed cannon. See "Global Firepower (GFP) Strength in Numbers."

6. Martin Blumenson, "Kasserine Pass, 30 January–22 February 1943" in *America's First Battle*s, *1776–1965*, ed. Charles E. Heller and William A. Stofft (Lawrence, KS: University Press of Kansas, 1986), 240.

7. Blumenson, 240.

8. Sean MacFarland, Michael Shields, and Jeffrey Snow, "The King and I: The Impending Crisis in Field Artillery's Ability to Provide Fire Support to Maneuver Commander" (white paper, US Army, 2007), 1–4.

9. US Army Center of Military History, *Kasserine Pass Battles: Doctrines and Lessons Learned,* vol. I, part 2, 11–12.

10. Col. Edward T. Bohnemann, "MCTP Trends in a Decisive Action Warfighter Exercise" (Fort Leavenworth, KS: Mission Command Training Program, 2015), 25.

11. FORSCOM Headquarters, "Division Artillery (DIVARTY) Implementation Order," Fort Bragg, NC, 9 April 2014.

12. Douglas Macgregor, *Breaking the Phalanx* (Westport CT: Praeger, 1997).

13. MacFarland, Shields, and Snow, "The King and I," 1–4.

14. MacFarland, Shields, and Snow, 1–4.

15. D. M. Beere, "Lessons of the War Affecting American Artillery, Particularly Divisional Artillery," *Field Artillery Journal* 11 (September–October 1921): 39.

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17. Christopher M. Rein, "Major General Lloyd. R. Fredendall and II Corps at the Battle of Kasserine Pass" in *Essential to Success: Historical Case Studies in the Art of Command at Echelons above Brigade,* ed. Kelvin Crow and Joe R. Bailey (Fort Leavenworth, KS: Army University Press, 2017), 155.

18. US Army Center of Military History, *Kasserine Pass Battles: Doctrines and Lessons Learned,* vol. II, part 3 (Washington, DC: 1985), 10.

19. US Army Center of Military History, chap. 11, 21.

20. FORSCOM Headquarters, "Division Artillery (DIVARTY) Implementation Order."

21. MacFarland, Shields, and Snow, "The King and I," 1–4.

22. Lt. Col. W. H. G. Weber, "Being a Tactical Study of the Field Artillery Group in Retreat," *Field Artillery Journal* 11 (January–February 1921): 42.

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24. FORSCOM Headquarters, "Division Artillery (DIVARTY) Implementation Order."

25. Department of the Army, Field Manual (FM) 3-0, *Operations (*Washington DC: 2017).

26. Bohnemann, "MCTP Trends in a Decisive Action Warfighter Exercise."

27. US Army Center of Military History, *Kasserine Pass Battles,* vol. II, part 3, chap. 12, 2.

28. US Army Center of Military History, chap. 13, 10.

29. Bohnemann, "MCTP Trends in a Decisive Action Warfighter Exercise," 17.

30. Center for Army Lessons Learned, Bulletin 17-05, *Mission Command Training in Unified Land Operations, FY16 Key Observations Mission Command Training Program* (Fort Leavenworth, KS: 2017), 56, 61–62.

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32. Brig. Gen Joseph P. Harrington and Dr. William M. Rierson, "1st Armored Division Leads Army in Re-examining Mission Command 'Initiatives,'" *eArmor* (October–December 2014), http://www.benning.army.mil/armor/earmor/content/issues/2014/OCT_DEC/Harrington.html.

Chapter 8

Information Operations at the Division Echelon

Russell G. Conrad

The 1989 collapse of the Soviet Union sparked the beginning of change to the Army's operational concept of AirLand Battle. The post-Soviet era was marked by increased involvement in peacekeeping and other stability operations, which placed greater importance in the requirement to influence target audiences. The Army's increased involvement in stability operations coincided with rapid developments in information technology, which required commanders to better understand and operate in the information environment. The Army responded to changing missions and environments by optimizing its organizations and doctrine. In 1996, the Army introduced the concept of information operations (IO) by publishing Field Manual (FM) 100-6, *Information Operations*, which was based in part on experiences in Iraq, Somalia, and the Balkans. This new doctrine acknowledged the changing information environment and supported the Army's evolving organizational and operational concepts.[1]

The Army's new Field Manual (FM) 3-0, *Operations*, published in October 2017, shifts the focus of the Army back toward high-intensity conflict and emphasizes the importance of the division as an echelon. The purpose of this chapter is to discuss the conduct of IO according to the concepts of Unified Land Operations (ULO) as defined by the new FM 3-0, paying particular attention to the division echelon. While all echelons can employ IO to some degree, the division is the lowest tactical echelon that has a robust enough staff and force structure to employ all aspects of IO. When properly resourced, a modular US Army division conducting sustained combat operations can perform IO to great effect to shape the decisive operation, exploit adversary weaknesses, and mitigate friendly vulnerabilities.

Army doctrine has for some time defined combat power as consisting of the six warfighting functions, tied together with leadership and information. FM 3-0 recognizes two aspects of information as it relates to combat power: the information required to make timely and accurate decisions and the use of information to achieve a relative advantage over adversaries. While knowledge management and information management assist decision-making, information operations are the means to harness information to achieve an advantage.[2]

The Army draws its definition of IO from joint doctrine. Joint Publication (JP) 3-13, *Information Operations*, defines IO as "the integrated

employment, during military operations, of IRCs [information-related capabilities] in concert with other lines of operation to influence, disrupt, corrupt, or usurp the decision-making of adversaries and potential adversaries while protecting our own."[3] This definition immediately calls to attention the dual offensive and defensive nature of IO. The definition also concentrates the attention of IO onto decision-making, making it of direct concern to the commander.

The Army's Mission Command philosophy is inherent to the Army doctrine of ULO and provides the origin of the commander's requirement to conduct IO. This philosophy defines three basic tasks of a commander, one of which is to inform and influence audiences, both internal and external. This is why FM 3-0 describes information operations as commander-centric.[4] The term suggests commanders must personally involve themselves in the struggle to control and, optimally, to dominate the information environment. Failure to engage in IO is inconsistent with the concept of mission command.

The staff, in turn, is saddled with four tasks under Mission Command, one of which is to manage and synchronize the employment of IRCs. The staff officer responsible for overall synchronization is the G3 operations officer. His chief subordinate to manage the IRCs—those things which affect the information environment—is the IO officer. The task of synchronizing these capabilities is what information operations is all about.

Controlling, or even understanding, the information environment within a division area of operations is daunting due in part to the variety of populations and environments it contains. A modern modular Army division has between 17,000 and 21,000 soldiers and controls two to five maneuver brigades. Doctrine does not provide guidelines as to the size of an area in which a division operates (this is situationally based on mission variables); however in recent history, divisions have controlled areas as big as the state of New York.[5] Operating in an area of such size increases the likelihood that terrain and population will vary significantly within the division's area of operations (AO). Just as in New York, the terrain may vary between coastal marshland and snow-covered mountains. The division AO is likely to include both urban and rural terrain, with respective infrastructure differences. The size of the division AO also suggests that a significant portion of the host nation's economic means and resources lie within the division AO.

All of these characteristics will have implications on information, which is at the center of the concept of influencing as well as decision-mak-

ing. The sheer size of the AO may make communications problematic. This also suggests the division and subordinate brigade commanders will have to inform and influence a wide variety of target audiences, including leaders of various social, political, ethnic, and religious subdivisions. Add to this the requirement to influence enemy forces and their leaders, to include any insurgent forces, compounded with understanding and influencing allied or host-nation forces, and one begins to understand the problems inherent to a division commander's requirement to inform and influence.

While the physical size of a division AO creates its own problem in the physical domain, the cognitive and informational domains add even further complexity. The division must also concern itself with what is going on in the digital world. The division's adversaries may be operating to shape opinions or to communicate decisions using social media or e-mail. As always, the division must also inform audiences at home, including friends and family, and worldwide through public media and other channels. This adds up to a complex and varied informational environment with a wide variety of target audiences the division commander must assess, inform, and influence.

While seeking to dominate the information environment is a broad and complex task for a division commander, divisions have a robust staff with diverse capabilities to meet these challenges. Because it is a modular organization, the forces assigned to a division must include an equally robust set of capabilities that extend the commander's ability to inform and influence, while also enabling subordinate brigade commanders to do the same. As stated previously, capabilities that are used to inform and influence audiences are known as information-related capabilities (IRCs). Some IRCs are represented by Modified Table of Organization and Equipment (MTOE) units, and some are represented by those capabilities that are organic to the division's attached brigades. The IRCs that are available to a division include Public Affairs; Military Information Support Operations; Electronic Warfare; Cyber; Military Deception; Operations Security; Physical Destruction; Civil Affairs; Soldier Leader Engagement; Presence, Profile, and Posture; Combat Camera; and other activities used to influence and inform (see Figure 8.1).

The Information Operations Staff

The G3 is the staff officer who synchronizes division operations on behalf of the commander. When thinking in terms of IO, audiences are influenced by everything the division *says* as well as by everything the division *does*. The G3 has always had the responsibility for what the division *does*,

but placing the major IRCs subordinate to the G3 gives one staff element authority over what the division *does* and *says*. It, therefore, makes sense to organize the IO function within the Movement and Maneuver warfighting function, with the IO officer being the G3's primary executor of synchronizing the division's efforts to inform and influence.[6] While organized under the Movement and Maneuver warfighting function, the IO officer works closely with the Fires function as part of the targeting group, as well as with the other warfighting function working groups.

The division staff contains an IO section organic to the staff, organized within the Movement and Maneuver Cell under the G3. The IO section consists of a lieutenant colonel IO officer, a major deputy IO officer, a captain operations security (OPSEC) officer, and a master sergeant Public Affairs noncommissioned officer (there is no enlisted IO specialty). Additionally, the G5 Plans Cell has a major IO plans officer. The IO section facilitates the IO working group and forms part of its core.
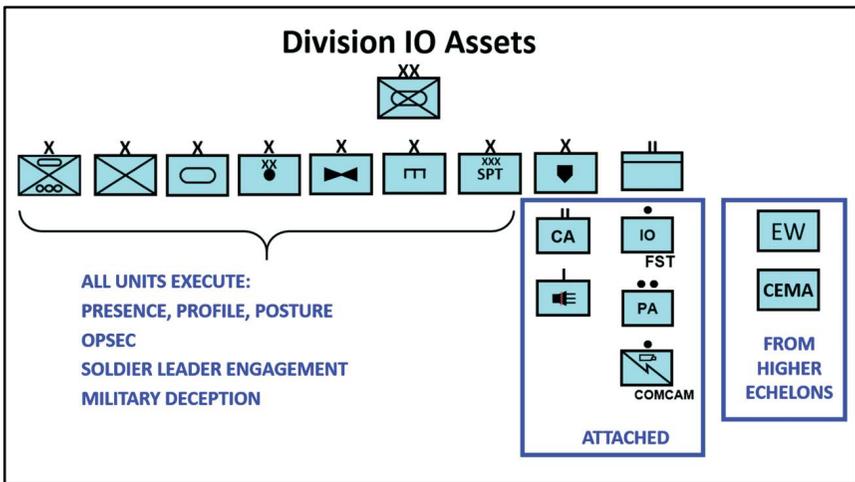
Figure 8.1. Division Information Operations Assets. Created by the author.

The 1st IO Command at Fort Belvoir, Virginia, and three Reserve Component tactical IO groups (TIOG) can assign deployable field support teams (FST) to augment a unit staff. A FST is of variable size, but typically will have between two and six members. They can consist of IO officers with general purpose skills, or they can provide specialists in military deception (MILDEC), OPSEC, or cyber. These FSTs increase the supported unit's capability to plan and analyze IO. The FST also brings a significant digital reach-back capability to provide detailed enemy and cultural analysis that may not be resident in the supported unit. Additionally, the 1st IO

Command and the TIOGs can provide vulnerability assessment teams to identify and improve a unit's cyber, communications security (COMSEC), and OPSEC posture. Finally, the 1st IO Command can provide a cyber opposing force (OPFOR) during division exercises.

Information-Related Capabilities

The two IRCs that speak directly to audiences include Public Affairs (PA) and Military Information Support Operations (MISO). These two IRCs address both domestic and international audiences through direct communications. They are also similar in that they receive themes and message guidance from higher echelons through their own functional hierarchy. It is a common misconception that the IO officer develops the commander's themes and messages. This is actually done jointly by the Public Affairs officer (PAO) and the MISO officer to determine how best to employ and modify the themes and messages passed to them, based on the division commander's guidance. The IO officer acts as a catalyst in this effort, helping to distill these ideas into a single set of command themes and messages while simultaneously serving to ensure that PA and MISO messaging is harmonious.

PA is unique among all the IO capabilities in that it is represented by a personal staff officer with direct access to the commander. This relationship is driven by the commander's responsibility to keep the American population informed. More than any other, this capability ensures the balance between transparency and operations security (OPSEC) that maintains the Army's good reputation in the eyes of the American population. It is in the best interest of the commander and the IO officer to protect the credibility of the PAO. The IO officer and the PAO work jointly, under the direction of the commander and the chief of staff, to synchronize and harmonize what the unit says. As a function, PA falls within the Mission Command warfighting function (see Figure 8.2).

The division is well-manned to execute public affairs. The PA officer is a lieutenant colonel and is generally located in the main command post with four PA enlisted soldiers. The deputy PAO is a major who is usually located in the tactical command post (TAC) with a senior noncommissioned officer (NCO).[7] The organic PA section conducts planning, prepares and coordinates press releases and media engagements, and prepares command information products (newsletters, etc.). It is also common for the PAO section to be reinforced by a Public Affairs detachment (PAD) of eight soldiers, led by a captain. A mobile PA detachment (MPAD) of twenty-one soldiers, led by a major, may also augment the division, although

these assets are more commonly assigned to support a corps. The MPAD has the ability to produce mass broadcast and print products. At subordinate echelons, each brigade within the division is authorized a PA officer and an NCO, and may also be augmented by a PAD.[8]

IO Capabilities
Grouped by Warfighting Function

Intelligence	Movement & Maneuver	Fires	Sustainment	Protection	Mission Command
Intel Support to IO	MILDEC	Lethal Fires		OPSEC	EW
	MISO			Physical Security	CYBER
	Civil Affairs				Public Affairs
	Posture, Presence, Profile				Combat Camera

Figure 8.2. Information Operations Capabilities Grouped by Warfighting Function. Created by the author.

MISO was formerly known as Psychological Operations, or PSYOP (PSYOP now refers specifically to the PSYOP branch and PSYOP organizations; PSYOP units and soldiers conduct MISO). Because MISO directly influences foreign audiences, it is always a primary IRC. The division's organic PSYOP staff includes a lieutenant colonel, a major, a sergeant major, and a sergeant first class.[9] These individuals make up part of a Division Engagement Cell within the Movement and Maneuver Cell that is split between the main and tactical command posts. Typically, a division will also have attached a 105-person tactical PSYOP company to execute MISO throughout the division AO. This company is made up of four detachments commanded by captains, each with four three-man tactical PSYOP teams (also known as military information support teams, or MIST). The PSYOP company can operate either centralized under division control, or its detachments can be placed in support of subordinate brigades.[10]

The brigades within a division have a sergeant first class PSYOP NCO in the Fires Cell.[11] Unless they have PSYOP teams attached, brigades execute MISO using organic assets, such as unit patrols. It is important to realize that the division and its brigades conduct MISO whether or not there is an attached PSYOP unit.

Civil Affairs (CA) is an IRC because it influences local government and non-government operations, as well as the population in general. The division staff includes a CA lieutenant colonel and major as well as a CA sergeant first class assigned to the tactical command post (TAC CP), a CA master sergeant and CA platoon sergeant in the main command post, along with a CA major plans officer in the G5 section.[12] These staff members make up the G9 Civil Affairs operations element of the Engagement Cell within the Movement and Maneuver Cell.

A CA battalion will typically be attached to a division. The battalion's four line companies are designed to support a brigade or a brigade-sized area. The battalion's headquarters reinforces the division G-9 staff and provides a civil-military operations center (CMOC) capability.[13] When a division or brigade does not have a CA unit attached, the commander conducts civil-military operations using organic assets.

Combat Camera (COMCAM) provides video and photographic documentation of military operations. While Combat Camera provides a Signal function rather than a Public Affairs function, its products are primarily used to provide evidence for various official purposes and can also be released for PA and MISO use. The Army's Combat Camera teams are provided by the 55th Signal Company from Fort Meade, Maryland, and the 982nd Signal Company from East Point, Georgia. A division may be attached a COMCAM team of two or three soldiers for a specific period of time or operation, but is not likely to receive such a unit for the long term. When a division does not have a COMCAM team attached, it can create this capability by using organic soldiers with personally owned cameras but must have procedures in place for collecting, reviewing, and disposition of images.[14]

Cyber Electromagnetic Activities (CEMA) influences the use of the Cyber environment and electromagnetic spectrum, thereby influencing decision-making. This includes electronic attack, electronic collection and exploitation, and defensive activities. CEMA falls into the Mission Command warfighting function, and is represented on the staff by a CEMA cell of four soldiers, led by a lieutenant colonel Electronic Warfare (EW) officer (specialty 17A).[15] The CEMA cell assists in targeting, and in the coordination/de-confliction of electronic and cyber-attacks (especially jamming), collection, and defense. The EW officer works closely with the G6 Signal Spectrum Manager (who is part of the CEMA cell) and the G6 Information Assurance section. The division might be attached a Cyber Support team to augment its staff capabilities. Such a team provides reach-back capabilities that include both offensive and defensive cyber.

It is critical to note that other than short-range counter-IED devices, the Army currently has no ground-based jammers. For this reason, the division depends on assets requested from the Air Component Command, which generally includes EC-130 Compass Call (US Air Force), EA-18 Growler systems (US Navy), or EA-6B Prowler (US Marine Corps) systems. While the division does not "own" these systems, it is one of the primary customers of these systems. A division area of operations is potentially large enough to contain the effects of these jamming systems.

Special Technical Operations (STO) includes any classified systems that exist outside the division's capabilities that can be used to influence decision-making. The division staff includes a STO Plans officer (specialty 40A) in the G5 plans cell. Additionally, the division might receive a STO liaison officer to assist in targeting and coordination of STO effects. In employing STO, the division determines a specific effect which the STO officer coordinates to achieve.

Information-Related Capabilities Executed by Organic Assets

There are several information capabilities that are typically executed by assets within the division. These actions are not represented by specific MTOE assets, as MISO and CA are, but are represented by an officer on the staff. The IO officer can step in to manage and coordinate those actions which are not otherwise represented.

Audiences are influenced by their perception of military operations. Each time a unit sends out a patrol, it is sending a message to various audiences. The concept of Presence, Profile, and Posture (PPP) allows a unit to manage such perceptions. The *presence* of military forces can be menacing or reassuring. A show of force is an example of a managed presence. *Profile* influences perception of the magnitude and intensity of operations. Units can conduct operations in a high-profile manner, where they are readily identifiable, or can operate as a small and nonthreatening presence. Unit profile can support both military deception and OPSEC efforts. A unit's *posture* refers to how aggressively the unit presents itself and conducts force protection. The concept of escalation uses PPP and soldier and leader engagements to manage perception in conjunction with security operations and leader engagements. The IO officer should assist the G3 in developing a plan for escalation, whereby the division can manage the perceptions of populations and decision-makers.

Soldier and leader engagement (SLE) describes all face-to-face meetings between soldiers and target audiences. Management of SLE activities allows the division to align and synchronize directly engaging local lead-

ers to influence their activities. The IO section often serves as the SLE manager within a division to ensure unity of effort and increase the effectiveness of all engagements. In SLE, key leaders such as the division commander, sergeant major, and deputy commanders are treated as weapon systems, engaging selected targets to achieve identified effects, typically as part of a larger initiative.

Military deception (MILDEC) is one of the oldest tools in the IRC "kit-bag." The objective of deception is to influence a decision-maker's behavior by presenting a false or ambiguous perception of reality. To present a believable false narrative at the division echelon, MILDEC requires the coordinated effort of multiple IRCs and unit activities, which places it squarely in the realm of IO. The IO functional area (FA30) is the proponent of MILDEC for the Army. While there is not an authorized position for a MILDEC officer on the division staff, the IO Plans officer can serve in this role. MILDEC is not planned as an afterthought, but is intrinsic to a course of action (COA). It is therefore introduced in Step 3, COA Development, of the MDMP and is synchronized in Step 4, COA Analysis.

The division commander has a variety of capabilities that must be coordinated to support a deception, including MISO, OPSEC, camouflage and concealment, physical destruction, and PPP.[16] The division Plans Cell can form a Deception Working Group, which is generally led by a qualified MILDEC officer (such as the IO planner). The deception will be executed by multiple units across the division, many of which will not know their activities are part of a deception effort. The number of leaders who are aware of the deception plan is limited to as few as possible, in order to preserve security. OPSEC and MILDEC are two sides of the same coin: as MILDEC presents a false reality, OPSEC attempts to hide the true picture. Therefore, the OPSEC officer is always a member of the Deception Working Group.

OPSEC is often understood to consist of routine security items incorporated in unit standard operating procedures. While this is a facet of OPSEC, it is not the focus of OPSEC in regard to IO. OPSEC involves the idea that divisions generally do not have the resources to protect all information, so efforts concentrate on identifying and protecting the discrete set of information that is critical to a particular operation. The division is the lowest echelon that provides a dedicated OPSEC staff position, that being a captain OPSEC officer (FA30) in the IO element of the tactical CP. As with MILDEC, other IRCs are involved in providing OPSEC.

While all the activities above are commonly listed as IRCs, anything the division does to affect the information environment can be considered an IRC. Other activities which primarily affect the physical environment but which can be used as an IRC might include physical security, maneuver of forces, reconnaissance activities, release of information to the public, or lethal attack.

It is a common misconception that IO is synonymous with nonlethal means. If the division employs lethal means to affect an adversary's decision-making, those means are considered to be an IRC. Whether in large-scale combat operations or stability operations, divisions will employ lethal means such as joint fires, organic surface-to-surface fires, maneuver forces, or special forces to attack enemy command and control nodes. When using these operations to disrupt or otherwise influence decision-making, those lethal means are used as an IRC. Even when influencing a decision is not the primary purpose of lethal force, there may be secondary effects on decision-makers or populations that concern the IO officer. The role of the IO officer is to synchronize lethal effects with other activities to maximize the overall effect and mitigate undesired consequences. As an example, if an enemy command post is targeted by division fires in order to disrupt enemy control of operations, the IO officer might propose adjusting the timing of the attack to a period when a key enemy decision is expected. This might increase the likelihood of disruption and prevent the enemy from re-establishing control in time to make the decision.

Information Operations in Planning

The division commander uses the Army Design Methodology (ADM) to conduct conceptual planning. The object of this methodology is to ensure that, in a complex and ill-defined situation, the commander understands the problem and develops a conceptual approach to solve it. The ADM should allow the commander to visualize how information plays a role in an operation. There is no required product derived from the ADM, other than the commander's increased understanding; however, there are several products that can assist the IO officer. Primary among these is a narrative. The unit narrative is a paragraph which describes what the division is trying to accomplish and why, its relationships with the host nation, its population, and any adversaries. While not intended for direct transmission to a target audience, the narrative describes the story the division would have all audiences believe. A well-written narrative will assist in developing themes and messages, lines of effort, and IO objectives when the staff begins detailed planning using MDMP.[17] The friendly narrative is generally opposed by a conflicting enemy narrative.

Division staffs conduct detailed planning using the Military Decision Making Process (MDMP). Unlike the conceptual planning of the ADM, the MDMP results in an executable operations order. The IO section of the staff contributes several products to this effort.

In mission analysis, the IO section assists the Intelligence Preparation of the Battlefield (IPB) by describing and assessing the information environment (IE). The IE includes the systems that exist within the physical world that transmit, process, and collect information. The IE also includes the information itself. This information exists in digital form or is transmitted using the electromagnetic spectrum, or by aural or visual means.

The specific product the IO contributes is a combined information overlay. This is a series of overlays which, when combined, provide insight and allow conclusions regarding the IE. There is no standard procedure for arranging this information; it is situationally dependent. One example uses the categories of terrain, infrastructure, media, population, third-party organizations, and culture. Another method includes an overlay for each of the elements of PMESII: political, military, economic, social, information, and infrastructure. However it is done, the IO section is responsible for assembling and maintaining the product, conducting the analysis, and presenting it to the commander. This effort also includes incorporating information from other staff elements.

The second IPB product the IO section provides is an analysis of the enemy's information warfare capabilities and likely courses of action. The IO officer coordinates this analysis with the G2 section and advises the G2 on its integration with the overall enemy courses of action. As part of the IPB, the IO section contributes an analysis of target audiences. The general concept here is to identify which populations and decision-makers the commander should inform and influence. The command generally does not have the time and resources to engage all target audiences. The IO section coordinates the effort to identify and prioritize those target audiences appearing most important. Several other staff sections also contribute to this. Both MISO staff elements routinely analyze audiences within the population. The PAO will analyze media organizations and personalities, as well as the audiences of various media platforms foreign and domestic. The G9/CA officer determines which government and nongovernment leaders and organizations might pertain to the mission. Discussion with the G2 will identify which hostile leaders are potential targets—to include conventional force commanders, insurgent and criminal organizations, and hostile social and political organizations. There exists no standard

product to present this information, although the results can incorporate into the combined information overlay.

The IO officer will also analyze friendly IO capabilities. Categorizing capabilities according to IRC, the IO officer includes those assets (such as EW) that exist outside the division but which can provide support. Since other staff sections represent most IRCs, the IO officer collects this information in coordination with them. As with other staff sections and warfighting functions, the IO officer contributes to the staff analysis of specified, implied, and essential tasks; Commander's Critical Information Requirements (CCIR) and Essential Elements of Friendly Information (EEFI); risk analysis; and the initial information collection plan. As described above, the IO is also involved with assisting the PAO and MISO officer to develop the commander's themes and messages.

The IO officer pays special attention to the rules of engagement (ROE) to understand how they will affect the information environment. The IO officer tries to anticipate where the use of force might cause perceptions incongruous with command themes. For instance, enemy activity within populated areas may cause a probability of collateral damage. Where the division cannot avoid such actions, the IO officer visualizes how to shape expectations and prepares to manage unfavorable consequences. The division PAO and operational law officer are key allies in this analysis.

Information operations are a shaping operation; however, there are situations where the success of the decisive operation may be highly dependent on the success of IO. The IO officer provides input early during development of each COA. For each COA, the IO officer expresses how to achieve a decisive advantage in the information environment at the critical time and place. The IO officer describes this in a distinct scheme of IO, including a set of IO objectives which are nested within the broad concept of the COA.[18]

IO objectives are specific outcomes that IO will accomplish in support of the overall concept. They describe how IO will shape the information environment for the decisive operation and other shaping operations. The scheme of IO describes the cumulative effect of the IO objectives, and how they result in creating a decisive advantage. IO objectives refer to what IO will achieve as a whole; they typically do not specify tasks for specific IRCs. The details of each IRC contribution to the IO objectives are left for detailed development of an IO synchronization matrix. Exceptions to this may occur when an individual IRC plays a major role in the

COA broad concept, as might happen when incorporating MILDEC (a feint, for example).[19]

The scheme of IO and IO objectives is typically enough to describe how IO will support a COA. Prior to beginning COA analysis, commonly done through means of war-gaming, the IO section must determine the details defining how to accomplish each IO objective. In collaboration with the IRC staff representatives, the IO officer develops IRC tasks that contribute to each IO objective. Not every IRC will contribute a task to accomplishing every IO objective, and some IRC tasks may contribute to multiple IO objectives. The IO officer prepares a synchronization matrix which identifies the task, purpose, and effect required of each IRC for each IO objective. This matrix should be detailed enough to identify the specific systems, capabilities, and units involved.[20] These tasks will translate into specific instructions to units during orders production. The IO matrix serves as a key input to COA analysis and is necessary to harmonize the IO effort within the COA. Preparing the IO synchronization matrix completes the planning of each COA to a level of detail allowing for adequate synchronization during COA analysis. It should, therefore, be considered a critical step in "gathering the tools" for war-gaming.[21]

As war-gaming progresses, the IO section pays particular attention to potential effects that friendly and enemy actions may have within the information environment. This may include effects on the population and non-military decision-makers. This should also include enemy information warfare actions and reactions. To ensure these activities are adequately addressed during the wargame, the IO section may assist the red team player (the staff member assigned the role of enemy force commander) in determining enemy use of the information environment. The IO officer, along with the G9, should also ensure that non-military hostile parties are represented in the war game, as may be necessary.

Information Operations in Execution

Once the division publishes an order and places it into execution, the conduct and assessment of IRC tasks are overseen by the IO element of the current operations integration cell (COIC), either in the main or tactical command posts. Because of a limited number of personnel, the sections making up the Engagement Cell (CA, SF, and MISO) often combine with the CEMA and IO sections to provide a constant presence in the COIC. This representation in the COIC alerts the appropriate IRC staff representative outside the COIC as necessary, including the necessity for a crisis-related working group.

Overall execution and adjustment of IO occurs in an IO working group (IOWG). The IOWG is a staff meeting that brings together the IRCs and other warfighting function representatives to assess, update, and synchronize IO. The IO officer leads the IOWG. The IRC representatives form the core of the IOWG, along with G2 and G3 representatives as well as representatives of the protection, sustainment, and fires cells. Other attending staff representatives are situationally dependent and might include the open-source intelligence officer, the division engineer, the operational law officer, the chaplain, the division surgeon, liaison officers, and IO staff officers from subordinate units. The IOWG meets regularly as part of the division headquarters battle rhythm to provide routine review, assessment, and modification of IO plans. Additionally, the IOWG meets in response to an unforeseen event, also known as a crisis action or consequence management working group.

As part of the division battle rhythm, the IOWG forms a key part of the division's targeting process. The IOWG generally takes place after the division's assessment working group (AWG) or board. The AWG provides a holistic assessment of the division's AO, which forms a key input to the IOWG. Additionally, the IO officer will seek updated guidance and intent based on the commander's revised understanding. The IOWG also consolidates any assessments of ongoing IRC tasks and assesses the progress toward existing IO objectives. Each unit establishes an agenda for the meeting based on unit requirements.

A key product of the IOWG is a set of target nominations (lethal and non-lethal) feeding into the targeting working group. Other key outputs of the IOWG include updates to the products developed during planning: the scheme of IO, the IO synch matrix, collection and assessment tasks, updated measures of effectiveness, IO objectives and associated tasks to IRCs, and the combined information overlay. These meeting outputs will serve as input to the targeting working group. Once approved at the targeting board, IO targets and collection tasks are published in a fragmentary order (FRAGORD).

When executed in crisis action planning or for consequence management, the same core players gather to determine how best to shape the information environment in support of an event or an opportunity. The key players are the G2 and G3. The group will quickly analyze the second- and third-order effects of a course of action and will identify the key target audiences and the desired actions of each. The group will create an IO objective and series of actions by various IRCs that will accomplish it.

Conclusion

Information operations is warfare conducted at the graduate level. The division is staffed to plan and execute IO, but the staff must have the required processes in its battle rhythm and must be practiced in these IO planning and execution processes. The division must also be resourced with the various organizations that provide information-related capabilities. With a complete set of IRC assets, the division has the capability to execute IO across a wide set of audiences and resource subordinate brigades to facilitate execution. Most importantly, information operations must have attention, direction, and emphasis from the commander, the chief of staff, and the G3. This will ensure that IO fully supports the commander's intent and fulfills the command requirement to inform and influence audiences.

Notes

1. Department of the Army, Field Manual (FM) 100-6, *Information Operations* (Washington, DC: 1996), 1-1–1-14.

2. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017), 2-114, 2-115.

3. Joint Chiefs of Staff, Joint Publication (JP) 3-13, *Information Operations* (Washington, DC: 2014), I-1.

4. Department of the Army, FM 3-0, 2-127.

5. In 2005, Multinational Task Force West in Iraq, a division-sized organization, controlled an area comprising between a quarter and a third of the country of Iraq, approximately 140,000 square kilometers, which is roughly the size of the state of New York. See Donald P. Wright and Col. Timothy R. Reese, *On Point II: Transition to the New Campaign* (Fort Leavenworth, KS; Combat Studies Institute Press, 2008), 605. For land mass comparison information, see Central Intelligence Agency, World Factbook: Iraq, accessed 29 March 2018, https://www.cia.gov/library/publications/the-world-factbook/geos/iz.html.

6. Department of the Army, Field Manual (FM) 6-0, *Command and Staff Organization and Operations* (Washington, DC: 2016), vii.

7. "MTOE 87000K100, DIV HQ AND HQ BN," Edate 1 October 2019, US Army Directorate of Force Management, accessed 20 March 2018, https://fmsweb.fms.army.mil/protected/reqdoc/Frame_TOE.asp?-TOE=87000K100&PP_Choice=2&DOC_TYPE=RD_FMS&FY=21.

8. "MTOE 45503KB00 Public Affairs Detachment," Edate 1 October 2020, US Army Directorate of Force Management, accessed 27 March 2018, https://fmsweb.fms.army.mil/protected/reqdoc/Frame_TOE.asp?TOE=45503K-B00&PP_Choice=2&DOC_TYPE=RD_FMS&FY=21; "MTOE 45413K000 Mobile Public Affairs Detachment," Edate 1 October 2020, Directorate of Force Management, accessed 27 March 2018, https://fmsweb.fms.army.mil/protected/reqdoc/Frame_TOE.asp?TOE=45413K000&PP_Choice=2&DOC_TYPE=RD_FMS&FY=21; "MTOE 77202K100 Infantry Brigade Combat Team," Edate 1 October 2019, US Army Directorate of Force Management, accessed 27 March 2018, https://fmsweb.fms.army.mil/protected/reqdoc/Frame_TOE.asp?-TOE=77202K100&PP_Choice=2&DOC_TYPE=RD_FMS&FY=21.

9. "MTOE 87000K100," US Army Directorate of Force Management.

10. "MTOE 33737K100, PSYOP Company," US Army Directorate of Force Management, accessed 20 March 2018, https://fmsweb.fms.army.mil.

11. "MTOE 77202K100," US Army Directorate of Force Management, accessed 20 March 2018, https://fmsweb.fms.army.mil.

12. "MTOE 87000K100," US Army Directorate of Force Management.

13. "MTOE Narrative for a Civil Affairs Battalion," US Army Directorate of Force Management, accessed 20 March 2018, https://fmsweb.fms.army.mil.

14. Department of the Army, Field Manual (FM) 3-13, *Information Operations* (Washington, DC: 2016), 9-17.

15. "MTOE 87000K100," US Army Directorate of Force Management.

16. Department of the Army, FM 3-13, 11-4.

17. To understand what a narrative is, look at the Apostles' Creed. Commonly recited in Christian religions, this formal statement of the baseline beliefs of Christianity serves as a narrative for the religion. Worded in the first person, it is not intended for transmission to other audiences but provides a better understanding for practitioners. From it, however, can be derived a set of base themes (e.g., Jesus is the *Messiah* and the salvation of man), which can then be modified into messages for outside audiences (e.g., belief in Jesus will save your soul).

18. Department of the Army, FM 3-13, 4-79–4-80.

19. FM 3-13, 4-11.

20. FM 3-13, 4-14.

21. Department of the Army, FM 6-0, 9-126.

Chapter 9

US Army Aviation: Setting Conditions, Creating Effects across the Operational Framework in Large-Scale Combat Operations

Lt. Col. Jason A. King

Perceptions of the eroding American competitive edge and a global rise in great power competition threaten US interests on an increasing scale. Russia's assertion of military power in its near-abroad, China's maneuvering for natural resources and expanded security zone, Iran's gray area operations across the Arabian Gulf, and North Korea's continued pursuit of nuclear weapons portend escalation. Russian and Chinese capabilities in particular are existential threats to the combined interests of the United States and its partners. The US Army trains against a variety of threats, and none pose a higher risk than conflict with a near-peer competitor.

Mitigating the risk posed by near-peers and their emergent technologies requires reassessment of the Joint Capabilities Integration Development System (JCIDS). As the first component in JCIDS, doctrine contains fundamental links to all components of the system: Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities, and Policy (DOTMLPF-P). Doctrine is a historically tested, successful belief system to guide the force.[1] Army senior leaders continuously assess operational doctrine against forecasted threats and gaps in force capabilities.

The 2017 edition of Field Manual (FM) 3-0, *Operations*, is the Army's solution to a conceptual gap in current doctrine. It begins to mitigate the operational risk posed by near-peer threats. The Army, while evolving counterinsurgency (COIN) doctrine during fifteen years of contingency combat operations, must transform its foundational belief system in the planning and execution of combined arms operations. This change, initiated in 2011 with a gradual return to the decisive action training environment (DATE), now has a catalyst in the form of the new of FM 3-0. Army Aviation, a critical component of combined arms maneuver, also must transform the underlying doctrinal belief system of warfighting planners to understand how to apply, integrate, and synchronize the capabilities of Army Aviation in large-scale combat operations (LSCO). This transformation must be most prevalent at the Army's primary tactical headquarters for commanding brigades in decisive action—the division. To expedite our understanding of Army Aviation's contribution to LSCO at the division level, we must reinforce the historical lessons and hard-earned belief

systems of the past required to integrate Army Aviation capabilities with ground maneuver forces.

A Look to the Past—World War II and the Korean War

In July of 1941, the Army Air Corps was already beginning to evolve into what is now the US Air Force. As it did so, the Army recognized a need for low-altitude air capability in support of the ground commander. In field exercises at Fort Bliss, Texas, manufacturers of small light airplanes showcased their abilities. During demonstrations, the aircraft provided commanders increased situational awareness and control (via bullhorn) of maneuvering units.[2] However, the true value of this new capability was much more significant than simply a commander's tool for visualization and control of the battlefield; it was also a combat-multiplying combined arms asset. The Piper Cubs (also known as "Grasshoppers") were flown by liaison pilots and tactically controlled by field artillery brigades to observe and adjust fire. Modern rotary-wing aviators will likely not fully appreciate the innovation and bravery of their liaison pilot predecessors. The Piper Cubs were durable (field expedient repairable) and capable of short takeoffs and landings on austere grass strips.[3] With these capabilities, Army liaison pilots planted the seeds that brought life to what we know today as Army Aviation core competencies.

Initially, liaison pilots experimented with mounting weapons on the small aircraft. They regularly dropped grenades and mortar rounds on enemy sites during reconnaissance missions outside of artillery range. Pilots trained for aerial "bombing" missions using a bag of flour. In the first glimpses of the audacious and raucous nature of Army aviators, these training projectiles sometimes made their way onto the tents and formations of fellow units.[4]

At the division level, liaison pilots provided reconnaissance and answered the command's priority intelligence requirements (PIR). Lacking short-range communication systems, the pilots would often land next to ground forces and warn them about imminent enemy engagements. Liaison pilots continually developed such tactics, providing situational awareness to formations moving through dense and mountainous terrain, marking enemy positions with smoke grenades, and delivering rations to isolated formations. While such tactics amplified operations, the apex of liaison pilot contributions was in locating and directing devastating artillery fires against enemy forces (in and out of contact with ground forces).[5] The pilots, known for their cavalier ways, laid the foundation for the Army

Aviation culture—agility, flexibility, mission focus, and most importantly, the sacred trust with soldiers on the ground.

The legacy of Army Aviation culture continued in the Korean War. The introduction of rotary wing platforms began with dedicated medical evacuation (MEDEVAC) and expanded to observation and utility helicopter missions. In December 1952, the first UH-19 Chickasaw arrived and was immediately employed resupplying artillery units.[6] Helicopters did not play a decisive role in Korea, but the potential advantages of vertical envelopment beyond that of airborne units became evident to military and political leaders. It was belief in this potential that led to funding, research, and training during the post-Korea period that established Army rotary wing capabilities as a combat multiplier.

A Look to the Past—Vietnam

Such developments were tested a decade later in Vietnam. Activated in 1963 and sent to Vietnam in 1965, the 1st Cavalry Division (Airmobile) validated vertical envelopment (a tactical maneuver in which troops are air-dropped or inserted via air assault then attack rear or flanks of an enemy force, in effect cutting off or encircling that force) and many of the air assault concepts we know today as doctrine.[7] These concepts, tested and hard-earned in a deadly environment, continue to provide valuable lessons to all facets of Army Aviation: aircrews, planners, and leadership. Vietnam, historically characterized as a low-intensity conflict, shares a commonality with all wars: periodic episodes of mid- to high-intensity conflict. While the intensity ebbed and flowed, striking the enemy's critical capabilities in its support area during this conflict often led to increased resistance. This is exactly what occurred in February 1971.

In a bid to prove the capabilities of the Army of the Republic of Vietnam (ARVN) in the face of increasing pressure from the US public to pull American forces out of the conflict, Operation Lam Son 719 began on 8 February 1971. Attacking into Laos, Lam Son was the largest sustained airmobile operation in the history of US Army Aviation. Executed by the 101st Airborne Division (Airmobile) with augmentation from multiple combat aviation battalions, the operation itself featured 10,000 American troops (primarily in supporting and advising roles) and nearly 20,000 South Vietnamese troops, all focused on disrupting North Vietnamese support bases along the so-called Ho Chi Minh Trail in Laos.[8]

The operation relied heavily on US Army rotary wing capabilities for mobility, firepower, and operational reach (more than 600 airframes participated in a two-month period).[9] Realizing the strategic significance of

the operation, the North Vietnamese Army (NVA) rapidly created an over-match condition by committing more than 60,000 troops to defend their bases and line of communication and attempted to decisively defeat the US-supported ARVN operation.[10]

Airmobile missions involved inserting ARVN forces, creating fire bases, and attacking the well-established and heavily defended logistics networks in Laos. American forces—not authorized to fight on the ground in Laos—provided air cavalry reconnaissance, tactical air support, air assaults (to include gunships for landing zone and route security), cross-border field artillery support, and re-supply. As ARVN forces established fire bases and began expanding their perimeters, contact was nearly immediate.[11]

Planners and aircrews quickly faced multiple dilemmas. Prior to 8 February 1971, local flight regulations in Vietnam prohibited flight crews from flying below 1,500 feet above ground level (AGL). This "dead man's zone" was in the range of high-density small arms fire. Within forty-eight hours of initiation of the operation, cavalry reconnaissance aircrews were forced into either nap-of-the-earth (NOE) flight (as close to the surface of the earth as terrain and trees will allow) or above 4,000 feet AGL.[12] It was a high-density, hostile air defense environment where pilots faced the tradeoffs of speed and masking terrain with that of altitude and relative safety. This increase in threat capability required aircrews to maintain higher mobility during flight (airspeed and maneuver) and for attack aircraft to begin operating in teams of three to four aircraft to suppress and/or destroy triangular air defense ambushes in and around landing zones (LZs) and pick-up zones (PZs).

The growing threat in Laos required a change in mission planning. During this period of the conflict, aircrews in Vietnam were accustomed to taking off, flying "at altitude" and experiencing sporadic small arms fire in the LZ. Now they required detailed planning, prepared fire plans, multiple LZs/PZs, downed crew recovery procedures, varying routes, and regular updates on enemy disposition prior to mission execution.[13]

With a saturation of air sorties, the division headquarters added planners to assist with ongoing and future missions. Command and control (the predecessor to mission command) tightened as the I Corps commander gave planning guidance and priorities for support twice a day, while the 101st assistant division commander (Operations) incorporated a decision-making framework for allocating aviation resources into his schedule three times a day.[14] Casualties and incidents of isolated personnel were high and ranged from whole ARVN companies to downed American pilots and crews.

In an example of informed disobedience, the Air Cavalry Task Force commander, Lt. Col. Bob Molinelli, disregarded the policy of American troops not authorized on the ground in Laos and put together a hasty team to recover one of his isolated crews. Later during the operation, President Richard Nixon granted permission to recover crews and aircraft, although an ARVN unit was required to act as ground security.[15] Of the 659 airframes involved in Operation Lam Son 719, ninety were destroyed and another 453 received battle damage.[16] The operation entered Army annals as a critical case of how aviation supported the division fight and, more specifically, helped establish tactics for modern air assault operations that remain in current aviation doctrine.

Like other branches, Army Aviation has paid dearly in combat insights that have generated institutional knowledge through an established system of acknowledging, assessing, and disseminating lessons learned. These lessons reinforce the belief systems that, once scrutinized, become doctrine. Unfortunately, over time those lessons and beliefs lose clarity and no longer provide precise explanations of why a particular plan worked or accurately depict the rigor used to create that successful plan. Combat experience in the force does not always age well or effectively. Moreover during periods of peace, training experience often becomes more critical than combat to the generation of lessons. Training experience, while critical, struggles to emulate the human dimension of combat. Maneuver training areas do their best to replicate the environments that develop planning and decision-making experience; yet when combat comes, the Army continues to relearn hard-won insights from World War II, Korea, and the post-Cold War era.

A Look to the Past—Operation Desert Storm and Operation Iraqi Freedom

The Soviet Cold War threat inspired innovations across every element in the DOTMLPF-P process. These innovations can still be seen today in Army units built around the "Big 5": UH-60 Blackhawk, AH-64 Apache, M1 Abrams Tank, Patriot Missile System, and M2/3 Bradley Fighting Vehicle.[17] The capabilities of the "Big 5" combined with both AirLand Battle concepts in Army Operations Field Manual (FM) 100-5, *Operations* (the 1976 predecessor to FM 3-0), and combined arms training at the maneuver training areas to create a force that proved superior to the Iraqi Army in Operation Desert Storm.

On 17 January 1991, that operation began with a highly successful uncontested aviation deep attack on a fixed Iraqi air defense radar facility by the 1st Battalion, 101st Aviation Regiment.[18] Disrupting the integrated

Iraqi air defenses, this mission was just the first example of Army Aviation capabilities shaping the deep area in Desert Storm. Just weeks later on the night of 27 February 1991, a single battalion of 11th Aviation Brigade Apaches demonstrated its combat readiness. Developed by the VII Corps deep battle cell as an event-triggered contingency plan (CONPLAN), the deep attack against the 10th Iraqi Armored Division at Objective Minden resulted in the destruction of fifty-three tanks and thirty-five armored personnel carriers.[19] When the US 3rd Armored Division arrived hours later, elements of the 10th Iraqi Armored Division were displaced, demoralized, and in disarray. From plan initiation to arrival of the ground force, the strike on Objective Minden validated deep attack doctrine and the role of attack aviation in support of the corps commander.

Conversely on 23 March 2003, in the opening phase of Operation Iraqi Freedom (OIF), a deep attack by 11th Attack Helicopter Regiment's (AHR) became part of the campaign's "darkest day." Executing a movement to contact in the corps deep area to destroy armor and artillery belonging to the Iraqi Medina Division, the 11th AHR crews moved along routes that they believed flew over rural terrain and were vulnerable mainly to Iraqi surface-to-air missiles. What they encountered instead was urban sprawl, overwhelming "iron site" air defense artillery, and small arms fire. Thirty-one of thirty-two aircraft received heavy damage during the attack.[20] Battle damage compelled one crew to execute a forced landing. Having become isolated on the battlefield, they were eventually taken prisoner by Iraqi forces. On top of the sustained battle damage, the 11th AHR was not successful in meeting the mission's objectives. The aircrews were highly trained and executed the attack valiantly but failed because their efforts were blunted by unexpected Iraqi resistance.

In keeping with Army Aviation practice, the initial lessons learned (of which there were many) were rapidly disseminated within the 101st Aviation Brigade in a tactical assembly area (TAA) just miles away from 11th AHR's TAA. The 101st quickly adapted aircrew tactics and operational plans, executing operations in direct support of the ground force with a high degree of success.[21] While the mission was a stimulus to learning and improvement, it also became a source of consternation for select leaders who questioned the validity of the rotary wing deep attack mission. Operations during the next fifteen years focused on wide area security (WAS) and counterinsurgency (COIN) in Iraq and Afghanistan. This left little time to examine the doctrinal validity of the deep attack mission. While not removed from doctrine, the deep attack mission was minimized in doctrinal publications and disregarded in training—its intricate planning

characteristics no longer taught with rigor. The Army's return to LSCO requires a revival of such atrophied capabilities and skill in commanders and staff officers from battalion through corps.

The LSCO-Counterinsurgency Divide

The skills required for LSCO will be revived through study, discourse, exercises, and simulations. The preceding historical vignettes are select cases from a large set of operations that contributed to the aviation community's "belief system" and institutional knowledge over the past six decades. All of these operations contributed to a collective legacy, and each was a significant emotional event in the lives of hundreds of leaders, aircrews, and—in tragic cases—their families. Regardless of success or failure, each of these operations was the result of intelligent and trained planners advising competent commanders.

In LSCO, hazards are significant and risks are difficult to mitigate. As framed in FM 3-0's Joint Phasing model, large-scale combat operations occur during Phase II (Seize the Initiative) and Phase III (Dominate) parts of a campaign. As the action verbs "dominate" and "seize" imply, there is nothing passive about the operations executed within each of these phases. Casualties and equipment losses are expected. Pressure on planners to minimize risk without limiting audacity is significant compared to that of Phase I (Deter) or Phase IV (Stability Operations). Division planners must begin with the knowledge that Army Aviation core competencies have continuously evolved since 1941.[22] These competencies currently contribute to all of the war fighting functions (WfF): Mission Command, Movement and Maneuver, Fires, Intelligence, Protection, and Sustainment. Integration and synchronization of aviation core competencies and capabilities across the WfFs is essential to division planning and mission execution in LSCO. Those competencies are:

- Provide accurate and timely information collection.

- Provide reaction time and maneuver space.

- Destroy, defeat, disrupt, divert, or delay enemy forces.

- Air assault Ground Maneuver Forces.

- Air movement of personnel, equipment, and supplies.

- Evacuate wounded or recover isolated personnel.

- Enable Mission Command over extended ranges and complex terrain.[23]

Army Aviation capabilities—when precisely applied in LSCO—lower the human cost of fighting by reducing the amount of time spent moving to or from an objective, increasing the speed with which a commander can react, or evacuating critical injured. This statement is only true if division planners, enabled by brigade and battalion planners, understand how to assist the commander in the orchestration of combat capabilities within the division. During years of stability and COIN operations, aviation capabilities were distributed across the division area of operations (AO) in small teams with combined arms maneuver controlled at the brigade combat team (BCT) level. Multiple teams of two aircraft (regardless of type) transited the entire AO at all hours of the day. Airspace management and task execution followed established aerial procedure guides and mature air mission request processes. Procedure and process dictated mission execution. Commander guidance was only adjusted when a new mission or new threat presented itself. Execution was relatively simple.

In LSCO, the synchronization of WfFs and prioritization of combat aviation brigade (CAB) capabilities cannot be attained at brigade echelon. Division planners bear the responsibility to plan, synchronize, and coordinate capabilities across the WfFs within the battlefield framework. Division planners must answer the question: How does the division integrate the mobility, speed, range, flexibility, lethality, precision, and reconnaissance capabilities of the CAB with all of the WfFs to maintain tempo, consolidate gains, and attain a position of relative advantage? Management and apportionment of aviation resources—where, when, and how to apply combat power (multipliers)—all matter. This is also the case for airspace management. As noted above, during stability operations, established aerial procedure guides and mature air mission request processes dictated mission execution. Commanders' guidance was only adjusted when a new mission or new threat presented itself. Execution was relatively simple.

In contrast during LSCO, agile applied firepower wins battles. Simple tasks become complex as commanders energize latent combat power at a decisive point and time while simultaneously shaping the deep battlefield for the next engagement. The frontline trace of friendly forces constantly fluctuates; multiple large formations make accidents and fratricide, on the ground and in the air, a very real hazard. Like a compressed spring, the energy harnessed in the buildup to Phase II escalates risk. This risk man-

ifests itself in the opening days of combat. Operation Iraqi Freedom and Operation Lam Son 719 provide several examples of this, including:

• Accidental risk—On 5 February 1971, three days prior to the D-Day for Operation Lam Son 719, an AH-1G Cobra crew on a security mission died flying into the side of a cliff during inclement weather.[24]

• Tactical risk (fratricide)—On 6 February 1971, two days prior to the D-Day for Lam Son 719, a Navy pilot who lacked current situational awareness dropped several cluster bombs on an ARVN armor unit assembling on the border, killing six and wounding fifty-one.[25]

• Accidental risk—On 25 February 2003 in northern Kuwait, a US Blackhawk helicopter flying at low altitude crashed due to inadvertent instrument meteorological conditions (IIMC) when a sudden sand storm covered the training area. Conducting an environmental training flight, all four crew members perished.[26]

• Tactical risk (fratricide)—On 22 March 2003, a British Tornado returning from a bombing mission in Iraq was shot down in northern Kuwait by a US Patriot system. The Tornado was misidentified as an incoming missile. Both pilot and navigator were KIA.[27]

Sadly, like the historical consistencies of soldiers embracing surges of adrenaline and fear on foreign soil, these types of incidents can be found in every LSCO to include the preparations for D-Day in World War II. At the division level, planners attempt to bring order to chaos and simplify complexity through the military decision-making process (MDMP) and course of action (COA) development. Planners synchronize capabilities in time and space, establishing measures to control operational tempo (OPTEMPO) throughout the AO. Through detailed war-gaming, planners transform the commander's vision into executable tasks in the close (or main battle area in the defense), deep, consolidation, and support areas. Division commanders must then balance subordinate initiative in execution with the necessity of synchronizing operations and remaining flexible enough to respond to emerging events. This balance begins in planning and is orchestrated in execution.

As the Phase II spring "uncoils," tempo and intensity matter. Messy, chaotic, and adrenaline-driven, the close fight brings friendly soldiers and weapon systems into collision with those of the enemy. Casualties result.

Planners know this and apply rigor in their efforts. The deeper the fight, the clearer the war. When the deep fight is shaping future battles, there is a predisposition among contemporary planners to see deep missions as less complex and less urgent than the casualty-producing close fight. History shows otherwise.

The deep fight requires scrutiny in planning and a high fidelity of command and control during execution. Like the event-triggered CONPLANS developed by the VII Corps deep operations cell in Operation Desert Storm, missions into the deep area are designed specifically to seize the initiative and get inside the decision cycle of enemy commanders. If an enemy commander's plan calls for the activation of a reserve or firing of long-range indirect fires at a decisive point and time but those assets are combat-ineffective prior to their use due to a deep attack, US commanders have gained the initiative. This type of mission planning and execution is highly controlled at the corps and division level; but they must be accurately informed by subordinate brigades and battalions. The risk may be high but the payoff for soldiers on the ground can be remarkable.

With the initiative gained, maneuver forces transition to Phase III: Dominate. The constantly shifting consolidation area fight focuses on consolidating gains through security tasks to ensure the close fight can maintain tempo. For planners, the consolidation area is an economy of force problem set. Planners must determine how little combat power can be applied in the consolidation area in order to maintain tempo and mass in the close fight. Given this problem set, Army aviation and field artillery capabilities are spread across the close, deep, and consolidation areas. It is likely that the demand for these capabilities will exceed supply. As such, they must be employed with precision. When precisely applied, combat multipliers shape the future (deep) battle while simultaneously providing decisive firepower to the close area and continuous support to consolidation area operations.

During stability operations, units maneuver principally on a small scale with a variety of assets supporting in the battlespace. To efficiently communicate these assets to a BCT during stability operations, maneuver forces coined the term "enablers." This terminology, still in use today, is characteristically detrimental to Army warfighting in LSCO. While efficient, merging combat assets into a single term inhibits accurate communication. Subtle changes in vocabulary alter the way we understand and think about capabilities. To enable is to provide the means to do something, an implication of subordinate support that may or may not

be required to accomplish the mission. In the LSCO fight, "enabling" terminology must be struck from the lexicon. The field artillery community takes this dilemma a step further and refers to the "tactical isolation" of their capabilities due to a lack of recent LSCO experience at division and higher.[28] Army aviation and field artillery forces prior to 2003 were "combat multipliers," known for the devastating combined impact of fire and maneuver they brought to the fight. Army aviation and artillery operations in the close fight help the commander impose his will on the enemy; in the deep fight, they inflict chaos on the enemy course of action (COA) and—combined with maneuver—create a position of relative advantage for the commander to exploit. These assets are the only organic capability the division commander has to shape the deep (ground) fight. In cases where adversary fires outrange our own, aviation capabilities provide the operational reach required to neutralize or destroy the threat. These two combat multipliers also create a shared dilemma for planners: how to maximize capability across the division AO.

Large-scale combat operations extend the temporal and physical dimensions that planners must account for exponentially when compared to those of the WAS and COIN environments. In this difficult environment, Army Aviation provides the combat power and operational reach across the breadth and depth of the division area (deep, close, consolidation, and support). Use of attack, reconnaissance, and lift capability in the deep fight takes assets from the close fight. Missions in the close area may task a company or battalion for a set time period in direct support of a BCT. Missions in the consolidation and support areas may task a company or battalion for continuous security in direct or general support of the maneuver enhancement brigade (MEB) or BCT in charge of the consolidation area. Missions in the deep area (out of contact with friendly troops) may task-organize several companies or more with a dedicated headquarters. The operational visualization realized in steps three and four of MDMP (course of action development and course of action analysis) assists corps and division aviation planners as they assess risk and apportion capabilities to meet the division commander's intent.

These resource tradeoffs between attacks against enemy forces out of friendly contact and attacks against enemy forces in close friendly contact require detailed planning encompassing prioritization of fires, electronic weapon support, sustainment, and intelligence collection to guarantee massing of effects in time and space in support of the commander's intent. These prioritization adjustments are not systematic. They must be closely

synchronized in time and space, and must be flexible enough to adjust when the commander or situation requires. Such capability allocation and prioritization challenges are incumbent across the entire battlespace—deep, close, consolidation, and support areas.

Planners weigh main and supporting ground maneuver efforts, while employing aviation and fires capabilities to offset enemy force ratios, maintain tempo, and secure flanks. Planners must understand that pre-scribed command and support relationships are a critical component of the art and science of LSCO. Each operational phase and specific mission within each phase requires adjustments to command and support relationships. General support is inherently flexible for the division commander but does not guarantee the capability is available to subordinate command-er requirements. Direct support ensures the capability can be applied in the temporal and physical dimension subordinate commanders require, but is also restrictive if other requirements emerge. Multiple factors such as the commander's intent, required flexibility, timeframe, distances to command and control nodes, and logistic support to aviation assets must be considered in the development of command and support relationships.[29]

Unlike stability operations in which aviation capabilities are often continuously available to BCTs, during LSCO divisions must retain avi-ation, fire support, and flexible sustainment capabilities for planned or emergent missions. Maintaining capabilities at the division requires the warfighting staff to develop clear criteria for their employment. Criteria must include who has the decision authority to re-apportion or redirect planned capabilities between the consolidation, close, and deep fights.[30] These decisions must be informed by future plans and current operations, and include a battle rhythm and battle drill system for the adjustment of established priorities. This system must be agile enough to keep up with the tempo of the battlefield and firm enough to encourage tactical patience.

Planners orchestrate assets and capabilities in time and space to seize an objective or shape an enemy course of action. As timelines progress, the organization as a whole must understand how the parts work together and what effect the loss or delay of one capability will have on the en-tirety of the operation. For example in LSCO, the loss or de-synching of an electronic warfare (EW) asset during mission execution could prove as catastrophic as the de-synching of a suppression of enemy air defense (SEAD) mission or preparatory fires. Newer non-contact warfare systems change the coefficient of forces. Individual staff officers may not have the knowledge base to understand the effects of an applied or lost capability.

As technology advances, creating and maintaining knowledge of asset capabilities at the staff officer level is difficult.

An example of one such asset is the Gray Eagle unmanned aerial platform. This versatile airframe provides three distinct capabilities: reconnaissance, precision strike, and manned-unmanned teaming with attack aircraft. To the commander in charge of the consolidation area, be it the Maneuver Enhancement Brigade (MEB) or an assigned BCT, reconnaissance is critical. For main or supporting effort commanders in the close or deep fight, precision strike or manned-unmanned teaming (MUMT) capabilities become requirements. A well-orchestrated Gray Eagle plan might incorporate reconnaissance in the consolidation area prior to and at the end of precision strike or MUMT mission sets. Gray Eagle timing and positioning is synchronized with other aerial assets and ground commander requirements. If you include the multiple field artillery assets operating in the division AO, this orchestration requires a flexible yet controlled airspace plan.

In LSCO, airspace management is dynamic, fluid in every sense of the word. During execution, the enemy does not care where a commander places control measures. An agile airspace plan must flow with the progress of the battle. It must be synchronized with the frontline trace and tactical movements like the frequent displacement of field artillery battalions as they avoid enemy counter-fire. Division airspace and fire support planners attempt to provide flexibility to allow minimum coordination and maximum lethality of all joint assets. The corps and division develop airspace control measures and coordinate with the Air Force's air operations center (AOC) through the Army's battlefield coordination detachment (BCD). Once the plan goes into execution, the division joint air-ground integration center (JAGIC) controls the effects within the division's AO.

For the division commander to exploit positions of relative advantage, the JAGIC must have current situational awareness and enable rapid, dynamic application of joint fires. This can only occur if the staff officers constituting the JAGIC have a depth of knowledge on friendly and enemy capabilities. With rapid advances in technology, depth of knowledge is difficult to attain. It requires study, training, and experience in division warfighter exercises simulating more forces and higher echelons than combined maneuver training centers are capable of. Simulations and cognitive systems continue to make significant advances in these areas, many of which have yet to be realized in LSCO.

LSCO Revival, an Opportunity for Innovation

The doctrinal transition to LSCO is not a step back in time or a return to the old way of doing things. It is a step toward the future. It motivates the force to understand developments of the past and expose gaps in current knowledge and experience. These gaps are further expanded by continuous technological advancements in weapon systems and associated tactics. This is not a new problem set; Piper Cubs did not begin World War II with radios in them and Hueys did not have weapons mounted on them at the onset of Vietnam. But pilots of both eras managed to shoot, move, communicate, and innovate. In an era where the "Big 5" weapon systems are connected to hundreds of smaller systems, knowledge sharing between echeloned commanders and planners is critical. When a weapon system capability like Gray Eagle is not maximized operationally, planners and commanders must fill the knowledge gap through all echelons. As aviation technology and tactics continue to evolve, the CAB commander and his staff play a pivotal role in communicating this knowledge gap to division and corps staffs. Something as simple as the compatibility of Gray Eagle ground control stations across the AO may provide significant unrealized advantages (or deficiencies) to the force. As in the past, the innovative use of emerging capabilities will provide the advantage that tips the scale in favor of the United States and its partners.

The re-emergence of great power competition increases uncertainty. In the face of uncertainty, readiness is key. The United States and its partners are realigning current military capabilities with doctrine to be ready to deter or engage near-peer competitors. A return to studying and training LSCO as prescribed in FM 3-0 is a hardening of the Army's foundation. The combat multiplying capability of Army Aviation is a load-bearing pillar of that foundation and must be reinforced, with rigor. Planners must possess a depth of knowledge in aviation core competencies and platform capabilities. This knowledge, informed by history, will enable division planners to synchronize capabilities in time and space in support of the mission and commander's intent. Large-scale combat operations do not usually end quickly. The agility to apply combat power at a decisive point and time on a recurring basis allows the United States and its partners to defeat the enemy at the time and place of its choosing.

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29. The intricacies of command and support relationships are outside the scope of this chapter except to acknowledge they are a critical component of the combat power allocation and therefore clearly worthy of additional study. For more information on command and support relationships, see FM 3-04, *Army Aviation*, 2-15–2-17.

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Chapter 10

The Return of Large-Scale Combat Operations:
River Crossing Operations

Jonathan M. Williams

Since the earliest times of conflict, rivers have posed a challenge to the movement of large armies. History is rich with examples of failed attempts to successfully cross large bodies of water in the face of hostile forces, while records of successful crossings are far less common. In modern times, military leaders have rightfully recognized the intrinsic importance of rivers as key terrain features and have, with mixed results, maneuvered their forces around, over, and across water obstacles toward subsequent objectives. With the publication of the 2017 version of Field Manual (FM) 3-0, *Operations*, the US Army deliberately returned an operational focus to large-scale combat operations after more than a decade of conflict in which stability and counterinsurgency were the primary concerns.[1] With this renewed emphasis on major combat operations comes the return to several fundamental tasks inherent in division and corps operations. One of the most difficult, and perhaps the most challenging in terms of synchronization of forces, is the combined arms river crossing operation. Recent changes to the US Army's force structure coupled with the atrophy of critical soldier skills have made this tactical requirement even more daunting. Ultimately, to achieve success in future operations and ensure combat readiness against a potential near-peer adversary, the US Army must revisit the enduring mission requirement to conduct river crossings and must train and prepare its leaders to execute this difficult task.

Historical Vignette: The Rapido River Crossing

The Battle of Rapido River, part of the Italian Campaign of World War II, occurred in January 1944 along the Gari River (although technically misnamed, the event is known as the Rapido River Crossing). The US Fifth Army, in an effort to penetrate the German Gustav Line, tried to cross the river with two regiments of the US 36th Infantry Division as part of a larger offensive operation.[2] To help facilitate the crossing, the Americans intended to begin the crossing operation in hours of darkness and planned an extensive artillery barrage to soften the enemy's defenses. At the designated time, the Americans began to cross the river and started firing preparatory artillery suppression fires into the German defensive positions. However, the artillery was ineffective and the Germans suffered

only incidental damage. Consequently, when the US 141st and 143rd In-
fantry regiments began to cross the river, they met with stiff resistance.

Figure 10.1. Army units conduct river crossing training. Courtesy of US Army.

After initially getting two companies across, the 143rd Regiment came
under increasing pressure from a German division in strong defensive po-
sitions. While two of the 143rd's companies had successfully crossed the
river, the enemy's determined defense resulted in too many American loss-
es, forcing the US units to retreat back across the river.[3] The companies
of the other regiment—the 141st—found themselves in a worse position.
After landing in a minefield where they suffered heavy casualties, that
regiment also had to withdraw back across the river.[4]

The next day, both regiments attacked again but once more their initial
assault faltered as enemy fires prevented the construction of bridges. As a
result, the armored units designated as reinforcements could not cross the
river and the infantry units became isolated and endured significant losses.
Ultimately, the division commander directed both regiments to retreat, thus
giving up the shallow bridgehead on the German side of the river. The rem-
nants of the 143rd crossed over without major incident. However, the divi-
sion could not provide enough transport to bring the 141st back across the
Gari.[5] An immediate counterattack by German forces against the trapped
Americans led to more casualties and hundreds captured. With little pros-
pect for success, the division commander decided not to use the 142nd
Infantry, the division's sole remaining regiment, to renew the attack.[6]

Ultimately, the river crossing was both an operational failure and a disaster in human terms. In two days of combat, the division suffered 2,000 casualties, 1,300 of which were fatalities.[7] The operation's objective—forcing the German forces to displace and reposition their units—was left unattained. As a result, the campaign in Italy dragged on for several more months.

Figure 10.2. Litter bearers bring back wounded during an attempt to span the Rapido River near Cassino, Italy, on 23 January 1944. Courtesy of US Army.

Background

Since the start of the twenty-first century, the US Army's primary focus has been on counterinsurgency operations in Iraq and Afghanistan. As a result, some collective tasks which previously were fundamental to units have atrophied due to the pressing urgency of current operations. Large-scale river crossing operations is clearly one of these tasks. There are several other possible reasons why river crossing has been neglected in unit training.

First, training on river crossing as a combined arms operation requires significant coordination, integration, and synchronization of multiple units to effectively achieve unit proficiency. With the many diverse missions of units within and external to the brigade combat teams (BCTs), it has become increasingly difficult to have all the necessary units available and on the same training cycle to participate in training.

Additionally with the advent of modularity, units that were previously part of the organic division force structure have migrated to echelons above division and/or to the reserve components. This makes it far more challenging to train on tasks requiring those particular types of units. Examples of these units include engineer bridge companies but also other essential forces such as chemical units (for potential hasty decontamination) and military police elements (for traffic control).

Third, the reduction in the active duty force structure and engineer bridge companies in particular has resulted in fewer and fewer resources available to conduct river crossing training to standard. Whereas in the past there were float bridge assets at the BCT and division echelons, today these units reside at echelons above brigade, external to the division, or in the reserve components.

Finally, the doctrinal and philosophical shift in Army thinking from division-centric to BCT-centric formations has largely masked the enduring requirements of tasks which are large-scale and require planning, organizing, coordinating, synchronizing, and executing beyond the capabilities of the BCTs. The combination of these factors has greatly exacerbated the current deficiency in units capable of conducting river crossing operations and left a gaping hole in US Army functional capability.

Neglecting to remain proficient on this critical task for so many years has resulted in a significant lack of institutional knowledge throughout the Army on river crossing operations. Not only has the task taken a back seat at the branch schools in favor of more pressing training needs (i.e. counter-improvised explosive device training), leaders at all levels have been exposed to this task less and less. Thus, there are few leaders in units now who have ever been trained on the task, much less conducted a real river crossing operation in their service with the Army.

In short, the changing operational environment has evolved rapidly and profoundly and we must now acknowledge that this change requires a major adjustment to our training strategy. We face threats which are not only near-peer in capability but also have the forces and resources to overwhelm brigade combat teams. Military preparedness demands we have the ability to fight and win in the large-scale combat operations arena. Thus, combat readiness for combined arms operations, including river crossing operations, must again take center stage. Prudence dictates that we once again equip, plan, and train on river crossing as an essential task for Army ground combat units.

Figure 10.3. Bridge erection boats (BEBs) employed to stabilize an improved ribbon bridge (IRB) during training exercises. Courtesy of US Army.

Where We Are Now

Within the current brigade combat teams, we possess only minimal gap-crossing capability. Specifically, the Armored BCT's brigade engineer battalion (BEB) has an organic gap-crossing capability of 18.3 meters with the armored vehicle launch bridge (AVLB) or twenty-four meters if it has fielded the newer heavy assault bridge. Stryker BCT engineer battalions have the rapid emplacement bridge (REB) with a gap-crossing capability of thirteen meters at military load class (MLC) 40. Infantry BCTs have no vehicular gap-crossing capability and are only equipped with rubber assault boats (RB15s). Currently, there exists no float bridging capability at the division or BCT level. The four multi-role bridge companies (MRBCs) that are part of the active-duty force structure all reside in the echelons above brigade (EAB) engineer force pool echelons above division.

Doctrinal Foundations

Fortunately, the Army's river crossing doctrine is current and valid. This is the case because the concepts of how to conduct river crossing operations have largely remained constant for many years.

Clearly, the Army recognized the urgent need to republish river crossing doctrine and re-educate the forces on the basic fundamentals of this complex collective task. With the 2016 publication of Army Training Publication (ATP) 3-90.4, *Combined Arms Mobility Operations*, the Army combined two critical mobility tasks—combined arms breaching and river crossing—into a single manual. This codified the previous river crossing doctrine into the larger mobility issue. As the manual notes:

> Gap crossing in support of maneuver is similar to a breach in that the force is vulnerable while moving through a lane or across a gap. Maneuver units are forced to break movement formations, concentrate within lanes or at crossing points, and reform on the far side before continuing to maneuver. While much of the terminology and planning associated with gap crossing is the same as that used in a breach, gap crossing and breach differ in scope. The amount and type of assets involved also differ.[8]

Hence, for engineers as well as the maneuver forces they support, a river crossing shares many of the same training techniques as breaching operations and, in many cases, uses the same planning approaches for success. Yet, the scale and duration of river crossing operations differ significantly from breaching operations as do the command and control requirements.

Overview of River Crossing Operations

US Army doctrine defines river crossings as deliberate, hasty, or covert wet gap crossings. Each gap crossing type has a general list of conditions that help define its category and describe the circumstances in which the particular type of crossing should be undertaken. While the planning requirements for each type of crossing are similar, the required degree of detail and necessary conditions for a high degree of success vary based on the type and the unique features associated with a crossing mission. As ATP 3-90.4 notes, "In all cases, the ability to conduct any type of crossing begins by providing a crossing force with the necessary gap-crossing means and control elements and identifying those requirements early during planning."[9]

Typically, a hasty crossing is done with organic assets and without extensive prior planning, implying that the enemy situation is well known and the threat is unable to significantly influence the crossing operation. A covert crossing is one in which the crossing force attempts to remain undetected and thus is normally conducted in smaller numbers across more narrow water obstacles. The deliberate crossing is the most rigorous in terms of planning as well as in resourcing requirements. Normally an operation

involving extensive prior preparation and synchronization, it usually requires assets that are attached to divisions or corps from external sources.

ATP 3-90.4 further notes that successful gap-crossings are characterized by applying the critical gap-crossing fundamentals of surprise, extensive preparation, flexible planning, traffic management, organization, and speed.[10] The manual subsequently explains each of these salient characteristics and provides extensive descriptions on the importance of each of these fundamentals. In other words, the doctrine goes to great lengths to make clear that the conditions must be properly set for the river crossing operation to have any chance at success.
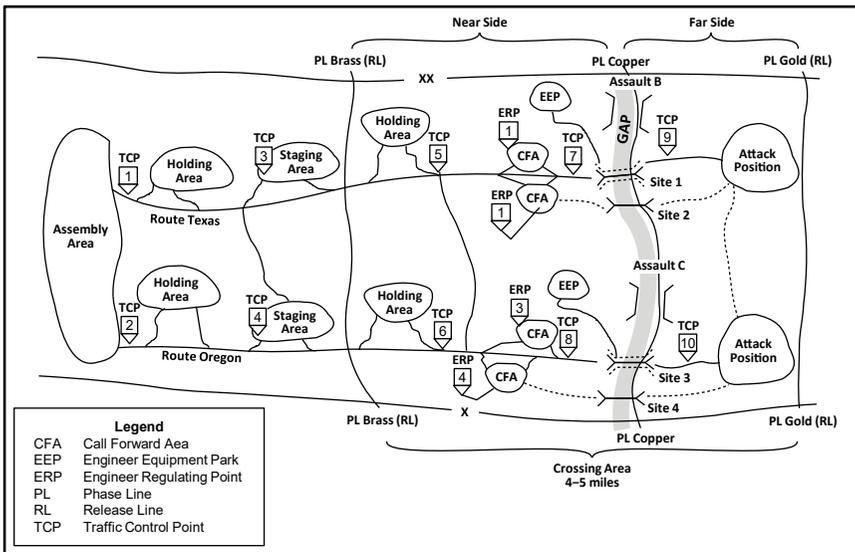
Figure 10.4. Graphic Control Measures. From Army Training Publication (ATP) 3-90.4, *Combined Arms Mobility Operations* (Washington, DC: 2016).

River Crossing Control Mechanisms

Integral to the successful command and control of the operation is a well-coordinated plan that includes specific graphic control measures for the entire force. Doctrine lays out extensive graphic control measures required to effectively orchestrate the complex and detailed integration that must take place in execution. Additionally, the forces are organized (see discussion earlier on crossing fundamentals) to ensure that all are aware of their particular role in the operation and knowledgable on their unique contribution to the successful crossing. Figure 10.4 illustrates the scope of the graphic control measures necessary for these operations.

Figure 10.5. Tanks cross a river on a float bridge during brigade training exercises. Courtesy of US Army.

In river crossing operations, the challenge is to prevent anything from interdicting or interrupting the rapid maneuver of friendly forces. Hence, the graphic control measures detailed in the plan must be complete and detailed enough to ensure all elements of the force understand the overall operation as well as the specific function of each contributing member. Precise timing is crucial; graphic control measures help facilitate the uninterrupted maneuver of combat forces across the water obstacle.

Specific Requirements by Warfighting Function

Success in such a difficult and complex operation as a contested river crossing depends greatly on the ability of the planners and executers to effectively integrate and synchronize diverse units and functions broadly and deeply. Clearly each of the respective doctrinal warfighting functions has a crucial role to play in its unique contribution to the mission as well as in its complementary role to the other warfighting functions. Here are some of the most obvious challenges for each of the warfighting functions:

Intelligence. For the intelligence warfighting function during river crossing operations, the primary focus is on the terrain—the river itself—

and the enemy forces in position to contest the gap crossing. In order for the crossing to be successful, the intelligence cell must provide accurate and timely information to the commander relative to the characteristics of the terrain around the potential crossing site(s) as well as the technical features of the river itself. Information such as water depth, velocity, bank slopes, and soil composition is crucial to the force executing the crossing, and engineer technical reconnaissance has to be included in the priority intelligence requirements. Additionally, the intelligence cell must determine the enemy forces defending against the river crossing and template their positions and the obstacles they have constructed so that the friendly forces can properly suppress and/or reduce these impediments prior to beginning crossing operations.

Movement and maneuver. The most important consideration for the movement and maneuver warfighting function is the rapid buildup of combat power on the far side of the river. To this end, the actual crossing plan (normally an appendix to the gap-crossing annex), specifically the sequence of units, has to be thoroughly understood throughout the command and arranged in time and space so as to efficiently and effectively flow the appropriate forces to far side objectives. Hence, the *organization* of the crossing elements is crucial, and all other considerations revolve around this vital centerpiece.

Fires. Eliminating enemy direct fires and observed indirect fires into the crossing area is one of the fundamental precursor conditions that must exist prior to launching river crossing operations. Thus, the fires warfighting function plays a significant role in the planning and execution of wet gap crossings. At the division level, planners must integrate and synchronize friendly fires into the overall operation as well as ensure that the fires effects meet the commander's intent and are interwoven into the fabric of the river crossing plan. Critical fire support tasks may likely include suppression of enemy forces, artillery counter-fire operations, suppression of enemy air defenses (SEAD), and obscuration. The actual tempo and sequencing of friendly fires require exceptional planning and orchestration to ensure uninterrupted support throughout the duration of the river crossing operation. Additionally, the effective integration of close air support and rotary wing aircraft will often mean the difference between success or failure in a large-scale river crossing operation.

Protection. Concerns relative to the protection warfighting function include the integration and synchronization of air defense assets and proper positioning of the marshaling and holding areas for the friendly forces.

Military police play an important role in the river crossing operation by providing traffic control and local security adjacent to the crossing sites. Additionally, chemical units may be necessary during a river crossing operation for purposes of hasty chemical detection and decontamination.

Sustainment. The sustainment warfighting function, like the other warfighting functional cells, must provide detailed and thorough estimates during the planning process then continue to coordinate, integrate, and synchronize logistics requirements throughout the operation's duration. Specific concerns for the logistics planners include meeting the robust Class V demands for the forces engaged in the operation in addition to orchestrating the skillful "ballet" of resupply vehicles dispersed throughout the division's broad area of operations. The demand for Class III in the holding and marshalling areas is also great. Key to success in the sustainment warfighting function is the anticipation of requirements and proactive posturing of logistics early in the operation. River crossing operations stress the lines of communication (LOCs) and can potentially unhinge even the best maneuver plans if not fully meshed with the other functional cells in the headquarters.

Mission Command. More than all other functions, effective command and control of all the forces involved in the river crossing operation determines the success or failure of the operation. Here again, we are challenged by the changes to our force structure. In past years, there was typically an engineer brigade assigned to each maneuver division. Thus, it was a natural and habitual occurrence to designate the division's engineer brigade commander as the crossing area engineer. That commander, along with the crossing area commander (usually the deputy commanding general-Operations), would provide the senior leadership necessary to oversee the operation, routinely operating out of the division tactical command post (TAC) for the duration of the river crossing operation. Now, we no longer have engineer brigades organic to the division structure and may not have them assigned as part of the division's forces during contingency operations. If they are allocated to the division, the working relationships may not be quite as "habitual" as in the past. If the division has a maneuver enhancement brigade (MEB) attached as a part of its task organization, it may be inclined to designate the MEB commander as the crossing area engineer. However, since the MEBs only reside in the reserve components, the working relationships may not be as well-rehearsed as desired. Regardless, the functional requirements remain and demand a logical and appropriate solution to the required mission command roles essential for executing the operation.

ATP 3.90.4 delineates the roles and responsibilities for the various mission command nodes:

1. *Division tactical command post* controls the lead BCT/regimental combat team's (bridgehead force) attack across the gap; coordinates and synchronizes movement from the attack positions on the far side of the gap.

2. *Division main command post*, normally supported by an engineer brigade or MEB, prepares the gap-crossing plan and directs the division's operations in-depth to isolate the bridgehead from enemy reinforcements and/or counter-attack formations.

3. *Crossing area commander* is usually the division or BCT deputy commander—responsible for movement of forces approaching gap, terrain management, traffic management.

4. *Crossing area engineer* is usually an engineer brigade or MEB commander for a division, engineer battalion commander for a BCT—controls all crossing means in the crossing area and ensures that the execution of the crossing plan supports the scheme of movement and maneuver and the commander's intent.

5. *Crossing site commander* is usually a bridge company commander who controls a specific crossing site—responsible for all crossing means at that site and for crossing units that are sent there. The crossing site commander is responsible to the crossing area engineer and keeps him informed on the status of the site.[11]

Figure 10.6. Units assigned to the stabilization forces (SFOR) conduct river crossing operations across the Sava River in the Balkans. Courtesy of US Army.

Conclusion

River crossing operations present significant challenges to leaders and units alike. Not only must the planning be thorough and detailed; the execution must also be precise and punctual. Timing is critical and all leaders and units must work in harmony to efficiently and effectively complete this daunting combined arms task. Although training on river crossing operations has been minimal in recent years, the return of a large-scale combat operations focus most certainly warrants a corresponding emphasis on division-level river crossing operations.

For Army forces to sustain combat readiness and ensure success on future battlefields, we must regain certain critical skills and attributes that have lain dormant for some time. The newly emergent operational environment demands a level of competence and preparedness unlike previous years of counter-insurgency operations in the Middle East. So while we may still face smaller-scale operational challenges, the reality of a world in which near-peer adversaries compete for our attention requires us to plan, equip, and train on critical tasks inherent in large-scale combat operations—especially river crossing operations.

Notes

1. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017).

2. "Battle of Rapido River," Wikipedia, accessed 11 March 2018, https://en.wikipedia.org/wiki/Battle_of_Rapido_River.

3. "Battle of Rapido River."

4. "Battle of Rapido River."

5. Duane Schultz, "Rage over the Rapido," HistoryNet, 8 January 2012, http://www.historynet.com/rage-over-the-rapido.htm.

6. "Battle of Rapido River," Wikipedia.

7. Christopher P. Rein, "Attacking Unsupported: The 36th Infantry Division at the Rapido River, 20–22 January 1944" in *The Last 100 Yards: The Crucible of Close Combat in Large-Scale Combat Operations*, ed. Col. Paul E. Berg (Fort Leavenworth, KS: Army University Press, 2019), 29.

8. Department of the Army, Army Training Publication (ATP) 3-90.4, *Combined Arms Mobility Operations* (Washington, DC: 2016), 4-1.

9. ATP 3-90.4, 4-5.

10. ATP 3-90.4, 4-7.

11. ATP 3-90.4, 4-12–4-15.

Chapter 11

Engineer Support to Large-Scale Defensive Operations

Lt. Col. Sean A. Wittmeier

The newly published Field Manual (FM) 3-0, *Operations*, is a guiding document that shapes and outlines how the United States Army fights and wins its future wars. The future envisioned is a return to a division-centric army and an emphasis on large-scale combat operations (LSCO) against near-peer opponents.[1] Engineers have always supported the Army by bringing their unique capabilities to the battlefield. The new version of FM 3-0 requires an examination of the planning and tasks that engineers conduct to shape the battlefield during LSCO, particularly during defensive operations. Providing the right engineer expertise and differentiating the planning responsibilities at echelon are part of the challenges engineers face in the return to LSCO. In particular, engineer units and engineer planners are essential for large-scale defensive operations. This chapter will explain how engineers support the defense in LSCO by examining current doctrine and the use of historic examples.

The US Army's doctrine holds that the defense "develops conditions favorable for offensive or stability tasks."[2] This transition out of the defense is predicated upon the requirement that units survive the defense with enough forces to assume the offense. The defense is particularly relevant considering the current number of forward-deployed units spread around the world supporting their respective combatant commanders. These are largely brigade-sized units, with planned division rotations coming in the near future. If one of these rotational units must defend to set conditions for follow-on forces, that defense is also the next battle they may lose because FM 3-0 assesses a dangerous situation for these potential defenders:

> Initially, a defending commander is likely to be at a relative disadvantage against an attacking enemy since that enemy can choose when and where to strike. Significant capability gaps in terms of fires, including air and missile defense (AMD), countermobility, protection, and aviation may exist early on in any campaign. Also, joint fires may not be available initially in sufficient quantity, or the enemy may have dominance in one or more of the domains that limits joint capabilities.[3]

These initial forces will have to prepare significantly and intelligently to overcome capability disadvantages and hold vital terrain. Rigorous preparation is a key part of the strength of the defense; commanders

must have engineers prepare and shape the environment in their favor as much possible.

What Engineers Do in the Defense

Army engineers exist to "provide freedom of action to enable ground forces to seize, retain, and exploit the initiative to gain a position of relative advantage."[4] Engineers organize how they provide this freedom into three disciplines of engineer support:

• Combat engineering

• General engineering

• Geospatial engineering

And four lines of support:

• Assure mobility

• Enhance protection

• Enable force projection and logistics

• Build partner capacity and develop infrastructure

All of these together form the engineer framework and can be seen in the planning and execution of a division defense.[5] (These bullets are headings for the hundreds of tasks that lie below them and cover many activities.) The lines of support describe the ways that the disciplines are applied to support the ground force commander. The disciplines are composed of the tasks that engineers conduct and the lines of support are the purposes for the tasks.

Combat engineering is the family of activities playing the largest role in directly supporting the maneuver commander and is composed of mobility, countermobility, and survivability tasks. Geospatial engineering relates to terrain analysis and the development of products that contribute to the understanding of terrain and its effects. General engineering are those activities that are not combat engineering but are required to modify the existing environment.

Combat engineering will be the primary focus of the division engineers during the defense. The other disciplines have their part to play, but they are either tangentially related to the defense or are a persistent activity that occurs during all operations. FM 3-0 recognizes three defensive tasks: area defense, mobile defense, and retrograde. Combat engineering supports each of the defensive tasks with variations to the allocation of engineers across the battlefield.[6]
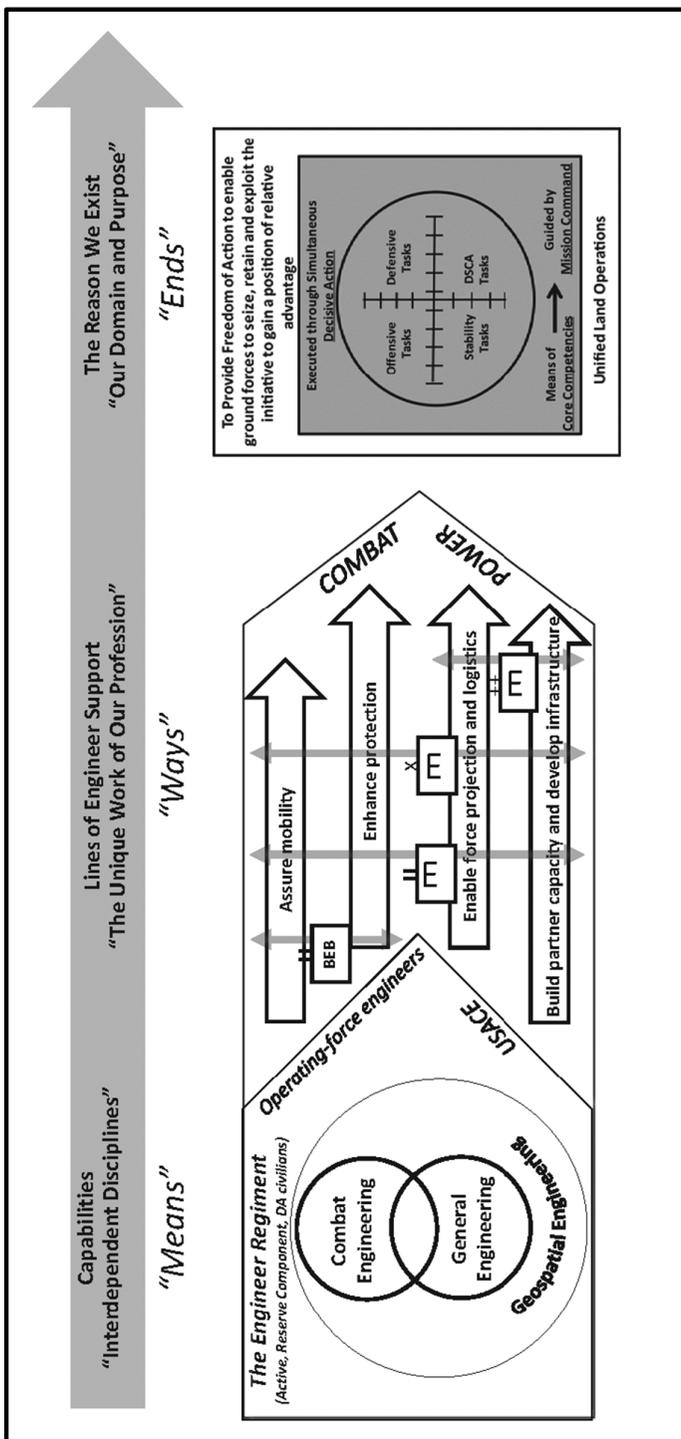
Figure 11.1. Framework as a model for the application of engineer effort. From Department of the Army, Field Manual (FM) 3-34, *Engineer Operations* (Washington, DC: 2014), 1-6.

During the defense, engineers utilize the discipline of combat engineering to shape the battlefield in accordance with the priorities of the commander. Countermobility is the application of reinforcing obstacles to augment natural obstacles that turn, block, fix, or disrupt the enemy attack.[7] These obstacles take the form of minefields, tank ditches, constructed obstacles, and demolition targets. Survivability is the construction of fighting positions, protective positions, and hardening structures. Mobility is the construction of combat roads and trails, gap-crossing, and reducing existing obstacles, whether enemy or friendly. Each of these is addressed in detail later in the chapter.

Engineer Formations Available to Support the Division Defense

The only engineers normally within the division are those on the division and brigade staffs and those in the brigade engineer battalion (BEB). The BEB generally has two companies of engineers to support its brigade combat team (BCT). This force structure is most likely insufficient to conduct all of the engineer tasks within a division defense. For example, in very generic soil conditions with experienced crews working for forty-eight hours, the engineers organic to a heavy mechanized division can dig enough hull defilade positions for a little more than ten battalions worth of combat vehicles or enough turret defilade positions for under five battalions. This dedication of effort would mean that no earth-moving equipment would be directed toward other vehicle and system protective positions. Additionally, no blade team effort would be spent creating obstacles, such as anti-tank ditches. All of this work doesn't even begin to cover the requirements for the division consolidation and support areas. Plainly stated, a division in the defense needs to be augmented with echelons above brigade (EAB) engineers, even if just survivability considerations were the only factor.

The Army engineer formations available to support a division come from the operating-force engineers and are held in the engineer force pool.[8] The organic and force-pool engineers are the resources which engineer planners utilize to develop and execute their support to the maneuver commander. Likely additions to a division would be engineer headquarters and engineer baseline units. The headquarters come in the forms of a battalion- or brigade-sized headquarters, each with robust engineer planning capability. Baseline engineer units are company-sized elements which would either be task-organized directly to a BEB, an EAB engineer battalion, or a maneuver enhancement brigade (MEB). The baseline units

are combat and general engineer formations, most applicable for combat engineering in the defense being:

- Sapper company (mobility, counter-mobility, survivability)

- Mobility augmentation company (mobility, counter-mobility)

- Clearance company (mobility)

- Engineer support company (non-explosive mobility and counter-mobility, survivability)

- Horizontal construction company (non-explosive mobility and counter-mobility, survivability)[9]

The US Marines are the only members of the Joint force that have formations designed to conduct combat engineering similar to the Army.[10] Marine engineers support their parent units much like a BEB supports its brigade. The Navy and the Air Force have highly capable engineers, but they are dedicated to general engineering missions. A division properly supported with engineer assets can mount a formidable defense.

Countermobility in the Defense

Commanders normally prioritize their engineers on countermobility during the defense.[11] This is done to force the enemy into and trap them in engagement areas (EA). These EAs are the locations where commanders focus their efforts to destroy the enemy.[12] Countermobility is a vital part of the EA development process. The development process has seven steps:

1. Identify all likely enemy avenues of approach.

2. Determine likely enemy schemes of maneuver.

3. Determine where to kill the enemy.

4. Emplace weapon systems.

5. Plan and integrate obstacles.

6. Plan and integrate indirect fires.

7. Rehearse the execution of operations in the EA.[13]

Detailed planning is required to direct the emplacement of obstacles to limit the enemy's options. These obstacles are integrated with direct and indirect fires in order to ensure the enemy can be engaged in accordance with the commander's intent. The delineation of what obstacles are planned between the division and the brigade is a matter of military art and science. The division is typically not the echelon that is physically direct-

ing the employment of specific minefields and obstacles. Generally, the division outlines the obstacle zone and its intent, while the brigades develop the obstacle belts.[14] EA development occurs down to the company level with battalions focusing on obstacle groups, while the companies actually sight and emplace the individual obstacles within the group.[15] There can be some deviations from these normal planning responsibilities. Divisions can withhold the authority to emplace obstacles, particularly minefields and demolition targets, for various reasons. This can go beyond restrictions placed on subordinate commanders and speaks to the division fighting a countermobility plan at its level. Commanders may do this through the designation of high-priority reserve obstacles.[16]

An example of this occurred during the Korean War. On 3 July 1950, United Nations forces withdrew under pressure from North Korean attacks behind the Naktong River. These forces destroyed bridges over the Naktong River after they had crossed them. Eventually only the main-line railroad bridges and the highway bridge remained. It was the Eighth Army's plan to "drop" all of the bridges as part of the defense that would later become the Pusan Perimeter. After engineers from the 3rd Engineer Combat Battalion prepared the bridges for demolition, the 1st Cavalry Division commander, Maj. Gen. Hobart R. Gay, ordered that only he could authorize their destruction.[17] These bridges were the final means for crossing the river and would effectively seal in the United Nations forces. This type of control was due to the scale of the operation and the profound effect that would come from losing all crossing points over the Naktong River.

Another example of the division, rather than the brigade, directing obstacles would be a defense conducted across a large area such as a border. This is especially true if large countermobility projects are required in depth and individual BCTs do not have sufficient resources or are consumed preparing their own engagement areas. The division solution could involve using EAB engineers to conduct the work, under division direction, to complete the project. The division can assign the integration of the obstacle plan to an engineer brigade and direct the emplacement of obstacles without requiring the use of the BEB engineers.

Reinforcing obstacles strengthen the effects of the terrain and ensure that EAs can effectively contain the enemy. Engineers prioritize countermobility in the EAs based upon the commander's operational framework. The artistry in countermobility comes from the creative use of reinforcing obstacles and terrain to achieve the desired effect. Reinforcing obstacles supporting a defense during LSCO are limited only by the rules of engagement, directions from higher, and the creativity of the engineers on

the ground. Most division graphics will only designate an obstacle zone.[18] Some may indicate a specific effect is desired in the zone, but they do not specify each obstacle used to be a minefield. On the ground, engineers may decide that abatis or rubble obstacles may be more effective to turn the enemy into the desired EA. These obstacles are often easier to resource and provide problems the enemy may not be prepared to breach with standard obstacle reduction equipment. Engineer planners at the division level should build robust resource requirements into their plan but be prepared for those resources to be used in potentially unorthodox ways. Within each obstacle zone planned by the division, the subordinate units can plan belts that have different obstacle effects that cumulatively achieve the overall intent of the zone. Within a zone, "turn" obstacle belts combined with "fix" obstacle belts can be configured to achieve an overall effect of blocking within the zone. Figure 11.2 shows an example of this type of obstacle integration. Division engineer planners must ensure that subordinate units coordinate their obstacle plans with their adjacent units in order to achieve the directed effect.
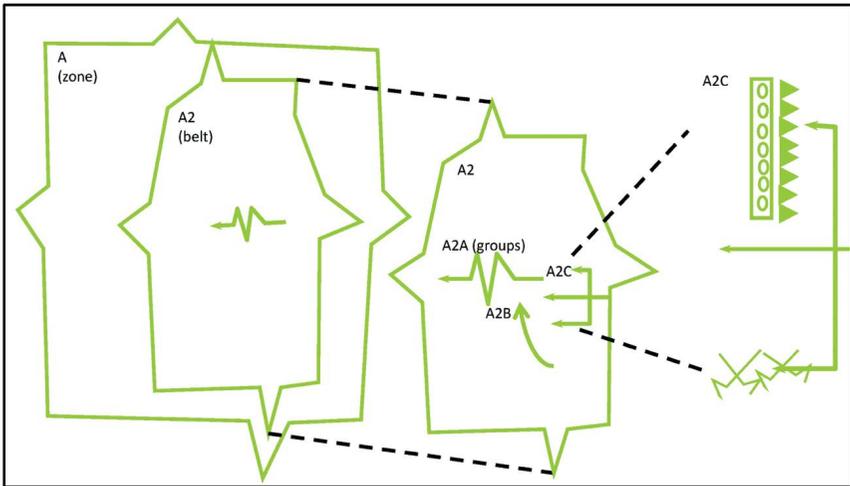
Figure 11.2. Division Obstacle Graphics. Created by the author.

Obstacle effects in EAs speak to the resourcing required to achieve the effect. Normally this is a factor of multiplying the width of the avenue of approach by the resource factor of the effect. If the avenue is X meters wide and the resource factor for a block is Y, it requires XY meters of linear obstacle effort to achieve the effect. This effect can be any combination of linear obstacle effort. Tank ditches combined with minefields and

supported by road craters could all be part of the obstacle belts supporting the obstacle zone's block effect. The division engineers must ensure the BCT engineers properly report and track their obstacles in order to build an accurate common operating picture provided via the modified combined obstacle overlay and the required minefield reports, as per the unit's standard operating procedure.

The division security area is another location where countermobility planning can produce significant effects. A security force covering obstacles can generate many dilemmas for the enemy. Premature consumption of enemy engineer assets, early deployment of enemy forces, and winning the counter-reconnaissance fight are all reasons to provide engineer support to the division security forces. Covering forces in particular will generally have additional engineer support because of their size and mission.[19] These opportunities must be weighed against the cost to countermobility preparation in the EAs.

Survivability in the Defense

Defenders generally do not possess the initiative and must be expected to weather the blows of the enemy's initial attacks. Survivability efforts help ensure defending forces are able to withstand these initial attacks and continue to fight to the enemy. The commander's priorities and threat capabilities determine survivability priorities. Brigade engineers develop their scheme of survivability to support the close fight and rarely have resources to assist the division headquarters in preparing additional protective positions and critical asset survivability requirements. As discussed earlier, the requirements generally exceed the capabilities of the division's organic engineers.

The consolidation area, support areas, main battle area, and potentially the security area require some degree of survivability efforts. Each of these areas and their commanders compete within the commander's priorities for a portion of the available survivability assets. This can be challenging, particularly if subordinate units become possessive of their engineers. In fact, the brigade engineers will likely have needs exceeding their ability, and any requirements beyond their capacity will be submitted as a request to the division engineer planners. Engineer planners maximize the use of limited resources by creating clear priorities and assigning clear tasks to units. Survivability tasks that are not specific lead to mission creep for the engineers completing the tasks.

An engineer platoon ordered to construct all the fighting positions at a battle position will find themselves in a debate with the supported unit

leadership as to what that task really means. This will likely lead to either a failure to construct enough fighting positions to meet the intent or a failure to construct fighting positions required by other units they support. A platoon that is told to dig fourteen turret-defilade positions and twenty hull-defilade positions at a battle position understands the requirements. Communicating these minute details is necessary to maximize the amount of survivability work that can be achieved. This level of specificity begins at the battalion and brigade levels and is submitted to the division for support from the EAB engineers. The EAB engineers need clear guidance from the division in Annex G and engineer fragmentary orders (FRAGORDS), especially if their services are in high demand across the division area of operations.[20]

Support and consolidation areas have extensive survivability requirements as well. A maneuver enhancement brigade (MEB) or engineer headquarters can ensure an effective survivability plan is developed and executed in these areas. Engineers from EAB units can execute survivability missions and speed the transition to general engineering support on the critical lines of communication and logistics hubs. These EAB assets also support the main battle area with baseline engineer units. In the defense, protecting aviation sites, command posts, ammo sites, and fuel farms require extensive engineer preparation, all of which will compete with the main battle area for priority in support. Division engineer planners must determine the right amount of engineer effort to divert away from the consolidation and support areas to assist in the main battle area. Bottom-up refinement stemming from parallel planning is essential to provide a realistic work requirements breakdown. Without this breakdown, it is not possible to provide specificity in the taskings to subordinate engineers. The only recourse for the division at that point is to task-organize the engineers to subordinate commands and let them execute at their level, only redirecting efforts when specific requirements are requested. The danger in this broad type of planning is that the use of engineer assets may not be maximized within division.

Mobility in the Defense

Engineers conduct mobility operations to enable maneuver and movement. There are many mobility requirements in the defense, and they can be costly in terms of lives, time, and equipment. During a mobile defense, the priority of the engineer mobility effort is to create maneuver space supporting the strike force. Engineers assist in overcoming natural obstacles and breaching any obstacles the enemy may employ along its flanks as part

of its assault. This requires the strike force to reduce lanes if no bypasses are available. Natural and enemy obstacles are not the only reduction requirements in the defense. Friendly obstacles may also require reduction in order to facilitate a counterattack or exploit success. Beyond reducing obstacles, combat roads and trails may be required to provide prepared routes for counterattacks or spoiling attacks, or to support access to battle positions. Mobility support to spoiling attacks can be critical, particularly if the enemy is in a defense building combat power prior to the attack.

In March 1966, the 1st Infantry Division mounted a series of spoiling attacks against North Vietnamese forces. The US Army Center of Military History's volume on combat engineers in Vietnam recalled:

> Throughout these operations, Colonel Sargent's 1st Engineer Battalion and Captain Sowell's 173rd engineer company supported the infantry. Combat engineers augmented every infantry company and larger unit in the field with demolition teams. They also cleared and repaired roads, built landing zones, carried out the slow and deliberate clearance of bunkers and tunnels, and set up water points. . . . Company C supported the 3rd Brigade and cleared and repaired roads into the area of operations. The battalion's tankdozers and flamethrowers also supported the operation.[21]

Reconnaissance and security forces also require mobility support during the counter-reconnaissance fight. Mobility requirements within the support and consolidation areas are extensive as well. Lines of communication, roads, and trails need to be established between logistical nodes to prepare the division to go onto the offensive. These activities can again be overseen by the MEB or EAB engineer headquarters. Route clearance can be required to combat any attempts to disrupt movement in the division area of operations. As with all engineer efforts, the amount of mobility tasks is always competing in priority for the time and resources available to execute them.

Conclusion

Division engineers in LSCO primarily conduct combat engineering, countermobility, survivability, and mobility support in line with the commander's priorities. It is foreseeable that future campaigns may begin and end in defensive operations, thus demanding their execution be well-planned during training as well as actual combat operations. Division-level engineers will generally not possess sufficient assets to accomplish these missions and require augmentation from the EAB engineer force pool. A significant challenge for division engineer planners is the distribution of

engineer effort within the support area, consolidation area, and main battle area. Further complicating the problem, brigade-level engineers are often tasked with non-engineer responsibilities, such as battlespace ownership or supporting area defense. This will create dilemmas within BEBs attempting to use engineers for other purposes.

An open dialogue amongst engineer leaders and clear intent from the maneuver commander is necessary to keep these missions from negatively impacting the engineer mission. The defense demands a thoughtful and measured approach to leveraging the engineer capability within the division, including managing its engineer attachments and joint engineer capability. The primary vehicle for directing engineer activity exists in Annex G of the division operation order with possible attachments for counter-mobility, survivability, and mobility. There is not a directed format for these attachments, as they are developed as part of unit standard operating procedures.[22] As a planning consideration, defenses may have extensive time spans. These buildups can take engineer planning out of the standard division planning horizons and lead to the establishment of working groups and project meetings, depending on the volume and scale of the engineer operations being undertaken. This timeline can be further blurred by the transition to stability operations, which may shift priorities of effort within the division area.

The campaigns in Iraq and Afghanistan have provided many lessons for how to manage this transition to stability, including the increase in general engineering-related tasks that accompanies almost all these transitions. These stability tasks are still part of the future that FM 3-0 envisions. Stability tasks are difficult but do not generally have the level of lethality that comes with LSCO. If the next conflict resembles the future operating environment depicted in FM 3-0, the engineer regiments will certainly be busy supporting the commander long enough to see the transition stability operations and the challenges they pose.

Notes

1. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017), x.

2. FM 3-0, 6-1.

3. FM 3-0, 6-1.

4. Department of the Army, Field Manual (FM) 3-34, *Engineer Operations* (Washington, DC: 2014), iv.

5. FM 3-34, iv.

6. Department of the Army, FM 3-0, 6-1.

7. Department of the Army, Field Manual (FM) 3-90-1, *Offense and Defense*, vol. 1 (Washington, DC: 2013), A-15.

8. Department of the Army, FM 3-34, 1-4.

9. FM 3-34, 1-5.

10. Department of Defense, Joint Publication (JP) 3-34, *Joint Engineer Operations* (Washington DC: 2016), I-9.

11. Department of the Army, FM 3-90-1, 6-9.

12. FM 3-90-1, A-23.

13. Department of the Army, Field Manual (FM) 3-21.10, *The Infantry Rifle Company* (Washington DC: 2010), 5-30.

14. Department of the Army, FM 3-90-1, A-16.

15. Department of the Army, FM 3-21.10, 5-35.

16. Department of the Army, FM 3-90-1, 6-9.

17. Roy E. Appleman, *US Army in the Korean War: South to the Naktong, North to the Yalu* (Washington, DC: US Army Center of Military History, 1961), 251.

18. Department of the Army, FM 3-90-1, A-15.

19. Department of the Army, Field Manual (FM) 3-90-2, *Reconnaissance, Security, and Tactical Enabling Tasks*, vol. 2 (Washington, DC: 2013), 2-7.

20. Department of the Army, Field Manual (FM) 6-0, *Command and Staff Organization and Operations* (Washington, DC: 2014), 2-19.

21. Adrian G. Traas, *Engineers at War* (Washington, DC: US Army Center of Military History, 2010), 167.

22. Department of the Army, FM 6-0, D-45.

Chapter 12
Mobility Operations in the Offense
Lt. Col. Andrew A. Thueme

Mobility Operations in the Karbala Gap April 2003

In its drive toward Baghdad in 2003, the 3rd Infantry Division (3 ID) faced a significant mobility challenge in trying to maneuver through the Karbala Gap. The Karbala Gap is located between the city of Karbala and Bar al Milh Lake, and serves as a chokepoint on a main route to Baghdad. In 2003, the gap was mainly farmland but multiple canals, dikes, and palm tree groves made the terrain difficult for the division's mechanized brigades to traverse. Further complicating the plan to move through this chokepoint was the fact that once through the gap, the division planned to quickly cross the Euphrates River. To accomplish both these tasks, it would need the support of organic and attached engineer battalions as well as military police (MP) and chemical units that would focus on a series of mobility-oriented missions. Initial operations to secure the gap by 1st Brigade Combat Team (BCT), 3 ID required its Task Force (TF) 3-69 to seize a small bridge and a dam (Objective Muscogee) as well as clear a minefield blocking a key highway.[1] The 3rd Brigade Combat Team would then relieve the force at Objective Muscogee and control traffic flow across the bridge. To do that, the 3 ID commander had to augment his 3rd BCT with the 937th Engineer (EN) Group.[2] The 2nd BCT 3ID faced far tougher mobility challenges than expected, and only one of its battalion-sized task forces was able to get through the Karbala Gap on its planned axis of advance. This success was only possible because of the availability of armored vehicle launched bridges (AVLB) from the brigade's organic engineer battalion.[3] Once the gap was secured, 3 ID attacked to seize Objective Peach, the highway bridge north of Karbala over which the division planned to cross the Euphrates. This operation required multiple mobility-oriented tasks. First, A Company, 11th EN Battalion had to clear Iraqi demolition charges on the bridge. Following the initial seizure of the bridge and the securing of the area around it, 54th EN Battalion placed a medium girder bridge over a damaged span in order to maintain traffic flow.[4] And 3 ID then emplaced a float bridge across the river resulting in increased mobility for the division. Finally, the 54th EN assumed the role of crossing area headquarters which gave the division the freedom to resume its march toward Baghdad.[5]

Figure 12.1. Engineers from 11th Engineer Battalion in rubber boats cross the Euphrates River to remove demolition charges from the bridge at Objective Peach on 2 April 2003. Courtesy of US Army.

The Role of Mobility Operations

At the Karbala Gap, mobility operations at the division level play a key role in the 3 ID commander's ability to gain and maintain contact and then exploit the advantage. Since 2001, US Army—and to a certain extent US Marine Corps—familiarity with mobility operations other than combined arms breaching and route clearance has eroded. This chapter aims to introduce mobility operations in the offense and provide considerations for planning and executing these operations at echelons above brigade.

Mobility is defined in multiple doctrinal sources; the most succinct description of the aims of mobility operations is found in Field Manual (FM) 3-90-1, *Offense and Defense*: "Its major focus is to enable friendly forces to move and maneuver freely on the battlefield."[6] As defined by doctrine, mobility operations include six tasks:

- Breaching operations
- Clearance (area and route)
- Gap-crossing operations
- Combat roads and trails
- Forward aviation combat engineering (FACE)
- Traffic operations

Both FM 3-90-1 and Army Techniques Publication (ATP) 3-90.4, *Combined Arms Mobility*, share the same definitions of mobility tasks. In the

newly introduced Field Manual (FM) 3-0, *Operations*, there is a change to the subordinate tasks; the manual removes traffic operations and adds counter-mobility operations. This article will not address counter-mobility operations and will only briefly touch on traffic operations.

Breaching operations are combined arms operations to reduce obstacles on the battlefield in order to allow friendly forces freedom of maneuver. Combined arms breaches are normally conducted at the brigade combat team (BCT) level and involve elements from all warfighting functions.[7] When discussing breaching, this article will focus on resourcing the BCT to conduct combined arms breaching.

Figure 12.2. Engineers from the 10th Engineer Battalion detonate a mine clearing line charge to allow 3rd Battalion, 69th Armor Regiment to breach an obstacle during a 13 April 2017 live-fire exercise at the National Training Center, Fort Irwin, California. US Army photo by Maj. Randy Ready.

Clearance operations are operations conducted to clear explosive hazards or obstacles within a given area of operations.[8] This task differs from the tactical task of "clear," which requires the commander to remove all enemy forces and eliminate organized resistance.[9] While the aim of the operation is the same as breaching, clearance operations are not done under fire.[10] The Army and Marine Corps both gained significant experience in conducting clearing operations during combat operations in Iraq and Afghanistan through combined arms route clearance missions. The focus of these missions was mainly counter-improvised explosive device operations. In large-scale combat operations, route and area clearance operations can include reduction of any obstacle or explosive hazard in a

given area or along a route. An example of this is clearing additional lanes through obstacles previously breached in order to increase traffic flow.[11]

Gap crossings take many different forms. A gap is any terrain feature that may be bridged. A gap crossing is the projection of combat power across a linear obstacle.[12] This could be as small as a tank ditch. BCTs are equipped to cross this type of gap with organic assets as part of a combined arms breach or when out of contact along a line of communication. Doctrinally, a river crossing is another form of a gap crossing; the term river crossing is often used interchangeably with gap crossing. This chapter will discuss a gap crossing as a tactical river crossing using standard bridging means (for in-depth information on river crossings, see chapter 10 of this book). Depending on the situation, route clearance operations may look more like a combined arms breach during execution. The ultimate aims of route clearance operations are doctrinally aligned with clearance operations.

Combat roads and trails are built when the current road network cannot support the mobility requirements of the commander. They are usually temporary in nature. Maneuver BCTs gain a limited capability to construct them with the addition of the brigade engineer battalion (BEB). The resources required to build combat roads and trails will tax other capabilities and likely require augmentation from division combat engineering and general engineering assets.

Forward aviation combat engineering (FACE) operations, while defined as combat engineering tasks, often require general engineering support. Typical tasks include construction of unmanned aerial system (UAS) launch and recovery strips, construction of landing zones, and construction of forward arming and refueling points (FARP). Construction of these facilities is done to a field-expedient level as they will be temporary in nature and required on a short time frame.

Traffic management and control spans multiple warfighting functions and has four discreet sub tasks: movement control, traffic management and enforcement, main supply route (MSR) and alternate supply route (ASR) regulation and enforcement, and engineering support to traffic engineering. While left out of the latest revision of FM 3-0 as a mobility operation, this task is an integral part of breaching, clearance, and gap-crossing operations. For example, in support of breaching operations, military police (MP) units can conduct traffic management that enables swift passage of assault forces and other follow-on forces.[13] Traffic management and enforcement also enable the smooth flow of units out of assembly areas to

increase tempo or as an enabling operation to ensure unimpeded sustainment operations.

Division Planning Responsibilities

BCT and division responsibilities for mobility tasks will vary by type. What will not change is the division's overall responsibility to conduct initial planning and resource allocation for those tasks. The 3 ID's operations in the Karbala Gap in 2003 during Operation IRAQI FREEDOM are a classic example of mobility operations.[14] These operations included combined arms elements, engineers, chemical, and military police. This mix of units included the BCT's habitual task-organized enablers and what would be referred to as echelons above brigade (EAB) elements task-organized by the division HQ in order to support the assault on Objective Peach. The end result was that successful mobility operations enabled the 3rd Infantry Division to maintain its momentum to drive all the way to Baghdad.

Division headquarters have a small engineer cell to plan and track engineer operations. The division engineer cell is led by a lieutenant colonel and embedded in the G3 cell. The modified table of organization and equipment (MTOE) staffs the division engineer cell with a total of eleven personnel split across the division tactical command post and main command post. Of these eleven personnel, one major is assigned to the G5 cell. This level of staffing is not always conducive to detailed engineer planning. Division engineer cells should focus on conceptual planning to support the division scheme of maneuver. If detailed planning is required at the division level, the division engineer cell should conduct collaborative planning with a task-organized engineer battalion of brigade headquarters.

The aim of division-level planning is to facilitate mobility operations by maneuver BCTs or functional brigades. Chapter 2 of ATP 3.90-4 covers planning considerations for mobility operations by steps of the military decision-making process (MDMP) and Marine Corps planning process (MCPP). These generic guidelines are meant to support baseline planning. The end result of planning is a refined task organization that facilitates BCT movement and maneuver while enabling division mobility from the division close area through the consolidation and support areas.

Another way to look at the problem set is how mobility operations support the forms of maneuver. By changing the considerations contained in Table 5-2 (Engineer Considerations in Offensive Operations) of Army Techniques Publication (ATP) 3-34.23, *Engineer Operations—Echelon Above Brigade Combat Team*, into questions, we can further guide staff

planning at the division level to support BCTs with the appropriate mobility assets as shown below.[15]

Movement to contact: Has the division balanced task-organizing mobility capabilities with the lead element to optimize response time and tempo? Has this been accomplished without increasing the risk to the mobility of the main body or limiting its ability to mass breaching assets against complex obstacles?

Attack: Has our information collection plan generated obstacle information which provides the necessary detailed picture of the enemy situation? If breaching operations are anticipated, have we resourced the BCTs appropriately? Have we resourced appropriately to clear obstacles and improve lanes to support friendly movement?

Exploitation: As with Movement to Contact, does task organization of mobility assets support an exploitation by breaching obstacles to facilitate the maneuver of ground forces, keeping supply routes open, and emplacing situational obstacles to protect the flanks?

Pursuit: Have we resourced enough mobility assets forward in maneuver formations to quickly breach any obstacles that cannot be bypassed to ensure unimpeded movement?

Specific Planning Considerations by Mobility Operation

With the addition of the BEBs to BCT organizations beginning in 2015, BCTs gained additional capacity to conduct breaching operations. This capability is still very minimal and requires augmentation by echelon above brigade (EAB) engineer assets.[16] As alluded to earlier in this chapter, when mobility tasks are added to the BCT, the ability to accomplish those tasks far outstrips a BEB's organic resources. For example, when planning a combined arms breach, the assumed planning factor is one combat engineer company per maneuver task force. A maneuver task force requires two lanes by doctrine. This is further compounded by a doctrinal fifty-percent redundancy of reduction assets, based on anticipated losses during breaching operations. If multiple task forces are required to breach obstacles, the BEB's organic capabilities will be insufficient and will require augmentation from EAB engineer formations.[17] This example does not even consider asset allocation issues in other warfighting functions (WfF). BCTs may also require significant augmentation by fires assets, military police, and chemical units. Within the Protection WfF, the US Army removed smoke generation platoons from its inventory. This means that the primary sources of obscurants are smoke pots or artillery-delivered smoke. These methods of obscuration each have impacts to the Sus-

Steps of the MDMP	Steps of the MCPP	Mobility Planning Considerations
Receipt of the Mission	Problem Framing	• Gather geospatial information and products (mobility corridors, combined obstacle overlays) needed to understand the terrain. • Request geospatial engineers (or Marine Corps geographic intelligence specialists) to generate geospatial data needed to fill gaps and ensure accuracy of digital map backgrounds on mission command/command and control systems. • Gather intelligence products on adversary's mobility and counter-mobility ways and means. • Gather information on local population to determine its effect on mobility. • Determine availability of existing obstacle information. • Gather information on road characteristics and trafficability. • Update running estimates (status of friendly mobility assets).

Mission Analysis		• Understand unit mission, commander's intent, and scheme of movement and maneuver (two levels up).
		• Complete the following as part of initial IPB—
		  - Develop geospatial intelligence and terrain products (mobility corridor, combined obstacle overlay) to form mobility portion of the COP (real-time MCOO).
		  - Evaluate effects of terrain and weather on friendly and enemy mobility and counter-mobility capabilities.
		  - Assess enemy mobility and counter-mobility capabilities (manpower, equipment, materials), and determine strengths and weaknesses.
		  - Template enemy obstacles based on threat patterns, terrain, and time available.
		• Identify specified and implied mobility tasks and recommended essential mobility tasks, determine obvious shortfalls in mobility assets, and initiate requests for augmentation as early as possible during planning.
		• Develop information requirements related to mobility (terrain restrictions and mobility restraints, obstacle information, enemy counter-mobility capabilities, population considerations) and draft requirements as possible CCIR.
		• Integrate information collection tasks or other necessary specialized reconnaissance capabilities into the information collection plan.

COA Development	COA Development	• Predict impediments to mobility for each COA based on terrain and the enemy SITEMP, and determine mobility requirements (refine essential tasks for mobility as necessary). • Determine counter-mobility requirements based on scheme of movement and maneuver of each COA. • Allocate mobility and counter-mobility assets (troop-to-task analysis) based on identified requirements.
COA Analysis	COA War Gaming	• War-game task organization of mobility and counter-mobility assets. Consider attrition of assets resulting from maintenance problems or combat actions and efforts needed to repair or redistribute (cross-level) assets. • War-game changes in the terrain due to natural or human influence. • War-game (action/reaction) enemy use of mobility or counter-mobility assets (such as SCATMINEs) that will impact friendly scheme of movement and maneuver.

COA Comparison	COA Comparison and Decision	• Analyze and evaluate advantages and disadvantages for each COA in relation to the ability to execute mobility. Consider the—
		  - Ability (time-distance factors) to shift mobility assets between units beyond the line of departure.
		  - Ability to reinforce mobility in response to enemy counterattacks (use of a reserve).

COA Approval		• Gain approval for changes to the essential tasks for mobility. •Gain approval for recommended priorities of effort and support. • Gain approval for requests for mobility augmentation to be sent to higher headquarters.
Orders Production	Orders Development	• Ensure that the task organization of mobility and counter-mobility assets is accurate and clear, to include the necessary instructions for effecting linkup.
	Transition	• Ensure that the quality and completeness of subunit instructions for performing mobility and counter-mobility tasks.

Figure 12.3. Mobility Planning Considerations. From Army Techniques Publication (ATP) 3-90.4, *Combined Arms Mobility*.

tainment WfF (on-hand quantities and delivery of both) and Fires WfF (time to deliver, other targets not serviced, and vulnerability of howitzers to counter-fire). The shortfalls in BCT capabilities require division planners to anticipate potential obstacles that a BCT may have to breach. This in turn drives planning to resource the BCT in a timely fashion so that BCTs can integrate required assets into planning and rehearsals. The ultimate goal is to make combined arms breaching as in-stride as resources allow in order to maintain the momentum of an attack.[18]

Clearing operations generally span from offensive phases into phases focused on consolidation of gains. As with breaching, division-level planners must anticipate the amount of effort needed and resource appropriately. While BCTs have a route clearance platoon, this is a limited capability and may need to be reinforced. Simultaneously, division planners must resource clearance efforts in the consolidation and support areas. These areas are critical to maintaining freedom of movement for follow-on forces and enabling uninterrupted flow of critical classes of supply to the maneuver BCTs. A clearance company can clear 159 miles of two-way routes per day. Division planners must balance this against the threat to lines of communication. If more assets are required, division planners must make the hard choice to repurpose other engineer formations into a route clearance role. This does not come without risk, as these formations will not be as capable or proficient in the clearance role; most importantly, the commander will have to decide if the loss of capability to conduct other missions will be worth the risk.

Gap crossing operations require significant division-level planning and resourcing to be successful. Critical planning considerations include:

1. Determining whether the crossing will be a BCT operation or a division operation.

2. The size of the breakout force needed on the far side of the river.

3. The amount of engineer effort required to cross the gap.

4. Traffic management requirements based on forces required to achieve the crossing and breakout from the bridgehead line.

5. For division-level crossing, the headquarters of the crossing area engineer should conduct much of the detailed planning in coordination with the division HQ. The crossing area engineer's staff has the depth of knowledge and requisite manning to conduct this planning where a division staff has limited engineer personnel in addition to competing demands.[19]

Constructing combat roads and trails is defined as a combat engineering task; based upon analyses of the terrain, augmentation may be needed from general engineering units. Chapter 7 of ATP 3-90.4 covers planning and constructing combat roads and trails in detail. From a division-level perspective, the two critical factors are determining the amount of combat roads and trails required. This, in turn, generates resource requirements from both engineer unit and material resources perspectives. Additionally, if combat engineer units require augmentation from general engineer units, planners must account for additional security requirements as general engineer units are only manned and equipped to defend against a level-one threat.

In planning for FACE operations, planners must first understand the physical requirements of the FACE location in order to understand the amount of engineering effort. Is it expansion of a landing zone or an extraction zone? Is it construction and maintenance of a landing strip or a forward aviation operating facility that requires aircraft bed-down and maintenance? What will the facility be supporting in terms of friendly scheme of maneuver and logistics requirements? Once these requirements are understood by planners, a detailed analysis of the assets required versus the assets available can be made. Maneuver BCTs and their associated BEBs have limited assets to conduct this type of operation. Augmentation by additional engineer elements should be anticipated by the division. BEBs within BCTs have limited ability to construct airstrips for their Shadow UAS platoons. However, they must understand the total resource requirements before committing to construction of a UAS airstrip and what other mobility operations are competing for those requirements. Planners must consider all resource impacts prior to committing to a course of action that requires FACE operations.

Bottom-up refinement to plans for mobility operations from maneuver BCTs and functional battalions is critical. While the focus of this chapter has been on top-down planning from division and higher, bottom-up refinement based on actual conditions on the ground provides a level of detail that enables modification of required mobility assets. Changes due to feedback from the BCTs will most likely result in task-organization changes. To this end, planners at division and higher should attempt to retain some engineer assets in the early stages of operations in order to facilitate rapid task organization changes. If this is not possible, then division- and corps-level planners will need to decide which missions must be halted, suspended, or transferred to another unit in order to facilitate a task organization change.

Each WfF has specific planning considerations that must be factored into planning mobility operations. By utilizing a WfF approach, division- and corps-level planners can use this as a check against the planning factors previously mentioned in this chapter. This is not meant as an all-encompassing list, merely a start point for division level planners.

Conclusion

The common theme running through mobility operations is the focus on the resources required to enable these operations. Divisions must carefully decide which operations will be given to BCTs to execute and which operations will be assigned to the MEB or an engineer brigade. As divisions assign tasks to BCTs, division planners must include the necessary augmentation required based upon effort anticipated. Planners must also consider BCT (and BEB) limitations on span of control. It may be necessary to augment the BCT with an EAB engineer battalion (or other EAB functional battalion) headquarters if the amount of additional engineer and enabler companies will exceed the capability of the BEB within the BCT to provide effective mission command. By understanding these requirements and taking them into account during planning, division planners can ensure that the division and subordinate BCTs retain freedom of movement and maneuver in the offense.

Mission Command	• Determine effective span of control of subordinate elements conducting mobility operations • Identify reporting procedures for completion of critical mobility tasks
Movement and Maneuver	• Determine critical aspects of mobility requirements based off of scheme of maneuver • Develop and recommend mobility tasks and priorities • Develop task organization to support mobility tasks • Identify shortfalls based on troop to task and make requests for augmentation • Track friendly obstacle emplacement to ensure that it does not impede friendly mobility
Intelligence	• Identify & understand terrain impacts on friendly scheme of maneuver • Identify critical obstacle details • Identify condition and capability of current infrastructure that may affect movement and maneuver • Identify enemy obstacle location, disposition and composition in order to inform friendly scheme of maneuver
Fires	• Identification of critical friendly zones • Identification of possible indirect fire points of origin affecting mobility operations in the support and consolidation areas • Assist with C-IED attack the network operations through the targeting process
Sustainment	• Understand material requirements of Mobility operations • Understand transportation infrastructure requirements that enable continued sustainment of combat elements in order to maintain momentum • Plan, coordinate, and synchronize sustainment movement/convoys along MSRs/ASRs as required
Protection	• Understand security requirements for EAB units • Understand and plan against potential threats to mobility operations • Identify and prioritize critical mobility assets and plan for defense of those assets

Figure 12.4. Considerations by Warfighting Function. Created by the author.

Notes

1. Gregory Fontenot, E. J. Degen, and David Tohn, *On Point: US Army Operations in Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), 286.

2. Fontenot, Degen, and Tohn, 287.

3. Fontenot, Degen, and Tohn, 287–88.

4. Fontenot, Degen, and Tohn, 290.

5. Fontenot, Degen, and Tohn, 292, 295.

6. Department of the Army, Field Manual (FM) 3-90-1, *Offense and Defense*, vol. 1 (Washington, DC: 2013), 1-33.

7. For further information on planning and executing combined arms breaches, refer to Center for Army Lessons Learned, Publication 17-10, *10 Skills to Win the First Fight* (Fort Leavenworth, KS: 2017).

8. Department of the Army, Army Techniques Publication (ATP) 3-90.4, *Combined Arms Mobility* (Washington, DC: 2016), 1-13.

9. Department of the Army, FM 3-90-1, Glossary-6.

10. ATP 3-90.4, *Combined Arms Mobility*, 6-1.

11. ATP 3-90.4, *Combined Arms Mobility*.

12. ATP 3-90.4, *Combined Arms Mobility,* 1-14.

13. Robert Rapone, "Military Police Support to Breaching Operations," Operations Group National Training Center MilSuite, 15 June 2017, https://www.milsuite.mil/book/docs/DOC-382604.

14. Fontenot, Degen, and Tohn, *On Point,* 287–93.

15. Department of the Army, Army Techniques Publication (ATP) 3-34.23, *Engineer Operations—Echelon Above Brigade Combat Team* (Washington, DC: 2015), 5-54.

16. ATP 3-34.23.

17. Department of the Army, Army Techniques Publication (ATP) 3-90.4, *Combined Arms Mobility* (Washington, DC: 2016), 3-38–3-39.

18. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017), 7-73; Department of the Army, Army Techniques Publication (ATP) 3-91, *Division Operations* (Washington, DC: 2014), 6-11.

19. For further information, see ATP 3.90-4, *Combined Arms Mobility,* as well as Chapter 10 of this book.

Chapter 13

Transitions: Adapting to Change in Division Large-Scale Combat Operations

Frederick A. Baillergeon

One of the most challenging aspects of conducting any endeavor is to facilitate change. Within this action, there are two key components. Initially, there exists the mental element of change. Obviously, critical to this element is actually determining when change is necessary. The other component is the action or actions taken to make the necessary change. These actions constitute the physical component of change.

As we all have personally experienced, change is incredibly difficult to acknowledge and begin, let alone successfully accomplish. In his seminal work, *The Prince*, Machiavelli stated, "And let it be noted that there is no more delicate matter to take in hand, nor more dangerous to conduct, nor more doubtful in its success, than to set up as a leader in the introduction of changes."[1] Machiavelli's words are every bit as true and powerful today as when written almost 500 years ago.

Executing change on the battlefield possesses its own unique set of variables and conditions. This chapter focuses on this change as it relates to a division conducting large-scale combat operations (LSCO). In particular, we will focus on two extremely challenging changes executed during LSCO: a unit changing (transitioning) from offensive to defensive combat operations, and the transition from defensive to offensive combat operations.

Transitions

In today's doctrine, the subject of transitions is primarily addressed in Field Manual (FM) 3-90-1, *Offense and Defense*, and Army Doctrine Reference Publication (ADRP) 3-90, *Offense and Defense*. Each defines a transition in essentially the same terms. FM 3-90-1 states, "A transition occurs when the commander makes the assessment that the unit must change its focus from one element of military operations to another."[2]

In order to dissect the subject of transitions—specifically changing from offense to defense and defense to offense—this chapter emphasizes the aforementioned mental and physical components of change. These components are unique in themselves but are clearly interrelated.

In this discussion of change, the chapter is guided by these questions:

1. What is opportunity as it relates to the battlefield?

2. What is a culminating point?

3. What are the indicators that a unit has or is approaching culmination on the offense or the defense?

4. Why would a unit want to transition from the offense to the defense or the defense to the offense?

5. How does a unit conducting large-scale combat operations effectively transition from the offense to the defense?

6. How does a unit conducting large-scale combat operations effectively transition from the defense to the offense?

To provide answers to these questions, this chapter will examine current (principally FM 3-90-1 and ADRP 3-90) and past doctrine, historical lessons learned, and personal experiences of the author and other soldiers.

The Mental Component of Change

This chapter's initial paragraph highlighted that before a change—or transition—can occur, one must determine when, and if, that change is necessary. For the division commander, this determination is greatly assisted by discerning if an opportunity or a culminating point has developed or will develop—for either friendly or enemy forces—in the foreseeable future. The concepts of opportunity and culminating point clearly lie in this mental component of change. Each is discussed below.

During large-scale combat operations, a division commander may be afforded certain opportunities that may serve several important purposes greatly influencing the conduct of combat operations. First, the commander may be presented an opportunity to seize the initiative away from his opponent. At first thought, this opportunity would lead exclusively to offensive operations. However, it is also possible that the opportunity would have defensive connotations. Second, an opportunity may develop that provides a division commander the ability to get his unit out of a bad situation, prevent defeat, or avoid its potential destruction. Again, this opportunity may be tied to either offensive or defensive operations.

A division commander can discover or determine an opportunity several ways. To begin with, the opportunity may simply develop in the course of combat operations. In this case, there is no anticipation of the opportunity; the commander and his staff are reacting to the situation. The other occurrence is when the division commander and his staff anticipate

the opportunity and conduct prior planning and potentially dedicate resources to seek that opportunity. Because of opportunity's importance, the commander may decide that finding this opportunity (and then acting on it) is one of the key decisions he will make during operations. Consequently, the division commander may make this one of his commander's critical information requirements (CCIR). This in turn facilitates finding and acting (in a timely manner) on the opportunity.

In current doctrine, the term *opportunity* is not addressed in any significant detail. However, the concept of positions of relative advantage is presented sufficiently in the 2017 version of FM 3-0, *Operations*. Positions of relative advantage have a close tie to opportunity. In particular, they relate to opportunities that would assist a commander in seizing the initiative from his opponent. FM 3-0 defines this concept as "a location or establishment of a favorable condition within the area of operations that provides the commander with temporary freedom of action to enhance combat power over an enemy or influence the enemy to accept risk and move to a position of disadvantage."[3]

Within FM 3-0, there are several key points in the discussion of positions of relative advantage pertinent to change and transitions. First, the manual emphasizes these positions are usually very fleeting in nature and a unit must exhibit initiative to exploit them. Second, positions of relative advantage often appear on the battlefield under the most ambiguous and chaotic conditions. Finally, units must cultivate a mission command climate which enables leaders to act on a position of relative advantage when it presents itself.[4]

Perhaps the best articulation of opportunity (positions of relative advantage) was crafted several decades ago in the 1997 Marine Corps Tactical Publication (MCTP) 1*, Warfighting*:

> In all cases, the commander must be prepared to react to the unexpected and to exploit opportunities created by conditions which develop from initial action. When identification of enemy critical vulnerabilities is particularly difficult, the commander may have no choice but to exploit any and all vulnerabilities until action uncovers a decisive opportunity. As the opposing wills interact, they create various fleeting opportunities for either force. Such opportunities are often born of the disorder that is natural in war. They may be the result of our own actions, enemy mistakes, or even chance. By exploiting opportunities, we create in increasing numbers more opportunities for exploitation. It is often the ability

and the willingness to ruthlessly exploit these opportunities that generate decisive results. The ability to take advantage of opportunity is a function of speed, flexibility, boldness, and initiative.[5]

Out of the excerpt above come two specific points which reinforce the discussion on opportunity in FM 3-0. First, opportunities are brief on the battlefield and the commander must prepare himself and his unit to exploit them. Second, because these opportunities often present themselves in the most chaotic of times, the commander and staff must be able to see through the "fog" of battle to discern these moments of relative advantage.

The other concept tied to the mental component of change is the culminating point. As with many concepts, the idea of culmination—or the culminating point—is associated with Carl von Clausewitz. In *On War*, Clausewitz asserts:

Beyond that point the scale turns and the reaction follows with a force that is usually much stronger than that of the original attack. This is what we mean by the culminating point of the attack. Since the object of the attack is the possession of the enemy's territory, it follows that the advance will continue until the attacker's superiority is exhausted; it is this that drives the offensive on toward its goal and can easily drive it further. If we remember how many factors contribute to an equation of forces, we will understand how difficult it is in some cases to determine which side has the upper hand. Often it is entirely a matter of the imagination. What matters therefore is to detect the culminating point with discriminative judgment.[6]

Within Clausewitz's discussion, it should be emphasized that determining the culminating point (the mental component of change) in combat is extremely problematic. As Clausewitz highlights, there are numerous factors used to determine if culmination has or will soon take place. In the final analysis, the commander must utilize his own judgment in determining a culminating point. Clearly, there is both art and science in this concept and this is what makes that determination difficult. This balance of art and science and its related difficulty is addressed later in this chapter.

The US Army did not truly address operational art and embrace (or at least acknowledge) the concept of culmination until the 1980s. In 1986, the newly published version of FM 100-5, *Operations*, included discussions of both concepts. The manual devoted nearly two pages to the concept of culminating points, which closed with a paragraph on transition. That passage concludes, "Once operations begin, the attacking commander

must sense when he has reached or is about to reach his culminating point, whether intended or not, and revert to the defense at a time and place of his own choosing. For his part, the defender must be alert to recognize when his opponent has become overextended and be prepared to pass over to the counteroffensive before the attacker is able to recover his strength."[7]

In current doctrine, the concept of culmination does not receive the amount of attention it did in the 1980s. The current FM 3-0 *Operations* does not address the term whatsoever. However, ADRP 3-0, *Operations*, does discuss the concept at some length. It defines the culminating point as "that point in time and space at which a force no longer possesses the capability to continue its current form of operations."[8] It further differentiates between the culminating point within the offense and the defense. In the offense, it explains that culmination occurs when the unit is unable to continue the offensive and must either shift to a defensive posture or conduct an operational pause. In the defense, a culminating point exists when the unit does not possess the ability to defend itself and consequently, must conduct some form of retrograde or likely face the destruction of the force.[9]

More specifically in the offense, culmination is found in three particular instances in time and space: 1) the attacker's combat power no longer exceeds that of the defender, 2) the attacker has lost the momentum for the attack, 3) the attacker can no longer logistically sustain the continuation of the attack. A unit could experience all of the above concurrently or may exhibit each singularly.

In the defense, culmination is found in three particular instances in time and space: 1) the defender does not possess sufficient combat power to defend against an enemy attack, 2) the defender cannot conduct a cohesive defense, 3) the defender is in danger of being completely overrun. All of these could transpire near the same juncture.

The concept of culminating points is especially pertinent when discussing transitions. If the division commander fails to anticipate culmination, that failure dramatically affects the division's ability to conduct an effective transition. In the conduct of the offense, if the division commander does not anticipate a culmination to his attack, the division is vulnerable. If the enemy senses this culmination, it is likely they will transition from a defensive posture to a counterattack. If this occurs, the division commander will presumably go to a defensive posture in terrain not conducive to conducting a hasty defense. Certainly, earlier detection of culmination may have enabled the unit to mask its intentions from the enemy or at least locate terrain more effective for conducting a hasty defense.

In the conduct of his own defense, a division commander not anticipating his enemy's culmination during the attack may allow the enemy to successfully transition to a defensive posture or execute a form of retrograde. That can lead to several outcomes. First, the division commander loses precious time in seizing the initiative from the enemy or potentially may find he cannot capture the initiative from his foe. Second once the division finally transitions, it will likely incur more losses if the enemy is afforded more time to find more defensible terrain. Third and related to the above, the division commander will expend more resources in attacking an enemy occupying more defensible terrain. Finally if the division commander allows an enemy to execute a successful retrograde, he may not have taken advantage of seizing the initiative from his foe.

Culminating Point Indicators

There are many indicators on the battlefield that can assist a division commander in determining if either side is nearing or has reached culmination. It is critical that the division commander anticipate culmination before the fact so that the ability to transition is still a feasible option for his unit. Undoubtedly, a smart enemy will try to hide these indicators from his opponent. Some of these key indicators are much easier to mask than others:

• Intelligence determines the enemy is himself transitioning from the offense to the defense or is executing some form of retrograde operations.

• The tempo or momentum of the enemy attack has dramatically slowed or even completely stalled.

• Enemy attacks are piecemeal without any mass.

• Your battle damage assessments of the enemy point to heavy losses.

• You assess there is little in the way of mission command in the enemy attack.

• The enemy attack appears void of any synchronization of warfighting functions.

• The enemy forces templated as the enemy reserve are intermixed with front line forces.

• Increasing numbers of enemy have been captured.

• During interrogation, enemy prisoners of war indicate culmination of their unit.

• Examination of captured equipment may point toward the enemy's inability to presently resupply themselves.

• Friendly forces on the attack experience little or no resistance.

• While on the attack, friendly forces discover a large amount of abandoned equipment.[10]

A division commander does not need to possess a checklist mentality to determine culmination. If a commander waits until he or she can confirm a preponderance of the above indicators present, he or she will likely conduct a transition far too late. The division commander must utilize intuitive skills (with support from his staff) and make a decision.

Have You Culminated or Are You Nearing Culmination?

One of the more difficult things anyone can do is admit defeat or, to phrase it another way, acknowledge one's immediate inability to achieve success. This is particularly true for a commander leading an offensive. Human nature tends to sway a commander that if there is a glimmer of hope, the attack will ultimately be successful. Consequently, an attack may be continued when there is no possibility for mission accomplishment, resulting in the expenditure of precious resources.

The prudent commander clearly understands the lessons of the past. Athenian orator and statesman Demosthenes (384–322 BC) made the following comment after the Battle of Chaeronea in 338 BC: "The man who runs away may fight again."[11] English novelist and poet Oliver Goldsmith (1730–74) expanded on these words centuries later: "He who fights and runs away may live to fight another day; but he who is in battle slain can never rise to fight again."[12] Doctrine offers indicators for a division commander which echo the words of Demosthenes and Goldsmith:

• Determining that the tempo or momentum of the attack has significantly slowed or even halted.

• Reports from subordinate commanders are far from encouraging. In fact, they assess they cannot achieve their mission.

• Soldiers are physically and mentally exhausted from current combat operations.

• Many subordinate units report being critically short on ammunition.

• Many subordinate units report they are precariously short on fuel.

• The logistical system cannot keep up with requirements from subordinate units.

• Casualties and vehicle losses are escalating.

• The reserve has already been deployed and there are no forces available to designate a new reserve.

• Intelligence indicates the enemy is receiving substantial reinforcements.

• The enemy is successfully mounting small-unit counterattacks. Intelligence believes these are being conducted by units recently arriving into the area of operations.[13]

The axiom "know yourself" is engrained in many soldiers. This is clearly connected to the above indicators. Division commanders utilize these indicators to assist in knowing themselves and their unit. However, commanders cannot wait until numerous indicators appear. Division commanders seeking some type of absolute confirmation of culmination will unquestionably lose the ability to conduct a transition which assists in preserving combat power as well as resources and setting the conditions for future large-scale combat operations. As previously addressed, commanders take advantage of their intuitive skills (with support from their staff) and conclude the unit is nearing culmination and must make a decision.

Decisions

The final aspect of the mental component of change is for commanders to make a decision.

The concepts of opportunity (positions of relative advantage) and culmination greatly impact a division commander's decision-making process. If the commander feels an opportunity has opened—or will open—or that culmination has occurred—or will occur—on either side, then it is time to make a decision. This can unfold in three ways. The most undesirable of these is for the division commander to simply not make a decision. In this case, the end result is fairly predictable. If they are in the defense, a non-decision means they will not be able to exploit an opportunity to transition to the offense. If they are in the offense, a non-decision could very well mean the destruction of the unit or at the very least the majority of it.

Second, and marginally more preferable, is for the division commander to decide to execute but not in a timely manner. A commander can wait too long to act in a window of opportunity. In the case of transitioning to the offense, some commanders may wait until nearly all the indicators are present. By that time, the window of opportunity may have closed or the subsequent attack may not be as effective as it might have been if it was more timely. In the case of transitioning to the defense, any time wasted in not making the decision results in more losses in personnel and equipment.

Finally, the division commander can make a timely decision and execute the transition. In this optimal case, the commander does not wait until all indicators are seen. As with most occurrences on the battlefield, a decision must be made despite the absence of perfect information. Consequently as indicators start appearing, the commander must conduct an analysis and make a determination. There can be no trepidation or hesitation in the process.

With time being such a consideration in the above case, the division commander can significantly benefit by utilizing the rapid decision-making and synchronization process (RDSP). This technique is perfectly suited when determining if a transition should be conducted and how it should be executed. FM 6-0, *Mission Command*, highlights four characteristics which make the RDSP especially effective in decision-making; all of these clearly relate to implementing a transition:

1. It is comprehensive in integrating all warfighting functions. It is not limited to any warfighting functions.

2. It ensures all actions support the decisive operation by relating them to the commander's intent and concept of operations.

3. It allows rapid changes to the order or mission.

4. It is continuous, allowing commanders to react immediately to opportunities and threats.[14]

Two of these factors are especially relevant in reference to transitions. First, it strives to integrate all warfighting functions. It would be easy to simply focus on movement and maneuver. However, this would not set the conditions for success in execution of the transition. Second and clearly tied to the chapter's earlier discussion, it allows commanders to quickly respond to an opportunity or threat. There is nothing more important in the area of transitions than the ability to respond as rapidly as feasible. With the decision made, it is time for the unit to execute. This chapter now focuses on the physical aspect of change and this execution.

Defense to Offense

Once the decision is made to transition from the defense to the offense, the determination of which technique to use drives execution. A unit has essentially two techniques available in this regard. The first is to initiate the transition with forces already defending forward and already in contact. The second—and preferred—option is to commence the transition with forces not previously committed in the defense and likely not in contact.[15] However, METT-TC (mission, enemy, terrain, troops available,

time, and civilian considerations) considerations could persuade the division commander to select the first technique. The advantages and disadvantages for each are discussed below.

The first method a division commander may employ is to utilize the forces he currently has positioned forward in the defense. These forces will be the first units to transition to the offense. There are several advantages to this technique:

• This option offers the potential and ability to rapidly transition to the offense. Since these forces are already positioned forward, the time to transition to the offense should be minimal for a trained unit. Certainly, this is a significant consideration when a window of opportunity can close quickly.

• This technique should be the less complicated of the two options—principally because it should not require the always-challenging (and time-consuming) forward passage of lines.

• In terms of the human dimension, the forward units that initially execute the transition should already possess a "feel" for the enemy and the current combat environment. This includes picking up on their tendencies and acquiring an understanding of enemy strengths and weaknesses.

• Forward units should possess an inherent understanding of the mission and operational variables in their area of operations.[16]

This method does contain some considerable disadvantages or challenges that must be considered:

• Earlier planning, preparing, and ultimately executing a defense is an exhausting undertaking. Consequently, the forces initiating the offense will not be near peak physical and mental condition.

• Unless units are logistically resupplied, they will enter offensive operations with limitations in fuel and ammunition.

• The above two concerns may contribute to the force actually culminating themselves while conducting the offense.

After determining the enemy attack has culminated, the 52nd Division commander believes there is an opportunity to transition to the offense and seize the initiative. With a very small window of opportunity available, the commander has decided to transition to the offense with forces already in contact. Within the concept of operation, 1st Brigade conducts the decisive operation by conducting a counterattack into the flank of enemy forces. The 2nd and 3rd brigades set the conditions for the attack by executing

shaping operations for 1st Brigade. They have been assigned the tactical tasks fix and block respectively.
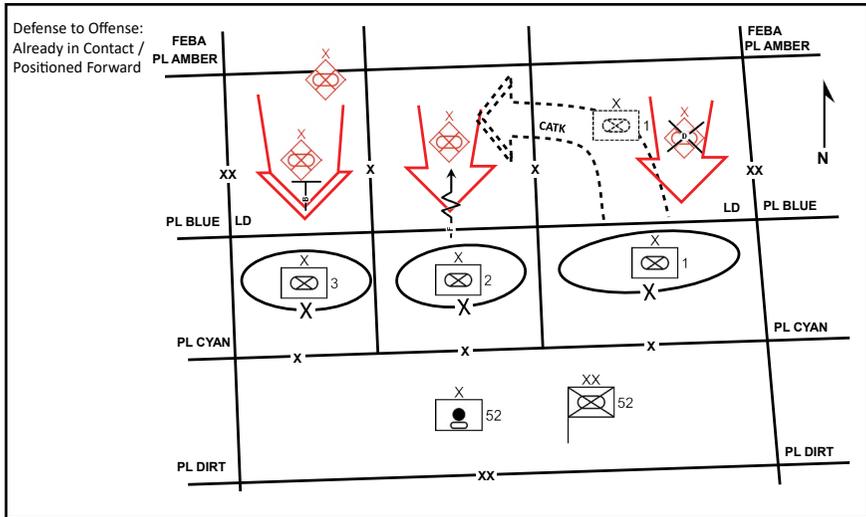
Figure 13.1. Transitioning to the offense while using forces already in contact, positioned forward. Created by Lt. Col. Trent J. Lythgoe.

Not in Contact or Positioned behind Forward Units

The other method a division commander may employ is to utilize forces not currently committed in the defense. These forces may be the reserve or brigade combat teams (BCTs) which were not in contact. In analyzing the advantages and disadvantages of this method, one will find that many advantages are almost polar opposites of the first technique, including:

• Forces not in contact should be in far better condition both physically and mentally than those who were or are in contact.

• Units should have little or no logistical issues, such as possessing sufficient fuel and ammunition to conduct offensive operations.

• If this transition was addressed in planning, units may have been given be-prepared tasks tied to the transition. Since they are presumably not in contact, they could utilize this time to assist in planning and preparation.[17]

As with the first technique, this option has its own disadvantages and challenges, including:

• This is the less responsive of the two techniques. Designated units could potentially begin their maneuver from the rear of the area of operations. With time at a premium, this is a significant concern.

• Units may have to conduct a forward passage of lines through established defensive positions. This becomes more complicated when units must negotiate obstacles placed by units in the defense. As with the above, this can dramatically impact responsiveness.

• It is feasible that the units used in the transition are not combat tested in this environment. This can make for a steep learning curve.[18]
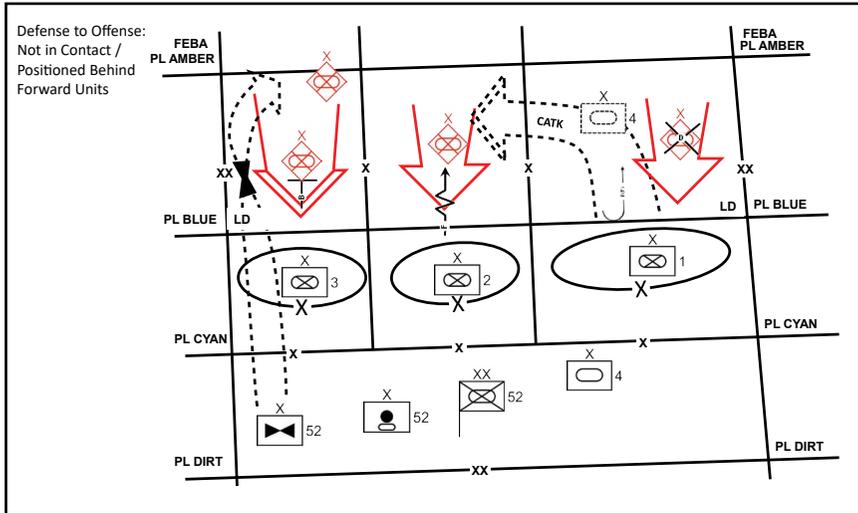
Figure 13.2. Transitioning to the offense while using forces not in contact. Created by Lt. Col. Trent J. Lythgoe.

After determining the enemy attack has culminated, the commander of the 52nd Division believes there is an opportunity to transition to the offense and seize the initiative. The commander believes the best technique is to utilize forces presently not in contact to initiate the attack. He has selected this technique because he feels he has the time available to conduct the movement and forward passage of lines of the 4th Brigade to attack on the west flank. Additionally, his analysis points toward his forward brigades not being able to currently conduct an effective attack. Within the concept of operation, the 4th Brigade conducts the decisive operation. They will execute a forward passage of lines through 1st Brigade and then counterattack into the flank of enemy forces. The commander has also given his aviation brigade an on-order mission to attack enemy forces located along Phase Line Amber. The 2nd and 3rd brigades set the conditions for the attack by executing shaping operations for 4th Brigade. They have been assigned the tactical task of fix and block respectively.

Critical Actions

Whichever technique a division commander selects, there are some basic actions which apply. To begin with, the division commander must articulate his intent to his subordinates. He must provide a clear purpose, key tasks, and end state for the transition. The transition from the defense to the offense will be a very chaotic time. The commander can ease much of this confusion with a quick but well-formulated intent.

In conjunction with intent is the necessity for the commander to provide clear and succinct guidance. This guidance is invaluable in saving time and alleviating confusion and, because of the criticality of time, is likely to be much more directive. As discussed in FM 3-0, the commander must consider and should address the following when conducting offensive tasks: 1) scheme of maneuver; 2) continuous deep operations directed against key portions of the enemy defense within the area of operations, electromagnetic spectrum (EMS), cyberspace, or population; 3) reconnaissance and security tasks conducted forward and to the flanks and rear of the unit's main and supporting attacks; 4) decisive operations and main attacks with shaping operations and supporting actions, such as economy of force activities and the conduct of various reconnaissance and security, movement, mobility, and countermobility tasks as required; 5) reserve operations in support of the offense; and 6) sustainment and consolidation of gains operations necessary to maintain offensive momentum.[19]

Well-defined and understood graphics are vital in any operation. This is no different in the transition. Graphics must not only address the future offensive operations, but additionally the movement of units through the defense to initiate the offense. This will inevitably include control measures to facilitate a forward passage of lines, if that operation is required.

Within these graphics, the establishment of the line of departure (LD) is important. The crossing of the LD by forces serves two purposes. First, it indicates that forces have now shifted from movement to maneuver. Second, it signifies that the transition and the offense have started. Because of this, terrain must be secured to establish the LD. Depending on the situation, forces may simply have to conduct movement and maneuver to secure the LD or they may have to conduct some form of offensive operation to secure the LD.

As in all operations, it is critical for forces to gain and maintain contact with the enemy. Contact can be achieved and maintained physically, using technology, or preferably both. Keeping this contact is imperative, particularly in the early stages of the transition.

As noted earlier, the division commander must utilize all of his warfighting functions in the conduct of the transition. It is easy to become fixated with maneuver forces and perhaps not focus on the role of other warfighting functions in the transition. In particular, fires (particularly organic systems) must be positioned forward to support maneuver. Organic systems are critical since they afford the commander the responsiveness required in this extremely fluid environment. Additionally, once the decision is made to transition to the offense, the priorities for engineer support shift from countermobility and survivability to mobility. Air defense assets must focus on providing coverage for the elements maneuvering forward.

To set the conditions for success in the transition, logistical planning, preparation, and ultimately execution are imperative. Obviously, logistical priorities in the offense differ from those in the defense. Subsequently, if the division commander selects the first technique, he must ensure units receive resupply of fuel and ammunition. If not, these units could potentially culminate when they conduct offensive operations. Within the second technique, units, especially if they not been in contact, should possess sufficient fuel and ammunition to permit offensive missions. However, planning must consider the logistical packages that will support the units conducting the offense.

A division commander must consider the ways the corps can set the conditions for the transition. The corps possesses unique assets which can be extremely beneficial in the execution of the transition. These should be requested immediately with the rationale on how they will be utilized and why they are required.

Finally, during the transition to the offense, the division commander must ensure adjacent units understand that his forces (or portions of his force) are preparing to transition. Any maneuver forward of the original defensive positions can be misinterpreted as enemy maneuver if there is no communication. The result of this can be a tragic fratricide incident. Additionally, adjacent units can offer flank protection from enemy counterattacks during the friendly maneuver.

From the Offense to the Defense

The transition from the offense to the defense can be every bit as demanding as the transition from the defense to the offense. It is especially challenging because of three factors. To begin with, forces (especially if they have neared culmination) are often extremely dispersed and disorganized. Thus, it requires precious time as well as excellent mission command to plan, prepare, and execute the transition. The second factor is

that finding terrain from which to defend can be a daunting task as it is possible the division will occupy ground not conducive to defending. Finally, there is the human dimension to consider. There are unquestionably mental and emotional aspects in play when you transition to the defense. In some units, this can lead to a significant decline in morale and a defeatist mindset. Leaders must be extremely engaged to not let these thoughts and emotions overtake soldiers.

Techniques to Transition from the Offense to the Defense

When the division commander decides to transition to the defense, he quickly determines which technique to use to drive execution. The commander normally chooses between two techniques.[20] In the first option, the division commander designates elements from the lead units in the attack and maneuvers them forward to find some defensible terrain. This could entail these forces engaging with the enemy to secure key terrain. Within this area, the division commander emplaces his security area. These forces focus on the same actions characteristic of forces in any security area. These include gaining and maintaining contact with the enemy; providing information on the enemy; delaying, deceiving, or disrupting his forces; and conducting counter-reconnaissance.[21] While the security area is being established, the preponderance of the force prepares defensive positions essentially where the attack stalled.

In the second method, the division commander establishes his security area essentially on the terrain where the offense halted. They are not pushed forward as in the aforementioned option. As the security area is established, the remainder of the forces then maneuver to the rear to defensible terrain to begin defensive preparations. The distance of this maneuver is clearly dependent on finding the right ground to fight from. Finding the best terrain possible is critical since the forces are likely susceptible to taking significant losses from an enemy attack based on their current posture.

The advantages include:

• The force as a whole may be poorly postured to conduct any immediate movement. This could have been caused by significant personnel or vehicle losses or poor maintenance status. Thus, further movement by the force could negatively impact their ability to conduct any future operations.

• This approach allows more rapid reorganization and consolidation of forces.

• Because the force is already operating in the terrain, they may possess a better understanding of how the terrain could support the defense.

The disadvantages include:

• The potential for personnel and equipment losses in establishing the security area is greater since forces may have to fight the enemy to seize terrain for the security zone.

• The security area is likely much shallower in depth. Again, because forces may have to fight for terrain, you do not want to push them out too far forward.

• Based on the preponderance of the force essentially located in the same positions, they are more susceptible to accurate enemy artillery.

• Main body forces are likely defending in terrain that is not advantageous to the defense.

• The enemy is better positioned to collect intelligence on defensive preparation.

• Because forces are closer to the enemy, forces face a greater enemy artillery threat.

Figure 13.3. Transitioning to the defense by pushing security area forward and defending where halted. Created by Lt. Col. Trent J. Lythgoe.

The 52nd Division has been successful in their attack and achieved initial objectives. However, the division commander has determined his unit is near culmination and cannot continue offensive operations. Thus, the 52nd Division's commander has decided to transition to the defense. Based on the current situation, he has chosen to push security forward and defend where his attack halted. Within the concept of operation, the 4th Stryker Brigade will maneuver forward and execute the security task of guard along Phase

Line Blue. The 1st and 2nd brigades will establish defensive positions near the area in which the attack culminated. The advantages of utlizing the security area where halted or finding defensible terrain to the rear include:

• The security area is quickly established, which should aid in maintaining contact with the enemy and setting the conditions for success for the main body.

• The security area should contain more depth than the first technique once the main body forces have conducted movement to more defensible terrain to the rear.

• Since the security area is essentially already established, the unit should not have to conduct any combat (risking potential losses) in occupying the terrain.

• This approach should afford better defensible terrain for the force.

• Movement to the rear should place main body forces closer to logistical support.

• The preparation of the defense should be less hindered by enemy artillery fire.

Disadvantages of this approach include:

• Time available to prepare the defense is impacted as the force finds terrain to the rear.
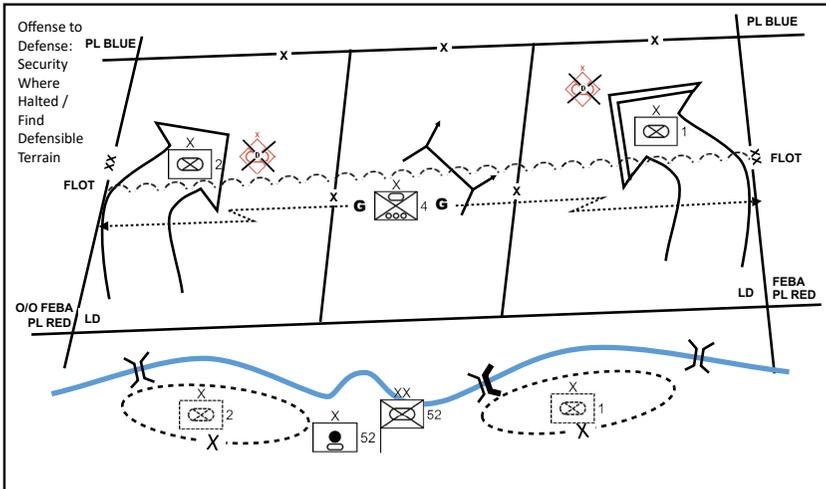
Figure 13.4. Transitioning to the defense by placing security area where the attack halted and main forces finding defensible terrain to the rear. Created by Lt. Col. Trent J. Lythgoe.

• Forces could be susceptible to enemy air and artillery as they conduct movement to their new defensive positions.

After determining his attack is quickly losing momentum and the unit is near culmination, the 52nd Division commander has decided to transition to the defense. Based on the current situation, he has chosen to emplace his security forces where the attack halted. The unit is assigned the security task of guard. They will set the conditions for the two maneuver brigades in the division to conduct their maneuver to the rear. These two brigades, the 1st and 2nd, will find more defensible terrain to conduct their defense and immediately begin defensive priorities of work.

Critical Actions

Regardless of which technique the division commander selects, there are some basic actions which apply to each. Once again the division commander must clearly articulate his intent for the transition. This intent combined with a succinct commander's guidance is invaluable in saving time and alleviating confusion. Within his intent and guidance, the human dimension of transitioning to the defense must be addressed. Thus, he should emphasize leadership at all levels must be present and positive during the transition.

Gaining and maintaining contact with the enemy is imperative in all operations; this is especially critical in the transition to the defense. The commander must maintain contact with all available assets, focusing on redundancy. Again, contact can be obtained by physical means, utilizing technology, or preferably utilizing both. Related to this is the need to establish a security area in a timely manner. Many factors will dictate the depth of the security area.

The commander and his staff must quickly develop a fire support plan which achieves several things. First, it must focus on supporting any movement and maneuver tied to initially establishing the security area and defense. Second, it must be updated once units have occupied defensive positions so it can augment the direct fire plan. To achieve the above, it is inevitable that fires assets will require repositioning.

Other warfighting functions must be planned and utilized. This includes shifting the priorities for engineer assets from mobility (once initial movement and maneuver is complete) to countermobility and survivability. Additionally, air defense assets must be repositioned to protect the unit. During the transition, forces are extremely vulnerable to enemy air attack.

Logistical priorities change tremendously during the transition. The focus is to provide units with sufficient resources to prepare and execute the assigned defensive task. These resources in particular include Class IV (construction materials) and Class V (ammunition).

The ability to anticipate logistical requirements and subsequently preposition these resources will have a powerful impact. However, this is a significant challenge for several reasons. To begin with, the decision to transition and the subsequent execution can occur very quickly. This leaves little lead time to preposition resources. Secondly if the main body must defend essentially in place, it may be too lethal an environment to move forward any significant amount of Class IV and Class V. If the main body decides to find defensible terrain to the rear, they likely will not be able to provide this location until they physically occupy it. Again, there may be no lead time to preposition any resources. However, these resources can already be packaged and placed on transportation waiting on a drop-off point.

Finally, as units select defensive positions, they should strive to tie in to adjacent flank units where possible. During the transition, this will be extremely challenging if units have little ability to select where they will defend from.

Conclusion

In summary, the successful execution of a transition in large-scale combat operations is a true test for a division. Before attempting this physical component of change, however, the division commander must determine when change is necessary. This mental component of change is sparked by a commander clearly knowing himself, the enemy, and the terrain. In terms of transitioning from the defense to offense, the key is reading the indicators signifying that the opponent has, or will, culminate and will then be vulnerable to attack. The division commander must take advantage of this opportunity or position of relative advantage. Conversely, commanders must know themselves during the conduct of the offense. If an attack is no longer viable because of various reasons, they must acknowledge this and make the decision to transition to the defense.

Change is inevitable on the battlefield. The ability to conduct a timely and successful transition enables a commander and a unit to adapt to significant change on the battlefield. The consequences of not making these adjustments can be catastrophic. History has highlighted this time and time again.

Notes

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5. Department of the Marine Corps, Marine Corps Tactical Publication (MCTP) 1, *Warfighting* (Washington, DC: 1977), 48.

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8. Department of the Army, Army Doctrine Reference Publication (ADRP) 3-0*, Operations* (Washington, DC: 2016), 2-54.

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10. Department of the Army, FM 3-90-1, 6-29–6-30. These indicators were refined and developed from indicators addressed within the field manual.

11. As quoted in Trivia-Library.com, "Origins of Sayings," accessed 2 March 2018, https://www.trivia-library.com/b/origins-of-sayings-live-to-fight-another-day.htm.

12. Oliver Goldsmith, *The Art of Poetry on a New Plan (1761),* vol. ii, compiled by John Newberry (Oxford, England: Gale Ecco Digital Collection, 2010), 147.

13. Department of the Army, FM 3-90-1, 6-29–6-30. These indicators were refined and developed from indictors addressed within the field manual.

14. Department of the Army, Field Manual (FM) 6-0, *Mission Command* (Washington, DC: 2014), 14-3.

15. Department of the Army, FM 3-90-1, 6-30.

16. FM 3-90-1, 6-31. These advantages were refined and developed from doctrine addressed within the field manual.

17. FM 3-90-1, 6-31. These advantages were refined and developed from doctrine addressed within the field manual.

18. FM 3-90-1, 6-31. These advantages were refined and developed from doctrine addressed within the field manual.

19. Department of the Army, FM 3-0, 7-6.

20. Department of the Army, FM 3-90-1*, 1-44.

21. Department of the Army, FM 3-0, glossary–15.

Chapter 14

Living with the Dead: Casualties and Consequences in Large-Scale Combat Operations

Col. James K. Dunivan

As Prussian war strategist Carl von Clausewitz famously opined, and nearly every student of military art knows and recites, "War is merely the continuation of policy by other means."[1] Clausewitz also wrote that "War is the realm of physical exertion and suffering. These will destroy us unless we make ourselves indifferent to them."[2] We are less likely to quote this particular passage but now, more than ever, must acknowledge and integrate its implications into our understanding of military readiness.

In preparing for war, we have a distinct obligation to ready ourselves for the worst. This includes acknowledging the inevitable potential for massive numbers of casualties and unimaginably uncomfortable consequences that can and will likely occur, especially during the high-intensity chaos of large-scale combat operations. This awareness, acceptance, and "indifference" will only be acquired through cultural change within the Army that comes from the proliferation and understanding of doctrine focused on warfighting, reinforced by education and training, and guided by the practice of the philosophy of mission command that encourages resilient action regardless of casualties and unintended consequences. As an army and a nation, we cannot afford to blindly move forward until faced with the necessity to react and adapt, but rather must do everything within our purview now to stand on the right side of history later.

A Historical Perspective

History shows that humans have a tendency to become complacent and comfortable over time, and military leaders are not immune to this behavior in our professional lives. Alexis de Tocqueville, the Frenchman who traveled around the United States in the nineteenth century to examine the American experiment in democracy, likely encountered this tendency to ignore historical precedent. He captured this observation as he wrote, "As the past has ceased to throw its light upon the future, the mind of man wanders in obscurity."[3] While many Army officers appreciate the value of military history, it is important to emphasize an understanding of past wars and battles in the context of how these events occurred with an eye toward integrating that knowledge into the execution of current and future endeavors. Understanding and action of this sort could very well

be the lamp that provides just enough visibility to guide us through the shadows and keep us from meandering and stumbling over avoidable and costly pitfalls.

This realization was reinforced recently during a staff ride to the Battle of the Bulge battlefields. Several US Army Command and General Staff Officers Course (CGSOC) faculty members and students, accompanied by German students from the *Führungsakadamie der Bundeswehr* (German CGSOC equivalent) for an additional perspective, traced the attack of *Kampfgrüppe Peiper* through Germany and Belgium.

Figure 14.1. Route of attack by *Kampfgrüppe Peiper*. From "A314 Battle of the Bulge Staff Ride Guide," 4th ed., 2017.

This trek throughout the hills and valleys of the Ardennes Forest included an analysis of the US defense of Bastogne. One of the primary observations of these engagements was an appreciation for the enormous number of wounded and loss of life suffered by both armies as well as the civilian population during a relatively short period of intense fighting.

In December 1944, this area of the Ardennes was known as the "Ghost Front." In this location, Americans and Germans observed each other and registered their artillery, but generally refrained from aggressive fighting along the eighty-five-mile front. This artificial tranquility was one factor that prompted Adolph Hitler to choose this location as the main axis of advance for Operation Christrose, also known as "Watch on the Rhine." The purpose of this counteroffensive was to break through the Allied lines and seize the port of Antwerp.[4] Despite the fact that his forces had been driven back to the German frontier after D-Day, Hitler believed his forces in late 1944 could still achieve a decisive battlefield victory that would allow him to divide the Allies and win the war, or at least allow him to end the war on his own terms.[5]

The Allies, enjoying recent success against German forces and focused on the friction and conduct of their own operations, misjudged the indicators and warnings of the German attack through the Ardennes. Hitler managed to achieve tactical and strategic surprise with a stunning show of force on 16 December 1944, driving the Americans back and creating

a bulging salient that would become the battle's namesake. The US divisions standing in the way of the German attack, mostly manned by inexperienced soldiers or those weakened from previous fighting, were spread thin across the wide front of the densely forested terrain. The weather also favored the attacker by obscuring the battlefield with heavy fog and dense cloud cover, which negated the US advantage in air power.[6] Under these conditions, a less resilient and determined force would have melted away but the American soldier fought bravely to stem the onslaught of battle.

By the battle's end, the Allies had committed twenty-nine divisions, six mechanized cavalry groups, and the equivalent of three separate regiments—a total of 600,000 soldiers—to the effort to stem the German offensive. These forces fought to maintain the line and eventually mount a counterattack that rebalanced the front and re-initiated the Allied drive into the German heartland.[7] Beyond those vast and impersonal numbers of participating units, however, was the sheer scope of humanity that would die or suffer to pay the price for victory. In addition to the 15,000 men captured by the enemy, "the Battle of the Bulge cost the Army 470 soldiers per day, for a total loss of 19,270 killed and 62,489 wounded over forty-one days of sustained combat."[8] The German Army suffered too, with at least 100,000 soldiers killed, wounded, and captured over the course of the battle.[9]

In the current world characterized by a persistent news cycle, "infotainment," the hubris of social media, and prolific public opinion, could the American people stomach that kind of fight and loss of human life today? Would our soldiers and leaders step forward to lead and inspire as those around them perished, or would risk aversion and fear of ambiguity and consequences stifle our ability to overcome and win? The answers to both questions should be a foregone conclusion: the men and women of today will do whatever is required—to include giving their lives—to achieve victory against seemingly insurmountable odds. Still, we as an army and a nation cannot leave it up to chance or choice. The cultural change to set conditions for future success and affirm that conclusion must begin now with our understanding and proliferation of doctrine, education, and training, as well as the practice of the philosophy of mission command in anticipation of the likelihood of massive amounts of casualties and unintended consequences.

Military Doctrine: Shape and Influence

Recent events and America's 2017 National Security Strategy demand nothing less than preparedness and vigilance for such possibilities. Those

who believe mass carnage on the battlefield is a thing of the past need look no further than the summer of 2014. During that time, Russian rockets and artillery rained down upon mechanized brigades of the Ukrainian Army as they deployed along their border for an ostensibly routine and mundane mission in anti-trafficking and terrain denial. These elements of the Ukrainian military suffered staggering losses in a matter of minutes as entire battalions were destroyed or rendered combat ineffective.[10] Accordingly, armed with the knowledge that our potential adversaries had the capability to inflict such devastation on Americans and our allies, the National Security Strategy rightly tasked the Department of Defense to "develop new operational concepts and capabilities to win without assured dominance" across multiple domains and against any threat.[11] The same document advocates for the Army, as a component of the Joint force, to demonstrate "US resolve and commitment" by providing the capability and capacity "to fight and win across any plausible conflict that threatens US vital interests."[12]

One of the first steps for reinforcing our understanding of this directive was the 2017 publication of Field Manual (FM) 3-0, *Operations*. This manual serves as the foundation of the US Army's doctrine, and its publication instituted a cultural shift to large-scale combat operations, and the potential for mass casualties. There is precedent for our doctrine to lead change of this magnitude. In *Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations*, Maj. Paul Herbert discusses the genesis of that field manual (the predecessor to FM 3-0) and shows how doctrine consistently mirrors the time and circumstances for which it is written. It also reminds us of the role of history in doctrine development and how we intend to move forward as "memories of the past, conditions of the present, and images of the future are all inherent to the intellectual process of formulating doctrine."[13]

In a similar vein, the 2017 publication of FM 3-0 compels us to expand our paradigms of thinking to ensure combat readiness, change the Army's culture, and anticipate and plan for the worst things that could happen to our force on any battlefield. In presenting this new doctrine to the force, the Combined Arms Center commander and the director of the Combined Arms Doctrine Directorate were very deliberate in articulating why a new operations manual was imperative for changing the Army's culture:

> The focus on regularly scheduled deployments of brigade combat teams, higher echelon headquarters, and supporting formations to conduct COIN [counterinsurgency] from static bases against enemies with limited military capabilities created a view of ground

combat incongruent with the realities of fighting large-scale combat against a peer threat. . . . Since 2003, seldom have units larger than a platoon been at risk of destruction by enemy forces, and no units faced enemy forces able to mass fires or maneuver large-scale forces effectively.[14]

Their words are a harbinger of what could come to pass and serve as a plea to cease preparing for business as usual or for fighting the proverbial "last war."

The current version of FM 3-0 makes it very clear that combat in the next war will not be anything like what the US Army experienced during the Global War on Terror. Contemporary large-scale combat operations almost certainly will be against a capable peer or near-peer enemy that will be "much more demanding in terms of operational tempo and lethality."[15] This enemy will attempt to overwhelm our capability and capacity to fight through "systemic and continual attacks in multiple domains and the information environment before and during combat operations."[16] Perhaps more relevant to achieving strategic aims and objectives, our future enemies will most certainly attempt to use our ethical emphasis on the value of human life against us by coupling American casualties with the employment of "weapons of mass production" on video. In carefully constructed and choreographed narrative, the enemy will beam cinema-quality footage of battlefield carnage onto the smart phones and media streaming devices of every American citizen and denizen of the global world to "exploit friendly sensitivity to world opinion and attempt to exploit American domestic opinion and sensitivity to friendly casualties" because they can and because it makes sense to utilize every advantage in warfare.[17]

Based on their own observations and lessons learned since the Vietnam War, our potential enemies perceive this aversion to casualties to be a weakness. They rightfully deduce such tactics would allow them to maintain the initiative and enjoy "a comparative advantage because of their willingness to endure greater hardship, casualties, and negative public opinion."[18] This phenomenon was eloquently stated by former Secretary of Defense Caspar Weinberger during a speech to the National Press Club nearly thirty-five years ago when he put forth that our enemies, which were and continue to be largely unconstrained by public opinion in their own countries, "realize that if they can divide our national will at home, it will not be necessary to defeat our forces abroad."[19] It was during this same speech that Weinberger articulated six tests to be applied to determine if US combat forces should be deployed abroad. This included the commitment of forces only in those situations "deemed vital to our nation-

al interest or that of our allies" and when there was "reasonable assurance we will have the support of the American people."[20]

These ideas, which were initially labeled the Weinberger Doctrine and later the Powell Doctrine after Operation Desert Storm, all have echoes of "no more Vietnams" and a reluctance to send our sons and daughters into harm's way unless absolutely necessary.[21] While this constitutes a solid— though easily ignored—policy, it also underpins the need for legitimacy and the ethical conduct of war within the theoretical framework of the "Just War" theory. "When a war is perceived as just, its aims are seen as achievable and progress is being made toward achieving those aims, the casualties resulting from that war are viewed as worth the cost and the war is viewed as legitimate."[22] Assuming that diplomacy fails and the United States is forced to conduct large-scale combat operations on a future battlefield, the 2017 version of our *Operations* doctrine will directly contribute to fostering the cultural change necessary within the US Army to accept the potential reality of vast casualties and consequences.

Training and Education: Proliferate, Repeat, and Perfect

FM 3-0, which thoughtfully and precisely addresses the reality and readiness imperatives of large-scale combat operations, will serve as both a warning blinker and a head lamp to illuminate the need for addressing casualties and consequences within Army training and education programs. A continued emphasis on tough, realistic training within the operational force—in tandem with the integration and immersion of effective and relevant courseware into the Army's professional military education—greatly enables our doctrine to satisfy its mandate to "instill confidence throughout any army" and "have the most profound effect on its performance in war."[23] The ability to perform successfully in war will be a dividend of countless hours devoted to leader, soldier, and unit training building upon professional military education opportunities and the curricula of all cohorts. This is certainly not a new concept, as the Army has been training and educating our force for years to prepare for combat. What is essential to understand and assimilate now, however, is the outlook clearly articulated by Army Chief of Staff, Gen. Mark Milley, and his warning that the next war "will be all but unrecognizable to the veterans of the current wars."[24]

Those who have served in uniform and deployed over the last fifteen years can understand General Milley's point. We fly into theater and conduct operations from established forward operating bases or combat outposts, often secured by contracted foreign nationals. We enjoy our meals,

with the myriad of menu options served in the dining facilities or the variety of "chain" restaurants that remind us of home. We have amenities such as gyms, wireless internet, hot showers, and laundry service. The intent in highlighting these comforts is not to take away from anyone's contribution and service to the nation, as we all did what our country asked us to do in the manner we were resourced to make it happen. It is important to underscore, however, that our current wars are not the kind of conflicts like our predecessors endured, either in Belgium in the winter of 1944 or on myriad other World War II battlefields. More importantly, current operations in Iraq, Syria, Afghanistan, and elsewhere have little in common

Figure 14.2. Bodies of US officers and soldiers slain by the Nazis after capture near Malmedy, Belgium, 11 December 1944. Courtesy of the National Archives and Records Administration.

with the large-scale combat operations of the future. Understanding that point means acknowledging the likelihood of multitudes of dead, wounded, captured, and missing soldiers. In his address to the force, General Milley made this point sharper: "Think Iwo Jima, not the boardwalk stores at Kandahar airfield. Be prepared for thousands, not dozens, of casualties."[25]

The idea of thousands of casualties during a military battle is jarring and nearly inconceivable, so the Army and the nation must prepare themselves in advance. The new mindset must go beyond the collective experience and general routine of the past several years where we planned and trained for the immediate evacuation of casualties, utilizing the 9-Line MEDEVAC request or driving the quickest route to the combat army surgical hospital. We exercised the "duty status-whereabouts unknown" (DUSTWUN) battle drill to be ready for a personnel recovery contingency. We conducted the "mock" memorial service with the dreaded anticipation of having to do the ceremony again in theater—which, unfortunately, always seems to happen.

At every memorial service, we honor our fallen comrade and whisper a silent prayer that this service will be the last, knowing it is not a likely or realistic request. As the wars continue, so do the services. We pause to remember and honor our fallen comrades, but this ritual benefits the living as well, as we reach out to those in the unit who must go on after their brother and sister in arms has paid the ultimate price. We make mental health professionals, counselors, and chaplains available to talk to our soldiers in groups and as individuals. We pull affected units off of patrol and allow them time to grieve, refit, and collectively process what happened before we put them back on mission. As fitting and proper as these rituals may be to support and care for those who have lost a friend, a teammate, and a brother or sister in the communal unit family, it could also very well be a luxury the force cannot expect or afford on the modern battlefield during large-scale combat operations. The attribute of resiliency will be the essential currency the Army requires.

Training and education is critical to establish the resiliency needed within the force to enable success in combat against our potential enemies. The Army has been addressing the lethality of large-scale combat operations for several years in an effort to get back to training the full range of requirements for unified land operations. In particular, our combat training centers (CTCs) continue to push our leaders and units to the next level in fully preparing the force for over-the-horizon combat within multiple domains. In conjunction with valuable rotations to the CTCs, numerous

initiatives are underway to improve home-station training and our over-arching ability to accomplish the fundamental task of readiness "to win in the unforgiving crucible of ground combat."[26] The Army continues to "re-learn" field craft and critical combat skills. Slowly and deliberately, soldiers and units are manipulating the muscle memory developed over years of counterinsurgency to address large-scale combat operations.

The Russo-Ukrainian War engagement noted above, in which the high number of casualties exceeded the capability of both military and civilian medical establishments to provide life-saving care, clearly demonstrates the need for this type of training and a broader understanding of the lethality of large-scale combat operations.[27] The new FM 3-0 highlights this possibility for future contingencies as well, noting that "large-scale combat operations place an incredible burden on medical resources due to the magnitude and lethality of the forces involved."[28] However, it is one thing to acknowledge the lethality of large-scale combat operations and train for mass casualty contingencies and another to prepare, mentally and conceptually, to actually address such an event. Many of us have experienced the devastating loss of soldiers in combat, be it one or four sets of dog-tags on display at a memorial service. The thought of evacuating, burying, or not being able to account for ANY soldier, much less ALL of those in the unit, is beyond comprehension; and yet it is exactly that darkest hour of ambiguity and catastrophe for which leaders must be prepared to plan, persevere, and persist to accomplish the mission in large-scale combat operations.

In his book *Defeat into Victory*, Field Marshal William Slim shared a personal sentiment from his World War II experience in Burma to which many who have endured great loss in combat can likely relate. Slim wrote: "In a dark hour he will turn in upon himself and question the very foundations of his leadership and his manhood."[29] For present-day leaders staring at the possibility of future large-scale combat operations, Slim's thought is worthy of deep consideration. How does one reconcile force protection and preserving the lives of our most precious national resource with committing and potentially losing those lives to accomplish the mission in war? There is no easy way to answer this question, no silver bullet to eradicate the dilemma. One worthy response is the Army's ongoing emphasis on readiness. In amplifying his focus on this theme, General Milley has made it very clear that the Army's number one priority is "our soldiers and our solemn commitment . . . to never send them into harm's way untrained, poorly led, undermanned, or with less than the best equipment we can provide."[30]

The Philosophy of Mission Command: Sustain and Maintain

Beyond manning, equipping, training, and educating, though, is a broader necessity to advance the philosophy and practice of mission command. It is only through the inculcation of mission command that the Army will acquire the reality and transparency needed for irreversible cultural change that instills the fortitude to carry on in the face of great casualties and consequences if and when that time occurs. The use of mission command enables "disciplined initiative," which encourages flexibility and decision making at the lowest levels. However, mission command depends upon competent leaders focused on team-building with a "commitment to develop subordinates, the courage to trust, the confidence to delegate, the patience to overcome adversity, and the restraint to allow lower echelons to develop the situation."[31] Guided by mission command principles, these indicators are inherent in the duty of commanders in the field to "balance the tension between protecting the force and accepting risks in order to achieve military objectives" during large-scale combat operations.[32] It is here, within this complex choreography of risk management and decision-making that we emphasize reality and transparency to minimize the effect of casualties and consequences upon the morale and capability of the force.

The reality of the nature of large-scale combat operations, as outlined in our doctrine and evidenced by history, is that maneuver forces will lose a significant amount of combat power during lethal engagements and the otherwise routine events of war. Dead, wounded, missing, captured, and perhaps even deserting soldiers have always been an unfortunate consequence of combat. Accordingly, any belief that it will not happen again is fallacious thinking and outright denial. With an all-volunteer force, those who follow the path of military service are or should be very aware of the possibility of death. In his book *Just War Reconsidered*, Lt. Gen. (Retired) James Dubik stated:

> Citizens-who-become-soldiers understand that their lives change once they become soldiers. Soldiers become instruments, but not mere instruments. They can be killed in war justifiably; they are expected to risk their lives on behalf of the innocent, their fellow soldiers, and their political community.[33]

That possibility resembles reality even more when soldiers and leaders are exposed to realistic scenarios through training and education of the force.

Division-level exercises at the US Army Command and General Staff College integrate current doctrine and threat models into the curriculum.

During this planning and simulation of large-scale combat operations, student officers discover through analysis that engagements against a peer competitor can very well produce dead and wounded on a scale not seen by American forces in combat since the Battle of the Bulge. The old adage is as true today as it ever was in declaring that "the enemy gets a vote." That vote includes "the reality that the US Army does not enjoy overwhelming advantages against every opponent it may be required to fight" and the expectation "that some adversaries have equal, or even superior capabilities that may put Army forces at a position of relative disadvantage."[34]

It is this reality, the possibility that our Army *can* be encumbered by disadvantage, that leads to the imperative of transparency within the force. We need this level of transparency to allow complete communication and open discourse about the reality of our position, which keeps our soldiers informed and enables them to use their initiative to act accordingly as our very best weapon system. Our soldiers, after all, are our true position of relative advantage. The new *Operations* manual defines a position of relative advantage as a "location or the establishment of a favorable condition" that allows "freedom of action to enhance combat power over an enemy."[35] Among the obvious examples such as synchronizing the elements of combat power and warfighting function overmatch, "legitimacy and popular perception, moral (just and unjust), and will (including doing what must be done, continuing as long as it takes, and maintaining support from domestic leaders)" are provided as additional considerations for enabling positional advantage in combat operations.[36]

It therefore follows that soldiers will fight, remain resilient, and do everything within their power to win if they understand the full context of why they are fighting and know that their sacrifice, whatever that should become, is not in vain. No soldier, or anyone for that matter, will willingly risk their life "without hope of achieving something that would give their sacrifices meaning."[37] Part of the transparency required to instill this resiliency begins at the highest levels of leadership, in both politics and the military. It is here that those choosing to begin and conduct war understand that they also have an obligation to do everything within their power to ensure that "lives—not only of the innocent but also of the soldiers they employ—are respected, not squandered."[38] Nested below the level of national policy and strategy, leaders in tactical units have an obligation to be as forthright as possible in the planning, preparation, and execution of the tasks and missions necessary to conduct war.

This is accomplished by commanders at all echelons who "seek to understand, balance, and take risks," and thereby exercise the philosophy

of mission command during large-scale combat operations, to "create opportunities to seize, retain, and exploit the initiative and achieve decisive results."[39] Commanders who model this philosophy will inspire and motivate their subordinate leaders and soldiers to emulate that philosophy, which will likely be the deciding factor in whether or not the United States wins in the face of great adversity. Similar to the American soldiers of the past, today's soldiers who are aware and empowered will rise up to meet the enemy when they must. Success in this endeavor will require today's leaders to emulate leaders of the past like Lt. Lyle Bouck, who in 1944 stood on a ridge near Lanzerath, Belgium, and saw the indicators of an imminent German attack. Denied the artillery support he requested and despite requests by some to withdraw, he valiantly ordered his men to hold their position and get ready to fight. Bouck's platoon repelled attack after attack throughout the day, delaying the German advance and forcing them to consume time and fuel they could not afford to lose. Bouck's unit fought until finally, wounded and nearly out of ammunition, they were captured.[40] During the Battle of the Bulge, countless actions such as this—by officers, noncommissioned officers, and soldiers alike—bought enough time to challenge the will of the German Army and enable the Americans to seize the initiative.

The Price of Failure

As resilient and courageous as the US Army proved to be in 1944, however, there were no foregone conclusions. Earlier that year, the German Army had endured setbacks and defeat along both the Eastern and Western fronts. Despite the very real challenges the Germans faced, they continued an orderly withdrawal to defend their homeland while launching an offensive in the Ardennes.[41] As described in *A Time for Trumpets*:

> The German soldier in the Ardennes amazed his adversary. Short of transport, short of gasoline, short of artillery because of the lack of transport and gasoline, his nation on the brink of defeat, he nevertheless fought with such courage and determination that the American saw him as fanatic. What motivated him to such ends? . . . Whatever his motivation, he performed with heroism and sacrifice, marred only by the excesses of a few.[42]

One could also ask the American soldiers, the ultimate victors of this battle as well as the war, what motivated them. Beyond the likely answer of fighting for each other, it could be expected that some would offer that the cause was just, liberty was worth fighting and if necessary dying for,

and they had the means, know-how, and authority to fight and win. Their comfort with ambiguity and willingness to take action in the face of overwhelming lethality was necessary then, just as it will be a requirement in future large-scale combat operations if we are to successfully exploit positions of advantage to enable winning on our darkest of days.

It is those dark days that we must anticipate now, in the light of the present with the benefit of our past experience. We acknowledge this with our eyes wide open in pursuit of readiness, echoing the belief that "rigorous study of the past is as important to articulating a credible doctrine as is the forecasting of future trends and threats."[43] Nowhere was this more obvious than to the previously mentioned CGSOC students standing in the snow of the Ardennes discussing the Battle of the Bulge in December 2017. Fortunately, they were blessed with the opportunity for this insight through a staff ride rather than figuring it out in the chaos of ground combat. For the rest of the Army, we must accept that we are saddled with the very real possibility that we once again live in the shadow of past wars where unthinkable casualties and consequences of large-scale combat operations can return to become the new normal.

Figure 14.3. Student officers discuss operations on the ground during the December 2017 Battle of the Bulge staff ride near Bullingen, Belgium. Courtesy of Brian Leakey Collection.

Unfortunately, despite our distaste for the "horror of war" and desire for its complete abolition, it is nearly a foregone conclusion that "for the foreseeable future, war looks likely to remain with us and the use of force to continue to be necessary to constrain the actions and ambitions of evil men."[44] It will not be an easy task, nor one that we can or should accept blindly. We continue to dedicate ourselves to the priority of readiness, doing everything within our control to train and educate our sons and daughters to "fight tonight" and win, while providing every possible advantage that enables them to finish the task and return home.

In doing so, however, we have an equal obligation to prepare for the worst, to maintain and perfect a stance that allows us to both parry and absorb a punch from the enemy and remain on our feet to continue the fight. This stance will only be acquired through cultural change within the Army that comes from the proliferation and understanding of doctrine focused on warfighting, reinforced by education and training, and guided by the practice of the mission command philosophy that encourages resilient action regardless of casualties and unintended consequences. What we gain could very well be unmeasurable, but we have everything to lose.

Notes

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Chapter 15

Controlling Chaos: Mission Command
in Large-Scale Combat Operations

Lt. Col. Trent J. Lythgoe

This chapter is about commanding divisions and corps in large-scale combat operations. Its purpose is to help commanders and staff officers think about how to command and control these formations in combat against capable near-peer competitors. While the Army's mission command philosophy emphasizes decentralization and initiative, large-scale combat operations require synchronization. Tactical commanders must coordinate operations while simultaneously preserving the ability of subordinates to exercise disciplined initiative. To accomplish this, commanders must integrate mission command and detailed command into a unified command system.

The three historical case studies that follow are examples of how successful division and corps commanders maneuvered large formations in large-scale combat by resolving tension between mission command and detailed command. The observations and conclusions drawn from these cases will assist commanders and staff officers as they prepare for large-scale combat operations.

Command and Control Then and Now

Command is as old as war itself. Commanders have authority to give purpose and direction to their soldiers, and they lead their forces toward a common objective. The nature of command remains unchanged, but over time, the methods of exercising command have changed considerably. For thousands of years, commanders personally led their formations from the front. Once in battle, these early commanders did little beyond inspiring their troops by personal example. Even so, inspiration was enough. Armies were small enough that commanders could observe their entire force. Weapons and tactics were simple enough that commanders performed few additional functions beyond leading.[1]

Near the end of the eighteenth century, the methods of command began to change. As armies grew larger and more complex, commanders had to organize smaller echelons and appoint subordinates to lead them. The role of senior commanders changed from combatants to orchestrators. Frederick the Great was one of the first to embrace this approach.[2] This new paradigm challenged commanders in two ways. First, they had to

ensure that subordinate formations worked in a coordinated way toward overall objectives. Second, commanders had to create communications to disseminate guidance and plans to subordinates and monitor the progress of the battle.[3]

To address these problems, commanders developed *command systems.* According to respected military historian Martin L. van Creveld, command systems are more than just technology; they include the organizations, procedures, and technologies that commanders use to direct forces in battle.[4] The structures of these command systems are largely determined by a commander's philosophy of command. As armies grew in size and complexity at the end of the eighteenth and beginning of the nineteenth centuries, two command philosophies emerged—centralized and decentralized—which remain with us today. Modern US Army doctrine describes a centralized philosophy as *detailed command* and a decentralized philosophy as *mission command*.[5]

Commanders exercising detailed command develop meticulous plans and reserve the most important decisions for themselves. They expect subordinates to obey orders, follow the plan, and seek permission before deviating. An advantage of detailed command is the ease of maintaining unity of effort and coordination. Another advantage is that senior commanders—who presumably have more experience, a broader perspective, and better judgment—make most decisions. The disadvantage of detailed command is slow decision-making. Senior commanders must visualize and understand distant events before making decisions. Building this understanding takes time, and in a fast-moving battle, delayed decisions may happen too late to be effective.

An alternative is mission command. In this philosophy, commanders develop general rather than detailed plans (also called mission-type orders), and they allow subordinates the freedom to make decisions and exercise initiative. Commanders shape subordinate decision-making by providing commander's intent, and by ensuring a shared understanding of the mission exits at all echelons. The primary advantage of mission command is that it supports rapid decision-making. Since subordinates are personally observing the fight, they have better situational awareness of local conditions. They can make decisions quickly and are empowered to do so. The disadvantage is that subordinate commanders may make decisions which disrupt the unity and coordination of the higher command. Although junior commanders may have good judgment, they often lack the experience and perspective to understand how their decisions affect the larger operation.

The Army's mission command philosophy is clearly biased toward decentralization. But effective command has historically not been as easy as merely decentralizing as much as possible. During the Second Arab-Israeli War (1956), Israeli ground forces were so decentralized that individual brigades operated almost independently of each other. Although ultimately successful, the campaign was plagued by disorganization, lack of mutual support, and fratricide. The Israelis tightened control, and as a result their next major campaign (1967) was one of the most decisive victories in modern warfare.[6] Even so, increased centralization is not always the right approach, for centralized control has likewise been more or less successful in different circumstances. Frederick the Great used a highly centralized command system and achieved generally satisfactory and sometimes superb results.[7] In contrast, the British Fourth Army used a centralized approach at the Somme (1916), and the outcome was a well-organized and tightly coordinated bloodbath. British forces suffered more than 430,000 casualties in what became the bloodiest battle in the history of the British Army.[8] Throughout history, commanders have employed a variety of command systems with varying results. The success of a given command system, as it turns out, depends greatly on the operational context. The same command system might function superbly in one setting, while utterly failing in another.[9]

The Army's current command system, encapsulated in Army Doctrine Publication (ADP) 6-0, *Mission Command* (2012), emerged in the context of counterinsurgency and stability operations in Iraq and Afghanistan. These operations demanded decentralization and, moreover, rarely required synchronization at division and corps echelons. Much has changed since 2012 when the Army introduced *Mission Command.* For this reason, it is appropriate to reexamine mission command in light of the changed context—large-scale combat operations—posited by Field Manual (FM) 3-0, *Operations* (2017).[10]

Large-scale combat operations differ from counterinsurgency and stability operations in three principal ways. First, adversaries can mass fires and maneuver large formations. Second, adversaries have capabilities which equal or exceed those of the US Army and coalition partners. Third, synchronization at higher tactical echelons is essential to coordinate large formations and conduct operations in depth—temporal and spatial.[11] Under these circumstances, a command system based exclusively on decentralization is unlikely to be effective. To succeed in large-scale combat operations, the Army must adapt its command philosophy and systems to address the unique nature of these operations.

Fortunately, these challenges are neither new nor unprecedented. Divisions and corps have fought and won under similar conditions. Three of these cases are presented here. They are XIX Panzer Corps at the Battle of Sedan (1940), Israeli Defense Forces (IDF) Southern Command in the Sinai (1967), and US VII Corps in Operation Desert Storm (1991). These cases will show how division and corps commanders planned, the command systems they used, and how they blended control and coordination with decentralization and initiative. At the conclusion, common threads are identified which will help current and future commanders adapt their command systems to the demands of large-scale combat operations.

XIX Panzer Corps at the Battle of Sedan, France 1940

The German campaigns of 1939–41 have influenced American military thought like few others. The Army explicitly traces the roots of mission command doctrine to the German concept of *Auftragstaktik*—mission-type tactics.[12] The Germans were the first to put into practice modern maneuver warfare by successfully combining mechanized forces with a doctrine designed to achieve surprise and mass at decisive points. German tactics shattered local defenses and allowed mechanized forces to exploit the resulting penetrations to operational depths. These deep armored thrusts encircled and dislocated large enemy formations, resulting in a series of stunningly fast and overwhelming victories in the early years of World War II.

On 13 May 1940, Lt. Gen. Heinz Guderian, one of the principal architects of German mechanized warfare, prepared to lead his XIX Panzer Corps across the Meuse River in northeastern France. The Allied soldiers easily outnumbered their German opposition—3.7 million versus 2.7 million. The Allies also had more tanks—3,254 compared to 2,574 for Germany—and a three-to-one advantage in artillery. The Germans, however, had developed a bold campaign plan which they hoped would offset the Allies' numerical advantages. The Allies expected the Germans' main attack to sweep through the Low Countries in a massive envelopment. Instead, the main attack would occur farther south—through the rough terrain of the Ardennes. Local defenses were weak there because French commanders considered the Ardennes unsuitable for mechanized movement.[13]

Guderian's XIX Panzer Corps, consisting of 1st, 2nd, and 10th Panzer divisions, spearheaded the attack. Guderian began moving through the Ardennes on 10 May and met light opposition from the Belgian Ardennes Division and the French 5th Light Cavalry Division. The former consisted of light and motorcycle infantry and the latter of horse and mechanized

cavalry; neither was a match for Guderian's panzers. By the evening of 12 May, 1st and 10th Panzer had reached the Meuse, while 2nd Panzer was still making its way forward. Across the Meuse, Guderian now faced the French X Corps, Lt. Gen. Pierre-Paul-Charles Grandsard commanding. Defending near Guderian's planned crossing sites was the French 55th Infantry Division, a second-tier reservist unit commanded by Brig. Gen. Pierre Lafontaine.[14]

That night, the *panzergruppe* commander, Gen. Ewald von Kleist, ordered Guderian to cross the Meuse at 1600 the next day. Although Guderian was concerned that 2nd Panzer would still be moving up, he nevertheless realized that striking quickly, even with a weaker force, was more advantageous than waiting.[15] The corps planning effort for the complex river crossings took little time; Guderian and his commanders had planned and rehearsed the operation extensively during field exercises only eight weeks earlier. Guderian's chief of staff, Col. Walther Nehring, planned throughout the night and issued the corps order to the division commanders the next morning (13 May) at 0815. The division commanders were likewise able to plan quickly.[16] Maj. Gen. Friedrich Kirchner's 1st Panzer Division staff prepared and issued a detailed order—including a synchronization matrix—in less than four hours.[17]

Guderian spent the morning moving among his divisions, coordinating with division commanders and clarifying his intent for the impending attack. Throughout the morning and afternoon, the *Luftwaffe* pounded French positions on the far side of the Meuse. The main assault started at 1600. As his lead elements began crossing, Guderian left his headquarters and drove to a location where he could observe the operation firsthand. The 1st Infantry Regiment of 1st Panzer Division was across by 1800 and had advanced more than a kilometer farther south; however, 2nd and 10th Panzer divisions struggled to get their lead elements across. Guderian himself crossed that evening and joined the 1st Infantry lines.[18]

The swiftness and ferocity of the German assault had collapsed large parts of 55th Division's defense, but the French were by no means defeated. At 1600—the same time that Guderian's lead elements began crossing—Grandsard ordered a counterattack consisting of two infantry regiments, each reinforced with a tank battalion.[19] His plan called for the counterattack force to concentrate at Bulson, then proceed north to the woods at Bois de la Marfée, and finally on to the Meuse. The inability of 2nd and 10th Panzer to push significant forces across the river had left 1st Panzer occupying a narrow salient, and no German tanks were south of the

river. The French counterattack, if executed swiftly and forcefully, stood a good chance of success.[20]
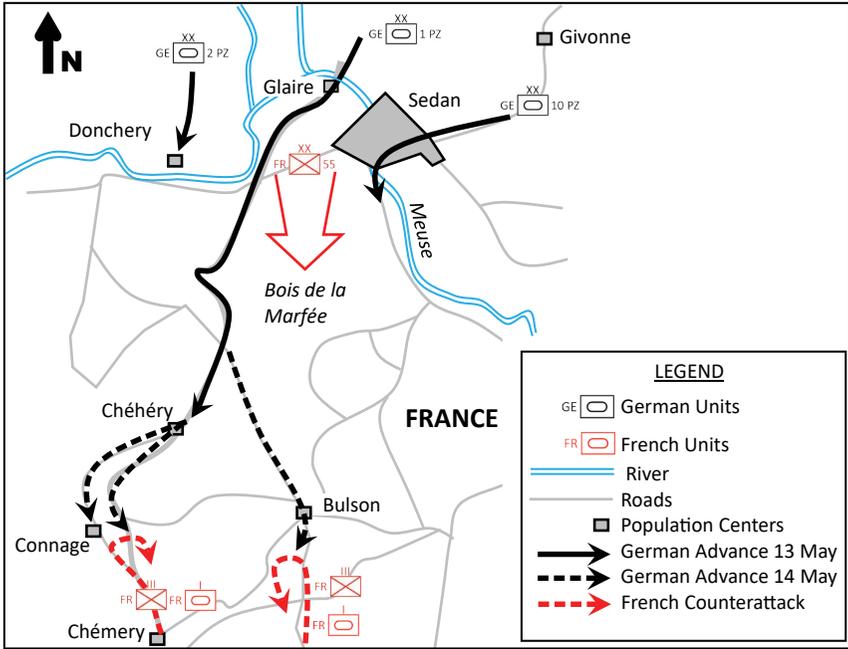
Figure 15.1. Delayed Counterattack by French X Corps Reserves, 14 May 1940. Created by the author.

Unfortunately for the French, their counterattack was painfully slow to materialize. At 2000, Grandsard ordered Lafontaine to take command of the operation. But instead of issuing an order based on Grandsard's verbal guidance, Lafontaine displaced his command post rearward then spent the better part of the night trying to get a written order from X Corps. The counterattack force, meanwhile, made little progress toward its initial objective at Bulson. Some commanders waited for written orders to be delivered by motorcycle messenger. Others, fearing interdiction by the Luftwaffe, waited until dark before moving. Retreating 55th Division elements clogged the roads and hampered the movement of the few counterattack forces that managed to begin moving.[21]

The Germans spent the night of 13 May reinforcing their vulnerable bridgehead and planning operations for the next day. At XIX Corps headquarters, Colonel Nehring estimated the 2nd and 10th Panzer's slow progress was due to lack of fire support, so he allocated additional artillery to each.[22] The XIX Corps plan, issued at 2230, called for 1st Panzer to advance

farther south in the center, then turn west. 2nd Panzer would support on the right, while 10th Panzer on the left would protect the southern flank.[23]

The next morning (14 May) at 0500, Lafontaine, though still lacking a written order, finally issued an order to counterattack at 0730—a staggering fifteen and a half hours after Grandsard's verbal order.[24] Despite the sluggishness of the French response, 1st Panzer remained vulnerable. Overnight, Kirchner had pushed reconnaissance units as far as Chémery; however, 10th Panzer was still not far enough south to protect the 1st Panzer flank. Around 0630, Kirchner received an air reconnaissance report of French tanks massing to his south, and he immediately began to organize a response. Unlike Lafontaine, Kirchner felt no obligation to have a written order before acting. *Wehrmacht* officers were authorized, and indeed expected, to act on their own initiative. Upon hearing of 1st Panzer's overnight advance, Guderian left his command post to see the situation for himself. He arrived just as Kirchner was issuing his orders to meet the French at Bulson and Chémery. Guderian and Kirchner no doubt recognized the importance of Bulson; controlling it would not only secure the corps flank, but also protect the critical bridgehead. Guderian met with his staff and issued them a verbal order to support the 1st Panzer Division attack by immediately moving 2nd Panzer Regiment across the river.[25]

While the Germans raced south and east to Bulson, the French moved north slowly and deliberately. The French Army's methodical battle doctrine cast armor in a supporting role to the infantry. Consequently, the entire formation moved at the pace of a foot march. The slow-moving right wing of the French counterattack was at last within a kilometer of Bulson when Panzers suddenly appeared on the ridge ahead of them. The French fought well in the engagement that followed, but it was too late; the Germans had beat them to the high ground. Ultimately, the French were forced to withdraw.[26] In losing the race to Bulson, the French squandered their best chance to check the Guderian's attack.

The command philosophy of the XIX Corps leaders at Sedan will come as no surprise to anyone who has studied the *Wehrmacht*. The actions of both Guderian and Kirchner —leading from the front and exercising initiative—were typical of *Wehrmacht* officers. Less well-known is the German approach to planning and coordination. Some contend that the Germans did little planning and instead relied entirely on decentralization, improvisation, and opportunism.[27] Guderian's river crossing suggests otherwise. He planned the crossings in detail and rehearsed them prior to the campaign. Once the main battle was underway, however, Guderian eschewed highly detailed planning in favor of brief verbal and written orders.

As the German campaign progressed beyond Sedan, Guderian and his staff continued to issue written plans; however, the plans were simple, flexible, and had a limited time horizon. In the fifteen days it took XIX Panzer Corps to advance from Sedan to the Channel coast, Guderian issued eleven written orders. The content varied with the situation, but all contained a brief situation paragraph and tasks for subordinate units. Most contained air and ground fire support coordination, and many included task organization changes. Other areas, such as reconnaissance, signal, and engineering, were addressed as needed.[28] These concise orders covered only the next twenty-four to forty-eight hours of operations. The Germans avoided overly detailed plans with extended horizons. In keeping with Moltke's dictum that "no plan of operations extends with any certainty beyond the first contact with the main hostile force," the Germans anticipated that the plan would inevitably need to change once the chaos of combat erupted.[29] They expected commanders would, on their own initiative, take whatever actions were subsequently necessary to either seize opportunities or mitigate threats.

Israeli Defense Forces, Sinai 1967

Israel's 1967 victory over the combined forces of Egypt, Jordan, and Syria was one of the most stunning and decisive in history. The effectiveness of the Israel Defense Forces (IDF) command system was equally impressive. Creveld calls the 1967 campaign "a dazzling demonstration" of what a capable command system can do.[30] Like *Auftragstaktik*, the Israeli system was a mix of centralized and decentralized principles. Former IDF Chief of Staff Mordechai Gur describes the Israeli command system this way:

> A proper command system . . . is based on three principles, namely (a) a clear definition of the objectives to be attained; (b) thorough planning; and (c) a proper order of priorities. The danger of adhering to a single idea, and even worse to a predetermined plan, must be avoided. Discipline and teamwork must be combined with improvisation. Controls, both external and internal, must be in continuous operation. All three conditions must appear self-contradicting; but in reality it is the balance between them that determines the IDF's unique character.[31]

In the Second Arab-Israeli War (1956), the IDF found its command and control approach was too decentralized. In that conflict, the IDF had developed a detailed campaign plan, but unfolding events quickly rendered it useless. Israeli brigade commanders were granted, in IDF Chief of Staff Moshe Dayan's words, "a huge measure of independence."[32] Lacking

even minimal controls, the brigades failed to coordinate movement and mutual support among themselves. Fortunately for the IDF, the result was a series of isolated tactical successes which added up to a successful campaign, though more by chance than design.[33] The IDF concluded it needed to impose more control on the "organized chaos" of its command system.[34]

Between 1956 and 1967, the IDF developed an improved command system based on two principles the IDF termed "adherence to mission" and "optional control." Adherence to mission recognizes the Clausewitzian notion that fog, friction, and chaos are inherent to combat, resulting in events which no plan can foresee. Consequently, commanders on the ground are best-suited to make decisions and exploit opportunities. Junior commanders are therefore authorized to deviate from the plan as long as they adhere to the higher commander's mission.[35] The principle of optional control counterbalances the latitude granted to junior commanders under the adherence to mission principle by giving senior commanders the "option" to change mission objectives if events dictate. It requires subordinates to report frequently and accurately to higher commanders, whose experience and perspective allow them to identify opportunities and threats across the force.[36] This system would get its first test in the 1967 Six-Day War.

On 4 June 1967, Israeli ground forces found themselves outnumbered and outgunned at the frontier of the Sinai Peninsula on the brink of war with Egypt. The Egyptian Sinai Field Army comprised six divisions plus four brigades. Together, these accounted for roughly 90,000 soldiers, 1,000 tanks, and 1,000 pieces of artillery.[37] On the Israeli side, Maj. Gen. Yeshayahu Gavish's Southern Command consisted of three divisions and four independent brigades.[38] Israeli forces in the Sinai totaled around 45,000 soldiers, 650 tanks, and 150 pieces of artillery.[39]

The Egyptians were arrayed in a Soviet-style defense in depth. Three infantry divisions with supporting armor defended forward along the three east-west routes between Israel and the Suez Canal, and a Palestinian division guarded the Gaza Strip. On the second line was positioned another infantry division and a two-brigade armored task force ready to reinforce, block, or counterattack along any of the three routes. Finally, the well-trained Egyptian 4th Tank Division, along with an additional motorized infantry bridge, formed the final line of defense and operational reserve.[40]

The Israeli objective was straightforward: destroy as much of the Egyptian Army as possible. The Israeli Air Force (IAF) would initiate the campaign with a surprise airstrike to destroy the Egyptian Air Force

before it could sortie. Gavish's Southern Command would then launch a three-pronged ground offensive into the Sinai. In the north, Brigadier Israel Tal's division would attack at Khan Yunis, then turn west and advance along the coastal highway to Rafah, with an objective of El Arish. In the center, Brig. Ariel Sharon would seize the critical crossroads at Abu Agheila to open central Sinai. Between Tal and Sharon, Brig. Avraham Yoffe would move one brigade through the dunes toward Bir Lahfan and thereby cut the Egyptian line of communications between El Arish and Abu Agheila. Once Sharon seized Abu Agheila, Yoffe's second brigade would attack westward along the central route. In the south, an independent brigade would attack at Kuntilla to deceive the Egyptians as to the location of the Israeli main effort. After these opening moves, the next steps would depend on unfolding events. The Israelis anticipated a second phase in which they would destroy the Egyptian second line of defense and armored counterattack. In the third and final phase, all three divisions would seize critical passes on the way to the Suez, cutting off and destroying the remaining Egyptian forces.[41] However, neither of these subsequent phases was planned in detail.
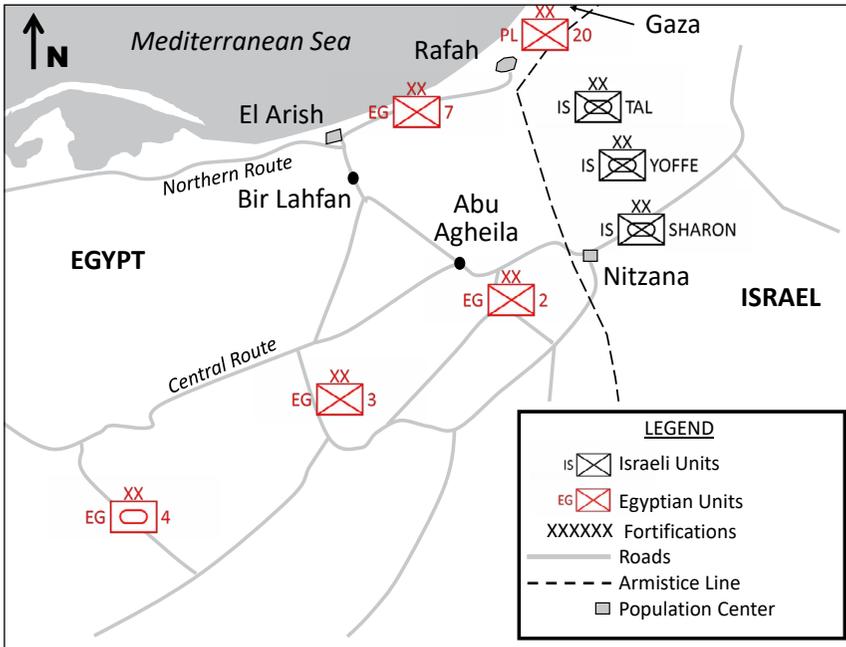
Figure 15.2. Egyptian Deployments in the Sinai. Created by the author.

Tal Division Attack toward El Arish

On the morning of 5 June, the Israeli air strikes went off like clockwork. The first bombs fell at 0745, and over the next three hours, the IAF successfully established air superiority over the Sinai.[42] At 0847, the lead elements of Tal Division crossed the frontier. Tal's plan called for 7th Armor Brigade, commanded by Col. Shmuel Gonen, to strike north toward Kahn Yunis—splitting the 20th Palestinian and Egyptian 7th Infantry divisions—then swing west onto the coastal highway toward Rafah. An independent task force from Southern Command would deal with the 20th Palestinian in Gaza. Meanwhile, the 202nd Parachute Brigade, commanded by Col. Rafael Eitan and mounted in half-tracks, would advance on Rafah from the south and secure the road intersection at Rafah Junction. This action would open the northern route for 7th Armor, which would head west through Jiradi Pass and seize El Arish. Tal would preserve his third brigade, 60th Armor commanded by Col. Menachem Aviram, to reinforce either effort, or to exploit success.[43]

Tal's troops had rehearsed exhaustively, but the plan was derailed almost immediately. Gonen's 7th Armor met with fierce anti-tank and artillery fire at Khan Yunis, and his lead elements bogged down in the narrow streets. Tal had expected to face a second-rate Palestinian battalion but now realized he was up against much more than that. In fact, it was a reinforced infantry brigade. Tal and Gonen reasoned they could not bypass Khan Yunis as they had planned.[44] Gonen was forced to commit his Centurion tank battalion, which he had hoped to preserve for rapid exploitation toward Rafah, to break through Khan Yunis. The Centurions linked up with two companies of the already engaged Patton tanks. Together, the two armored columns stormed toward the coast. The Palestinian defense collapsed in the face of the armored onslaught.[45] By 1030, 7th Armor had made its way to Rafah when its lead elements once again came under fire, this time from a defending Egyptian infantry brigade. The Israelis countered with a fierce frontal assault and, after a bloody battle, sent the entire Egyptian infantry brigade retreating. As Israeli artillery fire poured into the fleeing Egyptians, the lead Israeli tank companies swung west and advanced toward El Sheikh, the next objective on the way to El Arish.[46]

Despite initial difficulties, Tal's attack was going well; 7th Armor was on its way to El Arish and 202nd Parachute reported good progress toward seizing Rafah Junction. There were, however, more surprises yet to come. Around midday, Tal received word that Jordan had entered the war. The unit tasked to seize the El Arish airfield, 55th Parachute Brigade, had been

reassigned to Central Command. Tal decided to commit 60th Armor to this objective. Tal ordered Aviram to advance 60th Armor toward El Arish on an axis south of and parallel to the coastal highway. With the Egyptian Air Force no longer a factor, Tal reasoned Aviram's tanks could proceed in open desert without fear of air interdiction.[47]

Tal had scarcely finished addressing the loss of 55th Parachute when Colonel Eitan reported that 202nd Parachute's situation had suddenly worsened. Eitan's main attack had been checked on the south of Rafah Junction, and his attached tank battalion was scattered and out of contact. Without armor support, the paratroopers were dangerously close to being encircled. Tal could not pull the paratroopers back because he needed Rafah Junction secure. Although lead elements of 7th Armor had already pushed beyond the junction, lightly defended supply convoys would soon follow. Tal hastily organized a three-battalion attack comprising his division reserve (an armor-infantry battalion), a tank battalion from 7th Armor, and an armor-infantry battalion from 60th Armor. But before this attack could materialize, Eitan suddenly regained contact with around two dozen of his tanks. The paratroopers regrouped and at 1500 finally seized Rafah Junction.[48]
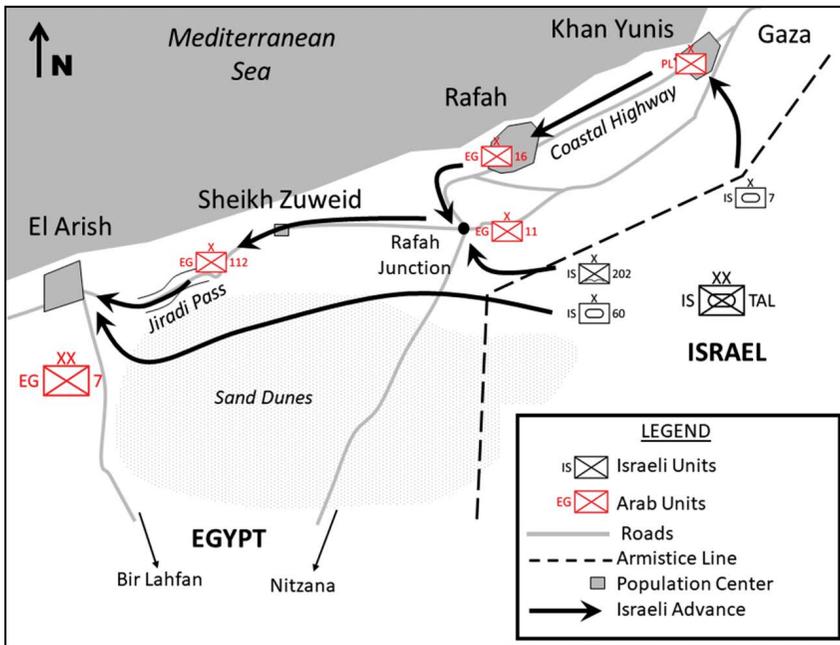
Figure 15.3. Israel's Attack in Northern Sinai. Created by the author.

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The lead elements of 7th Armor, meanwhile, had made it past El Sheikh and arrived at Jiradi Pass—a narrow eleven-kilometer defile just east of El Arish. Tal believed a single battalion of Egyptian infantry held the pass, but his intelligence was once again off the mark. In actuality, the entire Egyptian 112th Infantry Brigade was dug in throughout the area. The Egyptians, however, were not expecting contact. Their only source of information—propaganda radio—had led them to believe their army was driving toward Tel Aviv. Consequently, the soldiers of the 112th watched unbelievingly as 7th Armor's lead tanks suddenly began rumbling through their battle positions. Upon seeing the Egyptian positions, the Israelis, led by Lt. Col. Pinko Harel, opened fire and sent the dumbfounded Egyptians scurrying for cover. Harel received no return fire and assumed the Egyptian positions were abandoned. He ordered his tanks to cease fire to conserve ammunition and continued to the far side of Jeradi. The reconnaissance company following Harel's tanks was not as fortunate. The Egyptians, now shaken out of passivity, unloaded on the Israeli reconnaissance troops and forced them to fall back. Harel, meanwhile, arrived at the outskirts of El Arish around 1500, but he was now cut off from the rest of 7th Armor.[49]

Colonel Gonen arrived at Jiradi Pass around 1630. Upon learning that the pass was blocked, Gonen informed Tal and recommended a coordinated two-brigade assault to reopen it. Tal agreed and promptly organized the necessary troops. He first released his reserve armor-infantry battalion to 7th Armor. He then scrapped 60th Armor's mission to seize El Arish airfield. Tal directed Aviram to have one of his tank battalions continue west and link up with Harel's force outside El Arish. Aviram's two remaining battalions would move to a position south of the pass, then attack north and take the Egyptians in the flank. Gonen, by then reinforced with the division reserve, would push through and open Jiradi Pass for good.[50]

Gonen remained concerned about Harel's isolated forces on the far side. Though he agreed with Tal's plan, Gonen knew it would take some time to get everything into position. He decided to push his own relief force forward without waiting for 60th Armor. The Egyptians once again resisted fiercely, but Gonen's attack succeeded in breaking through—albeit at the cost of several tanks and casualties, including a battalion commander. Gonen attempted to follow with his command group, but the Egyptians held firm. Jiradi Pass was blocked again.[51]

To make matters worse, 60th Armor was now stuck in the soft sands southwest of Jiradi and would be unable to support 7th Armor. Nevertheless, Tal knew he had to clear the pass. The division reserve battalion was

now up and in position, and Tal elected to have Gonen proceed with the attack. This time, Gonen led a coordinated assault with close air support and methodically cleared the Egyptian defenders. Early on 6 June, around 0200, the Israelis finally secured the pass. Tal brought up his command group and a supply train at 0420. Israeli forces seized El Arish airfield at 0730 and were, at last, poised to take El Arish.[52] But a final assault into the town turned out to be unnecessary. Later that day, the Egyptian high command ordered all its units to fall back to the third line of defense.[53]

Sharon Division at Um Katif

As Tal Division was fighting along the coastal highway throughout the day on 5 June, Sharon Division prepared to open the gateway to the heart of the Sinai—Abu Agheila. Standing in its way was the Egyptian bastion at Um Katif—a massive defensive position nearly nine kilometers wide and three kilometers deep. Um Katif was situated on two mesas, and was anchored to high ground in the south and dunes in the north. The forward part of Um Katif consisted of three trench systems with accompanying minefields, machine guns, and anti-tank guns. Behind the trenches was an artillery park, and beyond that an armored reserve. Egyptian forces at Um Katif totaled 16,000 soldiers, ninety tanks, and eighty pieces of artillery.[54]

Sharon's plan to destroy Um Katif called for a tightly coordinated combined arms assault. Two infantry battalions and a tank company would move south as a deception to keep the Egyptian brigade at Qasaymeh in place. An armor battalion would move around the north side of Um Katif to Ruafa Dam using a narrow trail called Batur Track. This action would isolate the defending Egyptians from second echelon reinforcements and allow the Israelis to attack the Egyptian armored reserve from the rear. The main attack would occur that night; a massive artillery barrage would precede a simultaneous three-pronged assault. Sharon's 14th Armor Brigade would seize the Egyptians' forward outposts and provide supporting fires. Simultaneously, 31st Parachute Brigade would air-assault to landing zones south of Um Katif, and from there attack the artillery park. The main effort would be 99th Infantry Brigade, which would march undetected to a position north of Um Katif, then assault the three Egyptian trench lines from north to south.[55]

Sharon's attack, like Tal's in the north, stuttered almost immediately. Sharon's Division began moving at 0815, but an Egyptian outpost at Um Tarpa halted his lead battalion with mines and anti-tank fire. The battalion, commanded by Lt. Col. Natan Nir, was supposed to be making its way to Ruafa Dam via Batur Track but now had to fight its way through unexpect-

edly stubborn resistance. After a few hours and the loss of several tanks, Nir drove the Egyptians back and continued toward his first objective at Hill 181, a prominent terrain feature north of Um Katif.[56] Nir expected a tough fight from the defenders at Hill 181, and the Egyptians obliged him. Nir's initial attack on the position failed in the face of blistering Egyptian fire. Nir withdrew, reorganized, and finally forced the Egyptians off the hill. It had been slow going and Nir had taken heavy losses, but the way was now open to Ruafa Dam. Nir left a tank company to secure Hill 181 then continued west.[57]

Back at the main highway, Sharon's Sherman tank battalion advanced westward toward the base of Um Katif, but heavy fire from Um Katif halted the Shermans at around 1200. A tank and artillery duel between the Shermans and Egyptian defenders ensued and lasted most of the afternoon. This action, along with Nir's attack at Hill 181, held the Egyptians' attention while 99th Infantry marched undetected through the dunes to its starting positions for the coming assault on the Um Katif trenches.[58]

As evening approached, 31st Parachute prepared for its air assault. Sharon initially planned to land 300 paratroopers on a small hill south of Um Katif called Jebel Dalfa; however, Sharon received only six of the promised twelve aircraft. For this reason, the Israelis could lift just 150 paratroopers. Additionally, Sharon learned that the Egyptian artillery was farther west than he expected, and the terrain was unfavorable between the landing zone at Jebel Dalfa and the artillery emplacements. In light of these developments, Sharon moved the landing zones to the opposite (north) side of Um Katif to a site near Hill 181. The paratroopers would now attack from north to south. The terrain would be more suitable for a dismounted assault, and Nir's tanks on Hill 181 could secure the landing zones.[59]

As night fell, Sharon had not yet set conditions for his main assault. Although 99th Infantry was ready, the remainder of Sharon's forces still had work to do. Nir's Centurion battalion was stopped short of the Abu Agheila-Ruafa Dam area, leaving the door open for Egyptian reinforcements. The helicopters landing 31st Parachute near Hill 181 had alerted the Egyptians, and the paratroopers there began receiving mortar fire. The Shermans at the base of Um Katif were pinned down by artillery fire, but continued sniping at the Egyptians to give the impression of an impending frontal attack.[60]

Around sunset, Major General Gavish flew to Sharon's field headquarters. Gavish—and indeed most of the Israeli high command—had been skeptical of Sharon's elaborate plan from the start.[61] The present situation

did little to alleviate Gavish's concerns. He urged Sharon to consider wait-
ing until daylight to attack, at which point the IAF could provide air sup-
port. Sharon, however, had made up his mind. He elected to continue with
the night assault, but pushed the start time back to 2300 to allow his units
more time to get into position.[62] Gavish deferred to Sharon's judgment but
remained skeptical. Earlier in the day, Brigadier Yoffee had successfully
moved his two brigades to Bir Lahfan—a road intersection about thirty
kilometers north of Abu Agheila. At 2200, Gavish directed Yoffe to send a
battalion south from Bir Lahfan to aid Sharon.[63] As it turned out, Gavish's
concerns would prove to be unfounded and the extra help unnecessary.
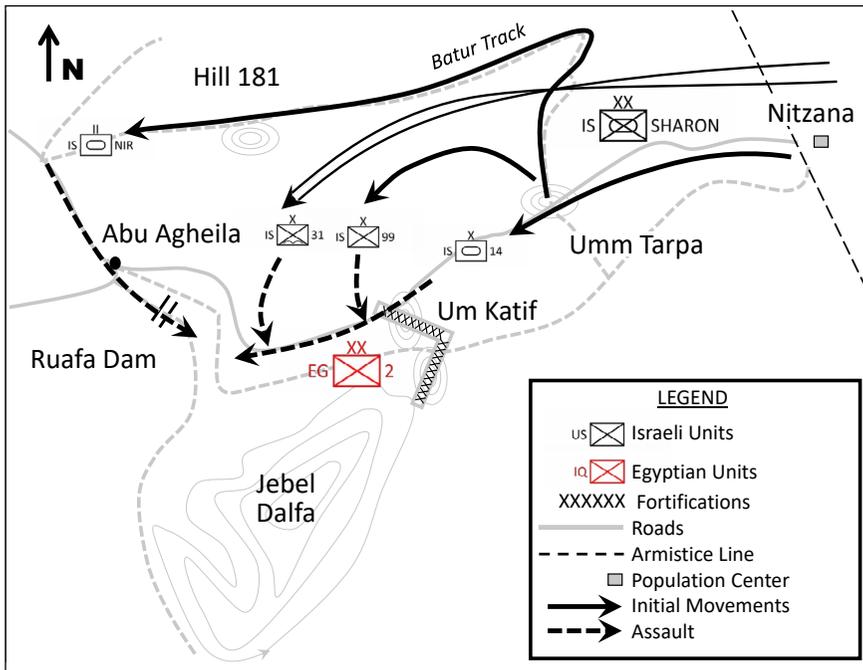
Figure 15.4. Israel's Attack at Um Katif. Created by the author.

At 2230, Sharon's six artillery battalions let loose with a massive prepa-
ratory barrage of more than 6,000 rounds. At 2250, the 99th Infantry com-
mander, Col. Yekutiel Adam, requested to start the attack early to preserve
the element of surprise. Sharon agreed, and Adam's infantryman began
assaulting downhill from its positions north of Um Katif. The entrenched
Egyptian infantry called for artillery support, but the fire was ineffectual.
At that moment the artillery park was in chaos. The 31st Parachute attack
on the Egyptian artillery was perfectly coordinated with the trench assault.
The paratroopers managed to destroy two artillery batteries before being

forced to withdraw with heavy casualties. On the way out, they ambushed two Egyptian supply convoys, setting ammunition and fuel trucks ablaze. Although some artillery remained intact, the paratroopers created enough destruction, chaos, and confusion to reduce the artillery's effectiveness.[64]

Sharon initiated the final phase of his intricate plan at 0200 on 6 June. Nir's Centurions emerged from the desert and assaulted the Abu Agheila intersection; then without stopping, they pushed south to Ruafa Dam. Um Katif was cut off. Sharon set about destroying the Egyptian tank reserve, which he aimed to crush between Nir's tanks coming east from Ruafa Dam and the Shermans moving west along the main highway. After some difficulty getting through Egyptian minefields, the Shermans and Nir's Centurions encircled the Egyptians at 0400. During the ensuing battle, the Israelis destroyed more than forty Egyptian tanks and sent the rest retreating into the desert. Sharon had successfully opened the door to the heart of the Sinai.[65]

US VII Corps, Iraq 1991

This final case study explores US VII Corps operations during the 1991 Gulf War. The VII Corps commander, Lt. Gen. Fred Franks, has been both praised and criticized for his handling of the campaign. Some praise Franks's attack as a classic example of large-unit maneuver to concentrate combat power.[66] They describe the VII Corps attack, and coalition ground operation writ large, as maneuver warfare and mission command at their best. On the other hand, critics claim senior American commanders tightly controlled operations and left no room for disciplined initiative. They point to the US Army's technological superiority and the Iraqi Army's passivity as the campaign's decisive factors.[67] In truth, the VII Corps command system was similar to that of the previously discussed German and Israeli models. Franks and his subordinates used a combination of detailed planning, rapid coordination, and mission command.

On the evening of 23 February 1991, Franks's US VII Corps stood ready to attack and destroy the Iraqi military center of gravity, the Republican Guard.[68] Intelligence estimated the overall Iraqi strength at 545,000 soldiers, 4,280 tanks, and 3,100 artillery pieces.[69] The American-led coalition fielded a roughly equal number of soldiers—558,200—but had fewer (although better) tanks (3,090) and significantly less artillery (1,186).[70] Coalition air forces had been pounding the Iraqis for more than a month, and while the front-line units were severely attrited, the Republican Guard remained combat-effective.[71]

The Iraqis expected coalition forces to attack directly north toward Kuwait City and Basra. They had built a line of obstacles which was anchored on the Persian Gulf coast, covered the entire Saudi-Kuwaiti border, and ended in the Iraqi desert. The Iraqis intended to fix attacking coalition units within these dense fortifications, then grind the attackers down with massive artillery barrages. Iraqi infantry divisions occupied the front line of defense. Behind them, Iraqi armored units were ready to counterattack against any coalition forces that breached the obstacle belt. Even farther back, the Republican Guard waited in reserve.[72]

The coalition plan was to go around the Iraqi defense rather than through it. The terrain west of the obstacle belt terminus was open desert with few roads, and some of it was impassable for mounted forces. Coalition commanders would send the main attack though this area—where the Iraqis would least expect it. In the east, US Marines would deceive the Iraqis by attacking toward Kuwait City. Meanwhile, the US XVIII Corps, in the open desert far to the west, would move north and then east, forming a massive "left hook" which would envelop and cut off Iraqi ground forces. In the center, the heavily armored VII Corps would push north, then swing east and hit the Republican Guard in the flank.

Across the Iraq border, Franks faced five Iraqi infantry divisions dug in along the obstacle belt (which extended only about midway into the VII Corps area). One mechanized division beyond them sat ready to reinforce or counterattack. Farther north and east was the Republican Guard, Iraq's best-trained and best-equipped troops. The Republican Guard Forces Command (RGFC) comprised six divisions: three armored/mechanized and three infantry.[73]

Franks and his staff had been planning and rehearsing the plan for nearly four months.[74] It resembled the theater commander's plan in that Franks intended to put his main effort to the west beyond the obstacle belt. In the east, 1st Infantry Division would breach the Iraqi obstacle system, then pass UK 1st Armoured Division forward. The British tankers would attack the Iraqi heavy division behind the main defense. In the west, the VII Corps main attack—1st and 3rd Armored divisions—would bypass the obstacles and race toward the Republican Guard. Ahead of the divisions, 2nd Armored Cavalry Regiment would reconnoiter along the Corps axis of advance.[75]

VII Corps began moving north on the morning of 24 February. Franks's main attack was scheduled to begin the next day; however, 2nd Cavalry started its reconnaissance twenty-four hours earlier while the di-

visions moved into position. As VII Corps approached the Iraq border, coalition forces elsewhere were having unexpected success. Iraqi defenses were collapsing all along the front. Lt. Gen. John Yeosock, Third Army commander, called Franks at 0930 to inquire if VII Corps could attack early—1500 that afternoon. After talking to his commanders, Franks affirmed that he could.[76]

At 1430, VII Corps began a thirty-minute artillery barrage on the Iraqi front-line positions. At 1500, 1st Infantry Division's tanks began clearing lanes through the Iraqi minefields, while American artillery suppressed Iraqi artillery. Apache helicopters supported with attacks against Iraqi tanks. By 1715, 1st Infantry had opened several lanes and began moving north.[77]

Franks faced his first major decision late that afternoon. While flying to the 2nd Cavalry command post, he noticed a gap of some twenty kilometers had opened between the cavalrymen and the armored divisions behind them. Upon arriving, Franks informed Col. Don Holder, the 2nd Cavalry commander, about the emerging gap and told him to be prepared to stop for the night. Back at his command post, Franks learned that two 1st Infantry brigades were through the obstacle breach but the rest of the division had yet to advance. It was now dark, and Franks considered whether to continue sending 1st Infantry through the minefields in the dark. He judged the risk to be too great. Although he would have to slow his attack, Franks reluctantly halted the corps until first light.[78]

The next morning, 25 February, Franks gave Yeosock an update then turned his attention to the deep fight. Franks planned to attack the Republican Guard the next day, and he knew the decisions he made that day would shape the options available to him the next day. Specifically, Franks considered whether to execute FRAGPLAN 7—a branch plan which would add a third division to his main attack and allow VII Corps to destroy the Republican Guard with overwhelming force. Franks called it the "armored fist."[79]

Franks's problem was determining which division he could use for FRAGPLAN 7. His first choice was 1st Cavalry Division. But 1st Cavalry was the theater reserve, and Franks could use it only if the theater commander, Gen. Norman Schwarzkopf, released it to him. His second choice was 1st Infantry. Franks was initially unsure how effective 1st Infantry might be after breaching the obstacle belt. Fortunately, the operation was easier than expected, and 1st Infantry remained a combat-capable formation. Schwarzkopf had yet to release 1st Cavalry, so Franks made his decision: 1st Infantry would be the third division of the armored fist.[80]

Franks now focused on getting his armored fist in position for the coming attack. Around 0830, he met with the 1st Armored commander, Maj. Gen. Ron Griffin, and directed him to move his division to the northern part of Objective Collins by the end of the day. The purpose was twofold. First, get in position to be the northern division of the armored fist. Second, if the Iraqis counterattacked, Griffin's division would be in an excellent position to take them in their northwestern flank.[81]

At 1100, Franks met with 1st Infantry commander Maj. Gen. Tom Rhame and UK 1st Armoured commander Maj. Gen. Rupert Smith. Rhame's troops had finally made it through the breach lanes and were now securing the breach while Smith's troops moved through. Franks gave Rhame his marching orders; 1st Infantry would be the third division in FRAGPLAN 7. He instructed Rhame to move 1st Infantry to a position southwest of 2nd Cavalry, then be prepared to pass through them sometime the next afternoon. Smith's division would continue through the breach and attack the Iraqi 52nd Armor Division in order to secure the right flank of the armored fist.[82]
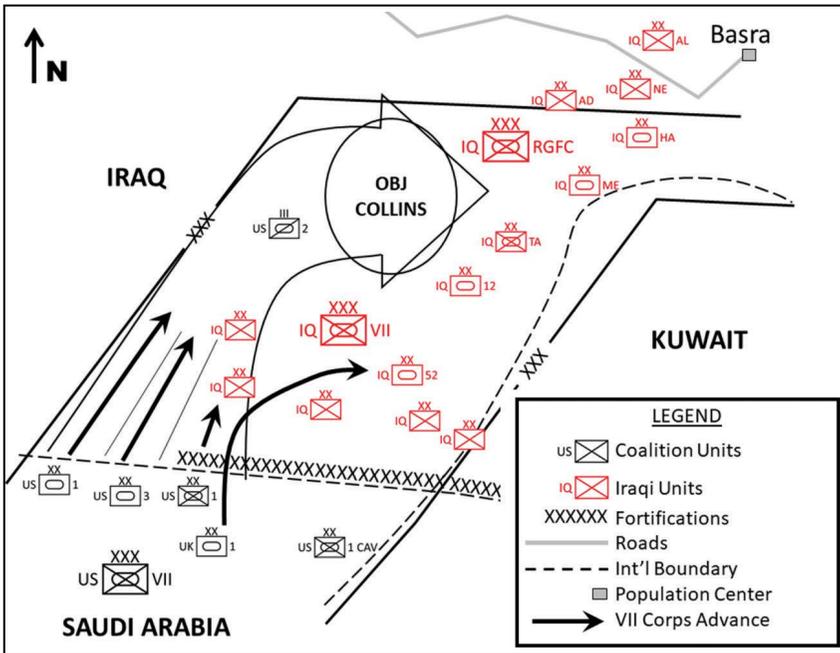
Figure 15.5. Kuwait and Vicinity, the Liberation of Kuwait, 24–26 February 1991. Created by the author.

Franks's planning took on new urgency at 1240 when 2nd Cavalry identified forward elements of the Tawakalna Division—one of three heavy Republican Guard divisions. As he set out to see 2nd Cavalry's situation for himself, Franks considered his next decisions. First, he reasoned that the Iraqis now knew a significant force was coming at them from the west rather than the south. With the Tawakalna Division engaged, the other heavy divisions would soon join the fight; however, they would have to reorient from south to west. That would take time, and Franks was determined to press his attack before the Iraqis could reset their defenses. Second, Franks considered when to pass 1st Infantry through 2nd Cavalry. He needed 2nd Cavalry to keep the pressure on the Iraqis and develop a better idea of their disposition. At the same time, Franks knew that 2nd Cavalry lacked the combat power to destroy an entire heavy Republican Guard division. For that reason, Franks needed 1st Infantry to get in the fight soon; however, it would be at least twelve hours before 1st Infantry would be done passing UK 1st Armoured through the breach. By then, 1st Infantry would have nearly one hundred kilometers to cover.[83]

Franks wrestled with whether to slow 2nd Cavalry to allow 1st Infantry to catch up. He discussed the situation with Holder and ultimately decided 2nd Cavalry could continue east. Franks directed Holder to collapse the Tawakalna Division security zone, find its flanks, and maintain contact until 1st Infantry was in a position to pass forward. Franks estimated the passage would happen at some point the following afternoon, but that estimate was based on two assumptions. First, Franks assumed the location of the Tawakalna Division main body based on the location of its security zone, but he needed Holder and his cavalrymen to confirm the Iraqis were indeed where he expected them to be. Second, Franks had estimated the time required for 1st Infantry to move up, but he needed to ensure this estimate was accurate. Franks needed more information about both these assumptions before he decided where and when to conduct the passage.[84]

Franks set about ensuring his other divisions would be ready for the Republican Guard. He notified 1st and 3rd Armored commanders of his intent to execute FRAGPLAN 7 and confirmed they would both be ready. Franks also informed Yeosock of his intentions.[85] Late that evening, the VII Corps staff issued the written order to execute FRAGPLAN 7. The divisions did not have much time to plan but were nevertheless able to pass the corps order down quickly. A 3rd Armored plans officer wrote the entire division order by hand and faxed it to subordinates. In 1st Armored, Major General Rhame issued his order verbally while his units were on the move.[86]

As the third day of the offensive began, the situation in the forward part of the VII Corps area was shaping up just as Franks expected. The 2nd Cavalry had fixed the Tawakalna Division and continued pressing east. Also, 1st Armored was in the midst of securing Objective Collins and would continue east later in the morning, and 3rd Armored was already turning east toward a position in the center. Conditions would soon be set to pass 1st Infantry forward. To top things off, Schwarzkopf released 1st Cavalry Division to VII Corps at 0930. Franks directed the 1st Cavalry commander, Maj. Gen. John Tilelli, to bring his division up behind the Corps' front-line divisions.[87]

Things were not going as well for 1st Infantry. The division moved off the breach at 0430, but poor weather hampered its progress. While 1st Infantry slogged ahead, Franks coordinated with Holder for the final location of the impending passage of lines.[88] They settled on the 60 Easting. Rhame's infantrymen had a long distance to cover; Franks estimated they might not make it up before sunset, which raised the specter of another tough decision—whether to pass 1st Infantry forward in the dark.[89]

Only a few hours later, the situation changed yet again; 1st Infantry Division was moving even slower now. If 2nd Cavalry stopped at the 60 Easting, Holder's troops would have to wait idly while 1st Infantry came up. But this would relieve the pressure on the Republican Guard, and Franks would have none of it. He radioed Holder and told him to disregard the earlier order to halt at the 60 Easting and instead continue fighting eastward. Franks had earlier been concerned that 2nd Cavalry would be unable to press the fight against a heavy enemy division. His morning visit to the 2nd Cavalry command post, however, convinced him that Holder's cavalrymen still had plenty of fight left in them.[90]

Franks's decision to have 2nd Cavalry continue east, although risky, ultimately paid off. At 1600, the lead companies of 2nd Cavalry sighted several Iraqi T-72 tanks dug in around the 70 Easting. Holder's cavalrymen were outnumbered, and these Iraqis—unlike the conscripts manning the front lines—were determined to fight. Although Holder had earlier established a limit of advance at the 70 Easting, his troop commanders knew that arbitrarily stopping would surrender the tactical surprise they had just achieved; consequently, they ignored their limit of advance and unleashed a violent attack.[91] Over the course of the next four hours, 2nd Cavalry destroyed more than fifty tanks and armored vehicles, and took more than 1,300 prisoners. The action would become known as the Battle of 73 Easting.[92]

Franks knew he had to get 1st Infantry passed soon; VII Corps was now decisively engaged with the Republican Guard. While the battle at the 73 Easting raged on, 1st and 3rd Armor destroyed two Tawakalna Division brigades. In the south, the UK 1st Armoured successfully fought a series of engagements against Iraqi units attempting to withdraw out of Kuwait.[93] Around 1700, the 1st Infantry Division was, at last, ready to pass through 2nd Cavalry.[94] It would be a risky operation at night, but Franks felt the risk was justified; he needed combat power forward because he expected more tough fighting ahead. Franks also ordered several task organization changes, primarily augmenting 1st Armored, 3rd Armored, and 1st Infantry with additional artillery and attack aviation.[95]

With the armored fist attack now set, Franks turned his attention to the Republican Guard divisions beyond the Tawakalna. Presently, 1st Cavalry Division was moving toward the front and prepared to swing either north or south of the main attack. The UK 1st Armoured would soon be complete with its supporting attacks on the VII Corps southern flank. With three divisions attacking and two available, Franks saw an opportunity for a double envelopment. While the armored fist slammed into the westernmost Republican Guard divisions, Franks could send two divisions around the main attack to take the second echelon divisions in its flanks. The 1st Cavalry would be the northern arm and, depending on how the fight progressed, either 1st Infantry or UK 1st Armoured would be the southern arm.[96]

On the morning of 27 February, Franks needed to decide how to proceed with his envisioned double envelopment.[97] The 1st Infantry had cleared the 2nd Cavalry lines early that morning, and Franks set out to see how Rhame was faring.[98] Rhame, who was commanding his division forward from a tank, estimated the Iraqi units in his area were no longer capable of mounting an organized defense. He projected his division could advance east to Highway 8 by nightfall. Since 1st Infantry was farther east than UK 1st Armoured and moving steadily, it was in a better position to become the southern arm of the double envelopment. Franks made his decision, sketched out the scheme of maneuver for the 1st Infantry staff, then set about coordinating the rest of the plan.[99] After stopping at his tactical command post and directing his staff to draw up a graphics overlay, he visited 1st Armored and 3rd Armored to give those commanders his intent. Later that morning, he met with Tilelli and laid out the scheme of maneuver for 1st Cavalry: pass north of 1st Armored and destroy the Hammurabi Division of the Republican Guard.[100]

While Franks and his staff were orchestrating the double envelopment, the fight was intensifying. All three divisions of the armored fist were in

contact, and in fact, VII Corps would be engaged with four Republican Guard divisions by the end of the day.[101] Just before noon, 1st Armored destroyed an entire brigade of the Medina Division in only forty-five minutes in an action which would become known as the Battle at Medina Ridge.[102] With his division decisively engaged, Rhame questioned whether he could safely pass 1st Cavalry to his north. At 1700, he radioed as much to Franks, who deferred to his subordinate's judgment and elected to delay 1st Cavalry's attack until the next day.[103]

What Franks didn't know was that a ceasefire was already in the works. By Wednesday morning, Iraqi forces were in full-fledged retreat out of Kuwait along Highway 80, where they were mercilessly pounded by coalition air and ground forces on what became known as the Highway of Death. Gen. Colin Powell, then chairman of the Joint Chiefs of Staff, worried that television images of the carnage might anger Americans and allies. Powell pressed for an early ceasefire, and the president and secretary of defense ultimately agreed. Hostilities ceased at 0800 Riyadh time on the morning of 28 February 1991.[104]

Observations and Recommendations

Though separated by more than fifty years, these cases demonstrate several consistencies in the way corps and division commanders exercised command of large tactical formations. They reveal that large-scale combat operations require a flexible command philosophy which blends mission command and detailed command based on the operational context. Command systems must be centralized enough to enable higher tactical commanders to coordinate operations and shape the battlefield. At the same time, they must be decentralized enough to allow lower tactical commanders the freedom of action to deal with emergent opportunities and threats. Blending centralization and decentralization requires disciplined initiative, communications, and rapid coordination. Higher tactical commanders provide the minimum necessary controls to synchronize operations while at the same time preserving freedom of action for subordinates. Subordinates, in turn, exercise disciplined initiative and report their activities frequently and accurately, which enables higher commanders to coordinate the resulting changes. Commanders who can rapidly perform this initiative-reporting-coordination cycle increase their chances of tactical success.

Acknowledging the limits of these conclusions is essential. These cases focus on a narrow context—offensive operations in large-scale com-

bat—because it provides a high-stress test case for command and control. If, as Creveld asserts, uncertainty is the primary condition under which command systems must function, then surely the fast-paced attacks of combined arms offensive operations are the most challenging circumstance.[105] It is important to acknowledge that in other contexts, command and control demands will be different.

The above idea reinforces the observation that *commanders must tailor their command approach to the operational context*. An army must function in many different contexts, including in garrison, during field training, during deployment, while planning and preparing, and of course when fighting. Each situation requires a unique approach. Mission command is not always desirable and may not even be possible.

The activities of a garrisoned army, for example, lend themselves to detailed command. Accounting for supplies, conducting maintenance, and scheduling training are all done more efficiently when centrally managed. Imagine if every company commander on a given installation was responsible for determining when to conduct a rifle range based solely on the installation commander's intent. The result would be chaos and wasted time. An obviously better approach is to have a centralized scheduling system whereby each company coordinates its range time with others. Another example is vehicle and aircraft maintenance. No one would want a helicopter mechanic, for instance, fixing an aircraft engine based only on intent. No matter how much the commander trusts that mechanic, the commander demands that the mechanic follow the published procedure without deviation. As a garrisoned army mobilizes and prepares for war, it operates in yet more contexts where some detailed command is necessary. The process of deploying—packing equipment, moving to port, and loading ships—is necessarily centralized for maximum efficiency. As Daniel J. Hughes noted, even the father of mission command, Helmuth von Moltke, recognized the advantages of centralization, particularly prior to a campaign:

> "No plan of operations," [Moltke] wrote, "survives the first collision with the main body of the enemy." Therefore, he concluded, strategy—and in this context he included operations and even tactics—was little more than a "system of expedients." Even so, the first, albeit all important, phases in the strategic sequence—mobilization and transport schedules, and the initial deployment—could be tightly controlled by good staff work on the expanding railroad and telegraph network.[106]

After deployment, an army still has need of detailed planning. Each of these historical examples illustrates the value of thorough planning for the first engagement of a campaign. These plans, along with exhaustive rehearsals, are vital because a successful first engagement secures the initiative. Many have criticized the US Army's slow and deliberate planning process as an obstacle to mission command. They are quick to cite Gen. George Patton's famous quote that "a good plan violently executed *now* is better than a perfect plan next week."[107] While critics of Army planning focus on Patton's exhortation of rapid execution, they ignore his prerequisite—a *good* plan.[108] In each of the case studies presented, commanders understood the value of a good plan and, therefore, planned the initial engagements to a level of detail that extended well past mission-type orders.[109]

While detailed planning is necessary, it is also fraught with traps. One of these traps is creating detailed plans for extended time horizons. The commanders examined here limited the time horizons of their detailed plans to between twenty-four and forty-eight hours. While it is true that commanders must anticipate events beyond forty-eight hours—as all these commanders did—they do so with the realization that circumstances will be significantly different by then. Detailed planning for extended time horizons wastes time and creates conditions for another trap—fighting the plan rather than the enemy. Commanders who invest time and resources in a detailed plan may be reluctant to deviate from it, even when circumstances make deviation necessary. Another trap is planning in detail once tactical operations are underway. Planning in the midst of operations must support a rapid decision cycle. Commanders must forego exhaustive orders and time-consuming staff products in favor of concise, easily disseminated mission orders.

In summary, the command systems necessary to train, organize, and equip armies in peacetime are often centralized and rigid. Likewise, mobilizing, planning, and preparing for tactical operations frequently require a more centralized and detailed approach. Mission command is sometimes an inappropriate approach for the day-to-day running of an army, as well as the detailed planning and preparation that must occur before initiating a campaign.

A second observation is that *divisions and corps commanders provide minimum controls for the close fight while shaping the deep fight*. Commander's intent and shared understanding are not by themselves sufficient to succeed in large-scale combat operations. Division and corps commanders perform critical coordinating tasks, including synchronizing operations in depth, adjusting task organizations, coordinating movement,

and ensuring mutual support among subordinate echelons. Divisions and corps commanders and staffs receive reports and monitor the close fight primarily in order set conditions for future operations rather than control maneuver in the ongoing close fight. Division and corps commanders must, however, provide the minimum control necessary to synchronize brigades and battalions.

Importantly, what constitutes minimal necessary control may, in fact, be quite rigid. Much depends on the tactical situation. The best example is the Israeli case study. Although both Tal and Sharon operated within the same command philosophy of adherence to mission/optional control, they each took different approaches based on their respective situations. Tal conducted a rapid and concentrated armor offensive. The pace of Tal's attack, along with inaccurate intelligence, led to a fluid battle in which he had to constantly adapt to swiftly changing circumstances. Tal made numerous task organization and mission changes, issued verbal orders by radio, and often provided little beyond a commander's intent and mission objectives. Sharon, on the other hand, orchestrated a set-piece combined arms assault on a static defensive position. His operation depended on synchronized action and massed effects. Sharon implemented rigid controls, then fought the battle almost precisely as he had planned it. Both were successful because they adapted their command approach to suit their respective tactical problems.

A third observation is that *mission command and decentralization of decision authority remains essential for the close fight*. The commander on the ground observing the battle with his own eyes is in the best position to control the close fight. These commanders must be allowed sufficient freedom to take independent action to seize opportunities and mitigate threats. General Kirchner's initiative to meet the French counterattack at Bulson saved the German bridgehead and possibly the entire campaign. Commanders throughout General Tal's division were forced to fight scattered and out of contact in the chaotic attack toward El Arish. The decision by the 2nd Cavalry troop commanders to disregard their limit of advance at 73 Easting kept the Iraqis off balance and bought time for1st Infantry to move forward.[110]

Mission command remains the best way to deal with the inherent uncertainty of close combat. The fundamental requirement of any centralized command system is to create situational understanding of local conditions for a commander who is not personally observing the fight. Creating that understanding is difficult at best, and the time required to do it, lengthens a commander's decision cycle and puts him at a disadvantage. It has been

nearly 200 years since Carl von Clausewitz wrote that most information in war is either contradictory, false, or uncertain.[111] There is little indication this has changed. Empowering the commander on the ground, who by definition has a real-time understanding of the close fight, remains the best way to deal with uncertainty at the tactical level.

At first glance, the necessity of mission command seems to be at odds with the requirement to control and coordinate operations. Army doctrine refers to this relationship as a "balance" between the art of command and the science of control.[112] This phraseology is misleading, for it implies an opposing relationship. A proper relationship between mission command and detailed command is one of interdependence rather than opposition; operational context shapes the character of the interdependency.

The above idea leads to a fourth and final observation: *Commanders unify detailed command and mission command into an effective command system by mastering the triad of disciplined initiative, communications, and rapid coordination.* The commanders in these case studies imposed the minimum essential controls which were appropriate to the tactical problem at hand. Lower echelon commanders then exercised initiative within those controls. Their actions changed—in some cases substantially—the tactical situation. Lower echelon commanders reported to the higher commander, either through radio communications or face-to-face updates. Higher commanders were then able to rapidly coordinate the rest of the formation to account for the changed circumstances using concise verbal or written orders.

These activities—initiative, reporting, and coordination—comprise a single tactical decision cycle in an interdependent command system. Commanders must be able to execute tactical decision cycles faster than the enemy. The cases presented here suggest the duration of a single tactical decision cycle at higher echelons is between twelve and thirty-six hours. Corps-level commanders Guderian, Gavish, and Franks made one or two decisions every twenty-four hours. Division command decisions were more frequent. In General Tal's fight, for example, it was every few hours.

Unsurprisingly, these commanders used austere mobile command posts. Large staffs in static command posts are ill-suited to support rapid tactical decision cycles. These commanders stayed close to the action, which provided them a better feel for the fight. Franks, for example, estimated that once operations began, he was getting only about twenty percent of his decision-making information from his staff, forty to fifty

percent from talking to his subordinates, and the remainder from what he was seeing and hearing, along with his intuition and judgment.[113] These commanders spoke with subordinate commanders frequently, both on the radio and in person. All were able to coordinate necessary changes.

Conclusion

Since the days of Frederick the Great, the central problem of command has been to make disconnected pieces of an army work together toward a common goal. The traditional option of either centralizing or decentralizing is a false dilemma. The solution, as demonstrated through these case studies, is an integrated command system which amplifies the strengths and mitigates the weaknesses of both philosophies.

This interdependent approach is an imperfect solution at best; however, it is the best solution that is realistically attainable. Going back to the dilemma of balancing a senior commander's experience and perspective against a junior commander's local situational awareness, a theoretical "best" command system would provide sufficient and timely situational awareness to the commander with the requisite experience and perspective to make an optimal decision. Sadly, this solution is only theoretical; there are but two paths to this end. The first is to somehow implant junior commanders with the experience and wisdom of a senior commander—obviously impossible. The second is to provide senior commanders with the same situational awareness as junior commanders on the ground. Armies have tried to do exactly that since at least the time of Frederick the Great using emerging communications technology, from the telegraph to the internet. Despite continual technological advancement, however, perfect situational awareness continues to elude commanders and will to do so for the foreseeable future. Creveld writes:

> To believe that the wars of the future, thanks to some extraordinary technological advances yet to take place in such fields as computers or remotely controlled sensors, will be less opaque and therefore more subject to rational calculations than their predecessors is . . . sheer delusion.[114]

Combat is, in a word, chaos. War in general—and close combat in particular—remains difficult, uncertain, and unpredictable. Attempts to impose absolute order on this chaos are doomed to fail. The most practical approach to command to is to accept the chaos but be better than your adversary at adapting to the results.

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32. Creveld, 197.

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35. Hammel, *Six Days in June,* 108–9.

36. Hammel, 110.

37. Nadav Safran, *Israel: The Embattled Ally* (Cambridge, MA: Harvard University Press, 1981), 242; Hammel, 142–43

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Chapter 16

Mission Command and the Division Fight

Gregory M. Thomas

In recent years the US Army implemented two important changes to its warfighting doctrine. First in 2011, the Army adopted mission command as a command philosophy. Second in 2017, the Army published an updated version of its capstone doctrine manual, Field Manual (FM) 3-0, *Operations*. These two events will serve as intellectual waypoints for the Army as it internalizes the lessons from the campaigns in Afghanistan and Iraq and simultaneously anticipates the challenges and unknowns of the next war. This chapter discusses the philosophy of mission command and its role in large-scale combat operations (LSCO). The first part of this chapter explores mission command. The second part provides an understanding of how mission command is incorporated into LSCO. It also examines the idea of initiative. This is an important discussion because some organizations within the Army, while acknowledging the mission command philosophy, have yet to fully incorporate it into their organizational culture.

Mission Command

In 2003, the US Army modified its approach to command and control. Field Manual (FM) 6-0, *Mission Command: Command and Control of Army Forces*, argued that historically a leader's approach to command and control generally fell along a spectrum. At one end was mission command, an approach where command and control was decentralized, informal, self-disciplined, and initiative-bound. Commanders who used this form of command could expect to develop acceptable decisions in a faster manner. At the other end of the spectrum was detailed command; command and control was centralized and formal, and focused on imposing discipline, enforcing obedience, expecting compliance, and reaching optimal decisions later in the process. The main elements of mission command were the commander's intent, subordinates' initiative, mission orders, and resource allocation. Many officers agreed these ideas were mainly a repackaging of old ideas because command and control elements were representative of good commanders throughout history.

In 2011, the Army changed its approach to command and control. FM 6-0 introduced two new concepts of mission command. First, mission command was the Army's command philosophy. The new definition

of mission command was "the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of full spectrum operations. It is commander-led and blends the art of command and the science of control to integrate the warfighting functions to accomplish the mission."[1] This philosophy was intended to guide commanders in initiating and integrating all actions and military functions toward mission accomplishment.

The second idea FM 6-0 introduced was that mission command was also a warfighting function. Army warfighting functions are "a group of tasks and systems (people, organizations, information, and processes) united by a common purpose that commanders use to accomplish missions and training objectives."[2] The six warfighting functions are: intelligence, movement and maneuver, fires, protection, sustainment, and mission command. The 2011 version of FM 6-0 additionally explained that mission command was exercised through blending the art of command with the science of control. Thus, the new manual somewhat clumsily modified the definitions of mission command and command and control, and replaced the command and control warfighting function with the mission command warfighting function.

In 2012, less than a year after the release of FM 6-0, the Army updated its operational concept from "full spectrum operations" to "unified land operations." This change necessitated an update of all subordinate doctrinal publications. Army Doctrine Reference Publication (ADRP) 6-0, *Mission Command*, the US Army's keystone reference on the philosophy of mission command, shortened the definition of mission command to "the exercise of authority and direction by the commander using mission orders to enable disciplined initiative within the commander's intent to empower agile and adaptive leaders in the conduct of unified land operations."[3] This change simplified the definition and added clarity to the concept. In the introduction of ADRP 6-0, the authors noted that the command philosophy traced its roots back to German concept of *Auftragstaktik*.

Auftragstaktik

Auftragstaktik is a German military term that roughly translates to mission-type tactics. While the definition has evolved over the centuries, it is a concept that empowers subordinates to make decisions and take advantage of windows of opportunity arising from the inherent confusion of the battlefield, even if those decisions are contrary to the predetermined plan and current orders. This idea of personal initiative started with Fred-

erick William I, king of Prussia. This mid-seventeenth century king fought several campaigns during the Thirty Years War. Prussia during this time was a patchwork of territories, many of which did not share borders. The nobility who ruled the isolated portions of the kingdom for the king considered their independence of action a natural-born right in the age of absolute monarchical rule.[4] This idea of independence of action, or initiative, is a fundamental element of *Auftragstaktik* and traces its roots back to this Prussian political concept.

William Frederick's grandson, Frederick II (Frederick the Great) had grander ideas for his scattered kingdom. He fought a series of wars that eventually unified and expanded his realm. During these wars, Frederick's commanders were guided by the idea of *Auftragstaktik*. One of the most famous examples of this independence of action occurred during the battle of Zorndorf in 1758. At a critical moment in the battle Frederick ordered his cavalry commander, Fredrick von Seydlitz, to charge the enemy's right flank. Seydlitz refused and sent word back to the king that the timing was wrong. Upon hearing Seydlitz's refusal, Frederick sent the courier back with a second order to attack or risk being relieved of command or even being executed. Seydlitz's response is now legendary: "Tell the king that after the battle my head is at his disposal, but meantime I hope he will permit me to exercise it in his service."[5] Seydlitz delayed his attack until the decisive moment, something Frederick could not see from his vantage point, and then committed his cavalry squadrons to secure victory for the Prussians.

After Frederick's death, the Prussian army's flexible command structure ossified. By the time of the Napoleonic wars, the only legacy that remained of Frederick's once-great army was the strict discipline of its soldiers. In 1806, Napoleon destroyed the Prussian army at the twin battles of Jena and Auerstadt, and forced the kingdom into a one-sided alliance. Chafing under French rule, Prussia enacted several domestic reforms. Some of these changes allowed greater freedoms for Prussian subjects and legal curtailments of the monarchy. Other changes were concentrated on the military. Military reformers like Gerhard Scharnhorst, August Gneisenau, and Carl von Clausewitz instituted organizational and training improvements that would eventually help defeat Napoleon. Their educational reforms blossomed over the years and by mid-century the Prussian army dominated Europe.

Two of the most important Prussian military reforms centered on education and training. The Prussians were the first to establish a modern general staff school. This school professionalized the art of war. The army assigned graduates of this school throughout the force and standardized

the process of staff planning and organizational structure. They became an alternate brain for the commander and institutionalized military professionalism. The second significant contribution was the re-introduction of what would become known as the concept of *Auftragstaktik*. In the updated version, the prerogative of independent action and initiative was no longer reserved for just the nobility and senior commanders. The concept of initiative was now instilled into the army at all levels.[6]

The wars of German unification between 1864 and 1871 united the disparate German states under the Prussian monarchy and created modern Germany. These Prussian victories enabled the declaration of the German Empire, with the King of Prussia also being crowned the kaiser, or emperor. These political changes were enabled by the tactical superiority of the Prussian army and the strategic brilliance of Otto von Bismarck. Decades of training and education had built the best army in Europe. During the wars, the chief of staff of the Prussian army was Helmuth von Moltke. He believed that the concept of *Auftragstaktik* was a key component of the army's repeated victories in the wars. To emphasize his belief, Moltke repeatedly told a story about visiting the headquarters of Prince Frederick Charles to observe training:

> A major, receiving a tongue-lashing from the prince for a tactical blunder, offered the excuse that he had been obeying orders, and reminded the prince that a Prussian officer was taught that an order from a superior was tantamount to an order from the King. Frederick Charles promptly responded: "His majesty made you a major because he believed you would know when not to obey his orders." This simple story became guidance for all following generations of German officers.[7]

The idea of *Auftragstaktik* took decades to evolve through deliberate training and education. Not all German commanders were disciples of the notion. One of the reasons Moltke repeatedly told the above story was an attempt to inspire old and new generations of leaders that initiative was a necessity in modern combat.

Warfare has changed dramatically since the mid-nineteenth century, but friction and uncertainty still reign on the battlefield. The US Army's philosophy of mission command is heavily influenced by the Prussian/German idea of *Auftragstaktik* and is an attempt to operate inside the chaos of battle instead of trying to control the chaos. The principles of mission command are the conceptual building blocks of the philosophy and help describe the vision of how the idea is to be implemented.

Principles of Mission Command

Mission command was developed to help Army forces function more effectively in accomplishing its missions. The six principles of mission command are: build cohesive teams, shared understanding, commander's intent, mission orders, acceptance of prudent risk, and disciplined initiative. The blending of these principles helps commanders mitigate the uncertainty of combat by lessening the amount of certainty needed to act. Combat is chaotic. Commanders understand that during this chaos, some situations require rapid decisions at the point of action. The mission command philosophy is predicated on mutual trust, a shared understanding, and comprehension of the purpose of the operation by the commander, subordinates, and staff. It demands that all soldiers be prepared to accept responsibility, preserve the unity of effort, execute prudent action, and perform with alacrity inside the framework of the commander's intent.[8]

ADRP 6-0 emphasizes that cohesive teams are built on mutual trust between commanders, subordinates, and partners. This effort takes time, because trust must be earned by both leaders and followers. Trust is based on shared experiences and daily interactions as opposed to occasional or grandiose gestures. For mission command to work, trust must flow up and down the chain of command. With trust, commanders can delegate greater authority to their subordinates. If subordinates believe they have the trust of their commander, they will be more willing to exercise initiative.

Shared understanding helps focus the organization. The commander, along with the staff, frames the operational environment and identifies the problems the unit must overcome. An important aspect of this process is collaboration between the commander and the staff. This process enables the commander to develop a clear commander's intent.

The commander's intent is a clear and concise statement that explains the broader purpose, key tasks, and end state of an operation. It is written personally by the commander. It should be easily remembered by all members of the unit and usually only three to five sentences long. It is the commander's vision of the operation and enables the staff to develop various courses of action during planning. During execution, it empowers subordinates to act with initiative inside the framework envisioned by the commander.

Mission orders are very similar to the types of written orders the Germans utilized in *Auftragstaktik*. They are short command orders assigning tasks, apportioning resources, and dispensing broad guidance to the commander's subordinates. These orders focus on what the subordinate is ex-

pected to accomplish instead of how to it is to be accomplished. This does not mean commanders do not supervise subordinates. However, it does mean that the commander is responsible for monitoring the situation, providing direction and guidance, and shifting priorities and resources during the battle to accomplish the mission.

Another important role of the commander is to assess the risks of a given course of action. Risk is inherent in all forms of combat. The commander accepts prudent risk by weighing the potential of casualties against the cost of accomplishing the mission. Commanders strive to create opportunities instead of just trying to prevent defeat. By accepting risk in one area, a commander may create an opportunity in another area. This danger is usually mitigated to a degree but can never be fully eliminated. Risk is not to be confused with gambling. Gambling is the act of hazarding the success of the entire operation on a single event.

The last, and most important, principle of mission command is disciplined initiative. Disciplined initiative is the spark animating the other principles of mission command. The other principles have the luxury of having a format taught and understood throughout the US Army. Mission orders and the commander's intent have a specific definition and structure recognized throughout the Army. Risk has an entire manual dedicated to the process. The other two principles—building cohesive teams and creating a shared understanding—take place under the direct supervision of the commander. However, disciplined initiative does not have a format and does not take place under the watchful eye of the commander. By definition, it occurs away from the commander and, in many ways, is the most challenging to train and educate.

Initiative

Research over the last two decades has highlighted the importance of subordinates to exercise personal initiative. Most of this research emerged from the fields of human behavior and business. The principle findings of these studies identified several important aspects about personal initiative. First, initiative can be encouraged by the culture and operations of an organization.[9] Second, initiative can be improved with education, coaching and mentoring.[10] Third, style of leadership has an impact on the quality and quantity of initiative.[11] Fourth, personal initiative can improve organizational performance.[12] Lastly, there is a core set of characteristics that describe personal initiative.

The scholar with the most cogent and informed definition of personal initiative is Michael Frese. Professor Frese is a world-renowned research-

er who has investigated a wide range of areas in the fields of organizational behavior and work psychology. His research has produced a comprehensive definition that explains personal initiative as characterized by five aspects: "(1) is consistent with the organization's mission, (2) has a long-term focus, (3) is goal-directed and action-oriented, (4) is persistent in the face of barriers and setbacks, and (5) is self-starting and proactive."[13] Frese's definition brings accuracy and precision to the theory of personal initiative. This is important because the Army places initiative in a central role in its new philosophy of mission command. However, the Army uses the standard definition of initiative and has not critically examined different aspects of this phenomenon. Since the Army places a premium on initiative, it is critical for its leaders to gain a deeper and more nuanced understanding of the concept and its role in the US Army's philosophy of mission command.

The six principles of mission command nest well with Frese's definition of personal initiative. The first three aspects of his definition (consistency with the organization's mission, long-term focus, and need for goal-directed and action-oriented leaders) all have direct linkages to the mission command principle of commander's intent, which consists of broader purpose, key tasks, and end state. The remaining two aspects of Frese's definition—persistence and proactivity—are individual attributes that leaders can encourage in their subordinates through leadership style and command climate.

A noteworthy example of initiative that highlights the ideas of commander's intent, leadership style, and command climate occurred in the early part of World War II. In May 1940, the German Army invaded France. The XIX Panzer Corps, commanded by Lt. Gen. Heinz Guderian, had the mission to cross the Meuse River near the town of Sedan and establish a bridgehead for follow-on forces. Guderian planned to accomplish this by assaulting with three panzer divisions abreast. The center division, 1st Panzer Division commanded by Maj. Gen. Friedrich Kirchner, was the main effort. The 1st Rifle Regiment, commanded by Lt. Col. Hermann Balck, was one of two units that led the assault in the 1st Panzer Division's sector. Guderian's assault did not start well. The division on the right of the 1st Panzer in its first effort failed to cross the river. Initially, the division on the left only maneuvered one engineer assault team across. The 1st Panzer's assault teams crossed successfully and expanded their bridgehead, eventually enabling the rest of the corps to cross. The infantry and engineer units started crossing at 1600 on 13 May. The Panzer units

did not commence crossing until the next morning. During this period, the German infantry units were vulnerable to French counterattacks.[14]

This critical juncture highlights the importance of the commander's intent, leadership style, and command climate. By the evening of 13 May, Balck's 1st Regiment had seized its initial objective, Hill 301, which dominated the crossing area. Balck, fearing a French counterattack would threaten the entire bridgehead, made a bold decision: he would continue the attack another six miles to seize the town of Chermey. This attack would be conducted without armor, artillery, or anti-tank support from the division. Balck understood the commander's intent of establishing a bridgehead. He also understood the Germans were attempting an operational breakthrough of the French defenses. Balck seized Chermey without a fight. This added depth to the bridgehead and compelled French forces in his area to withdraw for fear of being enveloped.[15] Balck's initiative was rewarded when the next morning his regiment helped delay a French counterattack long enough for German panzers units to arrive and defeat the French.

Balck also operated in a command climate and under a leadership style that enabled initiative. Months of intensive training developed a strong level of trust up and down the corps chain of command. This is reflected in a humorous story. Balck crossed the Meuse in the first wave of assault boats. Guderian was commanding the corps well forward and crossed in the second wave. When Balck saw Guderian, he reminded him that "joy riding in canoes on the Meuse is forbidden"[16] This was in reference to a remark Guderian had made during a map exercise before the operation. This anecdote is a small but important indicator of the trust that had grown among the leaders over months of training and the first few days of the campaign. The operation of the XIX Panzer Corps at Sedan is a good example of how the principles of mission command are critical for success in the chaos of battle. These principles are important at any level of command, but they take on an increased importance in large formations.

The Division Fight

The Army has been focused on operations in Afghanistan and Iraq for more than sixteen years. In that period, the larger global operational environment has changed. China continued to modernize its military and took an increasingly bellicose stance in the Western Pacific. Russia invaded Crimea and Ukraine, and has forces in Syria. North Korea and Iran also increased their military power. Despite these changes, the perceptions and views of warfare of a generation of American military leaders have

been shaped by their experiences in Afghanistan and Iraq. In recognition of this, the new FM 3-0 offers solutions to shift the Army culture from "regularly scheduled deployments of brigade combat teams . . . to conduct counterinsurgency operations (COIN) from static bases against enemies with limited military capabilities" to LSCO.[17] FM 3-0 formally introduces some new ideas such as multi-domain battle and consolidation of gains, but the central focus is on large-scale ground combat at brigade, division, and corps level. This re-introduction of LSCO, combined with the philosophy of mission command, requires Army leaders to reevaluate their views on initiative.

As an organization, the Army has a rather schizophrenic view of initiative. It is much like the idea expressed in the fictional exchange between General Allenby and T. E. Lawrence from the movie *Lawrence of Arabia*:

General Allenby: You acted without orders, you know.

T. E. Lawrence: Shouldn't officers use their initiative at all times?

General Allenby: Not really. It's awfully dangerous.[18]

Theoretically, initiative is a good thing, but in some cases it can be quite dangerous. The Army's doctrine explains that disciplined initiative is a critical principle of mission command. However, it still spends millions of dollars on information technology to track individual vehicles on the battlefield, maintain instant communication with the lowest echelon, and have live video feeds of engagements piped into command posts. These are three small examples of a trend indicating a reliance on technology to bring order to chaos instead of training and educating leaders to operate inside of chaos. They serve to demonstrate that in most organizations, a headquarters' desire for information is insatiable; modern technology allows commanders to suddenly reach down to the smallest units of their command. The new FM 3-0 depicts a different operational environment that stresses current systems of control to the breaking point and may force leaders to rely on the exercise of initiative instead of micromanagement.

This new operational environment contains peer and near-peer adversaries who seek to diminish American advantages such as air superiority, secure communications, modern equipment, and quality training. The chief of staff of the Army, Gen. Mark Milley, described this atmosphere:

With sensors everywhere, the probability of being seen is very high. And as always, if you can be seen, you will be hit. And you will be hit fast, with precision or dumb munitions, but either way you'll be dead. So that means just to survive, our formations,

whatever the wire diagram looks like, will likely have to be small. They will have to move constantly. They will have to aggregate and disaggregate rapidly. They'll have to employ every known technique of cover and concealment.

In a future battlefield, if you stay in one place for longer than two or three hours, you'll be dead. That obviously places demand on human endurance, on equipment, but I can guarantee you the days of Victory Base, the days of Bagram or other static locations for comfort or command and control, will no longer exist on a future battlefield against a high-end threat. That fact requires a significant change in our current methods of thinking, training, and fighting.[19]

In this type of environment, the division will be the building block of Army operations. While the corps has four primary roles, its least likely role is to perform as a tactical headquarters. The brigade combat team is too small to be decisive in large-scale ground combat operations as currently envisioned. The division has the requisite balance of flexibility and combat power to be effective. It is the first echelon that can plan and conduct offense, defense, and stability tasks simultaneously. The authors of FM 3-0 also explain that "the division is the first echelon able to effectively plan and coordinate the employment of all multi-domain capabilities across the operational framework."[20] Lastly, the division's first primary role is to act as a tactical headquarters. Initiative should exist at all levels in the Army, but it is at the tactical level of warfare where initiative has the greatest impact. Thus how the division and more precisely the division commander, enables initiative inside the formation is of paramount importance.

The division commander promotes initiative in various ways across the unit. The six principles of mission command are essential to building and disseminating trust throughout the organization. As described earlier, the hardest of the six principles to implement (and arguably the most critical) is disciplined initiative. The three most important ways the commander enables disciplined initiative are through leadership style, command climate, and commander's intent. These three ideas are inextricably linked and symbiotic. If one improves, the other two will also improve. But if one worsens, the other two will also be impaired.

Certain styles of leadership enhance initiative, which directly influences an organization's command climate. There are various styles of leadership. The Army does not recognize one style as better than the others. Army Doctrine Reference Publication (ADRP) 6-22, *Leadership*, does

reference a process for managing change in which transformational leadership is the catalyst. The first part of this chapter discussed that leadership style directly affects innovation. Research indicates transformational leaders seem to get higher levels of qualitative creativity while transactional leaders gain higher levels of quantitative creativity from members. The same concept can be applied to initiative. Transformational leadership traits best nest with the principles of mission command, especially when inspiring initiative.

The commander also establishes the command climate in the organization. Creating a constructive atmosphere enables initiative to permeate throughout the formation. This type of atmosphere builds increased levels of trust—empowering subordinates to make decisions, take risks, and improve organizational performance. Leadership style and command climate frame the activity of the entire organization and enable initiative. The most important tool for commanders to use in describing their vision is the commander's intent.

The commander's intent is a concise and proven tool that guides subordinate leaders in the exercise of disciplined initiative. It provides direction for synchronizing and integrating the force at the decisive place and time. At the division level, the intent is aimed at the commanders of brigades and separate battalions task-organized to the division. The intent enables these subordinate commanders to understand the division commander's vision of the operation, and to operate with speed and exercise initiative inside that conceptual framework.

An example from Operation Iraqi Freedom helps demonstrate the three ways a division commander can enable disciplined initiative. On 7 April 2003, 2nd Brigade Combat Team (BCT) of the 3rd Infantry Division conducted a "thunder run," or armor raid, into downtown Baghdad. The brigade had executed a similar mission into Saddam Hussein International Airport two days prior. This first operation was a success. The airport raid lasted a few hours, destroyed thirty to forty vehicles, a network of bunkers, and numerous artillery and anti-aircraft pieces; and inflicted several hundred casualties on the enemy. However, in the aftermath, Iraqi propaganda claimed victory because the American forces did not remain on the airport.[21]

The 3rd Infantry Division commander, Maj. Gen. Buford Blount, along with the V Corps commander, Lt. Gen. William Wallace, observed the success of the raid and wanted to conduct a similar mission with a larger force to maintain pressure on the Iraqi forces and prevent them from re-establishing a coherent defense. They agreed to send Col. David Perkins's full

2nd Brigade back into Baghdad on a second "thunder run" on 7 April. The objective of this attack into the city was to seize a key highway intersection and then again withdraw back to the American lines. Wallace ordered the raid "to render the regime 'irrelevant,' causing it to collapse and thus free Iraq from the dictatorship."[22] As Perkins prepared for the mission, he developed a plan that was nested with his higher commander's purpose but exceeded the specified task contained in the division commander's intent.

Perkins's plan was to use two armor task forces to seize the presidential palace complex on the Tigris River. This objective was farther northeast and deeper into the city than the objective assigned to the brigade from the division. Additionally, Perkins used an infantry task force to secure the brigade's line of communication (LOC) by controlling three key intersections along the highway. This plan was predicated on four conditions: if the brigade could fight its way to the objectives, seize the correct terrain, secure the LOC, and effectively resupply the unit. If these conditions were met, then Perkins intended to retain the terrain he had seized rather than return to US lines as his commander had ordered.

The timing of Perkins's decision to turn toward the presidential palace complex and remain there is uncertain. One Army history artfully describes "the reporting is not fully clear on the sequence of events for this decision."[23] Another account of the event based on interviews with Wallace, Blount, and Perkins explains:

> Blount had his operations center pass the word to Perkin's 2nd BCT: attack to the intersections and then pull out. Perkins would not stay in the city. It would be an in-and-out raid, nothing more, nothing less. "Wallace said, 'Don't go to stay. We are not ready to go to the palace yet,'" Blount recalled. "I am sure the division told the brigade to just go to the intersections and seize them. I always thought Perkins understood to stop at the intersections."[24]

The same history later describes "Perkins had given a barebones description of how he planned to conduct the mission inside his battlespace. To minimize the chances that the division would limit his options, Perkins had downplayed just how ambitious an operation he had in mind."[25]

Regardless, Wallace first noticed Perkins's deviation from the plan on his Blue Force Tracker. Shortly thereafter, Blount consulted with Wallace and explained Perkins believed the situation allowed for this line of attack. Later, Blount informed Wallace that Perkins had occupied defensible terrain and wanted to remain in Baghdad. After confirming Perkins had in fact secured his LOC and resupply, Wallace agreed with Blount and Perkins.
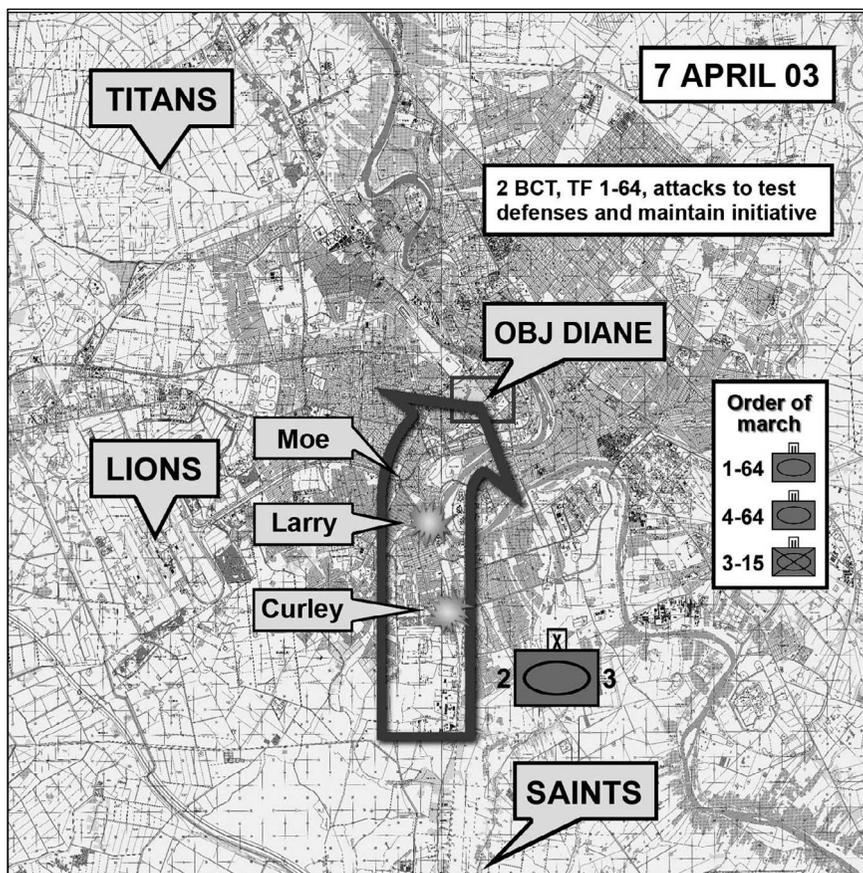
Figure 16.1. The 2nd Brigade Combat Team "Thunder Run" on 7 April 2003. From Gregory Fontenot, E. J. Degen, and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Leavenworth, KS: Combat Studies Institute Press, 2004).

While his superiors were debating his actions, Perkins was in an intense fight. The two armor task forces fought their way to the objective area and then fought off numerous Iraqi counterattacks. The infantry task force was in constant contact at three main intersections on the LOC but was running low on fuel and ammunition. To make matters worse, the brigade tactical operations center (TOC) was destroyed by either a rocket or missile. After a series of heroic actions and combat improvisations, the TOC was reestablished; but its abilities were severely degraded. The brigade's resupply convoy was delayed due to fighting around the LOC. This fight was so intense that the division commander moved a battalion from another brigade and the division cavalry squadron to help secure the route. Once the resupply convoy reached the palace complex, Perkins decided he

had met the criteria to hold his positions. This second "thunder run" had effectively "broke the back of the conventional resistance and arguably of the regime."[26]

This combat narrative highlights several important aspects of initiative in division operations. First, it is obvious that Major General Blount practiced a leadership style that empowered his subordinate commanders to accept risk and exercise initiative in decision-making. Blount also had developed a command climate that enabled trust throughout the organization. This was evident by his monitoring of the 2nd BCT's 7 April attack and deciding to support his subordinate commander even as Perkins deviated from the division's plan. Blount underwrote his subordinate's decisions with his own commander, Lieutenant General Wallace, and reinforced the attack with additional units when Perkins's LOC was threatened. Lastly, the three commanders were working with trust to take prudent risks and exercise initiative all within the commander's intent. While not referring to this particular case, General Milley would later refer to the idea of empowering subordinates to "disobey a specific order, a specified task, in order to accomplish the purpose" as "disciplined disobedience."[27]

The story of Colonel Perkins's 2nd BCT "thunder run" is a story of modern combat and the ideals of mission command, especially initiative. American leaders use this story to emphasize the principles of mission command in much the same way that Moltke used his story about how majors should know when to disobey orders. Both these stories are powerful allegories that help explain the complexities of the mission command philosophy.

Conclusion

This chapter examined the ideas of mission command and large-scale combat operations, specifically division operations. The discussion highlighted mission command principles, its evolution, and how initiative is positioned in that philosophy. The chapter also framed the challenges of division operations. Mission command, as a philosophy, is a bold and necessary statement for the US Army. The current operational environment demands a paradigm shift in the way the Army thinks about war. The doctrine and tools are on hand to implement this paradigm shift. The time to implement this theory is now, *before* the next major war. The only real question remaining is whether the Army has the will to truly embrace all the principles of mission command, especially disciplined initiative, into division operations. Only time will tell.

Notes

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2. Department of the Army, Army Doctrine Reference Publication (ADRP) 3-0, *Operations* (Washington, DC: 2017), 5-2.

3. Department of the Army, Army Doctrine Reference Publication (ADRP) 6-0, *Mission Command* (Washington, DC: 2012), 1-1.

4. Robert M. Citino, *The German Way of War: From the Thirty Years' War to the Third Reich* (Lawrence, KS: University Press of Kansas, 2005), 32.

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6. Trevor N. Depuy, *A Genius for War: The German Army and General Staff, 1807–1945* (Garden City, NY: Military Book Club, 1977), 116.

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9. Michael Frese et al., "Personal Initiative at Work: Differences between East and West Germany," *Academy of Management Journal* 39, no. 1 (February 1996): 55.

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11. Daniel Herrmann and Jorg Felfe, "Effects of Leadership Style, Creativity Technique and Personal Initiative on Employee Creativity," *British Journal of Management* 25, no. 2 (April 2014): 222.

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18. *Lawrence of Arabia*, directed by David Lean (1962; Culver City, CA: Sony Pictures Home Entertainment, 2012), DVD.

19. Mark A. Milley, "Statement to AUSA Members about the Future of the United States Army" (presentation, Association of the US Army Eisenhower Luncheon, 4 October 2016).

20. Lundy and Creed, "The Return of U.S. Army Field Manual 3-0, Operations," 16.

21. David Zucchino, *Thunder Run: The Armored Strike to Capture Baghdad* (New York: Atlantic Monthly Press, 2004), 66.

22. Gregory Fontenot, E. J. Degen, and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Leavenworth, KS: Combat Studies Institute Press, 2004), 348.

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25. Gordon and Trainor, 395.

26. Fontenot, Degen, and Tohn, *On Point,* 372.

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Chapter 17

Interoperability in Large-Scale Combat Operations

Albert C. Stahl

If the premise is true that the United States will never fight alone again, then we must come to grips with the reality and the interoperability challenge for tactical formations from different countries. Joint and multinational interoperability will be a component of any future contingency operation in which the United States participates as a leader or member of the coalition.[1] Chief of Staff of the Army (CSA) Gen. Mark A. Milley commented in a Center for Strategic & International Studies interview that his desire for interoperability is to solve three main challenges with both joint force and multinational/coalition operations: digital call for fires, secure voice communications, and providing a digital common operating picture (COP).[2]

Field Manual (FM) 3-0, *Operations,* the current capstone doctrinal manual of the US Army, does not offer a clear definition of interoperability. Within FM 3-0, interoperability is addressed in terms of "ensuring," "training," and "working" with multinational/unified action partners. In fact, interoperability is only briefly noted:

> An additional consideration is interoperability of forces. Interoperability is often measured by the ability of multinational formations to execute secure communications, process digital fire missions, and share a common operational picture. Army forces train with unified action partners to ensure interoperability. Working with unified action partners is critical to the Army's ability to build credible deterrence in any theater. Planners must consider procedural systems that facilitate interoperability when technical capabilities are not compatible.[3]

The US Army Mission Command Center of Excellence (MCCoE) at Fort Leavenworth, Kansas, is the Army's lead proponent for defining interoperability. This includes addressing the CSA's big three multi-faceted dilemmas to ensure we can "fight tonight" both as a joint force and with our multinational partners. MCCoE was tasked to work on this topic through the US Army Capabilities Integration Center (ARCIC). In 2015, ARCIC was directed by Lt. Gen. H. R. McMaster who identified eighteen enduring Army warfighting challenges (AWFC). These challenges are defined as enduring first-order problems, the solutions to which will improve the combat effectiveness of the current and future force.[4] In short, ARCIC is synchronizing the efforts of the entire Army to emphasize the eighteen

challenges to ensure success in the event the United States and its partners fight tonight or in the near or distant future. MCCoE was tasked with the lead for AWFC 14: *Ensure interoperability and operate in a joint, inter-organizational, and multinational environment*. What the MCCoE was essentially tasked to ascertain was how to conduct cross-domain maneuver across multiple domains to defeat enemy organizations and accomplish missions in complex operational environments.[5]

The purpose of this chapter is to describe interoperability in current doctrinal terms and illuminate interoperability friction points, then briefly discuss the levels of interoperability. The reader will gain an understanding of how the Army, as part of the Joint Force, approaches interoperability. While Army doctrinal publications have not specifically defined interoperability, it is defined in Army Regulation (AR) 34-1 published in July 2015.[6] This AR addresses multinational force interoperability (MFI) and dictates interoperability policy:

> The policy of the Army is to develop MFI to enhance the Army's capability to support US national defense and military strategic goals, which includes operating effectively with some, although not necessarily all allies, coalition partners, and other armies across the full range of military operations. MFI will be one factor considered and supported as part of Army planning, programming, budgeting, and execution (PPBE); force design; force structure; doctrine; training; weapon systems and materiel requirements; research, development, and acquisition; information and data processes for analysis and assessments; materiel management; and logistics support processes. Additionally, changes in the security environment have created opportunities for the U.S. to strengthen its alliances as some foreign partners build capability. However, some of these opportunities to increase interoperability may be offset as some allies and foreign partners divest themselves of military capacities or capabilities. To support Army MFI policy, Army organizations must have the structure and capability to define proposed requirements for and participate in required MFI activities. See Department of the Army Pamphlet (DA Pam) 11–31 for a methodology to achieve interoperability.[7]

AR 34-1 further defines interoperability as "the ability of the forces of two or more nations to train, exercise, and operate effectively together in the execution of assigned missions and tasks and the ability to act together coherently, effectively, and efficiently to achieve Allied tactical, operational, and strategic objectives."[8] However, this has now been superseded by

an agreement between Headquarters, Department of the Army (HQDA), and MCCoE and is now defined as:

> [T]he ability to routinely act together coherently, effectively, and efficiently to achieve tactical, operational, and strategic objectives. Interoperability between disparate forces allows coalitions to produce greater combat power than the sum of their parts by leveraging relative strengths while mitigating relative weaknesses.[9]

This new and agreed-upon Army definition nests with Department of Defense and Joint Forces definitions of interoperability, which are identical. Both define interoperability as "the ability to act together coherently, effectively, and efficiently to achieve tactical, operational, and strategic objectives."[10]

As the lead proponent for AWFC 14, MCCoE coordinated and wrote HQDA EXORD 293-17 to create common terms for use in the field. This EXORD clearly defines the levels of interoperability as benchmarks that can be acknowledged between Army, Joint, and coalition forces. These levels are:

• *Level 0-not interoperable.* Partner is not interoperable with the Army, C2 interface with the Army is only at the next higher level, and formations must operate independently from US Army formations and operations.

• *Level 1-deconflicted.* US Army can coexist with key allies and partners but forces cannot interact together. This level requires alignment of capabilities and procedures to establish operational norms, enabling multinational partners to complement US Army operations.

• *Level 2-compatible*. US Army is able to interact with key allies and partners in the same geographic area in pursuit of a common goal. Multinational partners have similar or complementary processes and procedures and are able to operate.

• *Level 3-integrated*. US Army is able to integrate with key allies and partners upon arrival in theater. Interoperability is network-enabled to provide full interoperability. Multinational partners are able to routinely establish networks and operate effectively alongside, or as part of, US Army formations.[11]

An important skill for US Army commanders and staffs is the ability to understand the "aspirations" of multi-national units when working inside a coalition and their capabilities. Observations by multiple lessons learned collection teams during two large-scale US Army Europe (USAREUR) training exercises—Anakonda 16 and Saber Guardian 17—provided in-

sightful feedback on planning and conducting coalition/multinational operations. The Chief of Operations Group at the Joint Multinational Readiness Center (JMRC), after observing many interoperability activities, had the following to say:

> We must differentiate between multinational partners who "have capability," those who "want capability," others who are "willing to accept some basic capability," and finally those multi-national partners "unwilling to change their capability." This should not be a discriminatory or punitive list, as operations will have to be held with MN [multinational] partners who have a wide range of interoperability levels. However, US forces need to be careful about the time and effort expended trying to build a picture with those MN partners who are unable or unwilling to put forth the necessary effort to help all parties maintain situational awareness.[12]

US national strategy is definitive in stating that US armed forces will seldom, if ever, fight alone. Consequently, joint service and multinational force interoperability must become a fundamental consideration in how the Army prepares to "fight tonight and fight tomorrow."[13]
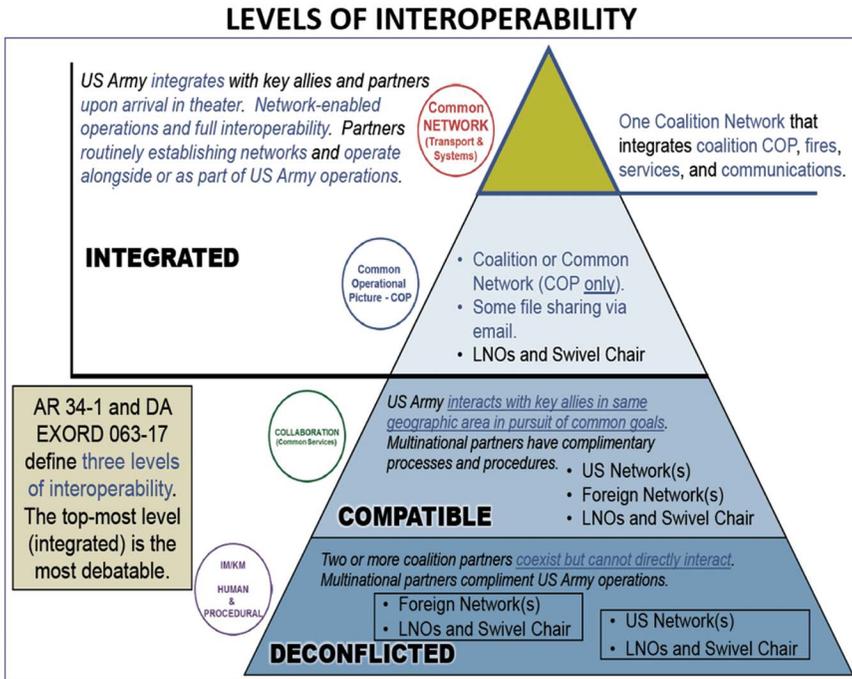

Figure 17.1. Levels of Interoperability. From Patrick Davis, "Army Warfighting Challenge 14" (information paper, Fort Leavenworth, KS, January 2018).

As stated earlier, MCCoE is the lead agency charged with promoting the idea that interoperability is not an afterthought. Joint and Army planners must have the established doctrine and/or tactics, techniques, and procedures (TTPs) to both understand the nuances of joint and multinational interoperability, and subsequently use Joint or Army planning processes to identify interoperability friction points in order to write orders that mitigate these friction points and enhance interoperability. The Army Vision further describes interoperability as one of eight key characteristics of the Army of 2025:

> As the foundation upon which other US, allied, and multinational capabilities will operate, the Army of 2025 must be interoperable by easily supporting and enabling joint, whole-of-government, and multinational land-based operations. We must develop and advance a base technological architecture into which other military services, US government agencies, and allies and partners can easily "plug and play."[14]

The Army continues to focus on improving, enhancing, and inculcating interoperability throughout its formations. Much work is being done by Fort Leavenworth's Center for Army Lessons Learned (CALL), which expends significant resources in observing and capturing interoperability issues and best practices. CALL produces and publishes these lessons learned onto its website, which provides commanders and staffs with numerous handbooks and leader guides in digital format for use in "step 1, receipt of mission" in the military decision-making process. Additionally, CALL developed the 2005 *American, British, Canadian, and Australian Armies (ABCA) Coalition Operations Handbook* and 2017 *American, British, Canadian, and Australian, and New Zealand Armies (ABCANZA) Coalition Operations Handbook*. These coalition operations handbooks (COH) provide coalition commanders and staffs with general information on important topics necessary for conducting coalition operations. Designed primarily for US, United Kingdom, Canada, Australia, and New Zealand army audiences, they primarily provide questions that coalition partners need to ask to improve the effectiveness and efficiency of the coalition to accomplish its assigned missions. They also offer a handy reference of fundamental issues and interfaces that planners must address to promote a successful coalition operation.[15]

The MCCoE determined that the best way to categorize interoperability friction points and solutions is through three broad categories: human, technical, and procedural. This categorization allows members of numerous organizations within our Army such as the Joint Multinational Readi-

ness Center (JMRC), Mission Command Training Program (MCTP), National Training Center (NTC), Joint Readiness Training Center (JRTC), and Army Warfighting Assessment (AWA) to classify observations and provide recommendations as the Army codifies its approach to education and training to enhance interoperability. For example during the operations process, commanders use the three broad categories to better understand, visualize, and describe solutions to interoperability friction points. The doctrinal definitions of the three friction points can be found in Field Manual (FM) 6-0, *Commander and Staff Organization and Operations*:

• *Human.* "Identify the problem and provide tools to solve the problem, understanding the people in your organization and where they can provide the largest benefit to mission accomplishment."[16] Leaders/commanders of multinational formations must spend time to build relationships and trust, as well as develop common understanding through the depth of the formation. Building trust does not immediately occur when a new coalition unit arrives for the operation. It happens when new teammates are professionally received and integrated by fostering dialogue about unit capabilities and limitations, and leading more graduate-level discussions on "how we fight." This is critical to forming the team in a multinational environment.

• *Procedural.* "Procedural control is a technique for actively regulating forces where actions are governed by written and oral instructions which do not require authorization to execute."[17] This often-overlooked portion of interoperability describes procedures, policies, and doctrine, or oftentimes the lack thereof. In order to build an effective tactical organization, common doctrine and procedures enable common vision and systems for dealing with routine operations and actions.

• *Technical.* This aspect addresses the equipment you use and how you make it operate with other equipment. Coalition countries bring varying degrees of compatible radios, friendly force tracking devices, or command information systems to the battlefield. Commanders and planning staffs need to ask: how do I communicate with my subordinate commanders? How do my subordinate units request enablers like air weapons teams, or call for indirect fire when they are requesting an asset from another country in the formation and do not have compatible communications systems?[18] Commanders must take a very deliberate approach to answering such questions during the planning process.

Examination of a contemporary historical example will highlight common interoperability friction points and provide a vehicle for discussion. In November 2004, Operation Al Fajr was a Coalition offensive

operation into the Iraqi city of Fallujah, led by the 1st Marine Division then commanded by Maj. Gen. Richard F. Natonski. This battle has been studied in great detail and is considered a successful Joint and Coalition operation conducting large-scale combat operations in a dense urban area. Additional discussion will address how commanders and staffs overcame interoperability issues to enhance mission accomplishment.

Operation Al Fajr (Fallujah II)

Operation Al Fajr was Joint and Coalition warfare at its finest.
—Lt. Gen. John F. Sattler, 1st Marine Expeditionary
Force and commander, Multi-National Force-West

In 2008, a US Army history of Operation Iraqi Freedom described the joint and multinational character of Operation Al Fajr:

Natonski's joint Marine and Army TF would attack with additional units, taking on a true joint and combined character. The assault force would include six Iraqi Army battalions that were to follow the Marine and US Army units into the city. Further, the British Black Watch Battle Group assisted with the isolation of the Fallujah area. The RCTs [regimental combat teams] would gain joint assistance in the form of US Navy Seal teams and Air Force Enlisted Terminal Attack Controllers (ETACs) who would coordinate the use of US Air Force (USAF) aircraft for close air support. Moreover, Natonski's force took the idea of jointness one step further by integrating the Army and Marine units at company level and below. In one case, 2-2nd IN received a Marine Light Armored Vehicle (LAV) company for operations. In another, Army commanders detached tank and BFV [Bradley Fighting Vehicle] sections to Marine reconnaissance companies. All told, the Coalition forces involved in Al Fajr numbered close to 12,000, of whom approximately 10,000 would enter the city at some point in the operation.[19]

Planning for the second attack into Fallujah began in mid-summer 2004 after a failed first attempt in April 2004. This new operation was originally called Operation Phantom Fury by the United States, but was renamed Operation Al Fajr (New Dawn) by the interim Iraqi Prime Minister, Ayad Allawi.[20] The attack was planned by an operational plans team (OPT) of the 1st Marine Division (1st MARDIV). The 1st MARDIV not only had to write the order for the deliberate offensive operation into Fallujah, but also had to address security concerns throughout the entirety of its area of operations. This included the areas of Ramadi and Northern

Babil (Figure 17.2 shows the task organization of the division). Even to a casual observer, it was readily apparent that the 1st MARDIV had numerous interoperability issues to solve before crossing the line of departure into Fallujah on 8 November 2004. There were four countries represented in the division: United Kingdom, Azerbaijan, Iraq, and the United States. Accompanying the two Marine regimental combat teams (RCTs 1 and 7) that were tasked with the actual attack into Fallujah were US Army, Navy, Air Force and Iraqi Army units which consisted of Special Forces, Commando, and National Guard.

The following analysis of Al Fajr examines the operation through the lens of the levels of interoperability and the three interoperability friction points (human, procedural, and technical). The 1st MARDIV commander, Major General Natonski, and his two RCT commanders (Col. Michael Shupp, RCT-1 commander, and Col. Craig Tucker, RCT-7 commander) led the efforts in reducing friction within the human and procedural realms.

Figure 17.2. 1st Marine Division Task Organization. From Donald P. Wright and Col. Timothy R. Reese, *On Point II: Transition to the New Campaign* (Fort Leavenworth, KS: Combat Studies Institute Press, 2008).

The Human Dimension

During a January 2018 interview by the author, then-Lieutenant General (Retired) Natonski indicated that before the battle he deliberately met with

every unit commander as they joined 1st MARDIV, including Iraqi battalion commanders (see Figure 17.3). Ironically, Natonski had fought against at least two of the Iraqi battalion commanders who were now attached to him earlier during the initial offensive phase of Operation Iraqi Freedom in March 2003.[21] The seamless nature of how Marine commanders accepted and integrated their joint and coalition partners was not lost on *CNN* reporter Jane Arraf, an embedded reporter with the US Army's Task Force 2nd Battalion, 2nd Infantry Regiment (TF 2-2), which was assigned to RCT-7 for the operation. A seasoned reporter, Arraf wrote about the successful integration of RCT-7 and its subordinate units and attributed that success to the leadership, especially that of the RCT-7 commander. She noticed how Colonel Tucker and his subordinate commanders seemed "incredibly smart so they got along and were on the same page. There is a huge cultural gap difference between the Marines and the Army, but I think what bridged it, in this instance, in Fallujah, was the skill of all the commanders."[22]

Lt. Col. Pete Newell, TF 2-2 commander, was equally impressed by the human dimension of the 1st MARDIV and RCT-7 leadership and the professionalism of the 1st MARDIV plans staff. He stated, "I give RCT-7 and 1 MARDIV commanders an A+ in leadership, which is where integration starts."[23] In regard to the human dimension of interoperability, much can be learned from how the Marine Corps leadership built their joint and coalition team for Operation Al Fajr. Even more remarkable is the fact that gaining forces participating in the operation did not arrive in the1st MARDIV area of operations until mere days before the battle.

The six Iraqi battalions attached to 1st MARDIV prior to the battle also received excellent interoperability support in the human and procedural dimensions. Once 1st MARDIV realized how many Iraqi units they would be receiving, they initially focused on providing life support for the Iraqi units. Upon the unit's arrival at Camp Fallujah, Major General Natonski ordered his Marines to conduct crucial training with the Iraqis. This training included law of armed conflict, rules of engagement (ROE), marksmanship, room-clearing procedures, and first aid training. After this centralized training occurred, the Iraqi units were attached to their US formations. This is another positive example of reducing both human and procedural interoperability friction points identified in advance by the Marine Corps senior leadership.

Procedural

In the planning process, many of the Marine Corps and Army field grade officers quickly realized simple procedural differences between

Army and Marine Corps units would need to be resolved. In early October 2004, Maj. John Reynolds, the operations officer for TF 2-2 IN, assessed the need to ensure the ROE for both Army and the Marine units was identical and asked to see the Marine ROE. Reynolds recalled, "I understood that we would fight as a joint force, and I wanted to ensure we swapped SOPs (standard operating procedures) and reporting procedures."[24]

Figure 17.3. Maj. Gen. Richard F. Natonski briefs Task Force 2-2 (US Army) company commanders prior to battle. From Matt M. Matthews, *Operation AL FAJR, A Study in Army and Marine Corps Joint Operations* (Fort Leavenworth, KS: Combat Studies Institute Press, 2006).

An overlooked procedural friction point occurred just as 1st MARDIV was crossing the line of departure (LD) on D + 1 (one day after the designated day of the event). This was a communication security (COMSEC) change just as the Joint and Coalition force started their deliberate breach from the north into Fallujah. The Marines were insistent that the COMSEC change occur, but many of the Army field grade officers had learned some valuable interoperability issues at the US Army "dirt" combat training centers (CTC). The following quotes from the field grade officers inside Task Force 2-2 are noteworthy. Major Reynolds, who was moving with his task force, noted:

> 1 MARDIV was adhering strictly to its SOP, ordered a communications security (COMSEC) change, myself and the rest of the staff worked through RCT-7 to get the COMSEC change postponed until after the battle. A key lesson I learned while being

an OC (observer controller) at [JRTC] was that one should never change COMSEC hours prior to or during the attack, unfortunately I learned it again this time in combat.[25]

The TF 2-2 acting executive officer located inside the tactical operations center (TOC) also had issue with coordinating with the Marines for the "fill," the colloquial term for the COMSEC update:

The first fill we got from the USMC [US Marine Corps] was a bad fill and caused some serious heartburn. The signal guys at 1 MARDIV were very resolute on not adjusting their pattern of COMSEC change during the battle. This meant we did a COMSEC change on the night of the 8th of November. Luckily LTC Newell got permission not to switch our BN [battalion] internal net to this fill. At the TOC we changed fills on the regimental net and then went with the new fill I think mid-day on the 9th. This fill on the 8th had problems and caused a lot of problems USMC wide (if I remember correctly) by the 9th there was a correction of the fill that we sent out. I know we switched about three or four days later and again there were problems with the fill that went out USMC wide.[26]

These types of problems proved very time-consuming to correct and had significant "ripple" effects. When recalling the friction caused by the COMSEC fill change, Capt. James Cobb, the TF 2-2 fire support officer (FSO), described it as "the craziest and most idiotic thing I have ever heard of."[27] The task force commander, Lt. Col. Pete Newell, echoed his FSO's comments but used words of a more tactful manner, emphasizing, "Even though we all use the same systems, changing fills is not an easy task and with an entire task force takes time to do. Changing in the middle of a fight (which the Marines did once) is just a bad idea."[28]

Even at the company level and below, what should have been a simple procedural COMSEC change caused severe anxiety. Staff Sgt. David Bellavia, a squad leader in Alpha Company, TF 2-2, provided insight as he listened to his platoon and company radio nets. He remarked hearing his company commander, Capt. Sean Sims (later killed during the battle) "lose his mind on the command net, and then I hear our whole platoon net lose its mind as we realize we are now on someone else's net."[29] He finally figured out the source of the anger was 1st MARDIV's decision to conduct a COMSEC changeover just as his unit was attempting to establish a foothold into northern Fallujah in order to support a "PhD level" combined arms operation called a deliberate breach.[30]

Technical

The final interoperability friction point—technical—is also the greatest concern for Army Chief of Staff Gen. Mark Milley. General Milley has been emphatic about the Army's need to improve upon both joint and coalition interoperability. He has specifically focused on digital call for fires, secure voice, and providing a digital common operating picture (COP). During Operation Al Fajr, communication between the Coalition forces was the single greatest interoperability issue and thus a "technology" friction point. The two Army battalion task forces that participated in the battle (TF 2-2 and TF 2-7) had this to say in their after action reviews (AARs):

> Communication problems presented perhaps the most significant of all the difficulties between the Army and Marines in the battle of Fallujah. Although TF 2-7 and TF 2-2 had minimal problems communicating on the battlefield inside their units, both noted challenges of communicating with the joint services. The Army used FM, Force XXI Battle Command, Brigade and Below (FBCB2), and Blue Force Tracker (BFT), whereas the Marines used tactical satellite radio (TACSAT), mIRC Internet Relay Chat (MIRC CHAT), and command and control for the PC (C2PC).[31]

The casual observer could easily foresee the technical interoperability issues that could occur between Marine and Army forces in the lethal, complex, urban operations between Marine and Army forces. Even today, just getting these competing systems to interface causes friction and many times units are not fielded with the same systems or generation of upgrades or versions. This is a hard fact Coalition and Joint force commanders and staffs need to address during their planning processes. Simply stated, when we create the Joint or Coalition force for the next Fallujah, it is likely that units will arrive at the fight "as they are" with different communications platforms, thus negatively impacting the aggregate unit ability to conduct digital call for fire, secure voice, and a digital COP.

The 2004 attack into Fallujah is replete with technical issues that can be used as learning points. TF 2-2, realizing early in the planning process the need for liaison officers (LNOs) inside the higher headquarters, placed two young officers with the RCT-7 tactical operations center (TOC). These LNOs knew most of the information they would receive required secure

computer lines, and immediately noticed a compatibility issue between Army and Marine Corps communication systems:

> We had four secure internet protocol router (SIPR) computers between members of the LNO team, and all of us had our own, but RCT-7 was operating pretty austerely. They weren't at their home base camp; they just had their organic commo equipment so they were very limited in the number of drops (secure Internet lines) they could give us. It wasn't like we could just take our computer, unplug it from our SIPR drop, plug it into the Marine Corps SIPR drop and have it work.[32]

A Marine Corps signal officer soon assisted the LNO team, but quickly other technical interoperability issues arose. Just making a phone call from the new RCT-7 TOC back to their battalion task force and other Army higher echelon units was problematic. The famous Prussian general and theorist Carl von Clausewitz wrote in his seminal work *On War*, "Everything in war is simple, but the simplest thing becomes difficult. The difficulties accumulate and end by producing a kind of friction that is inconceivable unless one has experienced war."[33] The LNO team technical friction points compounded, making what should have been routine very difficult in an austere and time-constrained environment:

> We also had problems with telephones. Initially we couldn't dial an Army number from the Marine Corps phone at all. It took a couple of days but eventually the RCT-7 signal guys were able to figure out how to let us call back to FOB [Forward Operating Base] Normandy, but they could only give us one line that they could configure that way. They had to use all the others to talk to their chain of command. So the number we got, we established as the 2-2 TOC. But to call anybody else we had to go back through Germany, to a switchboard in Germany, to have them patch us into the Army network, which limited our ability but at least we were able to still communicate.[34]

Additionally, the Army unit TOC and the Marine RCT TOC digital command and control systems were incompatible. As mentioned earlier, during 2004 Army units primarily used FBCB2 and Blue Force Tracker (BFT) to communicate, update, and maintain their common operating picture (COP). These Army program of record systems did not interface with the Marine Corps command and control (C2) nodes at RCT and 1st MARDIV levels, causing issues and numerous work-arounds the Army

task forces had to implement. What may not be apparent to the reader is the limited amount of time that 1st MARDIV had to integrate units, issue orders, rehearse, move to the line of departure (LD) and begin the attack, so many of these technical issues were not identified until after the battle began. Still, the agile thinking of marines and soldiers reduced much of the friction. The comments of the TF 2-2 executive officer are informative:

> The other major factor that they [RCT-7] used a Microsoft chat to do a lot of their instant messaging, even between the battalions, the regiment, and the division. In some aspects, it was really great, particularly for intel. We could get a lot of information fast; disseminate it, print, and save it; and a lot of spot reports, we could keep from different sectors, whether it was 1/3 or 1/8 Marines. So we could inform our guys of what was going on. The problem was that the Marines have some kind of wireless capability that they could put in their TAC out north of Fallujah and still talk off the Internet laptop. We just didn't have that capability. We had set up a satellite system that would tie in that way. It was mounted out of two Humvees, basically. We could mount it on a roof if we were in an abandoned building, and that is where we stayed (the TOC) for the whole time. The TAC could move back and forth but again, with the majority of regimental communications not on FM traffic—it was on instant messenger stuff—the regimental traffic was very quiet. So that was something difficult to keep up with. We did update a lot on FM, but a lot different than the Marines did. So we would take it (information) off Blue Force Tracker and we would update it at the TOC and send it forward to regiment. Or, every now and then they would call or the regimental commander would come into sector and talk face to face with Lieutenant Colonel Newell.[35]

Despite the Army and Marine Corps battle command systems being incompatible and communication systems not fully understood or properly utilized, 1st MARDIV did not experience a single fratricide during this operation.[36] This technology issue is still not solved in today's Joint force and remains a major friction point for Joint and Coalition forces. However, what can be learned from the study of this battle in regard to the technological friction points are key. The 1st MARDIV, and RCT-1 and 7 commanders fought forward with their units. They achieved a shared situational understanding with their subordinate commanders and made timely decisions, thus mitigating many of the technological issues. This worked ideally for the small area of operations inside Fallujah, but would

have been problematic had the area of operations been larger or distributed. An example of how Marine Corps leaders conducted battlefield circulation and decision-making was described by Lieutenant Colonel Newell, the TF 2-2 commander:

> The RCT-7 commander, COL Tucker, would show up and we'd pull out the plexi-glassed over imagery with the block map over it. That's how we kinda adjusted phase lines and CFLs (coordinated fire lines) was by saying, "Hey I'm going to push into this block and this block and this block. I need to move the division CFL a little further over here. . . ." We did this from my TAC, from the front of a Humvee. That really became the TTP [tactics, techniques, and procedures] for every plan we put together. We'd essentially—with him standing there—sketch out a course of action of what we intended on doing. Then he and his S-3 would go back to the regimental TOC and then sketch out the regimental plan that supported that.[37]

Commanders at all levels did this type of daily interface to reduce friction that was being caused by the poor technological interface between Marine and Army systems. The technological problems described above were mostly overcome by the skills of the senior commanders on the ground, who positioned themselves very far forward in the fight. This type of quality leadership may not always be the case in Joint or Coalition operations. Operation Al Fajr also allows military professionals to assess the levels of interoperability that existed in the 1st MARDIV and their Coalition forces (discussed earlier).

By using the interoperability levels and definitions described early in this chapter, it could be assessed that the Army forces task-organized to the 1st MARDIV were at level 2-compatible. This may well be the best level that Army and Marine forces could have operated at in 2004 as a Joint force. In 2018, level 3-integrated is still problematic. These challenges show the importance of MCCoE's diligent work to find ways to achieve the goals of AWFC 14: ensure interoperability and operate in a joint, interorganizational, and multinational environment.

Clearly, interoperability is not easy to achieve. Still, the three interoperability dimensions—human, procedural, and technical—can and must be addressed in planning for Joint and Coalition operations. It is important to recognize that interoperability is a multi-layered challenge that must be addressed comprehensively in order to enable effective problem identification before execution and thus enable the Army to lead these type

of operations. Analysis by WfF—oriented on interoperability issues and synchronized across all WfFs—will enable the Army to make focused, risk-informed plans for now while also looking long term to enhance interoperability capability that will effectively complement future force development and enable the Army's ability to fight and win in the future. The challenge lies in recognizing that achieving an interoperability level is oftentimes dependent upon the aspirational desires of the partner, the technical capabilities/wherewithal they possess to become linked digitally with our mission command systems, and policy restrictions imposed by the United States and/or our partners.

In closing, a young company commander who participated in Operation Al Fajr in 2004 saw the future and where the Army needs to focus. Capt. Pete Glass, commander of Charlie Company, 3rd Battalion, 8th Armor Regiment (attached to TF 2-7 during Al Fajr), said this after the battle:

> There were a couple times when it got hairy and there were couple of close calls with blue on blue, or fratricide; just because the common operating picture between the Army and Marines is not there. I think if Joint/Coalition forces are going to continue to do operations like this, we need to have a broad spectrum where everybody shares the same stuff, has the same picture, and has the same FBCB2, Blue Force Tracker, so we can continue to do operations and functions like this.[38]

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Chapter 18

Large-Scale Combat Operations in Urban Terrain

Michael T. Chychota

The fighting in the Italian town of Ortona in 1943 was deadly and at extremely close range. Operations in a village, town, or city during World War II was like fighting in a concrete jungle. One historian characterized urban combat in Italy in the following way:

> Both sides tried to avoid the fighting, especially in the narrow, twisting streets of ancient Italian towns. There was no way for commanders to control events in such fighting. Troops became scattered through the buildings. Small clusters of men ended up fighting battles in isolation from everyone else. Supporting arms could not be brought to bear effectively. The tanks could hardly move along the streets and were too vulnerable to anti-tank weapons. Artillery could not be directed against enemy targets. Most of the time the enemy was so close that artillery was as likely to hit its own men as the enemy. Such friendly fire was always a danger on the battlefield. But it became almost inevitable when soldiers fought inside a town.[1]

Not since 1945 has a US Army division conducted large-scale combat operations (LSCO) in a concrete jungle. Combat in an urban area, however, has not changed significantly since the end of that conflict. In the twenty-first century, no matter where a US Army division goes, the division's soldiers are likely to fight in just such an environment.

The Role of the Division

The division conducting LSCO in an urban environment performs the same functions as in any other terrain. However, the functions differ a bit, dependent upon three variables. The three variables are the dimensions of the urban terrain, the density of the urban terrain, and the higher order of effects of that terrain.

The US Army has wrestled with how to fight in built-up areas since the end of World War II. This chapter describes how the division echelon conducts large-scale combat operations in an urban environment and is based upon more than two decades of studying, teaching, and writing doctrine centered on urban operations. During that period, doctrinal terms and acronyms have changed numerous times, including military operations in built-up areas (MOBA), fighting in built-up areas (FIBUA), fighting in fortified

areas (FIFA), military operations on urbanized terrain (MOUT), and others. While the names may have changed, the concepts have not; the challenges and tasks remain the same and are particularly difficult to implement. These insights primarily pertain to the division acting as a tactical headquarters during LSCO in the uniquely challenging urban environment. To date, there is no definitive doctrine specifying how a division performs LSCO in an urban environment. Moreover, the typical field-grade officer in the US Army does not understand the uniquely difficult environment of urban areas and, therefore, does not grasp the exceptional difficulties of fighting a peer competitor in urban areas, especially when the peer competitor may well enjoy periods of air and/or armor supremacy, or at least superiority. Hence, this chapter begins by revisiting the 2014 version of Army Training Publication (ATP) 3-91, *Division Operations*, which states that in unified land operations (ULO) at any given moment, the division echelon performs in one of four roles: tactical headquarters, land component command headquarters, limited contingency task force headquarters, or army force headquarters.[2]

The primary role of the division headquarters is as a tactical headquarters. The division commander shapes operations for the subordinate brigades, resources the brigades for the associated missions, and coordinates, synchronizes and sequences the operations in time and space. The division headquarters helps the commander employ land forces as part of a joint and multinational force during the conduct of decisive action—the continuous, simultaneous combinations of offensive, defensive, and stability or defense support of civil authorities tasks.[3]

The division headquarters' second role is to serve as the platform around which a joint and/or multinational land component headquarters can be formed. This headquarters functions under a joint task force in crisis response and limited contingency operations. When serving as a joint or multinational land force headquarters, the commander is concerned primarily with the conduct of joint land operational tasks instead of Army tactical tasks.[4]

The division headquarters' third role involves serving as a joint task force headquarters in a limited contingency operation. This transformation requires extensive joint augmentation. When serving as a joint task force headquarters, the division headquarters organizes and operates according to joint doctrine.[5]

The final role of a division headquarters is to function as an army force headquarters for a small contingency. A division headquarters possibly may need to simultaneously serve in all four of these roles in a lim-

ited operation. Due to the potential to overburden the division staff, this circumstance should be avoided when possible.[6] Interestingly, regardless of the role the division plays, the division commander shapes operations for subordinate brigades, resources the brigades for the appropriate missions, and coordinates, synchronizes, and sequences the operations in time and space. How the division headquarters shapes, resources, coordinates, synchronizes, and sequences the operations in an urban environment is the main focus of this chapter.

The Framework for Urban Operations

Prior to 1941, the US Army did not have a framework for implementing urban operations. US Army doctrine did not even address combat in urban areas completely or as a unique experience. In fact, a soldier could find only a page or two devoted to the characteristics of "combat in towns." As World War II progressed, the US Army published Field Manual (FM) 31-50, *Attack on a Fortified Position and Combat in Towns*, in 1944. In 1979, the US Army published Field Manual (FM) 90-10 *Military Operations on Urbanized Terrain*; as in 1944, the watchwords were "bypass urbanized terrain—do not enter the urban environment." The concept was to isolate the town and not fight a costly and time-consuming battle where the US Army could not use its technological advantages over the enemy. In May 1993, the Army published Field Manual (FM) 90-10-1, *An Infantryman's Guide to Combat in Built-Up Areas,* outlining the importance of analyzing the urban area with the established guidelines of the intelligence preparation of the battlefield (IPB) and the mission, enemy, terrain, troops available, time, and civilian considerations (METT-TC) construct. In 2000, the US Army began working closely with the US Marine Corps and developed a new and improved urban operation doctrine. Originally, this doctrine centered on the acronym known as ASDT (assess, shape, dominate, and transition). The process was logical and served both the Army and the Marines well. The concept embodied the guiding principles of Marine Corps Gen. Charles Krulak's "Three Block War." In 2002, the doctrine was published in Field Manual (FM) 3-06.11, *Combined Arms Operations in Urban Terrain*. The manual replaced FM 90-10-1, retaining the good practices of the old manual and adding the urban operation framework. The Army and the Marine Corps were pleased with the effort. The cynic probably would say that if American soldiers and marines both knew, understood, and liked the concept, the concept needed to change.

Interestingly, change indeed came. Doctrinal "wordsmiths" felt *understand* was a far better and descriptive word than *assess* for the first step of the process. The same doctrine writers sensed that *dominate* was too

combative and was better served being replaced by *engage and consolidate*. Thus, the urban operations framework USECT (understand, shape, engage, consolidate, and transition) was born. The new USECT doctrine was first published in 2011 in Chapter 1 of Army Tactics, Techniques, and Procedures (ATTP) 3-06.11, *Combined Arms Operations in Urban Terrain*. As a result, US Army doctrine indicated that the commander and staff of every US unit involved in urban operations would develop the situation and implement the selected course of action in roughly the same manner regardless of the echelon of the unit. Indeed, the USECT urban operations framework is an effective method for use in any environment, but especially in the urban environment. The US Army even convinced NATO that the USECT framework was the way of the future. NATO Report Urban 2020 recommended the adoption of the USECT framework in 2002, ironically long before the Army officially adopted the USECT framework.

The US Army's constant desire to develop, augment, or otherwise improve concepts, equipment, or procedures can sometimes be its own worst enemy. For example in 2006, after the US Army convinced the US Department of Defense that the USECT framework was the best framework with which a tactical commander could implement operations in urban environments, the Army published Field Manual (FM) 3-06, *Urban Operations*, pushing the framework into the background. This manual was superseded in 2017 when the US Army published Army Techniques Publication (ATP) 3-06, *Urban Operations*, reflecting the urban operation framework of USECT only in passing as some concepts perhaps to be considered. The US Army led the effort to adopt the USECT framework and put everyone on the USECT "bandwagon," only to then move away from the concept. That said, the concepts of the USECT urban operations framework still apply today. For ease of understanding, the urban operations (UO) framework tenets with associated short explanations and succinct observations from experienced CGSC instructors are arrayed in Figure 18.1.

Regardless of the status of the reference manuals and the verbiage of the urban operations framework, the division commander will use some sort of variant of the USECT framework when employing the division in LSCO in an urban environment.

Large-Scale Combat Operations

LSCO are at the far end of the conflict continuum and associated with high-intensity war; they are ugly situations, even for the winner. LSCO in urban terrain are what is commonly agreed to be the "ugliest of the ugly." Even the winner suffers terribly. What is the difference between LSCO in

URBAN OPERATIONS TENET	EXPLANATION	OBSERVATION
UNDERSTAND	Determine the effects of PMESII-PT and METT-TC on the anticipated operation.	PMESII-PT and METT-TC provide good understanding of the situation and are well understood.
SHAPE	Set the conditions necessary for the subordinate units to achieve success in their actions.	Shaping the battle is key in winning the fight and requires a very experienced and able commander and staff, but few young officers understand how to shape a battle.
ENGAGE	Implement offense, defense, stability, and/or support to civil authority tasks in order to coordinate, synchronize, and sequence actions in time, space, and effect to achieve the desired goal.	The typical field grade officer learns how to engage with combined arms elements, but seldom learns much about stability operations, DSCA, or non-lethal weapons.
CONSOLIDATE	Secure the subordinate units, population, infrastructure, and/or even sovereignty in the area of operations.	Consolidate gains is a major concept in the recently published FM 3-0, Operations, in which the areas of operations within a theater of operations are composed of the appropriate deep, close, support, and consolidation areas.
TRANSITION	Shift to or from offense, defense, stability, and/or support to civil authority or some permutation thereof.	The typical current field-grade officer seldom must grapple with the intricacies of transition for there never is enough time to teach everything a young field grade officer needs to know.

Figure 18.1. Urban Operations Framework Tenets. Created by Army University Press based on author research.

urban terrain and in any other terrain and why does that difference make urban LSCO the "ugliest of the ugly?" To be blunt, in almost every aspect, there are no doctrinal differences. Strategy, operations, tactics, techniques, and procedures remain nearly unchanged. However, they are adapted somewhat to the new urban environment. The same offense, defense, and stability operations (or defense support of civil authorities—DSCA) are employed in essentially identical manners and the same offensive, defensive, and stability tasks apply. Likewise, the same forms of offense and defense apply. The same forms of maneuver, and the same reconnaissance and security operations apply. So what really is different about operations in urban terrain? The answer is found in the three diverse variables: first, the four dimensions

of urban terrain; second, the density of urban terrain; and third, the higher order of effects of urban terrain. These variables together have enormous impacts on planning, preparing, and executing LSCO in urban terrain. As a result, planning factors for actions in urban terrain are very different from the planning factors in any other environment. As an example, in almost every combat operation in urban terrain, the typical combat unit will defend or attack (or both) across a wet gap obstacle. Two excellent examples are the 1942 Battle of Stalingrad and the 1945 Battle of Manila.

The term "urban area" is not precise enough to be useful. Therefore, the US Army defined urban areas and urban operations. An urban area is any area where a primary feature is a manmade feature or a population concentration.[7] An urban operation is any operation that encompasses an urban area, or where the urban area is a significant aspect of the area of operation (AO). With the exception of extremely rugged mountains, swampy jungle, or frozen arctic terrain, almost every division AO will include an urban area and the division will execute some sort of urban operation.[8] The commander will employ the division in one of three general manners in regard to urban LSCO. The method of employment depends on the situation, primarily upon the size of the urban area assigned to the division and the size of the division AO. In almost every division operation, one of three situations will exist. First, the urban area will encompass more than the division AO or even encompass the AOs of several divisions, as evidenced in the concept of the megacity—an urban area with a population more than 10 million.[9] Second, the urban area will be smaller than the division's AO but will encompass a full brigade (or larger) AO. Third, the urban area will encompass less than a brigade-sized AO. In each of the three situations, the doctrinal tasks for the division remain the same, but the implementation of the requirements in support of those tasks is different. Shaping, resourcing, and coordinating operations of the brigades are more difficult in urban terrain because of the dimensions of urban terrain.

The Dimensions of Terrain

Unlike operations in non-urban terrain which have three dimensions, there are four dimensions in urban operations. The typical three dimensions for desert, plain, tundra, jungle, or mountain are: below the surface of the ground (subsurface), on the surface of the ground, and above the surface of the ground in the air. The ground tactical commander must consider and fight in any permutation of all three dimensions. In urban terrain, there is added complexity in a fourth dimension: the super-surface—created by man-made structures. Maritime space external to the urban area is an extension of the ground concept and has both surface and subsurface aspects of terrain.
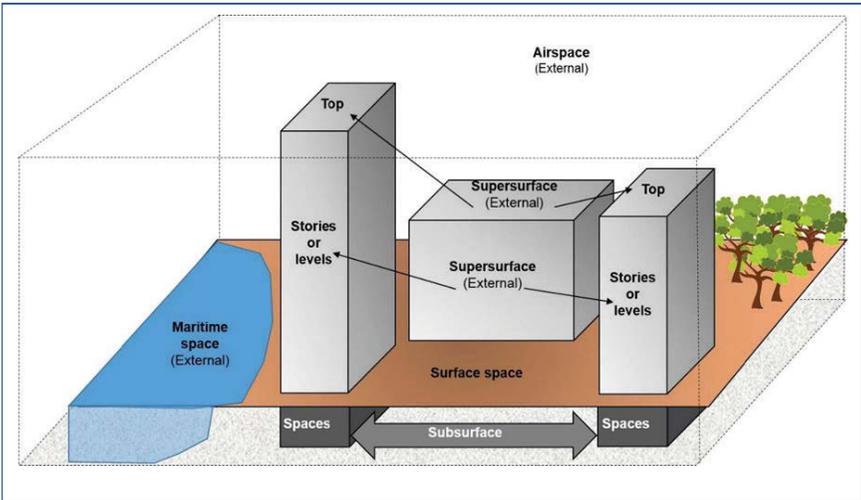
Figure 18.2: The Multidimensional Urban Battlefield. From Department of the Army, Army Techniques Publication (ATP) 3-06, *Urban Operations* (Washington, DC: 2017), 1-5.

Man-made structures enable operations to take place within the structures and/or on the structures, and/or in concert with any or all of the typical three dimensions of terrain. The aspects of almost all terrain around the world include airspace and two militarily significant surfaces: surface and subsurface. Unlike all other terrain, urban terrain includes the typical three militarily significant surfaces as well as the airspace above.

DIMENSION OF TERRAIN	EXPLANATION/EXAMPLES
AIRSPACE	Air avenues of approach for drones, rotary wing, and fixed wing aircraft. Typically well known, but towers, poles, and wires are obstacles.
SURFACE	Ground avenues of approach and the usual IPB and OAKOC apply. Typically fairly well known through maps and imagery.
SUBSURFACE	Underground avenues of approach tunnels, sewers, caves, basements, cellars, subways. Largely unknown until entered.
SUPER-SURFACE	Building exterior and interior avenues of approach: roofs, corridors, stairways, and building surfaces must be considered. Largely unknown until entered.

Figure 18.3. Urban Operations Terrain Surfaces. Created by Army University Press based on author research.

Aircraft and aerial munitions use the airspace as avenues of approach. Commanders can use aviation assets for observation, reconnaissance, aerial attack, aerial insertion, and aerial extraction of soldiers, supplies, and equipment. Some surface obstacles, such as rubble, do not affect aviation assets. The varying height and density of towers, signs, power lines, and other constructions create obstacles to the flight and the trajectory of many aviation assets and many munitions. The cover and concealment afforded to the enemy in urban areas increase aviation vulnerability to small arms and man-portable air defense systems. Surface areas apply to exterior ground-level areas, such as parking lots, airfields, highways, streets, sidewalks, fields, and parks, which often provide primary avenues of approach and the means for rapid advance. However, buildings and other structures often canalize forces moving amongst them. As such, obstacles on urban surface areas usually have more effect than those in open terrain. Super-surface areas include the internal floors or levels and external roofs or tops of buildings, stadiums, towers, or other vertical structures.

Super-surface areas can provide cover and concealment, limit or enhance observation and fields of fire, and restrict, canalize, or block movement. Forces can move within and between super-surface areas creating additional—though normally secondary—avenues of approach. Rooftops may offer a useful location for landing helicopters for small-scale air assaults and aerial resupply in very nominal or non-existent air defense threat environments. Subsurface areas serve as secondary, and sometimes primary, avenues of approach at lower tactical levels. Subsurface areas may provide excellent covered and concealed lines of communications for moving supplies and evacuating casualties. Subsurface areas also may provide sites for caching and stockpiling supplies. Subsurface areas include the subways, tunnels, sewers, drainage systems, cellars, civil defense shelters, and other various underground utility systems.

These four dimensions place additional requirements and considerations on division planners not encountered in the three-dimensional terrain found elsewhere. Additionally, an unusual concept exacerbates the situation that planners encounter. What distinguishes urban terrain from any other terrain is the sheer number of elements per unit of space and the number of activities that occur in and through those spaces. This distinguishing characteristic is termed density.[10]

In urban terrain, things (to use a non-doctrinal term) are dense, more dense than in any other terrain. Much like a black hole, urban areas compress organizations into smaller areas. Combat units are forced into a smaller frontage upon entering urban areas because of the complex ter-

rain, the limited lines of sight, the limited engagement ranges, the vast numbers of nooks and crannies, and numbers of floors above and/or below each square foot of ground space. There are more people, more units, more structures, and more of everything. Limited sight lines mean that more assets are needed to cover the same area than in open terrain. Limited engagement ranges mean that more weapons are needed to cover the same area, engagement times are shorter, and weapons effects are magnified by the flat, hard surfaces.

Urban areas also present an extraordinary blend of horizontal, vertical, interior, exterior, and subterranean forms and surfaces superimposed on the natural relief, drainage, and vegetation of the terrain. While an urban area may appear dwarfed by the surrounding countryside on a map, in fact the size and extent of the urban battlespace is many times that of a similarly sized portion of natural terrain. The sheer volume and density created by the urban dense geometry can make urban operations extremely resource-intensive in terms of time, manpower, and materiel.

Routes and avenues of approach for divisions in such a dense environment will likely require planning considerations and assets not typically needed in open terrain in order to maintain freedom of maneuver. For example, the need to remove rubble, clear roadways, and breach obstacles typically will require more engineers and engineer equipment than what is likely available. Additionally, unlike other environments and terrain, every action in an urban environment potentially will create many higher order effects. In any type of terrain other than urban terrain, each action normally will have a second- or even a third-order effect. For example, a direct fire engagement typically will damage personnel and materiel, and create dust or fire and smoke in the process. In the typical urban environment, that same direct fire engagement will damage personnel and materiel, and will create dust, fire, and smoke not only on and around the target, but also in the surrounding structures. Fire and smoke in the surrounding structures likely will injure additional combatants and non-combatants. Structure collapse traps combatants and noncombatants in cellars or rubble, exacerbating the medical situation while creating additional displaced persons. Destruction of structures damages the urban infrastructure, further taxing the transportation and distribution of resources in the area.

Combat operations in urban terrain are more lethal than in any other terrain. A higher percentage of engaged personnel are killed, a higher percentage of wounded die of their wounds, and a higher percentage of personnel die from falling or crushing. The reason is that the short engagement ranges create larger targets and multiple hits. The myriad of fortified

positions protect the lower torso and legs of most personnel, resulting in a larger percentage of head and upper torso wounds. The large number of damaged structures creates numerous opportunities to fall or be crushed by falling rubble. Combatants fall from structures, and collapsing portions of structures trap and/or crush combatants. The nearly omnipresent toxic materials combined with lack of sanitation create severe infections in almost any scratch or scape in addition to any weapon-related injury. The increased number of casualties in subterranean locations and damaged structures make evacuation extremely difficult and time consuming at best.[11] In addition to these higher order effects, other aspects of the urban environment challenge the combat unit commander.

Other Urban Challenges

Normally, toxic industrial materials and hazardous chemicals are not found in open terrain but are ubiquitous and usually safely contained in urban terrain. For example, chlorine used to purify water is an agent from which the typical chemical protective mask will not protect the wearer. The chlorine molecule is smaller than the oxygen molecule and cannot be filtered out of the air a soldier breathes. Pesticides mainly are nerve agents in a different form. Each year, more than 70,000 different chemicals are produced, processed, or consumed globally. An estimated 25,000 commercial facilities around the world produce, process, or store chemicals that have a legitimate industrial use, yet are also classified as chemical warfare agents. Many other chemicals (not classified as weapons) may still be sufficiently hazardous to pose a considerable threat to Army forces and civilians in urban areas as choking agents or asphyxiates, flammables or incendiaries, water contaminants, low-grade blister or nerve agents, or debilitating irritants. These same industrial materials and chemicals that enable our society to function in an urban area usually are safely contained during peacetime. However, during conflicts, these materials can be set free on command or by accident in urban terrain.[12]

Stress in combat always is present and can degrade performance significantly. In urban operations stress can be amplified due to the increase in dealing with factors such as enclosed areas, a feeling of powerlessness, ambiguity due to limited lines of sight, physical isolation from friendly forces, and communications problems due to the effects of structures. The sensory overload issues related to the smells and other related problems of dealing with large numbers of dead bodies and animals, as well as the amplification of sounds, may require units to be rotated much more frequently.[13] Additionally, being unable to know what or who is across the street, across the hall, or even in the next room, combined with the phys-

ical exertion of climbing walls or stairs, creates a level of stress not encountered in other environments.[14] As such, division planners developing a course of action for operations in an urban environment need a special set of planning factors.

Urban Operation Planning Factors

Just as the division shapes the fight so that brigades will be successful, the brigade shapes the brigade-controlled urban fight so that the subordinate battalions can be successful. One of the three to five battalions of the brigade will be the primary operational unit in a brigade-controlled urban fight. Each of the subordinate battalions may perform any permutation of offense, defense, and/or stability operations at any given moment. Each battalion may control a frontage of four to eight blocks, depending on the orientation of the blocks, the number of structures in the blocks, the construction materials of the structures, and the number of floors in the structures. Likewise, each battalion may cover a depth of three to six blocks. The typical block varies by urban area based upon country, culture, age, and purpose, but usually is about 175 meters long. This equates to a battalion frontage of roughly 700 to 1,400 meters.[15] Depending upon the situation (1942 Stalingrad, as an example), units as large as divisions may eventually be assigned to the same planning frontages as battalions. Creating rubble by intensive aerial bombardment made fighting in Stalingrad extremely difficult and decreased the AOs of the attacking units to very small frontages.

In open terrain, this same battalion easily could be expected to have a frontage of more than 5,000 meters with two companies forward and one back. The concept of the shrinking frontages of units as the units enter urban areas is known as the "fan and funnel effect." As units enter urban terrain, they are sucked into the funnel and compacted into much smaller areas. When exiting urban terrain, the compacted frontages of the units enlarge as the units fan out to their more typical frontages.[16]

What this means to the planner or commander is that every four to six blocks of urban area will require a combat battalion depending upon the nature and orientation of the urban terrain. For ease of visualization, the town of Leavenworth, Kansas, measures roughly five kilometers east to west and seven kilometers north to south. This equates to more than twenty blocks east to west and more than eighty blocks north to south. These dimensions easily equate to nearly two full combat brigades required for planning, yet the sides of the perimeter formed by the town of Leavenworth each measure less than the typical battalion task force

frontage in open terrain. In fact, in open terrain one TOW II or Sagger anti-tank guided-missile launcher could cover nearly the same entire area. If the urban terrain is defended by a resolute enemy with some time to prepare positions, the normal three-to-one attacker-to-defender ratio needed for planning rises sharply to six-to-one or more. Typical planning factors indicate that if a resolute enemy with time to prepare the defenses decides to defend the town of Leavenworth, a reasonable division commander would allocate at least two brigades to the task of attacking Leavenworth, as attacking with only one brigade would entail a great amount of risk, approaching what could be considered a "gamble."
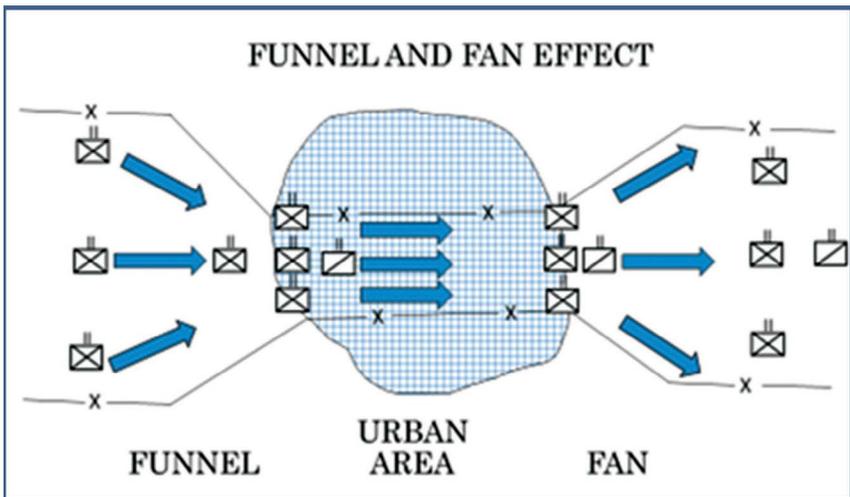

Figure 18.4. Fan and Funnel Effect. From Department of the Army, Field Manual (FM) 90-10, *Military Operations on Urban Terrain* (Washington, DC: 1999).

When the urban area is too large for one brigade, the division shapes the urban fight so that the subordinate brigades can be successful. Each brigade may be one of usually three to five subordinate maneuver brigades in a division-controlled urban fight. Each subordinate brigade may implement any permutation of offense, defense, and stability operations at any time. Therefore, at any given moment the division may be shaping any blend of offense, defense, and/or stability operations in an urban environment.

When the urban area is larger than the division's AO, the corps shapes the urban fight so that the subordinate divisions can be successful. The division may be one of usually three to five subordinate divisions in a corps-controlled urban fight. Likewise, the division as an entity may perform any combination of offense, defense, and or stability operations at any given moment.

A good rule of thumb is that the security force entering an urban area needs at least twenty soldiers and police for every 1,000 persons in the area.[17] Therefore, if the urban area supports a pre-conflict population of about 50,000 people, the size and layout of the urban area usually requires at least one combat brigade equivalent of combat power to fight and stabilize a situation effectively. For every additional 50,000 pre-conflict inhabitants, another combat brigade usually is required to fight effectively and stabilize the area. Pre-conflict inhabitants may displace to avoid combat or "hunker down" in place. Displaced persons from other areas may swell the size of the population in the urban area. The population in the urban area may be supportive of your efforts, ambivalent to your efforts, and/or actively oppose your efforts. Consequently, more units may be needed than the original estimate. For every three to five brigades involved in an urban operation, a division headquarters is needed to shape and control the overall operation.

There is an odd planning factor that pertains to almost every combat unit in action in an urban environment. In that environment, almost every unit eventually must attack or defend across a dry or wet gap obstacle. Dry and wet gaps such as ditches, canals, sewers, rivers, conduits, and streams abound in urban environments primarily because urban areas grow near a source of water or a change in mode of transportation for people or goods (such as wagon to train to boat to horseback.) An urban area usually develops where the mode changes. When a highway or railroad crosses a river, an urban area usually grows on each side of the river along the highway or railroad.

High-rise structures inside cities challenge the maxim that the "high ground" presents advantageous terrain during military operations. Limited floor space and exfiltration routes may trap a unit by restricting its maneuverability. In addition, units may quickly exhaust the manpower required to "dominate" this terrain by fighting continuously along vertical axes.

Streets and buildings create obstacles to employing the main weapon systems on most combat vehicles, which will not be able to traverse, elevate, or depress to engage all potential threats. Such a large number of avenues of approach and potential defensive vantage points would overwhelm even the most skilled target acquisition systems and techniques in current use. Isolation (denying an enemy freedom of movement or contact with supporting forces on a given piece of terrain or building) is difficult on one plane, but almost impossible for a single tactical unit on a city's multiple planes in a complex network of avenues, cross streets, and alleyways—

sandwiched between subterranean tunnels below and multi-story towers above. Additionally, city life relies on a consistent flow of resources. Key terrain within a city thus largely coincides with supply lines and logistical networks along the main streets, avenues, and alleys crisscrossing the city.

Three Illustrative Urban Combat Scenarios

When planning LSCO in an urban area, the division performs the same activities as the division performs in any other terrain, but the division may perform those activities in a slightly different manner. The manner depends upon the size and type of the urban environment. The following situations illustrate that regardless of the role of the division and regardless of the differences in the operations, the division echelon still has the requirement to shape the brigade operations, resource the brigade operations, and coordinate and synchronize the brigade operations.

Scenario 1—Battalion+ Sized Area in a Division AO

This example involved the Canadian Loyal Edmontons and Seaforth Highlanders in the Battle of Ortona, 1943. In the Battle of Ortona, the two understrength battalions of Fallschirmjäger from the German 1st Parachute Division defended the small town against attack from the Canadian 1st Infantry Brigade. After a particularly costly crossing of the Moro River, the 1st Brigade no longer could advance. The Canadian 2nd Infantry Brigade passed forward through the 1st Brigade and attacked into Ortona. The Canadians attacked first with one battalion-sized element, the Loyal Edmonton Regiment, which made slow and costly progress. Then the second battalion-sized element, the Seaforth Highlander Regiment, joined the attack. The two regiments fought northward through the town with the Loyal Edmonton Regiment on the right and the Seaforth Highlander Regiment on the left. The Canadian Princess Patricia Light Infantry Regiment supported the other elements of the Canadian 2nd Infantry Brigade by shaping the operation to the west of the town, preventing German reinforcement of the German units in Ortona.

In this example, the Canadian Division fought LSCO in generally open terrain while elements of one brigade-sized unit fought the urban battle. The division appropriately shaped the operations for the subordinate brigades, resourced the subordinate brigades appropriately for the assigned missions, and coordinated, synchronized, and sequenced subordinate brigade actions in time and space. The division accomplished all these tasks while enabling the subordinate brigades to fight their fight within the parameters assigned by their higher command, the division.[18]
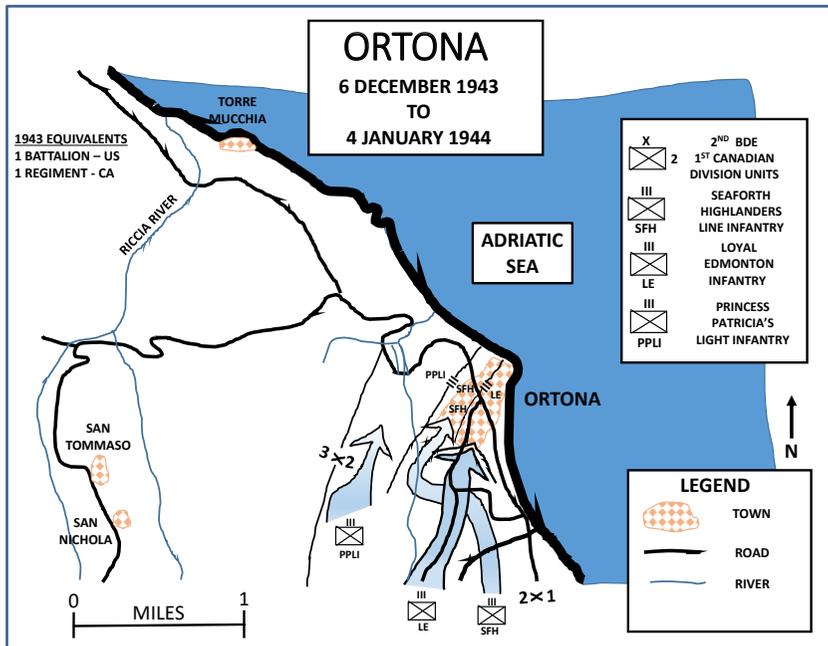
Figure 18.5. Battle of Ortona Map. Created by the author.

Scenario 2—Brigade+ Sized Urban Area in a Division AO.

This description is based on the US 351st Infantry Regiment in the Battle of Santa Maria Infante. In Italy in 1944, the US 88th Division—composed of the 349th, 350th, and 351st Infantry regiments—attacked a German force with two regiments abreast and one regiment following. The US 85th Division on the left supported the 88th Division in the attack north. To the immediate left of the attack on the town of Santa Maria Infante was the 338th Regiment. The division performed the same functions as in the previous example. However in this case, the 338th Regiment on the left (a shaping operation) attacked across unpopulated terrain; the 349th Regiment on the right (a shaping operation) attacked across unpopulated terrain; and the 351st Regiment in the center (the decisive operation) attacked along the road north through the town of Santa Maria Infante to seize key terrain north of the urban area.[19]

In this example, the American division continued to fight LSCO in generally open, mountainous terrain while a regiment fought the urban fight. The division appropriately shaped the operations for the subordinate brigades, resourced the subordinate brigades appropriately for the assigned missions, and coordinated, synchronized, and sequenced subordinate brigade actions in time and space. The division accomplished all these tasks

while enabling the subordinate brigades to fight their fight within the parameters assigned by their higher command, the division.
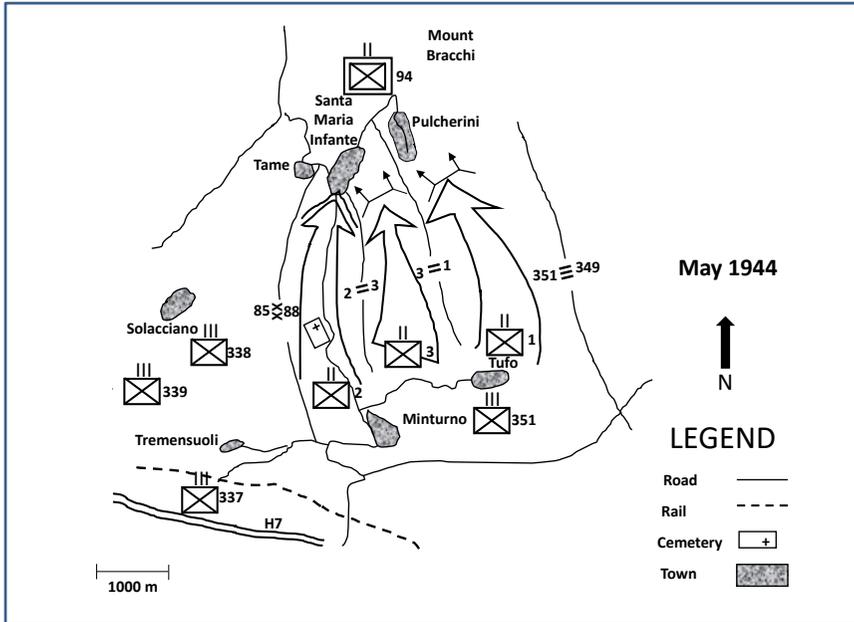

Figure 18.6. Battle of Santa Maria Infante Map, 1944. Created by the author.

Scenario 3—Division+ Sized Urban Area in a Corps AO

This example is based on the 1st Cavalry Division, 11th Airborne Division, and 37th Infantry Division in the Battle of Manila. In 1945, roughly 20,000 Japanese soldiers and sailors under the command of Rear Adm. Sanji Iwabuchi defended Manila proper against the combined forces of the US 1st Cavalry Division, the US 37th Infantry Division, and roughly 3,000 Filipino guerillas. By most accounts, Japanese Gen. Tomoyuki Yamashita originally ordered the commander of the Shimbu Group, Gen. Shizuo Yokoyama, to destroy the city's infrastructure, bridges, and other vital installations then evacuate the city when large American combat units neared the city. Rear Admiral Iwabuchi received different instructions from the Japanese Imperial Navy command, determined to defend every inch of the city.[20]

The division appropriately shaped the operations for the subordinate brigades, resourced the subordinate brigades for the assigned missions, and coordinated, synchronized, and sequenced subordinate brigade actions in time and space. The division accomplished all these tasks while enabling the subordinate brigades to fight their fight within the parameters assigned by their higher command, the division.
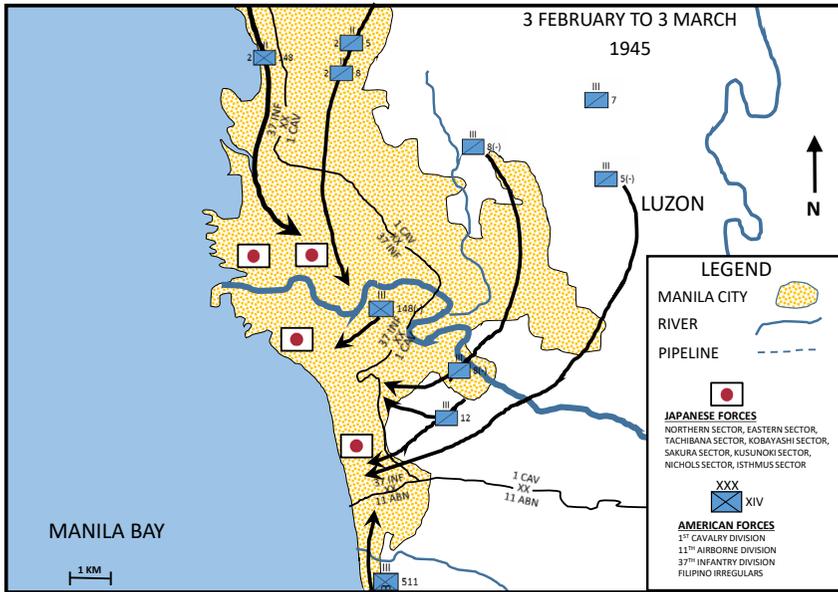
Figure 18.7. Battle of Manila Map, 1945. Created by the author.

Phases of Attacking a City

Interestingly enough, these three examples come from World War II. These examples are not the only ones available from this conflict; many others exist. However, worldwide violence of the scale and duration experienced during World War II has not occurred since 1945. That said, there are themes of continuity that all three examples share. The following discussion applies to any urban area anywhere and the echelons of the units engaged can be any echelon from company up through army-level. This generic example contains the six general steps or phases as described in these US Army doctrinal publications: FM 90-10, FM 3-06, ATTP 3-06.11, and ATP 3-06.

Phase One is to determine the desired end state for the urban area when the operations are complete. An army entering a defended urban area immediately finds that the combat power and resources of the force begin to dwindle rapidly, much like a living body is wasted by a virus. Ironically, the army finds that the urban area infrastructure and resources immediately begin to waste away as well. Cities kill armies and armies kill cities. The desired end state for the urban area dictates the level of force the military uses. For example, if the end state is to retain the city as a viable commercial entity, the level of force used must be limited and the collat-

eral damage must not destroy the commercial infrastructure and processes of the city. Conversely, if the end state is to kill all who remain in the city, the level of force to be used is nearly limitless and the resulting collateral damage also nearly limitless. The generally accepted rule of engagement for the US Army in a conflict that does not present an existential threat to the US is to use precision force and avoid collateral damage where practicable. Therefore, in the following example, the assumption is that the attacking force will want the urban area to be capable of restoration to conditions enabling that area to thrive after the conflict. The urban area is a system of systems which are inter-related and inter-dependent, known as the urban triad.[21] That triad is composed of the populace, the terrain, and the infrastructure that enables the populace to thrive in the urban area. To that end, the attacking force cannot use force indiscriminately and cause unavoidable collateral damage.

Phase Two is to advance to the urban area and halt in order to consolidate the region behind the advancing force in a manner that enables the populace to be secure and survive in a relatively safe manner. Consolidation provides security for the unit, facilitates reorganization of the unit if necessary, redistributes supplies and ammunition while evacuating casualties, and enables the unit to prepare for the enemy's counterattack. Rapid consolidation after an engagement is extremely important in an urban environment, for the enemy is in close proximity and has numerous mobility corridors through which to counterattack. During Phase Two, every offensive task, defensive task, enabling task, form of maneuver, and form of defense can, and probably will, be used by the advancing force. When the area and population behind the lines of the advancing force are secure, the advancing force can resume the advance.

Phase Three is to isolate the urban area from outside support as much as possible while leaving a small "golden bridge" by which combatants could choose to leave the urban area.[22] If the "golden bridge" is available, the enemy combatants must decide whether to fight to the death or flee the urban area when the situation turns bad for them. A reasonable and prudent defender often decides to leave a hopeless position in order to fight again. A reasonable and prudent defender, when allowed no viable alternative, often decides to fight to the death. A fight to the death typically is extremely costly for attackers and defenders. The "golden bridge" works both ways; fighters, materiel, and supplies can come into the urban area as well as leave the urban area. However, allowing a small resupply channel for the defender to remain open is a risk that may be well worth taking by

the attacker. Again, during Phase Three, every offensive task, defensive task, enabling task, form of maneuver, and form of defense can, and probably will, be used by the advancing force.

Phase Four is to gain a foothold in the urban area. Again, the attacking force probably will use every offensive task, defensive task, enabling task, form of maneuver, and form of defense. However, the character of combat now changes dramatically. During Phases One through Three, the technologically superior force has a tremendous, maybe even insurmountable, advantage. Trained armored mobility and firepower reign supreme in open combat. In the urban area, technological advantages can be nearly completely negated, and combat devolves almost to one soldier against another. In such a situation, the numerically inferior force with no technological advantage can almost completely stymy a technologically and numerically superior force. Once a foothold in the urban area is gained, the area behind the advancing force again is consolidated, enabling the urban area and the populace to survive and even begin to restore some pre-conflict activities.

Phase Five is to destroy the enemy or clear the urban area of enemy resistance. The advancing force repeats the activities of Phase Four as many times as necessary in order to eliminate the combatants from contested areas. The process will repeat as many times as necessary. The attacking force advances as far as prudent so that the area gained can be consolidated. There are no standards and there are no approved solutions. In every situation, the cycles and distances will be different. However, the last cycle of advance and consolidate will result in the consolidation of the urban area, which will enable Phase Six.

Phase Six is the transition to an appropriate urban control organization or apparatus. Ironically, the advancing force transitions from being the main effort and the supported force to being the shaping effort and a supporting force. The organization assuming control of the urban area may be the previous urban government from the host country, another unit of the same unit fighting through the urban area, a higher echelon unit, a military or civilian control organization of the country, or even a military or civilian organization from countries other than the host country. The point is that the organization assuming control of the urban area will be the legitimately elected/appointed apparatus and preferably, if at all possible, not the unit that just completed the fighting. The US Army is neither trained nor resourced well to transition smoothly and effectively to a legitimate urban control authority. During Phase Six, the advancing

force continues to implement all offensive tasks, defensive tasks, enabling tasks, forms of maneuver, and forms of defense as in the previous four steps, but now the emphasis is on security operations, passages of lines, and relief of unit responsibilities.

Conclusion

The division planning and fighting large-scale combat operations in an urban environment performs the same functions as the division performs in any other terrain, but the functions differ dependent on three variables. The three variables are the dimensions of the urban terrain, the density of the urban terrain, and the higher order of effects of the urban terrain. The role of the division remains constant, even in large-scale combat operations in an urban environment. The division shapes the operations appropriately for the subordinate brigades, resources the subordinate brigades appropriately for the assigned missions, and coordinates, synchronizes, and sequences subordinate brigade actions in time and space. The division is the enabler in the urban fight, empowering its brigades to meet the enemy within the parameters set by the division commander.

Notes

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3. ATP 3-91.

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7. Department of the Army, Army Training Publication (ATP) 3-06, *Urban Operations* (Washington, DC: 2017), 1-1.

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11. Department of the Army, ATP 3-06*,* 2-4.

12. ATP 3-06*,* 2-11.

13. ATP 3-06*,* 2-5.

14. ATP 3-06*,* 3-6.

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Contributors

Frederick A. Baillergeon

Frederick A. Baillergeon is a retired Infantry officer who served in various command and staff positions from platoon to division level. He presently serves as an assistant professor in the Department of Army Tactics at the US Army Command and General Staff College. He has been a part of the department for more than eighteen years. Baillergeon has had more than 100 articles and 125 book reviews related to tactics and military history published. He served as the first General George S. Patton Jr. Chair of Tactical Studies.

Dennis S. Burket

Dennis S. Burket served more than thirty years on active duty as an Infantry noncommissioned officer (NCO) and officer. He currently serves as an associate professor in the Department of Army Tactics at the US Army Command and General Staff College and is the current General George S. Patton Jr. Chair of Tactical Studies. Among his many active-duty assignments, he served as the Deputy G5 Plans officer for the 101st Airborne Division (Air Assault) and was an operations officer in the XVIII Airborne Corps assault command post. A distinguished military graduate of the US Army Officer Candidate School, Burket earned an MBA from Webster University and an EdD from Kansas State University.

Michael T. Chychota

Michael T. Chychota is a graduate of the School of Advanced Military Studies and is an assistant professor at the US Army Command and General Staff College, where he has been teaching since retiring from the Field Artillery in 1993. He currently serves in the Department of Army Tactics and previously taught Tactics and Gunnery at the US Army Field Artillery School. Operationally assigned to the 5th, 8th, and 25th Infantry divisions, he served in various positions to include Chief, G3 Operations, 5th Infantry Division.

Russell G. Conrad

Russell G. Conrad was commissioned in 1982 and served in the Armor and Field Artillery branches in both the Regular Army and Kansas Army National Guard. He attended the Information Operations course at Camp

Johnson, Vermont, in 1999 and the Information Operations Qualification Course at Fort Leavenworth, Kansas, in 2003. Conrad served twice as the 35th Infantry Division Information Operations Officer as well as its Chief of Fires and G3. He is currently an assistant professor in the Department of Army Tactics at the US Army Command and General Staff College.

James K. Dunivan

Colonel James K. Dunivan is an Armor officer who recently served as the Director of the Department of Army Tactics at the US Army Command and General Staff College. His previous assignments include a variety of command and staff positions from platoon up to NATO staff, to include command of 1st Squadron, 14th Cavalry and tours of duty in Iraq and Afghanistan. He has multiple master's degrees in History, Leadership and Management, and Strategy.

Jason A. King

Lieutenant Colonel Jason A. King currently serves as an instructor at the US Army Command and General Staff College in the Department of Army Tactics. He has a bachelor's degree in Business Administration from Eastern Michigan University and a Master of Business Administration from The Ohio State University Fisher College of Business. King previously served on the US Army Central Staff as the 1st SFG(A) Group Aviation Officer, the 1-229th Attack Reconnaissance Battalion Executive Officer, 1-291st Attack Battalion Operations Officer, and a 21st Cavalry Brigade Foreign Military Training Chief. He was an Attack Platoon Leader with the 11th Aviation Regiment at the onset of Operation Iraqi Freedom. Lieutenant Colonel King has twenty-one years of service and is qualified in the AH-64D Longbow, AH-64E Guardian, and several small unmanned aerial systems.

Marty M. Leners

Lieutenant Colonel (Retired) Marty M. Leners is an Armor-Cavalry officer with more than twenty-four years of tactical experience from platoon to division. He served in the Federal Republic of Germany and the Republic of Korea, as well as multiple combat tours in Iraq. Lieutenant Colonel Leners graduated from the US Military Academy with a bachelor's degree in European History and the US Marine Corps Command and Staff College with a Master of Military Art and Science. He is also a graduate of the Marine Corps School of Advanced Warfighting. Leners is currently serving as an assistant professor and staff group advisor at

the US Army Command and General Staff College in the Department of Army Tactics.

Trent J. Lythgoe

Lieutenant Colonel Trent J. Lythgoe is a US Army Aviation officer currently serving as an instructor in the Department of Tactics at the US Army Command and General Staff College, Fort Leavenworth, Kansas. His previous assignments include a variety of command and staff positions, including two combat tours in Afghanistan and one combat tour in Iraq. Lieutenant Colonel Lythgoe previously served as an observer/trainer at the Mission Command Training Program (MCTP). He received a master's degree from Webster University and is pursuing a PhD in Political Science at the University of Kansas.

Robert S. Mikaloff

Lieutenant Colonel (Retired) Robert S. Mikaloff serves as an assistant professor in the Department of Army Tactics at the US Army Command and General Staff College. He has held that position since May 2007. From 2005 until 2007, Mikaloff worked as a contract Military Analyst/Intelligence Surveillance and Reconnaissance Subject Matter Expert first for ARINC and then CAPSTONE. During 2004–05, he commanded 201st Military Intelligence Battalion/Task Force 201—part of the 513th Military Intelligence Brigade at Fort Gordon, Georgia. From 2001–04, Lieutenant Colonel Mikaloff was the G2 of 10th Mountain Division serving in various duties including G2 of Multinational Brigade East/Task Force Falcon in Kosovo, C2 of Combined Task Force Mountain, and J2 of Combined Joint Task Force 180 in Afghanistan. Other duties prior to his G2 billet included tours as an Intelligence Plans officer for the 101st Airborne Division. His military education includes the Post Graduate Intelligence Program, Command and General Staff Officer's Course (CGSOC), and School of Advanced Military Studies (SAMS).

Kenneth J. Miller

Kenneth J. Miller is a retired Infantry officer who is currently serving as an assistant professor in the Department of Tactics at the US Army Command and General Staff College, Fort Leavenworth, Kansas. His previous assignments include J5 Plans officer for CENTCOM, G3 Operations, 25th Infantry Division, and multiple combat tours. He received a bachelor's

degree in Education from Missouri State University and a master's degree in Human Resources from the University of Oklahoma.

Edward V. Rowe

Lieutenant Colonel (Retired) Edward V. Rowe currently serves as an assistant professor of tactics at the US Army Command and General Staff College. He graduated from the US Military Academy with a bachelor's degree in Mechanical Engineering (Automotive Systems) and has a master's degree in Management from Troy University and a Master of Military Art and Science from the School for Advanced Military Studies at the US Army Command and General Staff College. A career infantryman, Lieutenant Colonel Rowe previously served as Chief of Plans for the XVIII Airborne Corps and Chief of Plans and Exercise for the 82nd Airborne Division.

James D. Scrogin

Lieutenant Colonel James D. Scrogin currently serves as an instructor and teaching team leader at the US Army Command and General Staff College in the Department of Army Tactics. He has a bachelor's degree in Geography from Northwest Missouri State University, received a master's degree in National Security Strategy from American Military University in 2009, and completed the School of Advanced Military Studies (SAMS) in 2012. Lieutenant Colonel Scrogin is a career Field Artillery officer who has served two tours in Iraq and two tours in Afghanistan. Additionally, he served a tour as Professor of Military Science at Purdue University, West Lafayette, Indiana.

Albert C. Stahl

Lieutenant Colonel (Retired) Albert C. Stahl currently is an assistant professor at the US Army Command and General Staff College in the Department of Army Tactics. He graduated from Western Kentucky University with a bachelor's degree in Agriculture and Therapeutic Recreation and received a Master of Military Art and Science in 2001 from the School of Advanced Military Studies. He is a retired lieutenant colonel and a career Infantry officer who has had multiple overseas assignments.

Gregory M. Thomas

Gregory M. Thomas retired from active duty after twenty-one years as an Infantry officer. He served at various posts in the continental United States and the Republic of Korea. He also participated in operational

deployments to Sinai and Kosovo, as well as combat in Operation Just Cause and Operation Iraqi Freedom. Thomas received master's degrees from Louisiana State University and American Military University. He is pursuing a PhD in Leadership and Organizational Change at Walden University. Currently, he is an assistant professor in the Department of Army Tactics at the US Army Command and General Staff College.

Andrew A. Thueme

Andrew A. Thueme currently serves as an instructor and teaching team leader at the US Army Command and General Staff College in the Department of Army Tactics. He graduated from Central Michigan University with a bachelor's degree in Industrial Technology Management. He received a master's degree in Engineering Management from Missouri University of Science and Technology. Lieutenant Colonel Thueme is a career Engineer officer who served four tours in Iraq, including tours as the G5 EN Planner for United States Forces–Iraq and the 1ID/CJFLCC-I Deputy Chief of Engineers. Additionally, he served as the EAB S3 O/C-T & BEB S3 O/C-T at the National Training Center.

Michael D. Vick

Lieutenant Colonel Michael D. Vick served as an instructor at the US Army Command and General Staff College in the Department of Army Tactics. He graduated from Texas A&M University with a bachelor's degree in Journalism and received a master's degree in English from the University of Arizona. He commissioned as an Artillery officer in 1994, and served in a variety of command and staff positions in the 3rd Armored Cavalry Regiment, 18th Field Artillery Brigade, 304th Military Intelligence Battalion, 2-289th Training Support Battalion, 210th Fires Brigade, and 2nd Iraqi Army Brigade Military Transition Team. Additionally, he was an Texas A&M Reserve Officer Training Corps instructor and executive officer, Creighton University Professor of Military Science, 1st Infantry Division Deputy Fire Support Coordinator and Joint Fires Advisor to the Iraq Ministry of Defense, and Chief of Fires observer, coach, and trainer in the Mission Command Training Program. Lieutenant Colonel Vick currently teaches English at the US Military Academy.

Jonathan M. Williams

Jonathan M. Williams serves as an assistant professor with the Department of Army Tactics, US Army Command and General Staff College, Fort Leavenworth, Kansas. He retired after twenty-two years of active

duty service as an Engineer officer. His service included tours of duty with the 197th Infantry Brigade, the 132nd Engineer Brigade, the 36th Engineer Group, the 1st Cavalry Division, III Armored Corps, the US Army Engineer Center, and the Multinational Force and Observers, Sinai, Egypt, as well as multiple deployments in the CENTCOM, EUCOM, AFRICOM, and SOUTHCOM areas of responsibility. He also served as an instructor at the US Military Academy at West Point, New York. A distinguished military graduate of the University of Mississippi, Williams has master's degrees from the University of Alabama and Webster University and also completed post-graduate studies at the University of South Carolina at Columbia, South Carolina, and The University of Oxford, Oxford, England. He has served in the Tactics Department for fifteen years.

Sean A. Wittmeier

Lieutenant Colonel Sean A. Wittmeier served as an instructor at the US Army Command and General Staff College. He graduated from The Citadel, The Military College of South Carolina in 2001. He received a master's degree from the Missouri University of Science and Technology and a master's degree from Webster University of St. Louis, Missouri. Lieutenant Colonel Wittmeier is a career Engineer officer with experience leading bridge, sapper, construction, and brigade engineer battalion units. Additionally, he served as a small group leader and instructor at the Engineer Captains Career Course and an observer controller team chief in First Army. He served one tour in Iraq and three tours in Afghanistan. Lieutenant Colonel Wittmeier is currently commander of 10th Brigade Engineer Battalion at Fort Stewart, Georgia.

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