

BRINGING ORDER TO CHAOS

**Historical Case Studies of Combined Arms
Maneuver in Large-Scale Combat Operations**

Edited by Peter J. Schifferle



**LARGE-SCALE COMBAT
OPERATIONS SERIES**

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Cover image: Soldiers from the 11th Armored Division dash through smoke-filled streets in Wernberg, Germany, during final April 1945 thrusts against the Nazis. The Rhine and Ruhr River action climaxed the US Army's large-scale drives inside Germany. Photo courtesy of Ike Skelton Combined Arms Research Library.

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Editors

Diane R. Walker and Lynne M. Chandler Garcia

Foreword

Since the Soviet Union's fall in 1989, the specter of large-scale ground combat against a peer adversary was remote. During the years following, the US Army found itself increasingly called upon to lead multinational operations in the lower to middle tiers of the range of military operations and conflict continuum. The events of 11 September 2001 led to more than 15 years of intense focus on counterterrorism, counterinsurgency, and stability operations in Iraq and Afghanistan. An entire generation of Army leaders and Soldiers were culturally imprinted by this experience. We emerged as an Army more capable in limited contingency operations than at any time in our nation's history, but the geopolitical landscape continues to shift and the risk of great power conflict is no longer a remote possibility.

While our Army focused on limited contingency operations in the Middle East and Southwest Asia, other regional and peer adversaries scrutinized US military processes and methods and adapted their own accordingly. As technology has proliferated and become accessible in even the most remote corners of the world, the US military's competitive advantage is being challenged across all of the warfighting domains. In the last decade, we have witnessed an emergent China, a revanchist and aggressive Russia, a menacing North Korea, and a cavalier Iranian regime. Each of these adversaries seeks to change the world order in their favor and contest US strategic interests abroad. The chance for war against a peer or regional near-peer adversary has increased exponentially, and we must rapidly shift our focus to successfully compete in all domains and across the full range of military operations.

Over the last two years, the US Army has rapidly shifted the focus of its doctrine, training, education, and leader development to increase readiness and capabilities to prevail in large-scale ground combat operations against peer and near-peer threats. Our new doctrine, Field Manual (FM) 3-0, *Operations*, dictates that the Army provide the joint force four unique strategic roles: shaping the security environment, preventing conflict, prevailing in large-scale combat operations, and consolidating gains to make temporary success permanent.

To enable this shift of focus, the Army is now attempting to change its culture shaped by over 15 years of persistent limited-contingency operations. Leaders must recognize that the hard-won wisdom of the Iraq and Afghanistan wars is important to retain but does not fully square with the exponential lethality, hyperactive chaos, and accelerated tempo of the multi-domain battlefield when facing a peer or near-peer adversary.

To emphasize the importance of the Army's continued preparation for large-scale combat operations, the US Army Combined Arms Center has published these volumes of *The US Army Large-Scale Combat Operations Series book set*. The intent is to expand the knowledge and understanding of the contemporary issues the US Army faces by tapping our organizational memory to illuminate the future. The reader should reflect on these case studies to analyze each situation, identify the doctrines at play, evaluate leaders' actions, and determine what differentiated success from failure. Use them as a mechanism for discussion, debate, and intellectual examination of lessons of the past and their application to today's doctrine, organization, and training to best prepare the Army for large-scale combat. Relevant answers and tangible reminders of what makes us the world's greatest land power await in the stories of these volumes.

Prepared for War!

Michael D. Lundy
Lieutenant General, US Army
Commanding General
US Army Combined Arms Center

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Introduction

Peter J. Schifferle

Large-scale combat operations are at the far right of the conflict continuum and associated with war. Historically, battlefields in large-scale combat operations have been chaotic, intense, and highly destructive than those the Army has experienced in the past decades. During the 1943 battles of Sidi Bou Zid and Kasserine Pass in World War II, 5,000 American Soldiers were killed over the course of just 10 days; during the first three days of fighting the Army lost Soldiers at a rate of 1,333 per day.¹

—Field Manual (FM) 3-0, Operations

Two days after these losses, the 1st Armored Division and other elements of II US Army Corps began the counteroffensive which would destroy the vaunted *Afrika Korps*—by then renamed *Panzer Gruppe Afrika*—and net several hundred thousand German and Italian prisoners of war. That a green US Army unit in its first major combat against a veteran opponent could lose 5,000 Soldiers and then launch a series of counterattacks could be a textbook definition of resilience.²

Our Army today may not be fully ready for this type of resilience, or this type of combat. We may need to adjust our cultural values understanding the verities and changes in the nature of conventional operations since 1945, come to grips with the impact of significant US casualties, and become more comfortable with the sheer violence of modern combined arms battle. Bottom line is we need to alter our perception of future war, embrace the training and readiness requirements of modern conventional operations, and be prepared to deal with the attendant horrors of mass casualties, the likely destruction of entire units, and the effects of air parity and being outgunned by the enemy artillery, at best.

In Afghanistan in 2001 and 2003 in Iraq were the last times the US Army conducted joint multi-divisional offensive campaigns, which then resulted in 17 years of the Army attempting to master stability and counterinsurgency operations while fighting a deadly enemy.³ These 17 years of combat experience—while valuable for our smaller tactical unit leaders—have not been without challenges.

The definition of combined arms maneuver is the application of the elements of combat power in a complementary and reinforcing manner to achieve physical, temporal, or psychological advantages over the enemy;

preserve freedom of action; and exploit success.⁴ As our Army continues to prepare for an unknown future regarding large-scale combat operations against a peer or near-peer adversary, our combined arms maneuver formations will most likely be outnumbered; the enemy may be technologically more advanced in some areas and, for first time since World War II, the enemy may have air superiority. Our mindset, values, and culture on training, education and unit readiness must continue to adapt to the changing operational environment. Our path to future victories includes an Army that is globally engaged—a regionally responsive force providing a full range of capabilities to combatant commanders to conduct offensive, defensive, and stability tasks to seize, retain, and exploit the initiative; consolidate gains; and win.⁵

Part of *The US Army Large-Scale Combat Operations Series, Bringing Order to Chaos* provides 10 case studies written by a diverse group of military historians. All of the chapters focus on some element of command and control of combined arms from 1917 through 2003. These case studies—ranging from US Army Corps in their first major fight to divisions fighting on the far end of culmination—provide strong lessons in the major issue of combined arms warfare: whether victory is determined by maneuver, by fires, or a combination of both.

In his excellent history of Third Army in the Persian Gulf War, Richard M. Swain pointed out that theorists, historians, and commentators on things military frequently align themselves in one of two camps of explanation. Swain called them the romantic school and the realist school. Romantics believe that maneuver can be so adroit that a discerning enemy will admit defeat at the hands of an operational master, and will surrender to the brilliance of the enemy's operational art. The other school—occupied primarily by practitioners, especially those of an artillery heritage—believes that the end result of military operations is death from indirect fire. The more you shoot, the less damage the enemy can do. Victory happens—not through psycho-shock or silk scarves in the air but from 155-mm and larger artillery fires.⁶

A second major issue—but one beyond the limits of this volume to offer sufficient case studies—is the role of casualties in LSCO and the role of a lack of casualties, relatively, in the last 17+ years of stability operations.⁷

In addressing the issue of adroit maneuver—or the simple need to kill the enemy in large numbers to gain victory—this volume presents two chapters on the First World War: one on the German experience late in the war in the East and the other about US V Corps operations, also very late

in the war. World War II has three essays: on Buna, crossing the Moselle, and the reduction of Manila. One of the two essays on Korea discusses the US approach to the start of the stabilized period and the other addresses the approach of the People's Liberation Army (PLA) through the mythology of People's Volunteers, in the same period. The Vietnam War, the 1973 Arab-Israeli War, and Operation Iraqi Freedom I (2003) are all explored in single chapters. The chapters each analyze the necessity of tactical and occasionally even operational combined arms in large-scale combat operations against peer-threats since 1917. While the focus is on the US Army's approach, the German, Chinese, Egyptian, Israeli, and South Vietnamese approaches are explored as well.

These chapters are not all strictly chronological; the editors selected particularly noteworthy assessments of US actions in Operation Iraqi Freedom I and at the start of the stabilization period in Korea to begin the discussion. From those assessments, a common language emerged. The remaining chapters tend to be chronological.

The concluding chapter was written by Lieutenant General Michael D. Lundy, the commanding general of the Combined Arms Center—not as a case study of the past but as an anticipation of the American needs of its Army for the next two decades. General Lundy discusses the future of combined arms maneuver requirements and expectations to win our next wars in multi-domain operations. In all these chapters, issues of Rick Swain's romantic and realist versions of modern combat are debated; each reader will make his or her own assessment given the lessons revealed through these case studies.

For the convenience of readers, a brief overview of each chapter follows. Chapter 1, written by General (Retired) William S. Wallace, former V Corps commander during OIF1 in 2003, and Colonel (Retired) Kevin C.M. Benson, former J5 Combined Forces Land Component Command (CFLCC) planner during the invasion. They explain the planning effects leading to the production of the CFLCC/Third Army major operations plan Cobra II and execution of the plan in combat. The focus is on the major developments of the planning effort during war gaming and plan revision as well as how the V Corps commander adjusted his execution as the conditions of combat changed.

In Chapter 2, Colonel Bryan Gibby, the Chief of the Military Division at the Department of History, US Military Academy, analyzes the 2nd Infantry Division's assault on Korea's Punchbowl in 1951, to include the assault on Bloody Ridge and Heartbreak Ridge. He analyzes how combined

arms affected the Punchbowl operations through the preliminary attacks to seize Hill 1179 and establish a forward patrol base—a hasty attack to eliminate the North Korean forces at Bloody Ridge and follow-on operations on Heartbreak Ridge. He reviews each of the field commanders on the ground in this analysis of the doctrine and fighting in a large-scale combat environment and shares the honest results of leaders who failed to be adaptive in large-scale war. Gibby’s cautionary note primarily addresses the difficulty of achieving great things with less-than-overwhelming resources. His narrative should enable further discussions of life under heavy and sustained enemy artillery bombardment—something we have missed, thankfully, in most actions in Afghanistan and Iraq.

In Chapter 3, Major Mike C. Kiser, an instructor in the Department of History at the US Military Academy, examines the Chinese use of maneuver to achieve the PLA’s operational and strategic objectives from October 1950 to June 1951. Kiser demonstrates how Chinese officers understood advantages against the United Nations forces and created superiority through maneuver and firepower.

In chapter 4, R. David Pressley II, a history graduate student from the University of North Texas, analyzes German utilization of combined arms operations at Riga and the Baltic Islands in the final months of the Eastern front in World War I. He discusses several tactical and operational innovations witnessed during these German attacks that were promulgated into official German doctrine and quickly transferred to the Italian and Western fronts. This return of movement to the battlefield was actually based primarily on overwhelming firepower as well as indirect and direct fire at the point of penetration rather than on some romantic notion of adroit operational art, mystical psycho-shock of enemy command and control systems, or getting inside his observe-orient-decide-act loop. Today’s doctrine writers and senior leaders, as well as those who would become senior commanders and staff officers, would do well to read this chapter—especially if they think they have found the magic keys to the kingdom in some new technology.

In Chapter 5, Major John M. Nimmons, an Armor officer and recent School of Advanced Military Studies (SAMS) graduate, provides a case study of V Corps’ operations in Meuse-Argonne offensive, charting the obstacles to adaption as well as the social and cultural impacts that affected V Corps actions and decisions. This chapter details early V Corps struggles to link their artillery and intelligence systems at the corps level with tactical innovation of combined arms maneuver at division level. The challenge of dividing the multiple tasks on the modern battlefield between echelons to maximize both effectiveness and efficiency is rarely the focus of historians’

work but is a critical component of battlefield competence. Nimmons describes the steep US Army learning curve in the fall of 1918 and finishes his chapter with a clear depiction of what victory looks like—the clear coordination of fires, maneuver, tanks, combat aircraft, effective logistics, and an effective level of coordination from the corps to the divisions.

In Chapter 6, Robert M. Young, a history professor at American Military University, explains the effect of just-in-time, or *almost* just-in-time, support to a hastily mobilized US Army division in World War II in the Southwest Pacific Area (SWPA) in 1942 and early 1943. Equipped with only one howitzer of sufficient firepower to actually destroy Japanese bunkers, inadequate ammunition for that one artillery piece, initially no tanks worthy of the name, and woefully short infantry front-line strength, the early fighting in Buna and elsewhere in the SWPA was not a story of success. However, learning did occur and subsequent offensives—using more artillery, many more tanks, and some allied combat-experienced Soldiers—rapidly turned the course of these battle against the Japanese.

In Chapter 7, Major Paul P. Cheval, an Infantry officer and another recent graduate of SAMS, discusses the 80th Infantry Division that engaged the German Army in August 1944 at Argentan and again in September 1944 when crossing the Moselle River. He analyzes the 80th Division's ability to employ combined arms and reveals that although it eventually achieved its objective, the division too often fought with separate arms. More an explanation of the challenges of attaining useful levels of combined arms than a rousing success story, this is an important perspective on the difficulty of even the simplest things in combat. In this case, Cheval reminds us of the difficulty of anything when engaged in large-scale combat with an opponent who refuses to give up.

In Chapter 8, Captain James A. Villaneuva, a Department of History instructor at West Point, discusses General Kreuger's Sixth Army. The Sixth Army landed in Luzon on 9 January 1945, with initial operations on Luzon and focusing on the seizure of Manila. He analyzes the adaptive combinations of infantry, tanks, and tank destroyers and mobile artillery that allowed the 37th Infantry Division and 1st Cavalry Division to drive south to seize Manila. A story too infrequently told in our histories, the clearance of Manila may very well be a forecast of combat in mega cities.

In Chapter 9, Lieutenant General (Retired) Daniel P. Bolger discusses our operations in Cambodia—from the political realities of the Nixon administration, through the machinations at four-star headquarters, down to the fighting soldiers, both South Vietnamese and American. Bolger—a

University of Chicago-trained historian, former division commander in combat, and fellow instructor in the US Military Academy (USMA) History Department—contributed a smoothly narrated but incisive history of the operational and sometimes tactical incursion into Cambodia that brought powerful strategic results, although not quite as intended. Strong on assessment of Army of the Republic of Vietnam (ARVN) contributions and the sometimes-silly-but-frequently-fatal political micro-management of squad-level details, Bolger's piece establishes the right tone for assessing future US Army operational art in a combined arms large-scale combat operations environment.

In Chapter 10, Tal Tovy, an associate professor at Bar Ilan University in Israel, discusses the Egyptian and Israeli armies in combat during the October 1973 war. Adding significantly to the relatively well-known analysis of the '73 War, Tovy provides a double-level assessment of the use of combined arms by the Egyptians and the late discovery of this old concept by the Israelis. He then adds to the discussion by linking US Army lessons learned—or imagined—from this war as the Army entered the operational art period of American doctrine. Useful in several aspects, Tovy's account adds appropriate complexity and subtlety to what has usually been a somewhat sterile recitation of changes to Field Manual (FM) 3-0, *Operations*—or Field Manual (FM) 100-5 as it was called in the late 1970s.

In the concluding chapter, Lieutenant General Michael D. Lundy, Commanding General of the Combined Arms Center, presents a vision of the future in combined arms maneuver. He also expands the discussion in this set of books—and in possible future additional volumes—by identifying some of the unresolved issues of peer-competitor combat operations where divisions and corps are mere tactical formations. Our complacency (Lundy does not use this word in his chapter)—resting on the valorous actions of the last 17 years and a sense that the new culture of the Army, inculcated by those 17+ years of stability operations, implies that preparation for more stability operations is enough—are as much the enemy of the future as the Russians, North Koreans, Chinese, or Iranians. Lundy argues that we must fight now to regain our ability to deter, engage, deny, defeat and win against any and all competitors. He persuasively establishes that the Army needs to reorient on large-scale combat operations (LSCO)—remembering the lessons and the ability to conduct stability operations but quickly and drastically improving the Army's capabilities for training, preparation for LSCO, and deployment into immature theaters; these are the hallmarks of future conflict.

This work would not have been possible without the voluntary time and work of the expert authors. The chapter authors are a mix of six active-duty, three retired officers and three civilian scholars, including an Israeli military historian. All of the authors have had a lifelong fascination with military history and share numerous publication credits, as well as meritorious service in combat and in the education of our junior officers. Several have suffered through having me as a history instructor either at USMA or at the School of Advanced Military Studies. Special thanks to Bryan R. Gibby for having the grace to thank me for making him rewrite his fourth class history paper way back in 1988 and to Paul P. Cheval and John M. Nimmons, who thought they were done with their graduation requirements at SAMS until I asked them to come talk about their monographs and this Combined Arms volume. A deep thank you to Generals William S. Wallace and Daniel P. Bolger, and to Kevin C.M. Benson, for years of personal friendship, professional mentorship, and service to our nation. Thank you all.

Additionally, I owe thanks to the staff of Army University Press for putting this volume into physical and electronic form as part of *The US Army Large-Scale Combat Operations Series*. Special thanks to Colonel Paul E. Berg, this book set's general editor. Welcome to Leavenworth and the joys of coordinating instant publications. I also wish to thank Donald P. Wright for senior oversight of the project and its production, Robin D. Kern for graphics, and Diane R. Walker and Lynne M. Chandler Garcia for their professional copy editing and layout. Always ready to help, Russell P. "Rusty" Rafferty, chief, Classified Services, Ike Skelton Combined Arms Research Library, has not only remained a friend over the last six months of putting these books together but has broadened our knowledge base through his encyclopedic knowledge of Internet-based resources, unparalleled combination of knowing where "that study" is in the CARL archives, and eagerness to go find it, reproduce it, and send it on to unsuspecting authors. All of these professionals have made this volume better for their contributions. As the general editor of this volume, I am responsible for any errors, omissions, or limitations of this work.

Notes

1. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017), 1-3.
2. Peter J. Schifferle, *America's School for War: Fort Leavenworth, Officer Education, and Victory in World War II* (Lawrence, KS: University Press of Kansas, 2010) takes a different view of the Kasserine battles. This view, that it was a minor tactical defeat on the road to operational capability, is shared by Gerhard L. Weinberg in his epic history of World War II, *A World at Arms: A Global History of World War II* (NY: Cambridge University Press, 1994), 443, 1044.
3. Department of the Army, FM 3-0, ix.
4. Department of the Army, Army Doctrine Publication (ADP) 3-0, *Unified Land Operations* (Washington, DC: October 2011), 6.
5. Department of the Army, FM 3-0, 1-38.
6. Richard M. Swain, *Lucky War: Third Army in Desert Storm* (Fort Leavenworth, KS: US Army Command and Staff College Press, 1994, 1997), 72–73.
7. Schifferle, *America's School for War*, 180, 202. For this author's view of combined arms, stabilized fronts, operational exploitation and pursuit, and the operational similarities of World War I and World War II, see pages 182–187.

Chapter 1

Beyond the First Encounter:

Planning and Conducting Field Army and Corps Operations

General (Retired) William Wallace and

Colonel (Retired) Kevin C.M. Benson

*No operation plan extends with any certainty beyond the first encounter with the main body of the enemy. It is **only the layman** who, as a campaign develops, thinks he sees the original plan being systematically fulfilled in every detail to its preconceived conclusion.*¹

—Helmuth von Moltke (The Elder)

Our intent in this chapter is to describe the planning efforts leading to the production of the Combined Forces Land Component Command (CFLCC)/Third Army major operations plan Cobra II and the execution of this plan in combat by US V Corps. We will cover the major developments of the planning effort during wargaming and plan revision and then how the V Corps commanding general adjusted his execution of the plan as the conditions of combat presented challenges and opportunities. We begin with the development of the major operations plan, Cobra II.²

CFLCC Planning

In late August 2002, Lieutenant General P.T. Mikolashek handed over command of Third Army and CFLCC to Lieutenant General David McKiernan. McKiernan was a highly regarded officer who had a real sense for warfare at the tactical and operational level. He was also coming out of the Army staff G3 position, so he had a sense for the state of the US Army and the politics of the impending invasion. McKiernan also brought with him a team of experienced general officers to lead key Third Army staff sections.

On 7 October 2002, Lieutenant General McKiernan's team assembled in the top secret briefing area within the headquarters in Atlanta. Major Generals James "J.D." Thurman, the new J3; James "Spider" Marks, the J2; Claude "Chris" Christensen, J4; and W. Glenn "Fuzzy" Webster, the deputy commander for operations, were present. Colonel Kevin Benson, J5, briefed the plan as it existed at the time. It was a very instructive session.

McKiernan spoke in-depth on his views, setting conditions for great interaction with the new team of general officers. All bought into the operating principles and how McKiernan wanted to fight. McKiernan said he was thinking about the CFLCC mission statement and would "write

out” his thoughts on it, as well as the commander’s intent. The proposed intent was this:

The purpose of this operation is to isolate/control Baghdad with combined arms forces and the effects of operational fires, IO [information operations], and SOF [special operations forces] to attain the strategic objectives of the campaign: regime change and control/elimination of Iraqi WMD [weapons of mass destruction]. The calibrated application of fire and maneuver, coupled with the full acceptance of calculated risk at the tactical and operational level, will effect the rapid destruction or neutralization of actively opposing forces, while preserving infrastructure and selected civil-military institutions to support an efficient and short-term post-hostilities transition. At the end of Phase III, Decisive Operations, CFLCC forces will control Baghdad and be postured to transition to post-hostility stabilization operations throughout Iraq and ultimately to JTF-Iraq [Joint Task Force–Iraq].

The initial plan began with I Marine Expeditionary Force (I MEF) commanding both 1st Marine Division and 3rd Infantry Division. V Corps would enter the battle after CFLCC had forces across the Euphrates River near An Nasiriyah at which time V Corps would become the main effort on the advance on Baghdad with I MEF on the right flank as the supporting effort. It was clear McKiernan did not like this part of the plan. McKiernan intended to make the plan his own.

McKiernan gave some initial planning guidance to let his senior staff in on his thinking about the campaign. Regarding fires, he said he wanted CFACC to bomb the Republican Guard divisions around Baghdad “starting on A-Day.” Thurman and Webster noted this and would begin talking with their counterparts on the CENTCOM staff. McKiernan indicated his understanding that “fixing” the Republican Guard divisions meant CFACC would hit Republican Guard Forces Command command and control (C2) nodes and logistics units on A-Day and afterward. This would prevent large unit movements into Baghdad. McKiernan said his position and the Combined Forces Air Component Command (CFACC) position were coming closer, indicating he’d been talking to Lieutenant General T. Michael “Buzz” Moseley, commander of CFACC. The topic of control versus destruction and bombing versus information operations would come up again at General Franks’ next component commanders conference, which would be McKiernan’s first.

Benson raised three points: the CFLCC zone, staging of the 173rd Airborne Brigade, and regime collapse/exploitation. The CFLCC zone was still a point requiring resolution as Benson felt establishing the zone would assist McKiernan in making this plan his own by allowing him to have the major directive authority on the use of air-delivered fires, thus shaping the operational battle for V Corps and I MEF.

Benson suggested to McKiernan to base/stage the 173rd ABN in either Italy or Cyprus for use in dam seizure or exploitation. This would put those operations under CFLCC command vice relying on Combined Forces Special Operations Component Command (CFSOCC) or Joint Special Operations Command (JSOC) to conduct the operations. McKiernan nixed this suggestion decisively. McKiernan said he wanted the 173rd attached to the 4th Infantry Division (4ID) when it attacked from the north. (This suggested northern option was a major effort of plan development until the government of Turkey denied Coalition requests for support and access to its territory, thus preventing introduction of 4ID from the north.) McKiernan said he was certain if CFLCC needed paratroopers for dam seizure or exploitation, he could go to the Army for the 82nd Airborne Division, which CFLCC did.

As far as exploitation of an anticipated regime collapse, Benson proposed giving those tasks to V Corps for planning, along with the projected forces and their availability. The J5 team would do some more work on this prior to handover. A scenario involving collapse of the regime, and how to exploit such a circumstance was definitely a branch plan to the major operations plan. There were more details to refine through wargaming. CFLCC would announce this effort in more detail in another warning order.

The approach taken during the initial wargame at Scott Air Force Base with the Central Command (CENTCOM) planners was a modification of the CENTCOM J5 tasks to CFLCC in Phase II of the skeleton campaign plan. Phase II concerned mainly air operations with the caveat that CFLCC would be prepared to take advantage of opportunities to attack significant objectives, oil fields, and the Basrah airport. The arrival of tactically significant forces would allow CFLCC the leeway to attack toward Jalibah, Iraq (site of a good air base), and initially block Basrah until the arrival in theater of the 7th Marines Regimental Combat Team (RCT). This force closure would give CFLCC enough forces to attack and seize the oilfields and Basrah airport without distracting from operations toward Baghdad. There was also a discussion of the level of expected Iraqi resistance.

CFLCC J5 pressed for an articulation from the CENTCOM planners on the level of enemy resistance and where the CENTCOM J3 and J5 planners believed CFLCC could and would accept risk. CENTCOM J5 thought there would be very little fight from the Iraqi Regular Army and limited resistance from the Republican Guard Forces Command (RGFC) divisions and corps. This resistance would diminish in proportion to the closure of Coalition ground forces and the application of fires (lethal and non-lethal). CFLCC expected to face moderate to heavy resistance from a range of forces, including the units of the Special Republican Guard (SRG). This meant CFLCC would face some fighting in Baghdad itself. CFLCC J5 based these thoughts on talks with the CFLCC Deputy J2, Colonel Steve Rotkoff, and some of the CENTCOM J2 staff.

Mitigating the risk to CFLCC forces and the expected level of resistance CFLCC could face played a large role in crafting information operations messages tailored to Iraqi forces. After the initial wargame at Scott Air Force Base, CFLCC J5 was very confident that the experts in information operations understood what McKiernan wanted them to prepare in terms of messages to the Iraqi Regular Army. The desired outcome was for the Iraqi Regular Army to stay out of the fight and join the Coalition in establishing a post-Saddam Iraq. Messages laying out how the Iraqi Regular Army could display its intent to stay out of the fight were prepared for approval as were the means of delivery, and the specific targets—both units and people.

A part of the CFLCC operational maneuver toward Baghdad involved the seizure of the dams along the Tigris River by CFSOCC. The purpose of seizing control of the dams was to prevent a controlled or catastrophic release of water, thus disrupting the downstream crossing sites CFLCC intended to use en route to Baghdad. The timing of the operations to seize the dams had a direct relationship on the length of time CFSOCC had to sustain the special operating forces and Rangers at these sites. CFSOCC did not have the means to sustain its forces for an extended period of time. These units would be supplied by air until CFLCC ground forces could link up with them, thus opening ground lines of communication. Additionally, in order to determine amounts of ammunition and other supplies for special operating forces, CFLCC J5 had to determine how long it would take CFLCC forces to relieve the units that seized the dams and then justify the length of time.

Planning at the operational level is difficult—an understatement. Our military education system focuses on the tactical level: battalions, brigades, and to a lesser extent divisions. The operational level of war involves the

movement of divisions and corps along with supporting formations. This involves the sequencing and sustaining of battles. Key to operational level planning is linking these tactical actions to attainment of the conditions needed to ensure strategic and policy success. Given the tactical focus, a main point of effort was ensuring the plans team envisioned large-scale movements. As an example, figuring out how a division would fight so the team could write tasks to the Corps and MEF.

Therein is another difficulty in developing and conducting operational level of war tasks. Officers are taught to wargame, envisioning how the fighting will develop two echelons of command below their level. The usual level of experience makes officers comfortable with wargaming company-level fights while serving at brigade level. At the land component command level, two echelons of command below was a division. Wargaming at the land component level of command meant the J5 had to ensure the planners were viewing the campaign in terms of how a division would fight en route to Baghdad in order to write appropriately worded tasks to the corps and MEF commanders. This effort was complicated by the fact that CENTCOM, a joint headquarters, had Navy and Air Force officers involved in planning the campaign—the centerpiece of which were land operations. This is not insignificant, in that officers of different services are educated differently in the methods of planning.

The wargaming and overall planning effort led to the expected phase III offensive tasks to V Corps such as: on order, as the main effort, attack in zone to defeat the 11th Infantry Division (Regular Army) and opposing RGFC forces (MEDINA and HAMMURABI Divisions) to set conditions for operations in and around Baghdad. Also included in phase III tasks for V Corps were stability tasks. This was in accord with McKiernan's intent, which envisioned a "blurred" transition between phases III and IV. The Corps and the MEF had to consider this form of transition while focusing on isolating the Iraqi regime leadership in Baghdad. V Corps stability tasks ranged from: seize airfields in zone then report airfield status, condition, and estimated resources needed to resume C-130 operations through operational and support channels, on order; provide combat service support to Coalition forces; be prepared to (BPT) secure key oil infrastructure within zone to prevent its destruction and to mitigate against environmental disaster; BPT assume command of Coalition forces to conduct post-hostilities operations; and BPT secure a ground line of communication (LOC) to/from Jordan in order to facilitate operations and sustainment.

CFLCC planners envisioned the phase IV scheme of maneuver as civil military operations continuing to expand in liberated areas, and support

being provided to international and non-governmental organizations (IO/NGO), as well as humanitarian assistance activities as required. Coalition forces would join the effort in the theater to ensure the success of the operation; deter any potential ambitions by Iran, Turkey, or the Kurds; assist with the many tasks associated with phase IV; and help secure extended LOCs in an expansive rear area. CFLCC prepared to provide support to an emerging provisional government once that government assumed power. After the removal of Saddam's regime, CFLCC would transition from combat operations to supporting the Joint Inter Agency Control Group (JIACG) in conducting sustainment of humanitarian assistance, conducting critical life support, repairing critical infrastructure, and transitioning displaced civilian (DC) operations to the Iraqi government and supporting international and private organizations. After cessation of combat operations, CFLCC forces would secure the surrender of Iraqi military forces and, when necessary, destroy pockets of resistance. CFLCC forces would assist in the maintenance of general public order; assist the JIACG and international organizations in rehabilitating key Iraqi institutions (such as the Iraqi military); transition all civil-military operations to the Iraqi government and supporting international organizations; transition to a Combined Joint Task Force-4 (CJTF-4); and conduct redeployment operations.

The planned effects objectives desired in phase III, both lethal and non-lethal, were: disruption of all RGFC divisions' ability to conduct a coherent defense of Baghdad; denying maneuver units of the III (Iraqi) Regular Army Corps the ability to conduct a cohesive defense; disruption of the IV (Iraqi) Regular Army Corps' ability to mass fires; limit IV (Iraqi) Regular Army Corps' ability to attack I MEF; disrupt the ability of the "inner security ring" to protect the Saddam Hussein regime; deny Iraqi ability to employ WMD; and deny Tikrit as a base of support to Saddam Hussein.

The non-lethal operations were directed at Iraqi military forces and the Iraqi population. Planned Information Operations would disrupt Iraqi air defense, maneuver, and artillery command and control (C2) networks—preventing Iraqi forces from conducting coordinated attacks against Coalition forces. The priority of effort focused on I/II Republican Guard Corps artillery C2 and MEDINA, HAMMURABI, AL NIDA, and BAGHDAD RGFC divisions. Psychological operations (PSYOP) and Civil Affairs efforts would persuade the Iraqi populace to not interfere with Coalition operations. Information Operations would dissuade the populace from supporting Saddam's regime or regime security forces and influence them to refrain from sectarian violence. Public affairs and PSYOP messages would continue to focus on dissuading Iraqi leadership and forces from creat-

ing environmental disasters, destroying oil infrastructure, or using WMD. These effects would be coordinated with CENTCOM and CFSOCC for setting conditions for phase IV stability operations in northern Iraq. The populace would continue to be provided instructions to reduce risk of col-

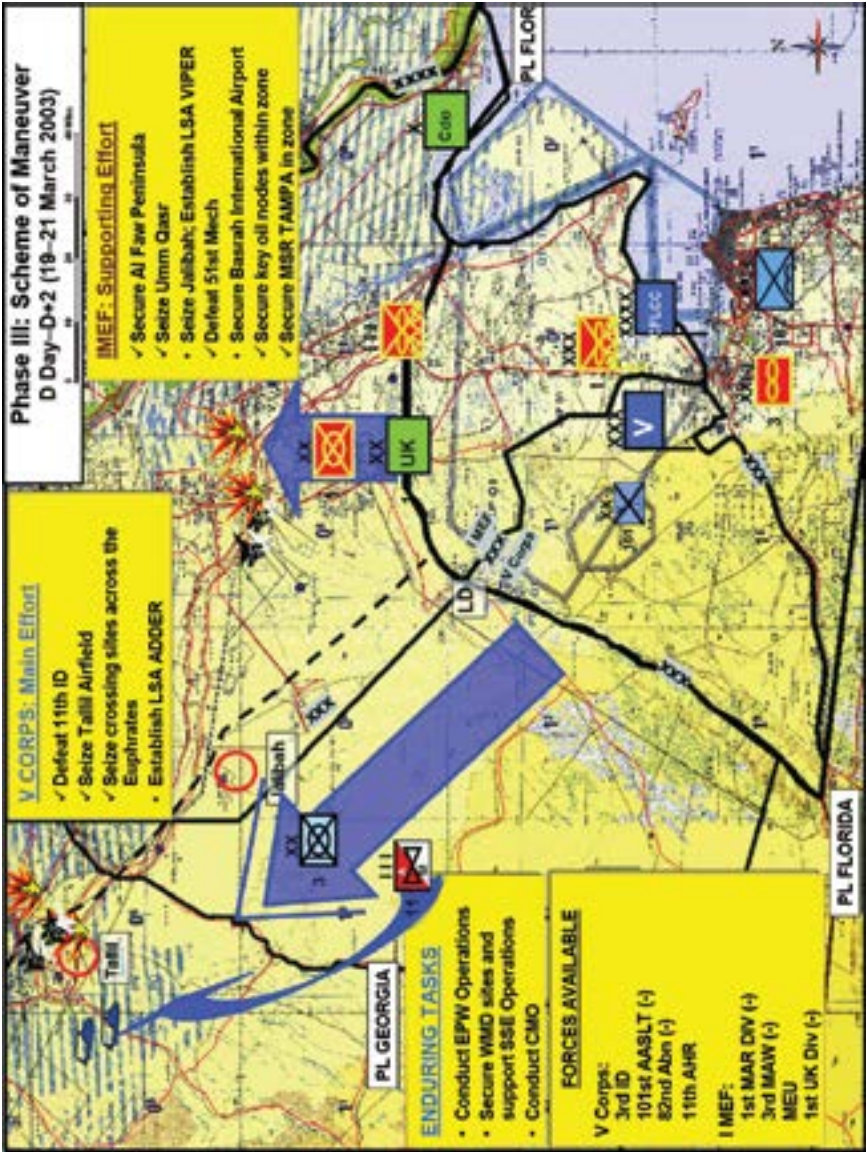


Figure 1.1. Phase III Scheme of Maneuver D-Day to D+2, 19–21 March 2003. Map created by Army University Press.

lateral damage, prevent interference with Coalition operations, and identify WMD/sensitive sites to Coalition forces.

Phase IV effects, lethal and non-lethal, were: lethal fires focused on direct support of the ground scheme of maneuver to defeat remaining Iraqi military forces that opposed US operations and to protect the force through the destruction of all identified chemical and biological munitions capable delivery systems. CFLCC priorities for air interdiction were to destroy remaining forces loyal to Saddam's regime and hostile to US forces in vicinity of Baghdad; deny movement of enemy military forces to and from Baghdad; isolate Baghdad from Tikrit; and protect CFLCC LOCs. Effects objectives in this phase were: disruption of the ability of the Special Republican Guard (SRG), and RGFC to conduct a coherent defense of Baghdad; continued disruption of the "inner security ring's" ability to protect the regime; destruction of the Iraqi ability to employ WMD; and continued denial of Tikrit as a base of support in order to enable V Corps freedom of maneuver.

Non-lethal effects focus was: Information operations emphasized civil order, influenced support for the interim government, identified WMD/sensitive sites to US forces, and identified/located remaining Saddam loyalist units, personnel, facilities, and equipment. Information operations would also support humanitarian activities, repair and maintain critical life support infrastructure, and control displaced civilians and rehabilitation of key Iraqi infrastructure. Psychological operations messages would attempt to induce remaining enemy forces to surrender/capitulate and comply with US/Coalition directives. Public Affairs and Civil Affairs would inform regional media and local civil authorities/populace, respectively, of US/Coalition directives. Electronic warfare focused on identifying C2 of forces or factions that continued to oppose Coalition operations for application of electronic or physical attack. Operational security (OPSEC) and other defensive information operations measures would focus on continued protection of CFLCC forces to preserve combat power for follow-on operations or redeployment. If required, on order, Tikrit would be isolated physically and electronically until capitulation was achieved. Public Affairs and Psychological operations messages would continue to focus on dissuading Iraqi leadership and forces from creating environmental disasters, destroying oil infrastructure, or using WMD. CFLCC would prepare to coordinate with CENTCOM and CFSOCC on the conditions to be set for stability operations in northern Iraq.

The planned logistics focus in phases III and IV were: Phase III objectives were to have the Theater Distribution System operate effectively

through a series of logistical support areas (LSAs) and Convoy Support Centers (CSCs) along the LOCs to enable the support of operations over long distances and to have the theater joint reception, staging, and onward movement (JRSO) continue according to plan with no significant impacts on the operational flow of forces in support of phase III or in preparation for phase IV. At the end of phase IV, the theater logistics posture would continue to sustain CFLCC forces throughout Iraq and supporting those forces as they conducted regime removal operations in and around Baghdad. Theater logistics units prepared to assist in humanitarian efforts as required. Corps Support Command (COSCOM) and the Force Service Support Group (FSSG) elements developed effective working relationships with Humanitarian Assistance (HA) and Non-Governmental Organizations (NGOs) in their respective zones. Additionally, these same logistics elements would seek Iraqi sources of supplies and services and work with the emerging government of Iraq to assist in stabilization, recovery, and transitional operations.

On 13 January 2003, McKiernan signed the major CFLCC operations plan, Cobra II. McKiernan's commander's intent was:

Purpose. Overthrow Saddam's regime.

Key Tasks.

(a) Control/isolate the regime (Baghdad is the center of gravity for the regime) by fracturing Saddam Hussein's ability to C3 his sources of power, defeating military that chooses to fight the coalition (influencing neutrality or capitulation of remainder of RA/RGFC forces), and controlling the civilian population to not impede our attacks. Focus kinetic and non-kinetic effects on regime targets located in Baghdad early and continuously to maintain constant pressure on the regime.

(b) Simultaneous, multidirectional, continuous effects using combined arms maneuver, operational fires, and information operations that are synchronized with CFSOCC, CFACC, and OGA [other government agency] effects. Exploit tactical and operation success at every opportunity. The high tempo of operations will require mitigating actions for the single greatest concern of operational risk—CSS supportability over extended LOCs, both north and south. Logistics must support the depth and momentum of operational maneuver.

(c) Control as we go (LOCs, SSE [sensitive site exploitation], formations, infrastructure, and population). Conduct a "rolling"

transition to Post-Hostility Stability and Support Operations, initially in southern Iraq even while combat operations continue in central Iraq/Baghdad. Balance effects of control (population) and destruction (military support to regime's defense).

Endstate. Operational endstate is removal of key regime leadership, coalition forces physically controlling Iraq, RA/RGFC forces defeated or capitulated, and vital infrastructure to provide life support to the Iraqi population sustained. Expect SSE to continue well after cessation of hostilities. Conditions established to effect CFLCC battle handover to CJTF-4.

On 14 February 2002, CFLCC conducted a combined arms rehearsal of Cobra II. The senior commanders of CFLCC used the combined arms rehearsal as a vehicle to present their understanding of the Cobra II plan through the end of phase III, which concluded at the arrival of V Corps and I MEF in and around Baghdad. Phase IV was not covered, as the wargaming was ongoing. The rehearsal served its purpose, which was to talk through the actions delivering major US combat power to Baghdad and coordinate the actions of such Coalition combat forces as there were: Polish and Australian special operating forces along with US Joint Special Operations Task Forces (JSOTFs) and the 1st British Armoured Division.

McKiernan used the term “stance” to indicate not only the physical positioning of units in Kuwait but also those projected to arrive, along with their completion of the pre-combat checks of equipment. After the rehearsal, McKiernan briefed General Franks and his fellow component commanders on the overall readiness of the ground maneuver force for the invasion. McKiernan's final comment was, “We have a plan that will work.” Major combat operations began on 19 March 2003. V Corps crossed the line of departure on 20 March 2003.

V Corps Execution

Of course, having a solid plan and making it work are two distinctly different things. The remainder of this chapter focuses on V Corps' execution of tactical tasks in support of Lieutenant General McKiernan's intent, and how those tasks supported (or in some cases deviated from) the original intent. In that regard, it is no understatement that McKiernan's intent was entrenched in the mind of virtually every V Corps soldier. While the explicit statement of intent is unlikely to have been memorized by any, each soldier knew the purpose of the operation was the overthrow of Saddam's regime. The soldiers knew the regime drew its power (i.e. its center of gravity) from control of Baghdad (in the minds of most 3ID

Soldiers, “the road home led through Baghdad”). They also knew a high operational tempo that would dislocate and defeat Saddam’s forces was essential to success.

There are a few factors which should be understood to appreciate the execution of the fore-mentioned planning tasks. First, V Corps’ senior leaders, its subordinate Divisions, and the senior CFLCC leaders knew each other. In some cases they were long-time friends (as was the case with Lieutenant General Wallace, Commander V Corps, and Lieutenant General McKiernan). In other cases, they attended professional military education together (as was the case with Wallace and Major General David Petraeus, Commander of the 101st). At the very least, they all knew each other through shared experiences and reputation. These relationships grew stronger in the days leading up to the invasion via shared training, wargaming and a constant dialogue among the team on matters of operational and tactical significance. This familiarity led to a level of trust among senior leaders and commanders which was essential to successful mission execution.

Second, plans were rehearsed (and in some cases adjusted) in great detail to the extent that there was a thorough understanding on the part of every unit of what its role was in the overall operation. This understanding was anything but rigid. Commanders understood the purpose of the operation and understood that their tactical exploitation of opportunity which would lead to the achievement of purpose was not only allowed, it was expected.

Finally, the training and readiness of V Corps soldiers and formations was at a very high level of proficiency. Virtually every unit and commander in the formation had a US combat training center rotation under their belts. In the case of the 3rd Infantry Division (3ID) its brigades had been rotating in and out of the Kuwaiti desert regularly for several years, with each executing complex live fire warfighting tasks as part of each rotation. The entire V Corps team of leaders and staffs had joined together at the US Army training center in Grafenwoehr, Germany, to conduct a computer-assisted rehearsal of the Corps plan and several of its branches and sequels. This event served to solidify the team, increase its confidence, and improve mutual trust.

This combination of friendship, trust, understanding, and training would prove to be decisive in the execution of Cobra II. As stated previously, the first key task was “to control/isolate the regime (Baghdad is the center of gravity for the regime) by fracturing Saddam Hussein’s ability to C3 his sources of power, defeating military that chooses to fight the

coalition (influencing neutrality or capitulation of remainder of RA/RGFC forces), and controlling the civilian population to not impede our attacks. Focus kinetic and non-kinetic effects on regime targets located in Baghdad early and continuously to maintain constant pressure on the regime.”

While V Corps’ combat power could not range Baghdad at the outset of the operations on D-day (19 March), Coalition air power could. Joint deep fires, both air and missile, had a significant shaping effect on the operational environment and thus the operations of V Corps.

The Corps crossed the line of departure on 20 March and rapidly moved on multiple routes intending to bypass Iraqi Regular Army units and southern Iraq’s population centers, which might slow the rate of advance. By 23 March, significant elements of the 3ID had seized key terrain around An Najaf. From 26 March to 1 April, the Corps consolidated its gains west of the Euphrates River, ensured its lines of communications were secure, and established the conditions (particularly logistics conditions, discussed later in this chapter) for the execution of its attack through the Karbala Gap on 2 April. The Corps completed the encirclement of Baghdad on 6 April, then with little pause executed the attack by 2nd Brigade, 3ID into Baghdad itself on 7 April, which proved to be the decisive thrust into the heart of the regime. Through a combination of these actions, the Corps put direct and continuous pressure on the Iraqi Republican Guard Corps and Saddam’s regime in Baghdad. The combined effect of these actions and the Coalition fires which preceded and supported them helped to defeat the Republican Guard and isolate and remove Saddam Hussein’s regime from power.

Embedded in McKiernan’s first key task was concern that the civilian population might disrupt coalition operations. Whether out of fear or at the direction of the Coalition, the concern that the Iraqi population might interfere with Coalition phase III operations never materialized.

Interestingly, the Iraqi Regular Army was not a significant factor in the campaign either. Coalition air operations targeted known locations of Iraqi units to include the Regular Army with both lethal and non-lethal fires. Leaflets were developed, translated into Arabic, and dropped in significant numbers on known or suspected Regular Army units. These leaflets instructed units on how to “form up” to indicate from aerial observation that they wanted no part of the fight. Few units, if any, followed the instructions on the leaflets, yet the leaflets had an unintended impact. Discussions with former Iraqi soldiers after the conclusion of major combat operations showed they reasoned if the Americans could drop paper with impunity,

they could do the same with bombs if they chose to do so. In large numbers, Iraqi soldiers shed their uniforms, left their equipment, and went home.

Lieutenant General McKiernan's first key task was achieved although it was done with necessary and sometimes opportunistic adjustments to the original plan. Initiative was encouraged throughout the Corps.

McKiernan's second key task was to "use simultaneous, multidirectional, continuous effects using combined arms maneuver, operational fires, and information operations that are synchronized with CFSOCC, CFACC, and OGA effects. Exploit tactical and operation success at every opportunity. The high tempo of operations will require mitigating actions for the single greatest concern of operational risk—CSS supportability over extended LOCs, both north and south. Logistics must support the depth and momentum of operational maneuver."

Clearly the V Corps' rapid movement was in keeping with McKiernan's intent and served to place pressure on the enemy with unexpected speed and from unanticipated directions. As an example, once the 3ID had secured its assigned objective south of Baghdad, the 2nd Brigade Combat Team (2 BCT) sent elements to recon along Highway 1 to the south to ensure its rear was not threatened. 2 BCT not only reported numerous abandoned Iraqi combat vehicles; it also reported that the vehicles and their fighting positions were oriented south in apparent anticipation of the V Corps attack coming directly up Highway 1 from the south.

Nowhere was the intent of exploiting tactical and operational opportunity more apparent than with the V Corps simultaneous attacks of 31 March and 1 April.

Major General Buff Blount, 3ID Commander, his staff and commanders were leaning forward to assault through the Karbala Gap. They were concerned their lack of recent forward movement might provide the enemy with opportunities to reposition forces—artillery, in particular—which might be able to range the division as it prepared for its attack. Blount proposed a limited objective brigade attack which would accomplish several objectives. First, it would get the division back on the offensive. Second, as Colonel Dave Perkin's 2nd Brigade attacked across the Euphrates River to Al Hindiyah (Objective Murray), it would get 2nd Brigade "out of the way" of the division's other two brigades which were to lead the assault through the gap. Finally, it allowed for Lieutenant Colonel Terry Ferrell's 3-7 Cavalry to clear the zone leading to the gap of any possible enemy forces. Upon completion of the attack, the 3ID would have its forces postured to resume the attack through the Karbala gap and on to Baghdad.

Colonel Steve Hicks, the V Corps G3, was in constant contact with the operations officers of the Corps' combat formations and knew each shared the same concerns about loss of momentum. He also knew each was looking for opportunities to get back on the attack as the weather had cleared and resupply was accomplished. Hicks proposed simultaneous with the 3ID actions in and around Karbala that the 101st and 82nd be ordered back on the offensive as well. What resulted from this quick appraisal was an order to the Corps which, upon completion of the operations, would: 1) posture 3ID for the attack through the Karbala Gap, 2) provide additional security to the Corps' lines of communications and the logistics base established west of An Najaf, 3) provide information about and clear enemy forces from alternative avenues of approach which Wallace would have to consider should the attack through the Karbala Gap fail. In addition to the specific intent of the attacks—and since the focus of the action in most cases was from west to east across the Euphrates River—it was hoped the action across the Corps area of operations might deceive the Iraqis as to the Corps intentions for future operations.

The Corps began rapid preparations to conduct five simultaneous attacks beginning the morning of 31 March. Each of the Corps' subordinate divisions was given task and purpose to resume the offensive. The 3ID would attack toward northeast to Hindiyah while simultaneously conducting a reconnaissance in zone toward the Karbala Gap. The 101st Air Assault (AASLT) Division, would attack to contain enemy forces in and around An Najaf, conduct a feint north and east toward Al Hillah, and conduct an armed reconnaissance with its aviation brigade to the north and west of Bahr-al-Milh Lake. The 82nd Airborne Division's 2nd Brigade would attack east to contain enemy forces in and around As Samawah. The attacks had the desired results. At their conclusion, the 3ID was positioned to attack through the Karbala Gap with its flanks secured, and the Corps' lines of communications were open and secure. The attacks had the additional benefit of providing tangible information about alternative axes of attack and courses of action should there be a need to deviate from the Corps base plan.

As previously indicated, McKiernan, Wallace, and their staffs shared a concern about logistics supportability. Rapid, long-distance movement meant the Corps' lines of communication were long and marginally secure at best. While those Iraqi regular forces with whom the Corps had come in contact were no match for US forces and were easily dispatched, the sometimes-suicidal offensive actions of the irregular forces (Saddam Fedayeen, Quds force, Baath Party Militia, and several flavors of foreign fighters) were both unexpected and unpredictable. These irregulars could

melt into the local population with ease and posed a threat to the Corps' LOCs and logistics forces.

The weather was also a factor. A severe sandstorm engulfed the region from 25 to 27 March, impeding both air and ground movement. The

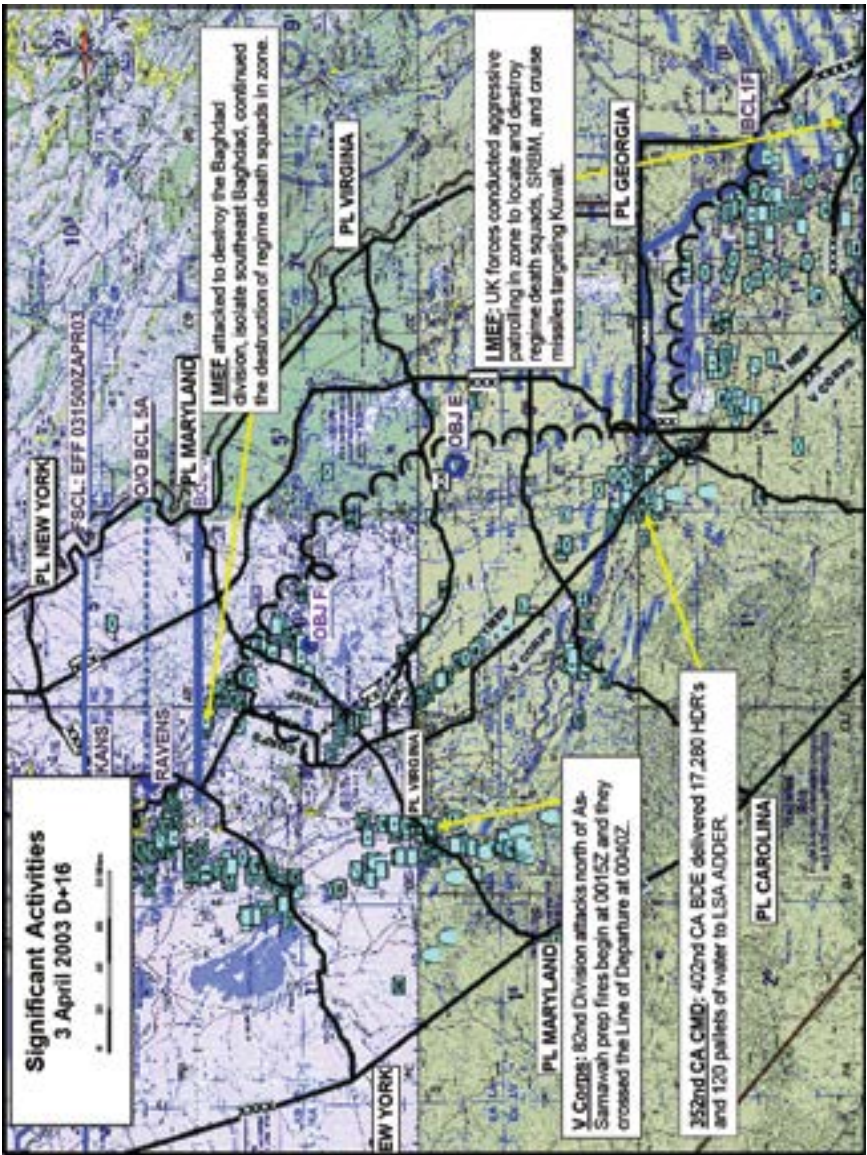


Figure 1.2. Significant activities 3 April 2003, D+16. Map created by Army University Press.

logistics convoys on which the Corps depended slowed to a crawl and the necessary logistics buildup west of An Najaf—needed to posture the Corps for its strike through the Karbala Gap and beyond—was delayed.

Wallace and McKiernan both knew once the Corps passed through the Karbala Gap, the Corps had to maintain its momentum all the way to Baghdad. It was to be one continuous movement (and fight). Both commanders expected Iraqi resistance to stiffen as Baghdad was threatened. All of this implied the need for a reasonably secure logistics capability south of the Karbala Gap from which the Corps' formations could draw continuous and reliable support.

To ensure logistics supportability, the Corps originally planned a pause outside of An Najaf. The Corps Support Command, commanded by Brigadier General Charlie Fletcher, was directed to build up at least five days of resupply at the logistics base west of An Najaf. Base security would be achieved by the 101st AASLT Division's containment of enemy forces in and around An Najaf, while the task of securing the LOCs and containing enemy forces in and around As Samawah fell to Major General Chuck Swannack's 82nd Airborne Division augmented by elements of the 2nd Light Cavalry Regiment.

By planning and executing its aggressive logistics support plan and exploiting opportunities both in the march-up and later in Baghdad, V Corps helped to achieve the second key task—simultaneous, multidirectional, continuous effects using combined arms maneuver, operational fires, and information operations—of McKiernan's intent.

The final key task of the operation was to “control as we go (LOCs, SSE, formations, infrastructure, and population).” That required conducting a “rolling” transition to Post-Hostility Stability and Support Operations, initially in southern Iraq even while combat operations continued in central Iraq/Baghdad, then balancing effects of control (population) and destruction (military support to regime's defense).

McKiernan's intent was a reflection of the appreciation across the command for the width and depth of the CFLCC zone and the nature of the operational environment.

For its part, V Corps executed “control as you go” as an odd assortment of combat operations, counterinsurgency operations, stability and support operations, and population control—all occurring simultaneously across the Corps zone. Depending on timing and positioning in the Corps battlespace, each subordinate Corps unit found itself conducting a highly diverse set of tasks simultaneously. In some cases, the requirements of one

mission were in conflict with the requirements of another. Commanders and units had to be agile in thought and action, with the intended purpose and overall endstate of the operation in mind.

It is a tribute to V Corps planning—nested with that of the CFLCC—that given the forces actually allocated, the correct mix of units with the correct capability and attributes were sequenced and positioned accordingly.

The forementioned operations by the 3ID, 101st, and 82nd in and around An Najaf are illustrative, as is the sequencing of the follow forces (4ID and 3ACR) as the Corps zone of responsibility expanded to include most of northern Iraq (the exception being the Kurdish areas in the extreme north) and all of western Iraq.

Although perhaps overly simplistic, a snapshot in time lends to the understanding of how V Corps was able to support the “control as we go” guidance.

On 2 April, the 3ID attacked through the Karbala Gap with its 3rd Brigade containing enemy forces in Karbala that might be able to influence the crossing of the 1,800-meter-wide gap, while the Division’s 1st Brigade attacked through the gap and turned its attention toward the approaches to Baghdad, capturing an intact bridge over the Euphrates River. At the same time, the 101st continued its containment and isolation of An Najaf, conducted aggressive dismounted operations for which it was ideally suited, and began to build relationships with the local population in this culturally sensitive Iraqi city, assisted by US Special Operations forces that were collocated in the area. Meanwhile, the headquarters of the 82nd continued its containment and isolation of As Samawah and, upon receipt of operational control of the lead elements of the 2nd Light Cavalry Regiment, used the Regiment’s mobility to both patrol the V Corps LOCs and conduct reconnaissance operations along Highway 1 to the north to determine the nature of the threat in that area, if any. This combination of units and missions was the essence of “control as we go.”

Later in the operation, as major combat operations concluded, the requirement existed to occupy those portions of Iraq which had seen little combat but were no longer under direct regime control. The 101st—with the wide area mobility afforded by its aviation brigade—was ideally suited for occupation then stability and support operations in the vast northern province of Ninivah. The Division used its extensive aviation assets to rapidly move hundreds of miles and establish its presence and control centered on Iraq’s second largest city, Mosul.

The 3ACR, under command of Colonel Dave Teeples, was given the challenging mission of occupation of Al Anbar province, thought at the time to be an economy of force area (which proved to be a wrong assumption, as the Sunni insurgency grew in the coming years). The 4ID employment was complicated, to say the least.

After Turkey refused to allow the staging of the 4ID on its territory for a proposed “Northern option,” the Division’s equipment was moved to ports in Kuwait. Upon linking up Soldiers and leaders with their equipment, the 4ID was immediately dispatched to the Tikrit area (home of Saddam Hussein), expecting that if there was to be a major confrontation with residual regime elements, Tikrit and the surrounding area would be the most likely place for it to occur. 4ID also assumed operational control of the 173rd Airborne Brigade, which had assaulted the area in and around Kirkuk in a bold combination of airborne and air-land operations under direct CFLCC control.

3ID assumed responsibilities for all of Baghdad given its original positioning and its expansion into eastern Baghdad across the Tigris River in relief of the 1st Marine Division that had assaulted into Baghdad from the east.

Other elements of the Corps team assumed increasingly important roles as the Corps tried to return a modicum of normality to the lives of Iraqi citizens. Corps engineers placed an 83-boat float bridge across the Tigris River at Tikrit to replace a bridge destroyed by Coalition air strikes early in the war. Engineers in Baghdad formed “Task Force Neighborhood,” which periodically cordoned off multi-block areas of Baghdad and—with the assistance of Iraqi citizens—removed trash from the streets, repaired pot holes, and made schoolhouses suitable to resume the education of Iraqi children. Corps Military Police provided convoy escort and security both in and out of the Corps zone, provided security for critical infrastructure, and made contacts with Iraqi police in an effort to understand their needs and get them back on the beat.

None of these efforts were expansive enough to bring true stability and control to a country as large as Iraq, yet all were in keeping with the theme of transitioning to some degree of post-hostility routine for the Iraqi population. The third pillar of McKiernan’s intent—although seemingly the most benign—proved to be the one most difficult to execute due largely to the growth of insurgent activity by former regime supporters who refused to cede power to the Coalition or to the majority Shia population.

When multiple corps are involved in operations, the corps is a tactical formation. While Corps tactics differ from division and brigade, the tactical principles are the same.

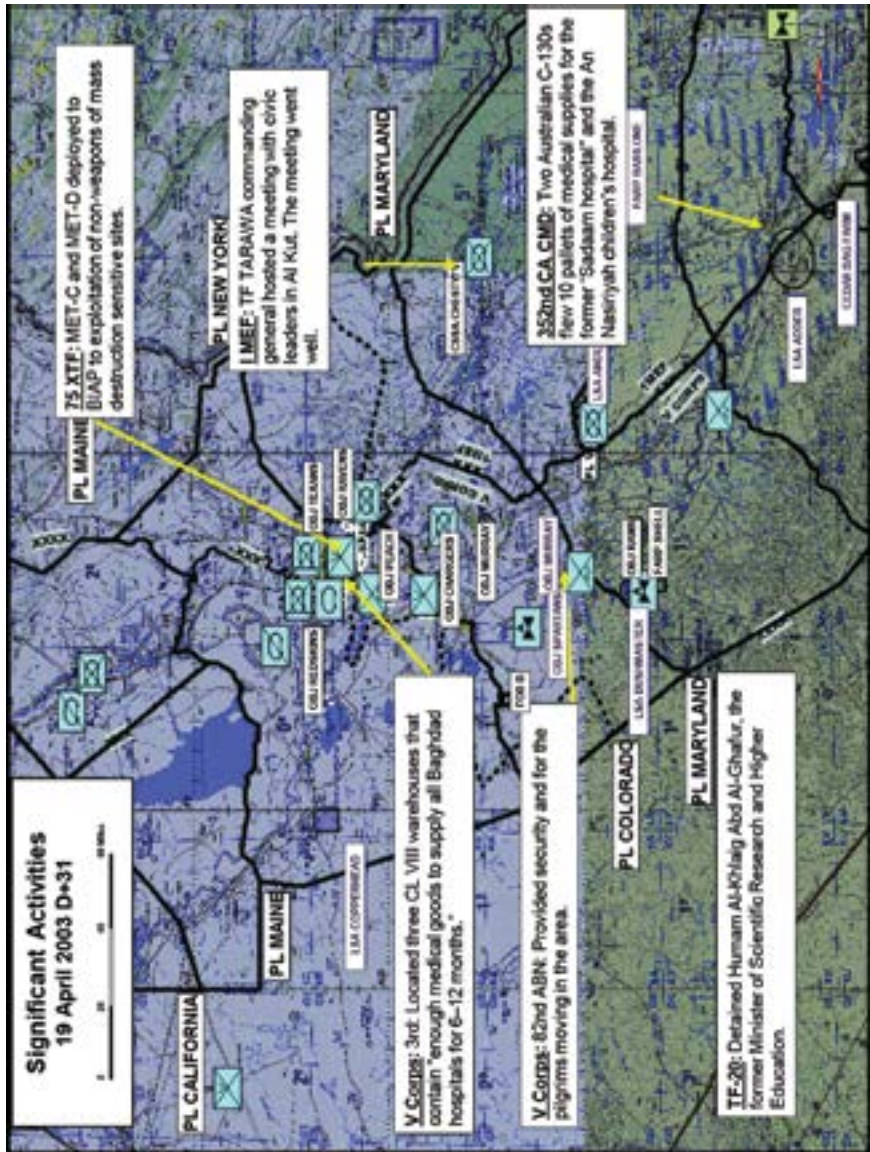


Figure 1.3. Significant activities 19 April 2003, D+31. Map created by Army University Press.

Field Army operations are at the operational level and must link tactical success to attaining strategic objectives and policy aims. The field army must sequence and sustain major engagements and battles while envisioning what if and what next.

In order to look beyond initial contact with any expectation of success, commanders and staffs must understand the interrelationship of planning and operating within the commander's intent. The critical thinking of planning and wargaming establish the conditions for disciplined initiative.

At all levels of command, commanders must recognize that planning and wargaming produce the specified tasks needed to craft plans and orders. These plans and orders establish the basis for envisioning how an operation MIGHT unfold and provide the common basis for understanding the thinking of the higher headquarters. This basis also provides the logistics underpinning of sequencing and sustaining the battles and operations which flow from making contact with enemy forces.

Execution of the operation recognizes that the enemy and the people in the contested region have a say in outcomes. Thus, continuous estimates and disciplined initiative rely upon an understanding of the commander's intent since intent provides the guidance necessary to see an operation through to a successful conclusion.

Commanders must take time to develop trust across their commands and among their command teams two echelons below their own. Combined arms and logistical rehearsals develop the trust that the plan and its associated tasks are thoroughly understood. Tough, realistic training develops the trust that the tasks developed through wargaming can be executed as envisioned or adapted to changing conditions of the battlefield.

In this chapter, we highlighted the products of both planning and wargaming, as well as the results produced by taking the time to build trust and understanding based on the commander's intent. While professional Soldiers may not be able to look with certainty beyond initial contact with the enemy, they can look beyond first contact with confidence. That confidence is based upon shared understanding of the commander's intent; trust in each other; and the disciplined, realistic training that is provided for Soldiers and their formations.

Notes

1. Erich von Manstein, *Lost Victories* (Novato, CA: Presidio Press, 1994), 100.

2. This portion of the chapter and all quotations are based upon personal journals kept by Colonel (Retired) Kevin Benson, then CFLCC J5. Accompanying charts and graphics are also based on his personal files. General Wallace also drew on his personal notes on the operations of V Corps.

Chapter 2

Fire and Maneuver: The 2nd Infantry Division's Assault on Korea's "Punchbowl," August–October 1951

Colonel Bryan R. Gibby

"Fire without movement is indecisive. Exposed movement without fire is disastrous. There must be effective fire combined with skillful movement."¹ In war there may not be authoritative rules to follow, but there are nuggets of wisdom, and the lead sentences of this chapter comprise one of them—commanders disregard the synergy between fire and combined-arms maneuver at their (and their Soldiers') peril.

An attacker advancing against a prepared enemy resorts to various expedients to dislocate or degrade defensive fires. Obfuscation by darkness, smoke, or fog is one effective method, as is the exploitation of surprise, or the utilization of covered and concealed avenues of approach. But sometimes the terrain or the nature of the defenders' array precludes these methods. In these situations, fire must be fought with more effective fire, and the most effective fires are those that support aggressive maneuver.²

Army doctrine for large-unit operations during the Korean War was prescribed by Field Manual (FM) 100-5, *Operations*, published in August 1949. Its foundational experience was of course that gained from World War II, revealing the art of "leading troops in combat and the tactics of the combined arms."³ The Foreword to this edition of FM 100-5 noted that "while the fundamental doctrines of combat operations are neither numerous nor complex, their application sometimes is difficult."⁴ This chapter examines the experience of the 2nd Infantry Division in the Korean War, during the so-called "stalemate" period (1951–1953), conducting offensive operations against a dug-in, motivated, and competent enemy. The division struggled to adapt doctrine to generate fire superiority that enabled decisive maneuver. The result was a poor exchange of high casualties for little terrain. "Numbers cannot be used as a substitute for fire," counsels the 1939 edition of *Infantry in Battle*.⁵ "If the attack lacks surprise or superior fire power, an increase in men will merely mean an increase in casualties" without a decision or appreciable effect on the enemy.⁶ This doctrinal prescription remains fundamental to offensive operations as described in FM 3-0 (2017), where "fire superiority allows commanders to maneuver forces without prohibitive losses."⁷ Achieving fire superiority to complement decisive maneuver is as essential in modern war—where excessive

casualties can have strategic effects—as it was during larger conventional conflicts of the mid-20th Century.

Introduction

In the summer of 1951, the Eighth United States Army Korea (EUSAK) had performed a military miracle. Although heavily outnumbered and fighting in a theater considered secondary in strategic importance compared to Europe, EUSAK wrecked the Communist armies of North Korea and the People's Republic of China in a series of battles following Chinese intervention in late 1950. The Communists' last effort culminated in May, where American firepower completely dominated the battleground. It was clear that the Communists could not generate the military strength to throw EUSAK off the Korean peninsula. It was equally clear to the Americans that a decisive military victory was not in the cards. US President Harry S. Truman was willing to negotiate an armistice to end the fighting and set the conditions for a political conference to determine the final peace.

Military leaders such as General Matthew B. Ridgway (Commander, Far East Command and United Nations Command) and General James A. Van Fleet (Commander, EUSAK) translated this policy guidance into a new military strategy to apply air and ground military pressure while minimizing casualties. Van Fleet was ordered to hold the Kansas-Wyoming Line, which was the terrain basis for an acceptable truce. When negotiations, which began on 10 July 1951, failed to produce a quick settlement, Van Fleet ordered EUSAK to commence limited objective attacks to keep US and allied troops sharp, inflict casualties on the Communists, and gain ground that would eliminate potential threats to the Kansas-Wyoming Line's security. One such operation occurred from July to October 1951 in a region known as the "Punchbowl," a circular volcanic valley located north of the 38th parallel and less than a dozen miles from the strategic Hwachon Reservoir.

The Punchbowl operation can be divided into three parts: a preliminary attack (26–30 July) to seize Hill 1179 and establish a forward patrol base, a hasty attack (18 August–5 September) to eliminate a North Korean (Korean People's Army or KPA) salient known as Bloody Ridge, and a follow-on exploitation attack (13 September–15 October) to seize an objective known as Heartbreak Ridge. Each of these battles featured heavy artillery concentrations to support infantry maneuver. However, the defending North Koreans learned to neutralize American firepower and extract a steep price in casualties. Enemy defenses exploited the forbidding terrain that defied straightforward application of doctrine, which

complicated the Americans' efforts to generate offensive momentum. The division's first two commanders, Major General Clark L. Ruffner and Brigadier General Thomas E. DeShazo failed to appreciate the magnitude of the problem confronting the division, which resulted in poor tactical approaches costly in men, material, and time. The commander who successfully accomplished the division's assigned mission, Major General Robert N. Young, was cut from different cloth, and his imaginative and forceful application of Army doctrine produced dynamic results at a fraction of the cost of the previous efforts.

The Outpost Battle for Hill 1179

The 2nd Infantry Division assumed its place along Line Kansas in mid-July and immediately began to patrol its sector, attempting to dominate the land between it and the North Korean Main Line of Resistance (MLR). Prior to its arrival in the X Corps sector, the division had been reorganizing, refitting, and retraining for future combat operations. However, once negotiations began, the division's training emphasis transitioned to defense-oriented tasks. Its new mission was "the active defense of the Kansas Line and the preparation and organization of the secondary Wichita Defense Line."⁸

This mission suited Ruffner. Commissioned a cavalry officer in 1924, he served in a variety of staff positions before and during World War II. His military education consisted of the Cavalry School and the abbreviated Command and General Staff College course, completed in 1941. Ruffner served in the Far East as the X Corps Chief of Staff from August to December 1950. As the commanding general of the 2nd Infantry Division since January 1951, his experience had been entirely against the Chinese during their Fourth and Fifth Campaigns. The division's most recent successful encounters had been defensive battles where infantry forces fixed the enemy while artillery played the deciding role. His tactical "policy" was simple: "artillery rather than infantry would be used to secure positions . . . when the division stopped it would use artillery . . . slowly and steadily."⁹

Once on Line Kansas, Ruffner saw the opportunity to practice his slow and steady approach. He identified a fortified hilltop immediately to the west of the Punchbowl, Hill 1179 (Taeu-san), that gave the enemy excellent artillery observation of the division's MLR and served as an impediment to effective patrolling.¹⁰ Ruffner planned a two-regiment attack reinforced with engineers, artillery, and close air support to engage in a methodical battle to capture Hill 1179. The attack began on 26 July and lasted until 30 July. The KPA defenders put up stiff resistance, but they

could not hold against the infantry-artillery team that Ruffner employed. However, the lesson learned by the division was unfortunately exceedingly optimistic: “the volume and effectiveness of the supporting artillery and air” had won the day without excessive infantry casualties.¹¹ It was, in the words of the division’s command report, “a job well done.”¹²

Meanwhile, truce negotiations failed to make much progress. In an effort to apply military pressure, EUSAK ordered Major General Clovis E. Byers, commanding the X Corps, on 14 August 1951 to “capture Hill 983 at an early date utilizing ROK [South Korean] forces in [the] principle effort, supported by US fire power.”¹³ Hill 983 was the dominating terrain feature of a ridgeline complex at the southwestern apex of the Punchbowl that included Hill 940 and Hill 773.

The Assault on Bloody Ridge

With the sanguine assessment of the Hill 1179 operation, the 2nd Infantry Division prepared to attack Hill 983. Korean troops (36th Regiment) from the ROK 5th Division were attached to the division and received orders on August 16 to seize the ridgeline. The division developed an elaborate fire support plan with two 105-mm artillery battalions (11th Marine Regiment and the Army’s 300th Field Artillery Battalion) in direct support, four additional divisional battalions (three 105-mm and one 155-mm) in general support controlled by the Division Artillery’s fire direction center, and two corps-level battalions (one 155-mm and one 8-inch) in a reinforcing role. Finally, the 937th Armored Field Artillery Battalion pulled the unique duty to provide support with direct fire to destroy bunkers. Over 200 point targets were pre-plotted on a 1:25,000 map of the area under attack. Two days prior to the assault, Air Force fighter-bombers and medium bombers dropped 64,000 pounds of bombs in addition to napalm, rocket, and strafing attacks.¹⁴

Despite the tremendous fire support from nine organic and reinforcing artillery battalions applied to the target area, the division faced significant resistance. KPA efforts to strengthen the region, soon to be dubbed “Bloody Ridge” began in early July. The terrain sloped steeply southward, giving a significant advantage to the North Korean defenders, who devoted two regiments from two divisions to its defense. After nearly six weeks, the fortified works consisted not only of artillery dugouts and shelters, but also elaborate bunkers and protected assembly areas on the north (reverse slope) side of Bloody Ridge.¹⁵ Reserve forces were positioned behind Bloody Ridge to move forward and restore any penetrations to the line by counterattacking into captured strongpoints. The KPA defenders on Bloody Ridge did not

surrender, even when surrounded. They continued to fight until completely destroyed by firepower or subdued by assaulting infantrymen.¹⁶

The Koreans began their attack in heavy rain on the morning of 18 August. By the afternoon, ROK soldiers had seized Hills 710 and 731, two intermediate points leading up to Hill 983. Resistance had been light, but it soon intensified as the ROKs hit mines and 82-mm mortar rounds fell on the tired Koreans, who stopped to dig in.¹⁷ The ROK troops pressed on until they had secured Hill 773 and Hill 940. The Korean troops had been on the move for over 60 hours, operating on terrain that made both maneuver and resupply difficult. On the fifth day of the assault (22 August), a ROK company infiltrated to the rear of Hill 983 and surprised its defenders. At this point, General Ruffner had a decision to make: whether to commit one of his American regiments to relieve the Koreans.¹⁸

It is unknown why Ruffner declined to commit a US regiment to battle, but he demonstrated high confidence in American firepower to substitute for infantry. Ruffner informed Major General Min Ki-Shik, commanding the ROK 5th Division, there was “nothing to worry about that hill [Hill 983] because I will not let any enemy to come in there. I know I can keep the enemy from going up on that hill. *I got artillery fires he cannot get through. . . . I can put so much artillery up there and no one in the world would go up [emphasis added].*”¹⁹

Unfortunately, the enemy did get through to Hill 983, and they arrived in strength sufficient to eject the Koreans and then crush a disjointed counterattack by two companies from 2nd Battalion, 9th Infantry Regiment, which Ruffner belatedly committed on 26 August. “Incensed” that the counterattack failed to recover the hill, Ruffner “ordered an immediate attack” by the 9th Infantry, whose only uncommitted unit was the 3rd Battalion, then holding positions along Line Kansas.²⁰ The 3rd Battalion’s effort was equally fragmented and hindered by pelting rain. It met determined resistance and faltered when a small KPA element ambushed the battalion command post. Bowing finally to the reality of the situation, Ruffner committed the entire 9th Infantry Regiment on 30 August to a frontal attack against Hill 773 and Hill 940.²¹ Assistant Division Commander Brigadier General Haydon L. Boatner—who joined the division on 18 August—was disgusted by the regiment’s failure to regain the lost ground. He recalled, “The 9th [Infantry] thought they could take Bloody Ridge easily. They underestimated the enemy and overestimated their own strength.”²² In his opinion, infantry tactics had been allowed to lapse into lackadaisical technique as “many extra casualties resulted in the final stages of assaults on enemy bunkers and pill

boxes” due to inexperienced leadership, immature teamwork, and failure to adapt basic infantry doctrine to the terrain and enemy situation.²³

General Van Fleet ordered X Corps to loosen restrictions on artillery rates of fire, telling his gunners to expend shells liberally “to kill the enemy and to extricate United Nations (UN) forces or prevent their capture or destruction.”²⁴ Then General Byers drew a new control graphic, called Line Hays, to extend the corps attack to encompass all of the Punchbowl south of its northern rim and include additional objectives assigned to the ROK divisions and US Marines. More artillery was called in, and Ruffner’s other two American regiments, the 38th and 23rd Infantry, were also committed to attacks along the flanking ridges and hills to cut off KPA reinforcements and isolate the defenders on Hill 983. Slow progress was made against stubborn resistance as the defenders continued to pour fresh troops into the fight, despite having “suffered staggering losses.”²⁵ Eventually the full weight of three regiments shifted the contest in the Americans’ favor so that on 5 September, elements of the 9th Infantry advanced over Hill 983 “almost without a struggle.”²⁶ American soldiers relearned old lessons about attacking fortified positions: organizing platoons into assault, support, and reserve squads; calling close air support; employing flamethrowers, demolitions, and recoilless rifles to wipe out defensive works.²⁷

Boatner called Bloody Ridge “the poorest [battle] tactically of any I have ever participated in.”²⁸ In addition to poor tactics, the division was unprepared for the logistical demands for manpower and ammunition. Much time was lost attempting to integrate new leaders and troops into units still in contact, which was a violation of EUSAK directives to bring replacements forward only when a unit was withdrawn from battle. These replacements did not have time to acclimate, get oriented to the situation, or train for the complex task of assaulting a fortified position. The result was many unnecessary casualties in a slow attritional struggle.²⁹

The movement of ammunition and other supplies severely taxed the division logistics staff and the corps’s transportation resources. High artillery expenditure attracted the corps commander’s personal attention. He worried “that there is some wasteful shooting.”³⁰ Unobserved fire contributed to the division’s nearly insatiable ammunition appetite, which sheds light on the 15th Field Artillery Battalion’s dubious effort to “set a new record for light [105-mm] battalions” by firing 14,425 shells in a single 24-hour period.³¹ To feed the guns, the corps devoted 130 2½-ton trucks to haul an average of 32,000 shells a day (not to mention over 15 tons of other supplies and ammunition) over a road rated at 1,200 tons capacity.³²

Unit	KIA	WIA	MIA	Total
9th Infantry	101	670	178	949
23rd Infantry	10	69	0	79
38th Infantry	80	442	111	633
36th ROK Regiment	132	816	122	1,070
Other Units	3	35	3	41
Total	326	2,032	414	2,772

Figure 2.1. Casualties for 2nd Infantry Division and Attached Units, 18 August–5 September 1951 (inclusive). Graphic created by the Army University Press.

Despite the prodigious amount of fire support, the division had not set the conditions for the 9th Infantry to conduct successfully a deliberate attack. Firepower alone was insufficient; destruction missions rarely produced useful effects. The division's intelligence officer noted that enemy "positions are impervious to anything but a direct hit . . . extensive use of artillery will greatly lessen UN casualties, [but] the infantry soldier must become adept at overcoming the enemy bunker positions."³³ Not until the X Corps's general advance to seize Line Hays began on 31 August did the division, by bringing effective fire and maneuver against both flanks of Bloody Ridge, gain sufficient traction to overcome the enemy in less time, with fewer overall casualties, and less ammunition expended.³⁴

Frontal attacks without proper fires supporting maneuver cost the 2nd Infantry Division and ROK 36th Regiment 326 killed, 2,032 wounded, and 414 missing.³⁵ North Korean losses were assessed as topping 15,000, surely an exaggeration, but the scale of casualties helps to define the brutality of the combat that was limited in scope, scale, and time. Attack on a fortified position is always difficult and Bloody Ridge was already a naturally strong position. The Communists had had two months to recover their equilibrium and build up their defenses organized around naturally strong terrain features. Their supporting artillery was dispersed and well-camouflaged. It was going to take much more than bombs, shells, and bodies to pry the Communists out of their Punchbowl fortifications.³⁶

Heartbreak Ridge—the First Phase

Hoping to capitalize on the North Koreans' withdrawal from Bloody Ridge, Van Fleet then ordered X Corps to continue the limited objective attack northward to erase the salient and bring the corps's left flank on line with the US IX Corps and place American forces close to known KPA supply centers at Mundung-ni and Satae-ri, giving the Americans control over two north-south main supply routes supporting the KPA's defense lines. Despite these clear terrain objectives, a misappreciation of the enemy's intentions and an overreliance on past tactical methods emphasizing fires as the decisive effort clouded the mission's operational endstate, which resulted in another grinding attritional battle for terrain that reporters soon dubbed "Heartbreak Ridge."³⁷

Consisting of three main peaks connected by a razor-sharp ridgeline, Heartbreak Ridge was called "one of the most formidable positions on the entire battle front."³⁸ The southern terminus was Hill 894, which covered the approaches from Bloody Ridge. The ridge's highest peak was known as Hill 931, located a further 1,300 meters to the north from Hill 894, and 2,100 meters beyond Hill 931 was the needle-like peak, Hill 851. It was a rugged mountain mass, "as the spinal column of a fish, with hundreds of vertebrae" and knife-edged finger ridges extending east and west.³⁹ The division's command report observed that the contour lines on the map "bear poor witness to the actual ruggedness and complexity of the terrain."⁴⁰

Although the Americans used somewhat better tactics to coordinate artillery and infantry action, the North Korean defenders from Bloody Ridge had eight days respite, and they fell back on prepared bunkers, trench lines, and gun positions that completely dominated the ground below.⁴¹ Furthermore, the division underestimated the KPA's resolve. Brigadier General Thomas E. DeShazo (who assumed command from General Ruffner) determined that artillery, rather than infantry maneuver, would be used to secure the ridge. No coordinated attacks from the 9th or 38th Infantry Regiments were planned or even envisioned to support Colonel James Y. Adams's 23rd Infantry. The plan was for Adams's regiment to advance from the east and penetrate the KPA lines between Hills 851 and 931. A battalion would then peel off to the north to secure Hill 851, while a second veered south to strike Hill 931 and then Hill 894. (One battalion from the 9th Infantry was committed to attack Hill 894 from the south, but it was considered a secondary effort as opposed to being synchronized with the main effort against Hill 931.)⁴²

General DeShazo arrived in Korea in September 1950, when he became the IX Corps artillery officer, a position he held until March 1951, when he assumed command of the US 2nd Division's artillery. His previous combat experience consisted of battalion and group commands in North Africa, Italy, and southern France. He was an expert gunner as demonstrated during the Battle of the Soryang River in May 1951, which broke the momentum of the Communists' final offensive campaign of the year, but he had little familiarity as a fire support officer supporting ground tactical maneuver. His experience fighting the Chinese in open battle may have clouded his judgment when it came to prying out fanatical KPA troops defending fixed fortifications and supported by a continuous stream of men, ammunition, and shells. Oliver Le Mire, the deputy commander of the French Battalion attached to the 23rd Infantry, observed, "The North Koreans only give up terrain foot by foot—they are decidedly tougher than the Chinese."⁴³

Because the division's scheme of maneuver called for only one infantry regiment, it appears DeShazo lined up an impressive array of firepower: one battalion of 105-mm howitzers in direct support to the 23rd Infantry with three more battalions (one 105-mm and two 155-mm) in general support to the division (but in reality firing in support of the 23rd Infantry) and one corps battalion (96th Field Artillery) reinforcing. A battery of 8-inch howitzers provided heavy counterbattery and bunker-busting fire.⁴⁴ However, the entire corps was attempting to advance against the Punchbowl, which dispersed the corps artillery across four divisions and meant far less fire support for DeShazo's attack than the division enjoyed against Bloody Ridge.

Additionally, the terrain shaped the battlefield such that American units were scattered about, in some cases advancing along converging corridors. On more than one occasion, the division's guns could not fire missions due to fear of short or long rounds landing on friendly units. Belatedly DeShazo noted, "We have to get . . . the fire fight [going] in one direction," which was a paraphrase of FM 100-5 (1949), *Operations*: "The attack is characterized by the positive action of fire and maneuver . . . to create a preponderance of force in *the decisive direction*" (emphasis added).⁴⁵ Under these conditions, it was professionally negligent to expect a terrain feature as formidable as Heartbreak Ridge to fall to a two-battalion diverging attack that was unsupported by the remainder of the division's significant combat power.

The 23rd Infantry moved out with two battalions in column formation against Heartbreak Ridge after a short preparatory bombardment on 13 September, but once the soldiers hit the web of spurs extending eastward, their forward momentum ground to a halt. The doctrine to attack an organized defense required “Superiority of fire” and noted that “fire effect is increased by enfilade action. Flanking or oblique fire is especially effective when frontal fire is delivered simultaneously against the same objective.”⁴⁶ However, most advances along the narrow ridgelines were possible in single file only, and the defenders, sheltered in their stout log and earth bunkers, remained mostly unfazed by American artillery. They continued to emerge from their bunkers to pour fire downslope and drive the attackers to ground. DeShazo’s optimism began to fade as early as 15 September, when it was clear the KPA had sufficient artillery ammunition to support their fixed defenses and enough manpower to sustain numerous counterattacks.⁴⁷ Corporal Benjamin Judd, a squad leader in F Company, remembered “shells [falling] over the entire company. There was no place they were not falling, and there was no place to take cover. We sat like ducks in a hailstorm of fire.”⁴⁸

Despite the hold the division had on the south end of the ridge, Adams’s infantry could make no substantial progress against Hills 931 and 851. Piecemealed company and platoon-size frontal assaults could not overcome the defenders with enough strength to establish a firm defense against counterattacks, and US counterbattery fire was too slow and imprecise to silence the enemy’s guns.

DeShazo’s reluctance to expand the zone of attack to maneuver friendly forces into a position of relative advantage defies simple explanation. The key to Hill 931 was in the disruption of KPA lines of communication extending west and north into the town of Mundung-ni, which was the corps’s ultimate objective. General Byers assigned the division the task to capture Hill 931, but he did not prescribe the method. DeShazo was responsible to influence “the course of subsequent action by his leadership, by the maneuver of subordinate elements to include reserves, by the concentration of artillery fires.”⁴⁹ He failed to employ his division’s combat power except for its artillery and one infantry regiment. The 23rd Infantry alone could not maintain the momentum of the attack, particularly at night, which gave the enemy time to reconstitute his defenses, rebuild his fortifications, resupply, and launch counterattacks. No reserve unit was ready to pass through and assume the attack, and no plans had been con-

templated to attempt a nighttime approach. Not until after 23 September would this scheme of maneuver be developed.⁵⁰

Heartbreak Ridge—The Second Phase

On 20 September the division welcomed a new commander, Major General Robert N. Young. He had no previous combat command experience (although he served as 3rd Infantry Division's assistant division commander during the last six months of the war). A key difference between Young and his two predecessors was his professional development as a student and later instructor at the Infantry School (during George C. Marshall's tenure) and a full year at the Command and General Staff College. (Ruffner and DeShazo had graduated from the abbreviated General Staff Course at Fort Leavenworth.)⁵¹ It is highly likely that he recognized the tactical dilemma Adams faced. He had already lost nearly 950 Soldiers killed, wounded, and missing; the French Battalion added another 157 casualties to the division's ledger.⁵² The division G-2, Lieutenant Colonel Albert W. Aykroyd, informed the new commander that the ridge line dominated the two valleys to the west and the east, and that through these same valleys the KPA brought reinforcements and supplies to keep the battle going. On the ridge itself, the Koreans' bunkers resisted all bombardment. The enemy would have to be "blasted, burned, bayoneted and finally dragged out of his bunkers."⁵³

General Young respected and trusted his subordinate commanders' and staff officers' judgments and recognized the need to seize Mundung-ni and its connecting valley approach to Heartbreak Ridge. Mundung-ni was "a position of relative advantage . . . within [Young's] area of operations that provide[d] 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."⁵⁴ Key to finding and seizing this position of relative advantage was Young's willingness to assume prudent risk relying on his subordinates' disciplined initiative within his overall tactical intent. A successful thrust at Mundung-ni promised to present the enemy with an irresolvable dilemma: either withdraw under pressure and abandon good positions, or die in place.

Young determined that nothing short of a division-level combined arms assault would secure the division's objective at an acceptable cost. With such a difficult tactical problem, he took a step back to reconstitute his infantry units and plan a division-level attack.⁵⁵

To solidify his plan, the commanding general spent the next few days flying over the division zone in a L-19 plane, studying the terrain from every angle. This effort was critical as he observed how the enemy's position was strengthened by virtually unmolested lines of communication and resupply. Although the surrounding terrain was not considered tank country, Young's personal reconnaissance, along with a briefing he received from the French Battalion commander, Lieutenant Colonel Ralph Monclar, and Colonel Adams, convinced him that the unlikely potential for an armored thrust combined with a general division level attack just might give his troops the crucial element of surprise needed to overthrow the defenders.⁵⁶ The division's engineer battalion commander, Lieutenant Colonel Robert W. Love, investigated the trafficability of the Mundung-ni valley and reported back that although it would take a major effort, a passable route to support tanks could be carved from the valley floor.⁵⁷

On 1 October, following his daily staff briefing, General Young announced the division would attack on a broad front in four days. Dubbed Operation Touchdown, the plan was a combined arms attack against the terrain features that protected Heartbreak Ridge and facilitated the North Koreans' supply and reinforcing troop movement. Colonel John M. Lynch's 9th Infantry drew the task to seize the series of hills on the division's southwestern flank to tie down enemy reserves and draw away some of his artillery strength. The 38th Infantry, commanded by Colonel Frank T. Mildren, was to attack across and up the west side of Mundung-ni valley to control the high ground overlooking the valley floor and to outflank the KPA's rear defense support area of Heartbreak Ridge. Adams's 23rd Infantry with the attached French Battalion would assault Heartbreak's two main peaks, but in a phased attack that kept roughly parallel to the 38th Infantry's advance. The decisive element of the operation was an engineer-armor-infantry thrust up the Mundung-ni valley to seize the hamlet and complete the isolation of Heartbreak Ridge. A division level ammunition supply point was established along with emergency Class I and III stockpiles to sustain the main effort. Young set the start time of the attack at 2100 hours on 5 October.⁵⁸

Colonel Love's engineers set to work, grading and smoothing one of the most heavily mined and cratered roads the Americans had seen in Korea. At the same time, the infantry battalion commanders were busy integrating replacements, developing detailed fire plans, reorganizing their companies, training with recoilless rifles and flame throwers, and practicing drills to assault bunkers. Each battalion submitted fire plans showing all weapons, including tanks, were in support of the maneuver elements.

This planning was done to great detail and reflected at the lowest echelons. Sand table models and bunker mock-ups complemented the troops' preparation for a deliberate attack.⁵⁹

Heartbreak Ridge—The Decisive Phase

Operation Touchdown commenced the evening of 5 October with a controlled barrage of artillery high explosives and close air support. (No artillery was placed on Hill 931, however, to facilitate a surprise night approach.) Although the KPA continued to fight back, it was a different kind of battle. Both the 9th and 38th Infantry regiments moved out to pressure the North Koreans as the division's shift to a nighttime attack with greater fire support suppressed enemy mortars and tied up his reserves. By 0300 hours, American infantry were occupying Hill 931 in strength, beating off several uncoordinated counterattacks. By daylight, Adams had his own 3rd battalion and the French battalion firmly holding the center of Heartbreak Ridge. American tanks and infantry patrols were also ranging up the Satae-ri valley to fire on Hill 851 from behind. Work continued on the Mundung-ni road, the infantry advance providing cover to the engineers.⁶⁰

By 10 October, Love's engineers were ready to open the eight-mile-long road to Mundung-ni. It was a fantastic and unprecedented achievement. The appearance of Lieutenant Colonel Joseph Jarvis's 68 Sherman tanks from the 72nd Armor Battalion loaded with high-explosive shells and carrying extra ammunition for a battalion of the 38th Infantry providing close-in defense and support against KPA antitank squads broke the KPA's will and ability to continue to resist.⁶¹ The tank-infantry force, shooting and grinding its way forward in places the KPA had not expected, gave an incredible boost to the 23rd Infantry's morale as they expanded their own grip north and south of Hill 931. The North Koreans abandoned Mundung-ni, sealing the fate of Heartbreak Ridge's remaining defenders.⁶² Boatner, enthused by the fine display of combined arms teamwork, called the maneuver "the best I have ever seen in combat units."⁶³

After more than a month of continuous fighting, the Second Division reinforced with the French Korea Battalion at last seized and cleared the remaining holdout ring of the Punchbowl. The salient had been erased at a cost of 1,740 total casualties—a figure well below the number anticipated.⁶⁴

If American infantrymen were relearning techniques not practiced by the US Army since Okinawa in 1945, the senior commanders and officers of the 2nd Infantry Division demonstrated severely ossified tactical methods.⁶⁵ Neither DeShazo nor his staff considered the tactical problem holistically. Heartbreak Ridge was simply an obstacle to be blasted apart

and occupied. No reconnaissance (other than Young's) had been accomplished to determine the source of the KPA's defensive strength, which lay behind and to the northwest of Hill 931. American artillery and air power were applied against fortified positions in an attempt to destroy the enemy. Young's maneuver demonstrated that fire support was most effective to suppress and neutralize enemy observation, automatic weapons, mortars, and guns. The successful interdiction of the KPA's flow of reinforcements determined the outcome of the battle, and that could only be achieved by the deep envelopment maneuver against Mundung-ni.

Additionally, the series of frontal attacks against the Heartbreak Ridge's strong terrain played straight into the North Koreans' plan. An American assessment at the end of September revealed the Communists' fighting power in this kind of battle:

The enemy defended his fortified positions tenaciously . . . resist[ing] until his units . . . are no longer effective. It has been necessary to dig the enemy out of bunkers with flame throwers and grenades. Commanders who served in the Pacific during World War II report that the fighting in this sector for the past month has been as fierce as any observed during that war.⁶⁶

General Young characterized pre-Touchdown attacks "a failure" as the piecemeal commitment of troops on a narrow zone simply made them targets for North Korean machine guns, grenades, and mortars.⁶⁷

The Americans gained ground only after the entire division launched a coordinated and well-resourced attack beginning 6 October. The initial reliance on artillery and aerial firepower deforested the ridge, but failed to reduce fortifications. Between 13 and 20 September, the division artillery shot so much ordnance that corps reserve stocks were nearly depleted without substantive gains on the ground. Tank guns were hastily employed in indirect harassing and interdiction missions to make up the shortfall.⁶⁸ The 250 tons of bombs dropped by 842 Close Air Support (CAS) sorties provided mostly moral support. Only a direct hit from a bomb or heavy caliber weapon could crush a bunker, and sometimes not even then, as the Americans discovered most KPA bunkers were impervious to even medium artillery. Striking these "very formidable" bunkers, the "155's [howitzers] just blew up some dust."⁶⁹ Firepower alone would never suffice to clear or occupy the ridgetops.

Boatner was less flummoxed by the division's poor showing. Proper techniques to overcome bunkers and fortifications were all spelled out in FM 7-20 (1944), *The Infantry Battalion*.⁷⁰ After nearly two weeks of fruit-

less bloodletting it took Young's forceful leadership for the division to plan a division-level attack to exploit firepower *and* maneuver, exploiting armored mobility to carry powerful forces deep into the rear of the North Korean defensive system.

Boatner argued that the total casualties on Bloody and Heartbreak Ridges were excessive for the ground gained due to two overriding factors: personnel rotation policies sapped combat units of experience, effectiveness, and efficiency just as North Korean and Chinese units were recovering their strength and equilibrium following the significant reverse they suffered in the late spring of 1951. During the month of September, 41 officers and 1,321 enlisted men rotated out of the division. One infantry company had 32 successive commanders in a 10-month period. The turnover of personnel robbed the division of battlefield experience and necessary manpower for the intensive infantry actions against fortified positions. Additionally, the failure to make good combat losses ensured the infantry companies fought with emaciated platoons and squads. By 24 September when Young called off any further attacks, Colonel Adams reported some companies were down to less than 50 men, with losses most acutely felt among junior leaders: "We have no non-coms," Adams lamented.⁷¹

Ironically, General Van Fleet on 20 August had instructed his three American corps commanders to integrate fires with maneuver, especially in positional battles. He directed tactical training at platoon, company, and battalion levels "be initiated immediately. Fire and movement will be emphasized."⁷² Only two days into the X Corps's general attack on the Punchbowl the EUSAK commander saw the problem that units failed to integrate their own aggressive maneuver with "the tremendous firepower available from organizational weapons and supporting artillery."⁷³ On 25 August 1951, Van Fleet instructed, "Artillery will be conserved. However, there are two occasions when artillery will be expended liberally: to kill Chinamen (sic) i.e. remunerative targets [handwritten addition]; to extricate friendly forces or prevent their capture or destruction."⁷⁴ Van Fleet expected competent combined-arms fighting down to the lowest level. "Artillery will support the movement of even small patrols."⁷⁵

Retrospect

It is tempting for the modern Soldier to project into the past current ideas of doctrine and leadership, such as those articulated in FM 3-0, *Operations*, and Army Doctrine Publication (ADP) 6-0, *Mission Command*. The danger is that we may find what we are looking for. Rather, sound doctrine is a product of understood and internalized experience. This case

study underscores some of the enduring challenges American commanders have faced grappling with tactical principles that are “neither numerous nor complex, [but] their application sometimes is difficult.”⁷⁶ This kind of study should prepare future senior leaders for unforeseen problems requiring adaptive and imaginative application of tactical doctrine.

The battles over the Punchbowl involved some of the heaviest fighting the 2nd Infantry Division endured during the Korean War. At a time when EUSAK forces were supposed to be in an “active defense,” this division engaged in three battles of attrition over extremely difficult terrain and against an enemy determined to resist to the last. The American division commanders had no control over terrain, weather, or the enemy. The only variables they could influence were how Army doctrine was applied and leadership. Of the three commanders involved, Robert Young clearly stood out as the most effective leader. He read the battlefield, adapted doctrine to synchronize fire and maneuver, and accomplished his mission in a fraction of the time and casualties when compared to his predecessors.

Young assumed command of the division on 20 September, but he did not begin to exercise control until three days later. He spent this time observing the situation and consulting with his subordinates, namely Colonel Adams, the regimental commander responsible for the attack against Heartbreak Ridge, and Brigadier General Boatner, the assistant division commander. Both officers gave similar reports and counsel on the best way to accomplish the mission of seizing the ridge and neutralizing the KPA’s supporting zone.

In this drama, General Boatner stands out. He exercised real leadership throughout the engagements for Bloody and Heartbreak Ridges. Unlike Ruffner or DeShazo who rarely left their division command posts (Ruffner spent one day with the 36th ROK Regiment), Boatner co-located with the 9th Infantry and the 23rd Infantry’s forward posts. He spoke face to face with the regimental commanders. He could read their expressions and sense their confidence and fears—emotions that a field phone could never capture. He dissuaded Ruffner from relieving Colonel Lynch when the former was dissatisfied with the 9th Infantry’s progress in late August. At Heartbreak Ridge, Boatner set the conditions for a successful commander-to-commander conversation. When Young had his personal engagement with Adams, he knew that his commander was giving the unvarnished picture. Young would not have used the term “Mission Command,” but that is what he was practicing.⁷⁷

Boatner clearly respected and admired his division commander. Operation Touchdown bears his handiwork, but the plan was Young's. The division commander's personal reconnaissance and attention to his intelligence apparatus was crucial to his adaptation of offensive doctrine. Korea was not considered tank country, but Young recognized the potential of armored forces if given the appropriate engineer, infantry, and artillery support. The formation of a tank-infantry task force by itself would not have been effective without the efforts of the division's engineer battalion. Again, Young's talent for command stands out as he gave the engineers the mission and then stayed out of the way to let his soldiers do it. The result was a spectacular success. The armored thrust literally unhinged the KPA defenses from behind.

This action was not the only surprise Young sprang on the KPA. Appalled at the large butcher's bill (and perhaps reflecting on his experience teaching infantry tactics at Fort Benning), Young directed Adams to attack at night. Darkness provided concealment and enhanced deception. Until Operation Touchdown the North Koreans owned the night, reinforcing their defenses, resupplying ammunition and food, bringing up additional artillery, and launching counterattacks. The 23rd Infantry's night attack against Hill 931 placed the North Koreans in two contemporaneous positions of relative disadvantage. They were being overrun from the front by an aggressive assault while their rear support area and lines of communication were occupied or interdicted by tank-infantry teams.⁷⁸

Both Ruffner and DeShazo fell short conducting these battles. Neither commander fully appreciated his subordinates' struggle to overcome both terrain and the enemy. During the Bloody Ridge operation Ruffner was so out of touch that he resorted to directing Colonel Lynch to move individual companies to locations that Ruffner had not seen or understood for himself. Ruffner was an aggressive leader, and he was proud of his division's accomplishments, but in the last days of his command he showed curious apathy for his units' tactical well-being. It is possible that he did not understand infantry offensive battle, having never been exposed to it either in Army education or by experience. He saw brief combat action in the Pacific theater, but never as a commander and never in a tactical environment like the Punchbowl.

DeShazo faced similar challenges, but his failures were in adapting doctrine to the situation. As a combat-experienced artillery commander, he understood the imperative to gain fire superiority. However, he thought that artillery fire power alone could destroy enemy defenses. This was

an attitude he observed from Ruffner and had reinforced during Bloody Ridge. Unfortunately, his fires (and confidence) were misplaced. Too much emphasis was given to destruction missions and too little was devoted to counterbattery, interdiction, and suppression. Consequently, American forces still faced formidable defenses on the objective and the KPA defenders still possessed substantial mortar and artillery assets to make final assaults expensive and to support nightly counterattacks. Finally, DeShazo did not achieve fire superiority because he failed to support maneuver that would give him the position of relative advantage to bring about the enemy's decisive defeat.⁷⁹

The 1939 edition of *Infantry in Battle* contains the Introduction to the original 1934 edition, penned by then Colonel George C. Marshall, deputy commandant of the Infantry School. (Robert Young was then an instructor under Marshall's supervision.) Marshall wrote, "There is much evidence to show that officers who have received the best peacetime training available find themselves surprised and confused by the difference between conditions as pictured in map problems and those they encounter in campaign."⁸⁰ Marshall continued that the veteran knows these differences exist and although he cannot account for them all, he knows how to carry on and not be paralyzed by them. Because every situation encountered in war is likely to be exceptional the proficient leader will avoid templated tactics, and he or she will consciously engage the intellect and imagination to lead and adapt doctrine, what Marshall called "the art of clear, logical thinking."⁸¹ Success in battle hinges on it.

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Chapter 3

Isolate, Encircle, and Destroy: Chinese Operational Maneuver during the First and Second Phase Offensive (October–December 1950)

Major Mike Kiser

The army's disposition is like water. Water's configuration avoids heights and races downward. The army's disposition of force avoids the substantial and strikes the vacuous.

—Sun Tzu

The surprise was total, and the enemy left bewildered on 25 November 1950. The United Nations Command (UNC) forces had just recently begun a new offensive that their commander, General Douglas MacArthur, promised would have them home by Christmas. Now they were fighting against well-organized and experienced Chinese formations that few UNC analysts, and none of consequence at the strategic level, expected to be there. Competent generalship and effective maneuver at the division level and above by Chinese commanders enabled the defeat of UNC forces in Korea between 25 November 1950 and 24 December 1950.

The initial phase of the Chinese intervention (25 October to 7 November 1950) can best be understood as a hasty counter-attack. The rapid initiative change in favor of UNC forces had become an increasing cause for concern for Chinese leadership. By 3 October, within three weeks of the Inchon landing, the US State Department received an explicit message from Chinese foreign minister Zhou Enlai via India's ambassador that China would intervene if foreign troops crossed the 38th Parallel. On 13 October, the Chinese Politburo gave General Peng Dehuai, commander of the Chinese People's Volunteer Forces (CPVF), the order to move across the Yalu, and by 19 October, CPVF units were operating within Korea.¹

Chinese concerns were heightened by the swift collapse of North Korean People's Army (NKPA) and by 21 October, Peng described the situation as "currently, the American and [Republic of Korea] armies are advancing farther north without facing any effective resistance by the NKPA" and recognized that UNC forces were already past the best possible defensive line in North Korea where the peninsula is at its narrowest just north of Pyongyang and Wonsan.² Peng concluded that CPVF forces would have to blunt the UNC momentum to gain time and maneuver space

for a more deliberate counter-offensive. He described his initial goals in a telegram to Mao Zedong as:

This campaign plan is to employ three armies to eliminate two [Republic of Korea] divisions through the battle opportunity, while using one army to pin down the remaining enemy troops. Thereafter, [we can] spread into the mountainous areas north of Pyongyang and Wonsan, [and] stabilize the [war] situation in the North.³

CPVF units first engaged Republic of Korea (ROK) and American units during the fortnight of 25 October 1950 to 6 November 1950 in a series of battles at Onjong, Unson, and Sudong before making a planned disengagement back towards the Yalu River. These battles were an unmitigated disaster for UNC forces. The US 8th Cavalry Regiment alone sustained over 1,500 casualties and severe equipment losses that included 12 tanks, 12 howitzers, 56 mortars, 26 trucks, and 92 jeeps—or enough material to equip a full tank company, two artillery batteries, and several motorized rifle companies.⁴ Losses among ROK forces were even heavier and UNC ground forces would require a prolonged operational pause to refit and reorganize before the offensive to the Yalu could continue.⁵

Despite the significant losses, MacArthur and his immediate subordinates interpreted the sudden Chinese disengagement as a portent of victory. He believed that the withdrawal signaled a Chinese offensive with limited objectives, probably designed to win China a seat at the post-war negotiating table and perhaps extend China's border from the Yalu River further south to the Chongchon-gang and Tokchon regions. The Central Intelligence Agency's (CIA) estimate supported MacArthur's conclusions by describing the total size of CPVF units in Korea as 30,000–40,000 soldiers with the purpose of creating a military buffer zone in which the North Koreans could reorganize and assessed that it would take China 30 to 60 days of preparation for any significant offensive operations, despite the presence of roughly 700,000 CPVF soldiers across the Yalu in Manchuria. Chinese deception operations helped support this conclusion by indicating that the CPVF had exhausted its supplies of food and ammunition. UNC leaders were optimistic that a Thanksgiving offensive would easily push the remaining North Korean and Chinese forces across the Yalu River and set the conditions for international recognition of a unified Korea.

MacArthur's conclusions were wrong. The initial Chinese offensive did have limited war aims, but the operational goals focused on the destruction of two to four UNC divisions with a strategic intent of delaying further UNC operations towards the Yalu River, thus buying time for additional

forces to reach Manchuria and the surviving 250,000 members of the NKPA to refit, reorganize, and prepare for future operations. Peng considered his objectives accomplished when he ordered the general disengagement of CPVF forces in early November in preparation for a larger offensive.⁶

The early encounters between UNC and CPVF forces provided validation of several key capability assessments made by Peng, his staff, and his subordinate commanders. General Hong Xuezhi, deputy commander of and chief of logistics for the CPVF, recalled:

We recognized that our weapons and equipment were inferior to the enemy's and that our army would have some new difficulties in this war. . . . We believed that as long as we could exploit the enemy's weaknesses by using our strengths, our army would certainly defeat the well-equipped enemy even with our inferior-quality weapons. . . . Applying this analysis, we formulated some principles to guard our operations in the Korean War. In terms of strategy, our army must adhere to protracted warfare. In terms of operational concepts, it must always concentrate its troops to maintain numerical superiority. In order to avoid the enemy's strengths, it must employ its traditional combat tactics such as close combat, night operations, fighting quick and decisive battles, thrusting deep into the enemy, outflanking them, and cutting up their forces.⁷

This understanding of UNC and CPVF capabilities influenced Chinese maneuver at the division level and above in several tangible ways. The Chinese understanding of “protracted warfare” was refined during the Chinese Civil War and provided strategic understanding for successfully commanding a force with inferior technical capabilities against a force with superior ones. By acknowledging “protracted war” as the general strategy, CPVF commanders decided to maneuver their units to avoid situations that could lead to prolonged engagements or positional warfare. While the idea of “protracted war” did not have a precise doctrinal definition, the CPVF commanders had enough experience using the term that it enabled common understanding of Peng's intent. Resultantly, campaigns were designed to be quick with sharp engagements characterized by surprise and speed. The strategic CPVF goal was to, over time, build additional combat power and capabilities that would allow a definitive victory in Korea, one that maintained an independent North Korea. Mao personally approved of a plan that, after stopping the UN advance, would give the CPVF up to six months to organize defensive positions in the Korean mountains while integrating Soviet manufactured tanks, artillery, and airplanes into their

formations to build a relative advantage over UNC forces for a planned offensive in the spring of 1951.⁸

These strategic aims were reflected in Chinese operational design. In early November 1950, Peng and his staff developed a mobile warfare concept for the Second Offensive Campaign (25 November to 24 December 1950) designed to lure UNC forces “as far north as possible, so that (UNC) divisions with extended supply lines might be more easily isolated and destroyed” and trade territory for UNC casualties.⁹ This created favorable operational and tactical conditions in which Chinese numerical superiority could be brought to bear at specific points while minimizing the exposure of Chinese infantry to vastly superior UNC air, artillery, and armored capabilities. Even on the offensive, Chinese commanders at the division level and above attempted to isolate, encircle and destroy UNC formations.¹⁰

Chinese commanders’ organization of their units enhanced their capability to maneuver along their principles of protracted and mobile warfare. Chinese divisions were typically organized with three infantry regiments and a single artillery battalion (as opposed to the four artillery battalions in a US division), with a total end strength of approximately 10,000 soldiers. This made them much smaller than the typical American division which had an authorization of 18,855 Soldiers and included organic artillery, armor, and anti-aircraft guns. This on the whole meant that a single American division had far more capabilities than their Chinese counterparts in addition to numerical superiority. The same organizational disparities were also evident at the corps-equivalent level, with the typical Chinese army containing three divisions and roughly 30,000 soldiers while a typical American corps in November 1950 would possess two infantry divisions and an independent brigade for an approximate strength of 40,000 to 45,000 Soldiers, not including support units.¹¹

These differences in organization provided two critical advantages to Chinese commanders. First, the CPVF possessed a simplified command hierarchy. Each Chinese commander had around three to five direct reports units in November 1950, with the exception of the XIII Army Group commander who had six. In contrast, Lieutenant General Walton Walker at Eighth Army had 12 immediate subordinates reporting straight to the army headquarters, including the commander of the ROKA First Army, and Lieutenant General Edward Almond’s independent X Corps had seven lower level headquarters to manage. The increased number of subordinate reporting units was mirrored at the division level, an opportunity cost of the expanded capabilities. The multi-national nature of the UNC command further magnified this complexity. At the time of the Second Offen-

sive, American commands contained British, Australian, Indian, Turkish, Filipino, Thai, and Korean formations. This simplicity allowed Chinese commanders to achieve greater levels of effectiveness, synchronization, and unity of purpose than their American counter-parts.¹²

The second organizational advantage resulted from the significantly larger number of discrete maneuver elements. Although the overall end strengths were comparable (388,000 CPVF soldiers and 342,000 UNC ones), the CPVF possessed a comparative advantage of just under two divisions for every UNC one. This relative advantage widened at the battalion level, where the CPVF possessed slightly more than two line battalions for every UNC battalion.¹³

These extra maneuver units provided significant flexibility at the operational and strategic level for Chinese commanders and facilitated their use of mobile warfare. The overall smaller size of organizations made them more efficient at identifying the various surfaces and gaps in UNC dispositions by consistently allowing contact to be gained and maintained with the smallest possible elements. The additional maneuver units also made it easier for Chinese commanders to maintain reserves to exploit unexpected opportunities or to widen a flanking movement without creating an extended gap in their lines.

Chinese maneuver was also augmented by an astute focus on the relative tactical advantages CPVF commanders believed their forces possessed over UNC ones. Fundamentally, Chinese commanders believed their infantry was superior to the UNC infantry. They perceived that UNC, particularly American, units were too reliant on technical capabilities, such as artillery fires, and would not be able to offer strong resistance to determined close assaults that negated their superior capabilities. Chinese commanders also believed that UNC formations across the board were inferior to their formations at conducting night time operations. CPVF commanders thus placed considerable emphasis on night time assaults with a heavy reliance on tactical surprise and grenades. This tactical doctrine was the direct result of CPVF's assessment that the "US military was strong in firepower but weak in morale" and, when combined with operational maneuvers aimed at isolating and encircling UNC units, would produce the quick, decisive campaigns called for by the overall strategic approach.¹⁴

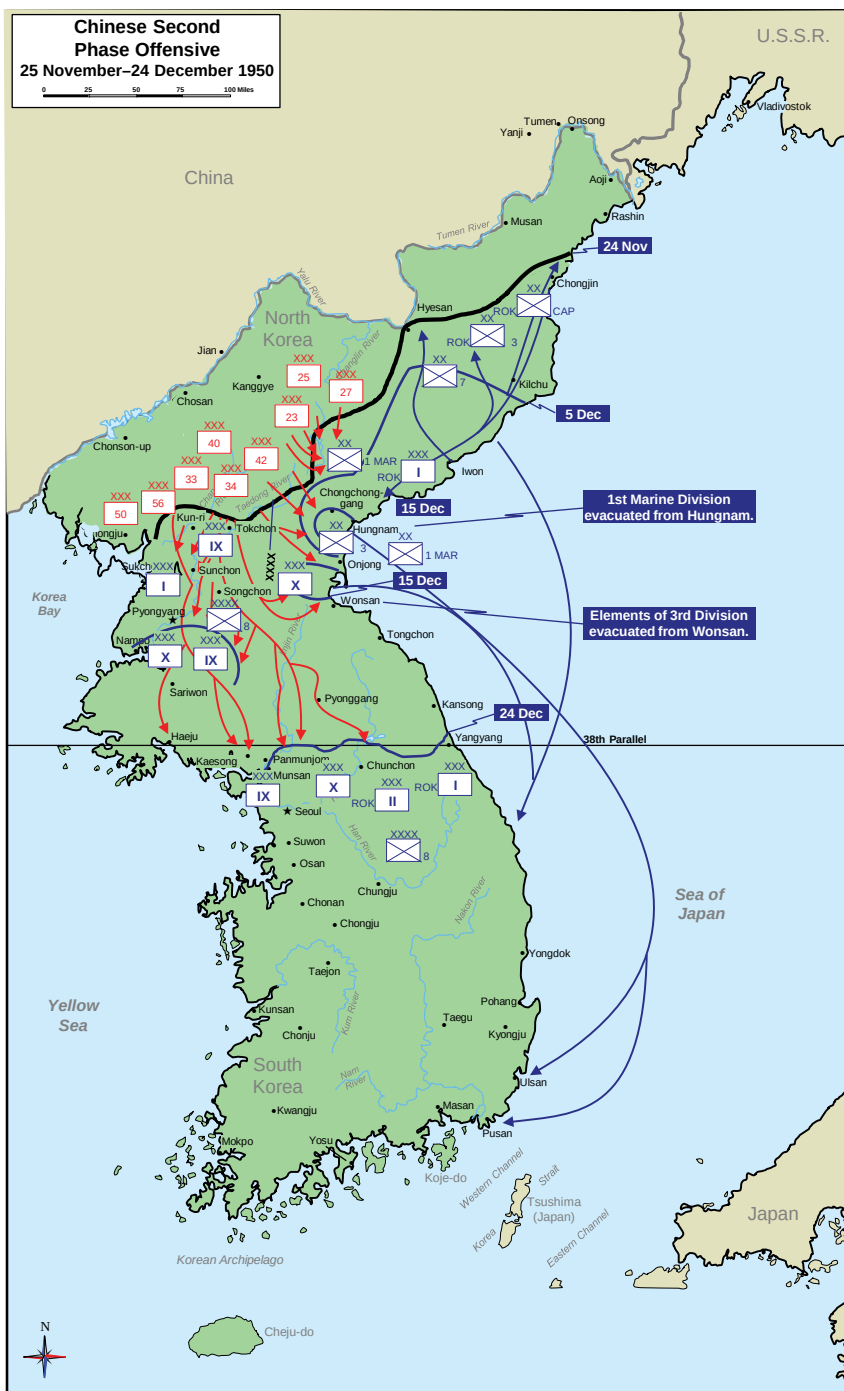
The CPVF operational plan for their November 1950 offensive reflected their strategy and analysis, with an operational goal of destroying three or more UNC divisions. The Chinese XIII Army Group attacked across the width of Eighth Army's front, with the Chinese Thirty-Eighth

and Forty-Second Armies attacking the ROK II Corps along the boundary between the US Eighth Army and the X Corps. Chinese planners had identified the army boundary and believed the ROK II Corps to be the weakest unit on the front. The CPVF IX Army Group concentrated its forces against the US 1st Marine Division, the western most element of X Corps. The CPVF plan took advantage of the peninsula widening north of the 40th Parallel and the large extension of the X Corps frontage this caused by only screening against the eastern elements of X Corps (the US 7th Infantry Division and the ROK Capital and 3rd Infantry Divisions) rather than engaging them directly. X Corps covered a frontage of over 150 miles by late November 1950, the majority of which consisted of extremely mountainous terrain. This operational plan left the bulk of X Corps's combat power too far north and east to support the remainder of the corps. It also gave the CPVF the opportunity to potentially isolate and encircle half of X Corps, trapping a significant amount of UNC combat power in a pocket and ensuring its elimination through surrender or destruction.¹⁵

The iconic battle at the Chosin Reservoir was a result of these Chinese operational maneuvers predicated on isolating, encircling, and annihilating the enemy. The First Marine Division concentrated two regimental combat teams (5th and 7th Marines) on the western side of the Chosin Reservoir while Task Force MacLean-Faith, consisting of two infantry battalions and one artillery battalion, of the Seventh Infantry Division operated on the eastern side of the reservoir. The Chinese Ninth Army Group (totaling 12 divisions under the Twentieth, Twenty-Sixth, and Twenty-Seventh Armies) committed the Twentieth and Twenty-Seventh armies in attacks from the north-west across a broad front while the Twenty-Sixth Army maneuvered to attack the UNC positions from the east and the south.

The effects of these operational maneuvers at the division level and above were devastating to the American forces in the area. Task Force MacLean-Faith suffered more than 1,000 casualties, and Chinese assaults during the night of 27–28 November 1950 effectively destroyed it as a fighting force. An attempt to break through the Twenty-Sixth Army's road-blocks and provide reinforcements and additional supplies to the 5th and 7th Marines was defeated, with the relief column incurring 34 percent casualties in the unsuccessful bid to reopen ground lines of communication. The First Marine Division suffered just under 3,200 casualties before it was able to retreat to Hungnan with the help of the Third Infantry Division and evacuate to Pusan.¹⁶

The Chinese success around the Chosin Reservoir was not an isolated occurrence. The Second Infantry Division experienced more than 5,000



casualties and the practical annihilation of two of its three infantry regiments during the battle of “the Gauntlet” when the division was forced to attack south along the Kunu-ri-Sunchon road into prepared Chinese positions while fighting a rearguard action to the north against other elements of the Chinese Fortieth Army. The CPVF’s Thirty-Eight and Forty-Second Armies destroyed the entire ROK II Corps in a similar fashion over the course of 25 to 28 November 1950.¹⁷

It is difficult to understate the magnitude of Chinese operational success during the period of the second offensive. On 21 November 1950, elements of Almond’s X Corps reached the Yalu River near Hyesanjin. By 29 November 1950, Walker, Almond’s counterpart at Eighth Army, had decided to abandon all of North Korea and reorganize a UNC defensive position along the 38th Parallel—the pre-war border between North and South Korea. By mid-December, Almond’s corps would be forced to concentrate around the eastern ports of Wonsan and Hungnam for a maritime evacuation to friendly territory with Chinese forces firmly in control of the ground routes between X Corps’s perimeter and the Eighth Army’s new positions along the 38th Parallel. Chinese operational maneuver at the division level and above compelled the UNC retirement from North Korea in just eight days. The remaining three weeks of the campaign were marked by UNC withdrawals with the outcome already decided.¹⁸

The Second Phase Offensive was also critical in changing Chinese strategy for the remainder of the war. Despite sustaining 80,000 casualties, Mao came to believe that a decisive victory was possible—one that would leave Korea unified under Communist rule. By 4 December, the rapid retreat of UNC forces convinced Mao to telegram Peng that “although the war ‘might be protracted,’ it might also ‘be resolved quickly’” and Mao accordingly changed the CPVF’s strategic goal from the defense of North Korea along the Pyongyang-Wonsan line to include the capture of Seoul and forcing the withdrawal of all UNC forces from the peninsula.¹⁹ Mao’s assessments were shared by his Soviet allies, with Soviet foreign minister Andrei Gromyko relaying to Mao through ambassadorial channels that given “the current situation in Korea, it is perfectly proper [for us] to call for ‘striking the iron when it is hot,’ as the old Chinese saying goes.”²⁰ This shift in strategic outlook would cause Mao to order operational changes, against his field commander’s recommendations, negating the advantages that yielded such decisive CPVF successes during the Second Phase Offensive.²¹

The Second Phase Offensive also reshaped the strategic war aims for the United States and its allies. Domestic political pressure, combined with the gradual stabilization of a front along the 38th Parallel, eventual-

ly led to General Douglas MacArthur's dismissal. With MacArthur gone, there were no significant voices left at the strategic level that favored expanding the Korean War effort. Cold War concerns about Europe, Taiwan, and Japan created little interest in Washington for a direct confrontation with either the Soviet Union or the People's Republic of China and made a divided Korea an acceptable solution for the United States and its key allies as early as the summer of 1951.²²

The effective use of large-scale maneuver by Chinese commanders during the Second Phase Offensive redefined the terms of the Korean War for both sides. The Chinese commanders, believing they had a relative advantage over UNC forces, aggressively sought to retain the initiative and fought a series of offensives from 31 December 1950 until 21 May 1951. These offensives were still predicated on the isolate, encircle, and annihilate plans of the First and Second Phase Offensives but failed to account for increased supply lines and UNC tactical adaptations, notably the consistent implementation of what can best be characterized as a mobile defense. Chinese soldiers often only operated with a few days of ammunition and food and lengthened supply lines, coupled with an inadequate supply of trucks, resulted in the inability to meet operational demands.

These offensives also came with unrealistic expectations based on the success of the First and Second Phase offensives in late 1950. Mao expected the Chinese spring offensive to "wipe out 50,000 UNF troops . . . [by destroying] four divisions and two brigades of the US I Corps" despite the CPFV having significantly fewer artillery pieces, tanks, and planes than UNC forces.²³ The combination of poor logistics and unrealistic expectations made it difficult for any Chinese commander to claim success in subsequent offensives as Chinese objectives were tied to the destruction of enemy units and not to terrain.²⁴

The Chinese commanders also failed to react to changes in American tactics. General James Van Fleet, the new Eighth Army commander as of April 1951, ordered his forces under contact to withdraw between 12 and 20 miles at night on the assumption this was the maximum distance the CPFV units could advance. This allowed UNC forces to maintain contact and provide accurate locations of enemy units and movements, subjecting CPFV forces to precise daytime air and artillery strikes. Van Fleet, along with the concurrence of General Matthew Ridgway, MacArthur's successor as UNC commander, also began a series of limited counter-attacks designed to maximize CPFV casualties and "focused on eliminating the CPFV's advantage in manpower." This allowed UNC forces to implement a form of the mobile defense in which the striking force became artillery

and air power while the fixing force was infantry in fortified positions. This approach capitalized on the UNC forces' relative advantage in artillery, air power, and tanks and also exploited the CPVF's relative weakness in attacking prepared positions. The tactical and operational adaptations by UNC generals prevented later Chinese offensives from succeeding the way the Second Phase Offensive did by negating the relative Chinese advantages in manpower and night time operations.²⁵

The decisive defeat of UNC forces in North Korea and the prospect of direct confrontation with the People's Republic and the Soviet Union caused the United States to abandon a unified Korea as a war aim. The rapid operational success of CPVF forces caused Mao to underestimate the resolve and capabilities of the United States and its allies, and his decision to pursue a unified Korea prolonged the war and forced changes in CPVF operational and tactical doctrines that negated its earlier advantages. Inarguably, however, the competent Chinese generalship and maneuver from November to December 1950 produced a decisive, large-scale victory over a technologically much more capable American army.

Notes

1. William Stueck, *Rethinking the Korean War: A New Diplomatic and Strategic History* (Princeton, NJ: Princeton University Press, 2002), 87–93.
2. Xiaobing Li, *China's Battle for Korea: The 1951 Spring Offensive* (Indianapolis, IN: Indiana University Press, 2014), 40.
3. Xiaobing Li, *China's Battle for Korea*, 41; Stueck, *Rethinking the Korean War*, 87–93.
4. Allan R. Millett, *The War for Korea, 1950–1951: They Came From the North* (Lawrence, KS: University Press of Kansas, 2010), 304.
5. Li, *China's Battle for Korea*, 38–45; Millett, 297–305.
6. Millett, 311–16. Li, 38–53. By 15 October, China had more than 300,000 soldiers operating in Korea—10 times the amount of the CIA estimate.
7. Xiaobing, Li, Allan Millett, and Bin Yu, *Mao's Generals Remember Korea* (Lawrence, KS: University Press of Kansas, 2001), 116.
8. Gary J. Bjorge, *Moving the Enemy: Operational Art in the Chinese PLA's Huai Hai Campaign* Leavenworth Paper Number 22 (Fort Leavenworth, KS: Combat Studies Institute Press), 149. Stueck, *Rethinking the Korean War*, 102–11.
9. Li, *China's Battle for Korea*, 46.
10. Li, 45–53.
11. Billy C. Mossman, *The United States Army in the Korean War: Ebb and Flow, November 1950–July 1951* (Washington, D.C.: Center of Military History, United States Army, 1990), 23–60.
12. Mossman, *The United States Army in the Korean War*, 23–60.
13. Millett, *The War for Korea*, 335. The CPVF possessed 34 divisions and 456 line battalions to the UNC's 18 divisions and 204 line battalions.
14. Li et al., *Mao's Generals Remember Korea*, 22–23.
15. Millett, *The War for Korea*, 317–20.
16. Millett, 334–50.
17. Millett, 336–46.
18. Millett, 334–50.
19. Stueck, *Rethinking the Korean War*, 119.
20. Li, *China's Battle for Korea*, 54.
21. Li, 52–58. Stueck, *Rethinking the Korean War*, 118–24.
22. Stueck, 118–42. Only the Republic of Korea and Taiwan opposed an armistice that would leave a divided Korea.
23. Li, *China's Battle for Korea*, 101.
24. Li, 53–62, 100–02.
25. Li, 100–23.

Chapter 4

Lightning on the Water: German Combined Arms Innovation in the Baltic Theatre, Fall 1917

R. David Pressley II

The battlefields of World War 1 witnessed the predominance of linear and static warfare. Technology advanced far faster than military theory could support, resulting in the mass devastation for little gain characterized by the Western Front. This case study examines the German implementation of stormtrooper tactics in the Baltic to overcome this tactical environment through utilizing successful breaching tactics and fire superiority to achieve the operational envelopment of Russian forces. The German integration of combined arms warfare and new mobility tactics allowed the first large-scale encirclement operation since the start of the war three years earlier. The German offensives in fall 1917 against the crucial port city of Riga witnessed revolutionary operational innovations in German warfare that influenced their doctrine for the remainder of the war. The implementation of stormtrooper tactics by General Oskar von Hutier's 8th Army in the assaults on the port city of Riga and the Baltic Islands heralded this new stage of German operational innovation. The operation of encirclement against the Russian 12th Army defending Riga heralded the return of mobility by German forces in World War I. Additionally, the amphibious landings at Ösel witnessed the continued use of these innovations at Riga by forces which had zero marine training, no amphibious doctrine, and lacked the numerical superiority deemed necessary for successful WW1 offensives.¹

Erroneously dubbed "Hutier Tactics" by many scholars, stormtrooper tactics never originated from General Hutier himself. Infantry assault tactics gradually developed within the German, British, and French armies prior to the 1917 Baltic offensives, but they failed to achieve systematic recognition and remained limited in scope. Therefore, the German assault on Riga in early September represented the first operational integration of stormtrooper tactics on the divisional, corps, and army level in World War I. The subsequent amphibious landings on the Baltic Islands of Ösel, Drago, and Moon in October, codenamed Operation Albion, witnessed the continuation of this offensive technique into an operation that involved the cooperation of the German Army and Navy on an unprecedented scale. These operations proved immensely successful and reinforced the army's planned use of infantry assault tactics in achieving victory in Italy and

France in the following months. The integration of specially trained assault forces, traditional infantry, artillery, airpower, and naval forces witnessed at Riga and Ösel further cemented these large-scale innovations overseen by General von Hutier.

In 1917, the German Army found itself faced with a dire need to end the war quickly. Despite the eruption of revolution in Russia, the mutinous atmosphere of the French Army, and the failure of the Kerensky Offensive, the strategic situation of the Central Powers remained unfavorable beyond mid-1918 due to the continued British blockade and arrival of American reinforcements. Russian forces not only continued to fight but evaded German attempts at any decisive decision, the French mutinies failed to spread, and the Italian theatre continued to drain Austrian resources. Faced with the imminent arrival of hundreds of thousands of fresh American forces, German High Command recognized the need to end the fighting on the Eastern Front in order to transfer the forces presently fighting Russia west to decisively engage the allied armies before American manpower overwhelmed the war weary German Army. Additionally, the capture of Riga would confirm German naval dominance over the entire region while threatening Reval, Petrograd, and Russian Finland with German invasion. To achieve this, they returned to a previous plan advocated by the German Navy to capture Riga and land on the Baltic islands. High Command hoped that the loss of Riga, the linchpin to the entire northern defensive front, would so damage the flagging Russian morale that Russia would seek peace.

Prior to the fall of 1917, the application of special assault tactics in returning mobility and decisive victory to the battlefield occurred only on a limited scale. French, British, and German innovations in small unit stormtrooper tactics began to appear sporadically in 1915. In fact, a French officer, Captain André Laffarague, wrote a pamphlet on abandoning traditional linear methods for assault tactics, making him arguably the first to do so in World War I. French command gave Laffarague's pamphlet little consideration after its publication, but the German army quickly captured a copy and studied it intently.² Stormtrooper tactics evolved further under the leadership of Captain Willy Martin Rohr who pioneered the development of this style of warfare by transforming experimental pioneer units into elite infantry organizations that carried out successful raids.³ As early as 2 March 1915 Germany's VIII Army Corps formed an assault detachment, *Sturmabteilung*, composed of volunteers from pioneer units. By October 1915, the 2nd Pioneer Company implemented these evolving tactics in a successful assault on a French position in the Vosges Mountains.⁴ These early advances in assault tactics centered on small unit tactics that

ultimately failed to create decisive results on the operational level. Not only had these tactics never received attention at the division, corps, or army level, but no army had yet fully integrated other arms, such as artillery, to compliment the infantry's advancing assault tactics. Only at Riga did General von Hutier first integrate stormtrooper tactics at the operational level while utilizing new artillery innovations pioneered by Lieutenant Colonel Georg Bruchmüller.

The planned operation against Riga and the Baltic Islands learned much from the previous attempt to seize the strategic sector. In 1915, German forces attempted to force their way into the Gulf of Riga with disappointing results. Their naval forces failed to achieve the required decisive victory and the infantry reached the Dvina River adjacent to the city of Riga. Attempts to advance further proved futile. The unsuccessful operation improved Russian morale and confidence in the security of the Baltic region for the following two years. Newspapers seized the opportunity and described how "every day through Riga pass parties of German prisoners . . . the majority of them boys of 17 or 18, frightfully weary, and in rags . . . most of them are barefoot."⁵ Yet by 1917, Russian forces faced increasing demoralization and deterioration after nearly three years of bloody fighting. Although the army initially rebounded following Tsar Nicholas II's abdication on 15 March, by mid-May desertion increased to their highest levels yet, units outright refused to obey orders, and defensive positions rarely held under intense combat.⁶ Hutier hoped the Russian's declining morale would eliminate any defense in depth following a rapid German attack. Yet, the stable northern defensive line around Riga provided the defenders a higher degree of stability than in the other turbulent sectors of the Eastern Front. Additionally, the Dvina River and the city of Riga itself offered the defenders an easily defendable position rarely found anywhere else along the vast Russian theatre. Therefore, during the operational planning of the offensive, Hutier's primary concern remained on breaching the first Russian defensive line.

Dmitri Parskii, commander of the Russian 12th Army tasked with the defense of Riga, expected any attack on the city to focus on the Russian held western bank of the Dvina, a flat and marshy area bordering the Baltic. This salient in the Russian line maintained a strong defensive position composed of two corps: the VI Siberian and II Siberian.⁷ Located directly across from Riga, such an attack on this sector would allow German forces to breach Russian lines prior to having to cross the Dvina while also providing access to the only major bridges over the river. Yet, Hutier envisioned an attack further to the south. Commanding the 8th army since

early January 1917, Hutier painstakingly planned the attack for months. The attack, if successful, would allow German forces to exploit any breakthrough, turn north, and envelope Riga while ensuring the destruction of the entire Russian force without fighting a costly battle in the city itself. In order to achieve both objectives, the primary German assault had to force its way across the 300- to 400-yard-wide Dvina, breach the enemy's first line on the bank of the river, advance through the remaining Russian lines, and exploit the breakthrough by turning the now exposed Russian left flank. Hutier's plan called for specially trained assault troops to cross the river following a brief, lightning artillery barrage that simultaneously pinned the Russian front line while creating confusion in crucial communication points behind enemy lines. Secondary attacks on the Russian salient west of Riga aimed to hold the defenders in place as the primary attack completed its envelopment. This plan completely circumvented Russian defense plans by largely ignoring the northern Russian defenses for the more sparse lines guarding the Dvina further south.

In the successful capture of Riga, Hutier's forces displayed well-coordinated assault tactics coupled with the innovative use of artillery to achieve a decisive result. The troops who spearheaded the first wave across the Dvina trained and rehearsed the attack for two weeks at lakes located behind the frontlines. The attacking division themselves did not advance up into their jump-off positions until the night before the attack. Rather than relying on linear tactics prevalent in all other previous major operations in World War I, the assaulting infantry instead "advanced leapfrog fashion."⁸ The small units of the first wave infiltrated the enemy lines, attacked the weakest positions, and bypassed harder points in the enemy's defensive positions for the following infantry to destroy.⁹ With the opposite bank of the Dvina secured and two Russian defensive lines effectively breached, the regular infantry units could effectively exploit from the bridgehead and eliminate larger obstacles to a deep breakthrough inland.

While these tactics proved revolutionary on this scale, it was the utilization of Bruchmüller's artillery tactics in conjunction with infantry assault tactics that set the stage for future German strategy in Italy and France. Bruchmüller described the purpose of his tactics best when he stated that he "desired only to break the morale of the enemy, pin him to his position, and then overcome him with an overwhelming assault."¹⁰ On 1 May 1917, Bruchmüller received the *Pour le Mérite* for his actions around Lake Narotch in 1916 on the Eastern Front. Including Bruchmüller, this highest award of the German military went only four times to upper-level artillery commanders.¹¹ Bruchmüller's reputation on the Eastern Front

reached such heights that High Command feared his presence in the sector might tip off the Russians to the planned move against Riga. In response, officials prevented him from taking the direct route to 8th Army's headquarters and his presence remained a secret from most officers and commanders until only a few days before the attack itself.¹² Once at Riga, Bruchmüller immediately gathered all available artillery pieces, some even arriving from the Western Front, and placed all batteries directly under his command. He built upon his previous experience in the east by focusing on centralization, speed, surprise, and coordination. The complete centralization of all artillery resources under Bruchmüller eliminated the divisional nature of World War I artillery operations. Rather than division commanders operating each of their artillery batteries separately, the entire artillery force functioned together on the corps and army level. Additionally, this allowed Bruchmüller to erase the organizational separation between guns and howitzers, foot and field artillery. Instead, he created a flexible system that utilized and grouped the various categories of artillery in formations tailored to the specific task at hand.¹³

The centralized nature of Bruchmüller's artillery forces further facilitated systematic preparation prior to the outbreak of battle. Detailed and complex plans of bombardment proved highly successful in this manner. Additionally, this organization and planning allowed for a tactic particularly utilized at the Battle of Riga: initiating bombardments within registration fire or determining range and accuracy through testing shots prior to the main battle. Traditionally the lack of registration fire resulted in chronically inaccurate fire, but Bruchmüller successfully implemented the Pulkowski Method of predicted fire prior to Riga. Developed by Captain Erich Pulowski, the use of advanced mathematics and testing allowed for accurate fire by calculating the effects of wind, moisture, ballistic effects, and even the effects of different shells from various manufacturers. Crucially, this innovation allowed German artillery to take enemy forces by complete surprise while maintaining high accuracy.¹⁴

Most importantly for the operations around Riga, Bruchmüller advocated for the integration of combined arms into the application of artillery. Focused on applying fire as needed by the forward infantry while maintaining operational objectives, he introduced a system of deploying forward observers and liaison officers to the battlefield, an early predecessor to modern models. Under this system forward observers were divided into two classes: Class II forward observers followed the infantry's attack while Class I forward observers remained on the front line relaying information and maintaining observation posts connected with telephone wires.

Class II observers, accompanied by a non-commissioned officer (NCO) and several telephone operators, signaled changes in the situation back to the observation posts who then directly informed the relevant artillery. Each infantry battalion in the first wave received a liaison officer whose job concerned informing the artillery of changes in the tactical situation of their battalion and advise infantry officers on their available options.¹⁵ The assault infantry units also received green flares that signaled the artillery to advance into the next phase of the rolling barrage and therefore remain as close to the advancing infantry as possible.¹⁶

In the assault across the Dvina, the increased use of gas marked another evolution in the operational use of stormtrooper tactics. Gas proved highly effective in silencing Russian artillery crews and allowed for a greater area of effect with each shell. Additionally, the use of gas specifically tailored to the application of assault units by leaving the ground intact. High explosive rounds destroyed the landscape and created numerous hindrances to the advancing troops themselves. Gas shells left the ground unmolested, facilitating the stormtroopers' speedy advance. The preponderance of gas in the bombardments in the crossing of the Dvina proved to successfully complement the assault units crossing the river by leaving the enemy bank largely intact and leaving the area of operations easier to navigate and advance through.

The opening bombardment of Russian positions began at 0400 on the morning of 1 September 1917. Within two hours, German guns unleashed more than 20,500 gas shells onto Russian artillery positions and second-line defenses.¹⁷ Some of the Russian gun crews abandoned their guns in response to the attack while others choked to death on the gas without returning fire. The effectiveness of the attack was multiplied by Russian soldiers often resorting to removing their masks while in gas rather than continuing to wear the cumbersome, often ineffective, devices.¹⁸ By 0600, German artillery unleashed shrapnel and high explosive rounds on enemy first-line positions. Approximately 500 trench mortars pinned Russian soldiers in their frontline trenches as light artillery continued to concentrate on the second line and communication trenches with gas shells. While artillery preparation lasted days or even weeks on the Western Front, the preparation bombardment against the enemy bank lasted only five hours and 10 minutes.¹⁹ A total of 560,000 rounds devastated Russian defenses during this preparation phase alone.²⁰ Within this short bombardment, by the standards of World War I, German forces achieved complete fire superiority within the main sector of attack.

Under the cover of the torrential rain of shell fragments and gas, assault troops crossed the breadth of the river to face enemy positions along the coast and on small islands dotting the center of the wide river. By 0930, the infantry squads of the first wave “lifted their boats on their shoulders and carried them across the forward trench through recently cut lanes in the German wire, and into the water.”²¹ The German bombardment proved highly effective in pinning the Russian defenders as the assault forces rowed across the length of the river with few incidents. Once the squads secured a bridgehead near the city of Üčküll, located on a small peninsula on the eastern side of the Dvina, green flares signaled for the artillery to switch to a rolling barrage behind which the infantry would follow. Assault forces quickly turned away the Russian defenders’ whose low morale wavered under the continued German bombardment and rapid advance.²² What few light machineguns the Russians possessed failed to suppress the advancing assault troops as their crews likely abandoned their guns under the earlier bombardment. Within hours, the German advance over-

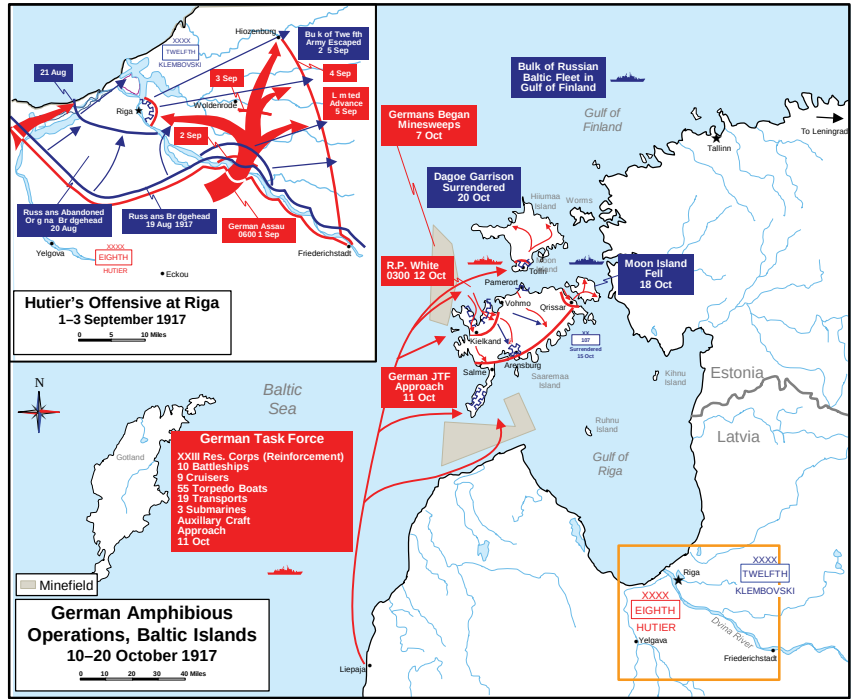


Figure 4.1. Baltic Russia 1914: German Amphibious Operations Baltic Island 10–12 October 1917 and Hutier's Offensive at Riga 1–5 October 1917. Map recreated by Army University Press.

took the Russian forward positions—rarely resorting to firing their light machineguns or flamethrowers—and moved on toward the secondary defensive lines. German engineers and pioneers quickly fashioned pontoon bridges upon which the main infantry divisions crossed the formidable Dvina. Within 48 hours of the initial phases of the operation, nine German divisions accompanied by artillery, horses, and supplies crossed the river.²³ The most difficult phase of the operation—crossing the width of the Dvina against prepared defensive positions—had met with resounding success.

Good news, however, did not stretch along the entirety of the German line. The flanking attacks proceeded poorly in comparison to the primary crossing further south of Riga. Due to the preponderance of artillery resources allocated to facilitate the main crossing, German forces failed to obtain artillery supremacy over the Russian salient on the western coast of the river, where the Russians expected the primary attack to take place. The three divisions taking part in the diversionary attacks against these Russian positions came under heavy enemy bombardment as a result.²⁴ Of the attacking divisions in this sector, the Allies regarded both the 202nd and 203rd Divisions as “only mediocre” or third-class.²⁵ These attacks failed to adequately pin the Russian forces in this sector who utilized their temporary superiority of firepower to cover their retreat. As German forces eventually advanced into the enemy positions, the soldiers found them empty. The Russians had begun their evacuation earlier in the day and largely escaped the flanking German divisions.²⁶

The divisions participating in the main crossing farther south continued to achieve success. Yet, the Russian defense began to improve as the German forces moved beyond the banks of the river and began to exploit inland. The only major battles of the operation took place during this phase of the battle. Isolated Russian units offered stubborn resistance and successfully slowed the German advance north. Utilizing minor rivers running behind their second line, several Russian units forced the 14th Bavarian Division to engage in the fiercest combat of the first day of operations. By the second day, these units collapsed in the face of continued combat. The exploiting German forces faced fierce resistance again on the second day as Russian defenders attempted to reform their defensive line behind another local river. This line, however, disintegrated as the advancing German infantry conducted a double envelopment, successfully flanking both sides of the hastily erected defensive line.²⁷ In response to the slowed but continuing German advance, Parskii ordered repeated counterattacks to stem the tide of the German exploitation as his forces to the north evacuated their positions.²⁸ Few of these counterattacks proved

successful and only resulted in heavy casualties. For instance, the desperate counterattack of a Latvian brigade bought some time but at the cost of 50 percent casualties.²⁹ Moreover, the employment of all-female battalions in these attacks and the threat of execution of deserters proved inadequate to stem the tide of the 8th Army's advance.³⁰

By day three of operations, German forces entered the city of Riga itself and by the following day the entire city of Riga lay in German hands. Though the Russian army escaped, they experienced heavy casualties and were in full retreat. During the operation, the Russians lost more than 25,000 soldiers and nearly 250 desperately needed artillery pieces. In all, German forces received only 4,200 casualties during the fighting.³¹ The enormity of Russian losses broke the back of the northern defensive line, allowing German forces to advance 30 miles with little resistance before High Command ordered the line to halt. Unexpected British and Dominion success in the Third Battle of Ypres led High Command to transfer part of Hutier's force to bolster their defense in the west, thereby ending any further exploitation.³² Yet, the recall of troops failed to influence the attempted envelopment, and Hutier successfully continued operations for two days longer. The 8th Army spent the following days continuing to clean out any remaining pockets of resistance led by isolated Russian units.

Russian morale plummeted at the devastating loss of Riga and the masses of human and material resources that they simply could not replace. Yet while Riga lay firmly in German hands, Hutier failed to completely envelope and destroy the Russian force. Though disorganized and demoralized, significant numbers of Russian soldiers escaped the envelopment. Though he failed in his second objective, the Russian army in this sector lost a key defensive position that had defended the approach to the key cities of Reval and Petrograd for over two years. The Russian 12th Army fell back upon a less defensible position 40 kilometers behind their original line of defense. While commanding the Northern Front, General Vladislav Klembovskii noted that "the Twelfths Army's retreat has been so disorganized it that it is positively in no state at all to stop an enemy attack without a well-fortified position."³³ Major-General Alfred Knox, British Military Attaché in Russia, noted the spreading fear throughout Russian command that the capture of Riga acted as a preliminary to a larger advance on the capital of Petrograd.³⁴ Furthermore, the sudden capture of Riga humiliated an army only just recovering from the devastation wrought by the unsuccessful Kerensky Offensive in July.

Ultimately, however, the capture of Riga and the devastation of the Russian 12th army proved inadequate in forcing the Russians to sue for

peace. Therefore, the German command decided to continue with the second stage of the Riga-Ösel plan. Previously hesitant to allocate army resources for an invasion of the Baltic Islands, High Command finally allocated sufficient forces to at least equal the number of Russian defenders on the islands. The German forces hoped to open sea lanes to the now-captured port of Riga while threatening the crucial naval base at Reval and the Russian capital of Petrograd. Ludendorff summarized his view on the capture of the Baltic Islands when he stated that “the blow was aimed at Petrograd.”³⁵ If their capture failed to fracture the Russian northern defensive line, the Germans hoped the psychological result would finally demoralize the shaken Russian government into suing for peace.

The operation to capture the Baltic islands amounted to a massive military endeavor along the lines of which the German military had no experience. Although largely seen as an economy-of-force endeavor, the numbers committed to the capture of the islands underscored the importance placed upon this operation and their hope to finally end the fighting on the Eastern Front. In terms of sheer numbers of ships, Operation Albion was the largest naval operation of World War I. For the operation, the German navy mustered a total of approximately 363 ships against a Russian fleet of 151. In comparison, the famous Battle of Jutland pitted only 99 German ships against 150 British.³⁶ Although most of the ships engaged in Albion were smaller than the massive dreadnaughts present at Jutland, many acting solely as minesweepers or submarine hunters, the enormous numbers of ships involved eclipsed that of other naval operations of the war.³⁷

For the invasion, Germany assembled a force composed of 25,000 soldiers of the XXIII Reserve Corp, 363 total ships, 10 dreadnaughts, 6 zeppelins, and 80 aircraft.³⁸ German command improvised a majority of the operation both on sea and land. The flotilla escorting and supporting the landing forces drew modern forces from the German High Seas Fleet and even five destroyers from the MarineKorps Flandern on the Western Front to create the Special Unit of the Baltic under command of Vice Admiral Ehrhard Schmidt.³⁹ The landing forces for the operation came from the 42nd Infantry Division who last saw action during the Nivelle Offensive in April.⁴⁰ To supplement the division, German commanders requested a recently converted brigade of cyclists from Belgium.⁴¹ Despite this allocation of force, German units failed to numerically outnumber the Russian defenders during the opening phases of the land operation.

Russian forces understood the importance in retaining control of the Baltic islands, especially following the loss of Riga in September. Minefields constituted the primary defensive measure to prevent landings on the

main island of Ösel.⁴² Heavy artillery occupied a strategic position on each island while smaller pieces remained scattered across the coast. Admirals Alexander Vladimirovich Razvozov and Mikhail Koronatovich Bakhirev commanded the naval defense of the islands. Bakhirev commanded the immediate defenses while Razvozov led the Russian Baltic Fleet. Little support arrived from Razvozov's forces during the operation due to his continued focus on the defense of the Gulf of Finland more than anything else.⁴³ The 107th Infantry Division commanded by General Fyodor Ivanov composed the primary Russian land forces on the islands. Reinforcements from the 118th Infantry Division arrived several days prior to the German landings to bolster the defense of the western edge of Ösel.⁴⁴

Due to the hope of achieving an overwhelming victory instead of simply capturing the islands, the German plan for the invasion of Ösel required the complete destruction of the entire Russian force. High Command hoped that the capture of the islands combined with the destruction of the main Russian division would completely break the back of any remaining Russian resistance in the east. To achieve this goal, the brigade of cyclists supported by the Eighteenth Storm Company, commanded by Captain von Winterfeld, would move separately of the main force to seize the city of Orrisar and the only route of retreat off Ösel. Utilizing the infiltration tactics witnessed at Riga, these forces were ordered to breach the enemy line, exploit inland, and bypass difficult enemy obstacles. The encirclement and destruction of the entire Russian division relied on the speed and precision of these mobile forces.

Operation Albion proved more difficult to coordinate and manage than did the attack against Riga in the previous month. German forces improvised most of the invasion as the operation fully came together only one month prior to the first troops landing on the beaches.⁴⁵ The assault troops utilized in the landings also received no special marine training in preparation for the landings.⁴⁶ Moreover, the debate between the navy and army proved continually divisive and hampered preparation for the invasion. This friction notwithstanding, the naval forces successfully cleared the waters around the islands of Russian mines while delivering the troops to their landing sites with few problems. Naval bombardment successfully silenced most of the Russian batteries protecting the various landing sites. Assault troops belonging to the first wave of landings proceeded to quickly clean up any remaining resistance from the gun crews. Here, German army units engaged in an amphibious doctrine as opposed to that of the modern US Marine Corps. Rather than seizing, pausing to develop a bridgehead, building up overwhelming force, and then advancing against

inland positions, German units relied on speed to rapidly overtake Russian positions. Assault troops penetrated Russian first-line defenses, without regard to their exposed flanks, and advanced while sowing disruption into the fixed Russian defenses. The bulk of the remaining infantry units then proceeded to drive the whole of the Russian division inland—with the support of air superiority and naval bombardment—and into the city of Orrisar, already occupied Winterfeld's flanking force.⁴⁷

The primary landing at Tagga Bay on Ösel Island went smoothly as most of the first wave of soldiers landed without any casualties. As the day progressed, Russian forces began to open fire on the landing zones and the supporting ships offshore. However, the officers handled the Russian defense poorly as both the troops on the southern peninsula of the island and their reserves sat idle as the Germans continued to land around Tagga Bay due to broken lines of communication and the lack of a decisive central leadership.⁴⁸ German forces steadily advanced from the landing zones inland as Russian forces remained scattered and demoralized by German artillery and air superiority.⁴⁹

The flanking force composed of cyclists and stormtroopers landed at Pamerot, located a few miles to the east of the main landing site, with little issue and quickly advanced toward the city of Orrisar. The speed and mobility of these specialized units ensured that they reached the city prior to any of the retreating Russian units. With repeated naval and aerial support, the outnumbered units defended the crossing to Island of Moon and thereby forced the entire Russian division retreating from the main German force to surrender amid failed break out attempts. Only two soldiers were recorded as successfully escaping the German anvil, escaping by boat.⁵⁰ With the vast majority of the Russian garrison defeated, German forces rapidly advanced and captured Moon Island while additional landings on Dagö Island forced the remaining units—cut off with no hope of support or escape—to surrender as well.⁵¹

Bruchmüller's artillery innovations found only partial application in the operation due to the unique constraints of the amphibious operation. Moreover, the primary artillery firepower present for the operation belonged to the navy and not the army. Conventional artillery could not deploy until after the initial landings and then the assault forces faced limitations in the size of artillery that they could utilize. Yet, the naval bombardment attempted to mimic Bruchmüller's focus on centralization and coordination with infantry by unifying command of all naval bombardment requests to the cruiser *Moltke*. Whereas this attempt at centralization of command appeared as a promising idea during preparation, the ship

could not adequately handle the sheer amount of incoming and outgoing communication often leading to a scene of chaos on board.

Additionally, naval forces often deployed the equivalent of a forward observer, sometimes simply a regular naval officer, to facilitate coordination with infantry already on the ground. The most crucial example of this enhanced coordination took place during the desperate defense of Orrisar by the German cycle and storm troops. Lieutenant Commander von Rosenberg entered the Small Sound separating Ösel and Moon islands with several shallow-draft torpedo boats. Dispatching a naval officer, Rosenberg was able to learn that the beleaguered cyclists found themselves pushed back from their positions defending the crucial causeway by three Russian armored cars against which the cyclists' fire proved ineffective. Acting immediately, Rosenberg order his ships to fire on the armored cars parked on the causeway. The ships' 88-mm guns quickly destroyed two while forcing the third to retreat to Moon Island. Rosenberg then resupplied the defending troops with desperately needed ammunition.⁵²

The successful capture of the Baltic islands secured German control of the sea lanes into Riga and opened the remaining Baltic to the German fleet. Now Russian fears of a potential strike on the capital of Petrograd appeared even more likely. Particularly devastating to the Russian army was the sheer disparity in casualties by the end of fighting. Reportedly the Germans captured "20,130 Russians, along with 141 cannons, 130 machine guns, 2,000 horses, two armored cars, 28 private automobiles and trucks, ten aircraft, and three boxes of money worth 365,000 rubles."⁵³ The number of soldiers and sailors killed in the battle remained unknown to Russian officials. In contrast, the German Army lost 54 soldiers with an additional 141 wounded. The German Navy lost 156 sailors and suffered 60 wounded.⁵⁴ The Russian military yet again faced utter humiliation against the Germans while losing one of the most key positions along their entire line.

Although Operation Albion and the attack against Riga presented stark differences in the inherent nature of the offensives, both witnessed revolutionary operational innovation that resulted in resounding success. Although predominantly an amphibious operation, Albion retained aspects from the assault on Riga such as the use of specially trained stormtroopers to exploit through the enemy front line in order to achieve operational superiority. Moreover, while it proved impossible to utilize Bruchmüller's artillery innovations during Albion, the German Navy attempted to centralize bombardment operations and establish a clear avenue for communication with frontline troops by utilizing naval officers as unofficial forward observers. In both operations, consistent morale deficiencies hampered the

Russian defense and facilitated the rapid, continuous German advance. At Riga, the sudden devastating bombardment caused many of the frontline soldiers to flee or fail to inflict any damage on the vulnerable German units during the first wave across the Dvina. Morale problems further hindered Russian attempts to stop or even slow the attempted envelopment around Riga. During Albion, the rapid German advance combined with superior naval support and frequent air support caused the disorganized Russian defenders to clog the muddy narrow passages through the heavily wooded terrain. German forces would face an enemy with similar, though less severe, moral problems utilizing this operational structure in the Battle of Caporetto. This evolution in German doctrine faced its first hardened, determined resistance in the Spring Offensive in 1918 aimed at French and British forces. Still highly successful in terms of World War I, it ultimately failed to produce the completely devastating results that were achieved outside Riga in 1917.

The operations to capture Riga and the Baltic islands represented a clear evolution in German operational doctrine. In the assault against Riga, General Hutier recognized the advantages of stormtrooper tactics and integrated them into an operational plan that further utilized key artillery innovations pioneered by Bruchmüller. Following up on the success at Riga, German forces successfully built upon the innovations at Riga while effectively engaging in a type of warfare in which Germany had no previous experience. The amphibious operation also marked one of the few times that the German naval and army branches of the military successfully coordinated and supported each other during the entirety of the war. While very few of the tactics during these operations proved to be new or unique, their application and scope demonstrated to German High Command the effectiveness of this new way of waging war. The following offensives at Caporetto in October 1917 and the Spring Offensive in 1918 heavily resembled the operations in the Baltic in their execution and planning. In fact, following Riga and Albion German High Command transferred General von Hutier and Bruchmüller to the Western Front to play crucial roles in the pivotal Spring Offensive. Many of the units that took part in the operations in and around Riga also found themselves transferred to the west following the withdrawal of Russia from the war.

Within months these new tactics spread to the Western Front as both sides sought to end the war through mobile operations. The Battle of Caporetto, fought in the mountainous Italian theatre, witnessed the successful use of stormtroopers in breaching long held enemy defensive lines to allow breakthrough. Although the advance was halted at the First Battle

of Monte Grappa, German High Command decided to integrate the new infiltration and exploitation tactics into the planned 1918 offensive. General Hutier, Bruchmüller, and most of the forces that participated in the attack in Riga were transferred to the Western Front to bolster and train the forces already present. The German offensive doctrine for the massive Spring Offensive of 1918 nearly mirrored the techniques witnessed at Riga. Allied countermobility operations, defense in depth, and the inability of German forces to attrite the enemy reserves successfully brought the offensive to a halt. Though beyond the scope of this case study, the Spring Offensive presents the critical flaws of breakthrough tactics in large-scale operations.

The operations around Riga in 1917 never introduced any new tactics or techniques to the battlefield of World War I. It was the synthesizing of already established methods of war into a single doctrine that created the ability for German forces to achieve operational breakthrough and envelopment. This blending of existing technological and tactical elements into a single large successful operation acted as the true revolutionary nature of the Baltic offensives. Modern military forces face a similar conundrum on battlefields like in Eastern Europe and the Middle East where envelopment operations are made increasingly difficult by the proliferation of unmanned aerial vehicles (UAVs,) cyber warfare, and improved air defense systems. Additionally, the growing importance of the South Asian theatre necessitates further joint operations employing army, navy, and air force resources. The invasion of the Baltic islands in 1917 demonstrates the need for branches to cooperate in new ways in the face of such battlefields as well as the ability for the army to play a significant role in diverse situations, even amphibious operations. While modern technologies present growing difficulties in achieving decisive action, just as this case study demonstrates, successful holistic utilization of combined arms operations offers the ability to surpass such challenges.

Notes

1. Military commanders typically believed that a 3:1 numerical advantage was required for successful large offensives in World War I. German forces achieved a large localized numerical superiority for much of their attack against Riga but failed to achieve even a simple majority of forces at the island of Ösel.
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5. Charles Johnston, “The Russian Retreat: As Russians See It,” *The North American Review* 202, no. 719 (1915): 532.
6. Allan Wildman, *The End of the Russian Imperial Army: The Old Army and the Soldiers’ Revolt* (Princeton, NJ: Princeton University Press, 1980), 344–366.
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- 9.. Zabecki, 23.
10. Georg Bruchmüller, *Die Deutsche Artillerie in den Durchbruchschlachten des Weltkriegs* (Berlin: Mittler und Sohn, 1922), 80.
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12. Zabecki, *Steel Wind*, 29.
13. Zabecki, 36–37.
14. Zabecki, 48–49.
15. Zabecki, 45.
16. Gudmundsson, *Stormtroop Tactics*, 116–19.
17. Gudmundsson, 117.
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- 22.. Gudmundsson, 117–118.
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24. Gudmundsson, *Stormtroop Tactics*, 118–19.
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26. Gudmundsson, *Stormtroop Tactics*, 118.

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28. Stone, *The Russian Army in the Great War*, 296.
29. Showalter, *Instrument of War*, 224.
30. Stone, *Russian Army*, 295–97.
31. Neiburg and Jordan, *The Eastern Front*, 142–43.
32. Gudmundsson, *Stormtroop Tactics*, 128.
33. Stone, *Russian Army*, 297.
34. Alfred Knox, *Within the Russian Army 1914–1917: Being Chiefly Extracts from the Diary of a Military Attaché* (London: Hutchinson and Company, 1921), 698.
35. Erich Ludendorff, *Ludendorff's Own Story: August 1914–November 1918* (New York: Harper, 1919), 122.
36. Michael Barrett, *Operation Albion: The German Conquest of the Baltic Islands* (Bloomington, IN: Indiana University Press, 2008), 6
37. This paper does not cover the full naval movements and engagements involved in this operation due to its focus on operational innovation in German ground forces. Gary Staff's *Battle for the Baltic Islands 1917: Triumph of the Imperial German Navy* and Michael Barret's *Operation Albion: The German Conquest of the Baltic Islands* offer the best recent overview of this specific aspect of the invasion and much more adequately present the intricacies involved in the cooperation between the army and navy. By far the most difficult phase of Operation Albion involved the successful transport and unloading of soldiers untrained in amphibious warfare, and as such, the navy's role in the battle proved crucial from beginning to end.
38. Barrett, *Operation Albion*, 6.
39. Mark Karau, "*Wielding the Dagger*": *The MarineKorps Flandern and the German War Effort, 1914–1918* (Westport, CT: Praeger, 2003), 168.
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41. Barrett, 103.
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Chapter 5

Escaping No Man's Land: Combined Arms Adaptation in the Meuse-Argonne

Major John M. Nimmons

Unwilling or unable to work outside of the existing paradigm, many senior American officers treated doctrine like dogma and failed to understand the true test of doctrine was the reality of battle and that doctrine had to be refined—even radically altered if necessary—to be useful.

—Mark Grotelueschen, *The AEF Way of War*

During the first two phases of the Meuse-Argonne offensive in World War I, combined arms maneuver was a metaphorical “no man’s land” for many in V Corps because many in the organization struggled to bridge the gap between operational processes at corps level and divisional innovation on the front line. Staffs within V Corps oversimplified the complexity of the battlefield they faced because of an over-reliance on existing doctrine. As a result, V Corps and its divisions were slow to implement combined arms methods in the early phases of the Meuse-Argonne offensive, and this failure led to profound organizational and tactical change before the final phase.

As the campaign progressed, V Corps learned to embrace the challenges inherent in this no man’s land, resulting in dramatic organizational change that brought about necessary adaptation required for battlefield success. V Corps recognized that in-stride adaptation required an internal cultural shift that enabled leaders to balance integration of new technologies with deviations in doctrinal employment. Specifically, before the third phase of the campaign, V Corps made significant changes to its leaders, planning methods, tactics, and organizational structure to address the reality of the emerging changes on the modern battlefield. This study explains how, despite the problems of doctrinal limitations, unsynchronized use of new technology, poorly trained divisions, and newly created corps headquarters, V Corps and its divisions successfully adapted in-stride during large-scale combat operations in the Meuse-Argonne campaign.

Over the Top: Rushing to Failure in the First Phase of the Meuse-Argonne

Despite the extensive planning that consumed the newly developed headquarters before 26 September 1918, V Corps remained unprepared

for the combined arms challenges that awaited them at the outset of the Meuse-Argonne campaign. Namely, the V Corps maneuver plan failed to synchronize divisional infantry maneuver with artillery, aviation, and tank employment. As a result, over the next five days, the divisions of V Corps struggled to achieve the First Army mandated objective of Montfaucon. This failure cost V Corps time and resources as they struggled to move supplies and artillery pieces over rough terrain while maneuvering poorly trained formations.

With mostly untrained and inexperienced units, V Corps positioned the 79th Division on the right flank, the 37th Division in the center, the 91st Division on the left flank (Figure 1). Keeping its only combat-tested unit, the 32nd Division, in reserve, V Corps planned to attack the 117th German Reserve Division and the 1st and 2nd Foot Guard Regiments of the 1st Guard Division located along the Voker Stellung.¹ V Corps expected the Germans to initially defend from trenches and subsequently retreat in the face of a large-scale assault, resulting in a more desirable war of maneuver that fit existing American doctrinal constructs.

Despite optimistic plans during the first three days of fighting, the 79th Division, 37th Division, and 91st Division were unsuccessful and the cost to manpower was staggering.² In addition to navigating rough terrain, German forces changed their tactics by concentrating artillery fire with enfilade machine-gun fire from strong points on advancing American units.³ The enemy situation differed from planned enemy reactions as German forces chose to defend from strong points instead of along trench lines. American commanders found themselves fighting both trench warfare and a war of maneuver. The doctrine of maneuver warfare was incompatible with the enemy situation, yet V Corps continued to issue orders based on existing doctrine that called for spirited infantry assaults and limited artillery preparation of objectives.⁴

A reason for this over-reliance on existing doctrine stems from a lack of experience and training for commanders and staffs within V Corps. Leaders approached planning one-dimensionally by focusing primarily on infantry divisions rather than combining and synchronizing artillery, tanks, aviation and machine-gun employment.⁵ As a result, V Corps and its divisions did not understand and fully employ the combined arms capabilities of its formations and equipment. This knowledge gap hindered V Corps' inability to balance the tempo of infantry assaults with the employment of new pieces of technology.⁶ As it stood, V Corps' infantry-centric focus created a crisis.

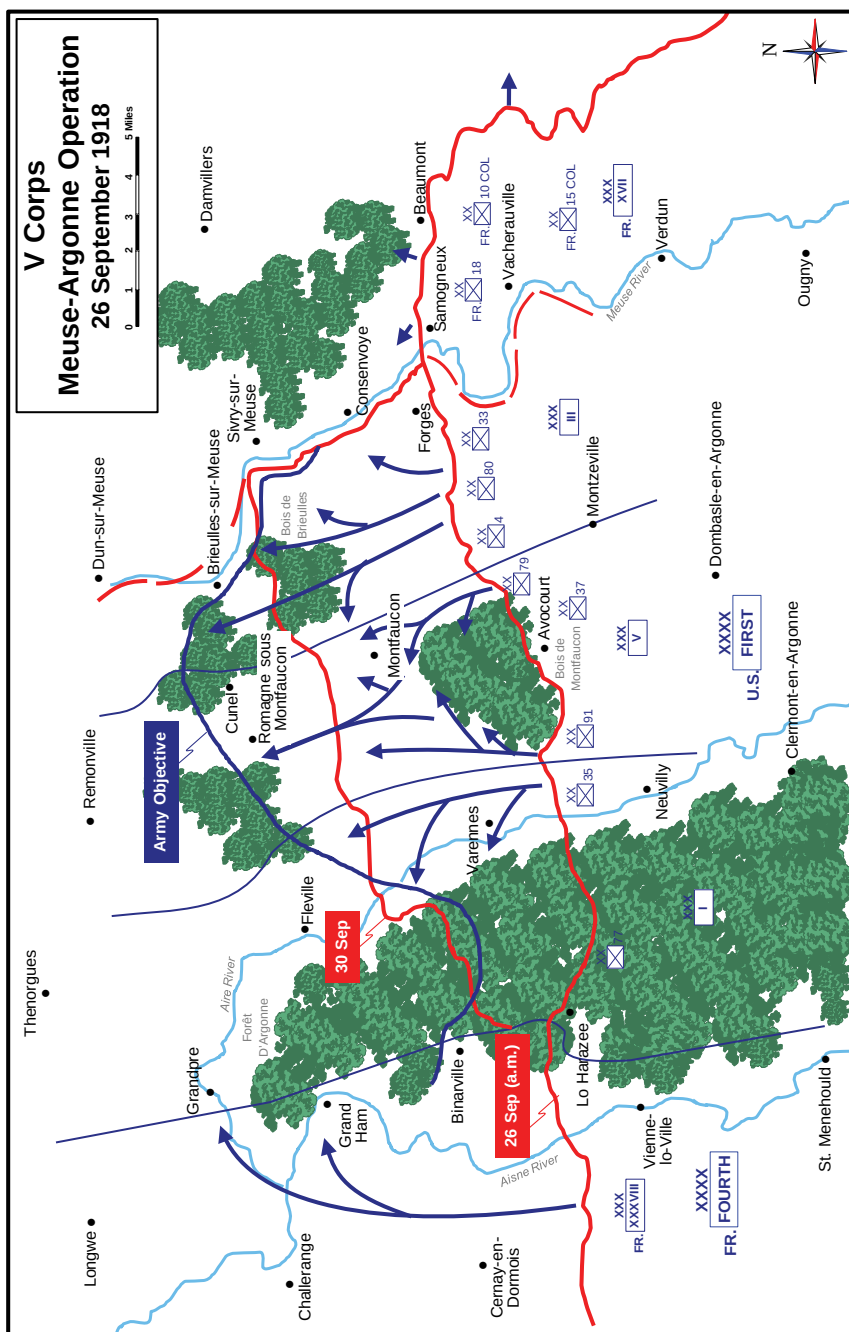


Figure 5.1. Map of V Corps, 26 September 1918. Map created by Army University Press.

Tempo: The Disconnect between Artillery and Infantry

Today, Army doctrine defines tempo as “the relative speed and rhythm of military operations over time with respect to the enemy.”⁷ For V Corps in the first phase of the Meuse-Argonne, infantry units defined speed and rhythm rather than the combined effects of moving enablers simultaneously with infantry divisions, and V Corps’s staff failed to anticipate the speed at which combined arms enablers could move to support assaults.⁸ This thinking resulted in plans that called for infantry maneuvers to penetrate 10–50 kilometers deep within enemy lines, often without sustained artillery support.⁹ This organizational rigidity resulted in orders that directed subordinates to seize unsupportable objectives.¹⁰

V Corps continued to struggle with tempo as its logistics plan for both infantry and artillery did not account for passable routes across no man’s land. The ravaged terrain made even simple foot navigation difficult. Compounding this problem was the increased flow of supply convoys and casualty trains back toward the headquarters at Avocourt. Congestion in the corps support area became so bad during the first day that “staff officers on duty at [V] Corps Headquarters [were used] to keep traffic moving.”¹¹ Staff officers became preoccupied with managing the corps support area and were unable to adequately provide support for divisions engaged in combat.

The disruption to V Corps’s tempo continued because of their failure to properly manage the Corps support area as the only three viable routes through the 38-kilometer area in no man’s land became increasingly congested. To make matters worse, the heavy rain right after the start of the campaign all but rendered crossing that vital area with artillery, supply wagons, and trucks all but impossible.¹² The compounding result was a failure to resource artillery for the 79th Division on the second day of the Meuse-Argonne as they assaulted Montfaucon.¹³ Without synchronization, artillery could not move closer to the front to support the infantry, and logistical support could not be timed to alleviate congestion along critical routes.

Analysis: Obstacles to Combined Arms

The challenge posed by the adaption of the Germans notwithstanding, V Corps faced internal obstacles to innovation within their organization. For the first phase of the Meuse-Argonne, leaders and staffs within V Corps primarily relied on the existing doctrine to implement Corps systems for planning. Rushed staff training and a desire to quickly launch the Meuse-Argonne offensive hindered V Corps’s ability to develop the necessary organizational understanding required to accurately plan and execute operational tempo. As a new headquarters with roughly only a month working together prior

to the offensive, V Corps struggled to understand itself, let alone encourage lower echelons to be innovative. In essence, V Corps lacked leaders capable of bridging new ideas to improve operations through combined maneuver.

As the first phase of the Meuse-Argonne concluded, intense internal and external pressures mounted on V Corps. Doctrine no longer matched the reality on the ground, and all three of the initial assault divisions culminated before reaching their final objectives.¹⁴ For change to occur, V Corps needed to address significant internal issues before it could effectively respond to its operational environment. How V Corps decided to deal with this pressure and friction would determine their ability to adapt in-stride during combat operations toward combined arms maneuver.¹⁵

Crossing No Man's Land: Innovation that Led to Combined Arms Maneuver Adaptation

By the fifth day of the Meuse-Argonne campaign, V Corps faced a crisis. After a three-day operational pause, by 4 October 1918, V Corps remained unable to seize the First Army mandated objectives directed for 27 September 1918. Desperate to regain momentum, V Corps replaced the 37th, 79th and 91st Divisions with the 32nd and 3rd Divisions.¹⁶ Without changing their planning methods, V Corps leadership continued to follow existing doctrine and inserted fresh infantry divisions into the fight.

V Corps leadership still expected infantry-centric plans to lead to success. However, the 32nd and 3rd Divisions differed from their predecessors with regards to combined arms employment, and in doing so, set the precedent for change within V Corps's planning and operations. Despite some early failures, as the second phase progressed, the 32nd and 3rd Divisions avoided costly frontal assaults by employing artillery for suppression as they maneuvered with infantry, tanks and machine guns to envelop German strong point positions.¹⁷

Combined Arms Innovation within the 32nd Division

As they reassessed the enemy situation, V Corps staff headquarters expected the Germans to defend their positions along the Kriemhilde Stellung.¹⁸ To penetrate this defensive belt, V Corps directed that its divisions seize the objectives of Romagne-sous-Montfaucon and the surrounding heights of Bois de Cunel to its east. (See figure 2).¹⁹ While the objectives assigned to the divisions were involved a more feasible distance, V Corps repeated past mistakes.

The V Corps artillery plan did not include supporting fires past the initial bombardment.²⁰ This lack of fire support planning became the starting

point for innovation within both the 3rd Divisions and the 32nd Division. The process involved trial and error, and the divisions saw mixed results.

After relieving the 91st Division, the 32nd Division began the second phase of the Meuse-Argonne campaign on 4 October with an assault on Gesnes, to the northeast of Cierges. Through the use of reconnaissance patrols, the 32nd Division established a greater understanding the battlefield. Based on the intelligence collected by their brigades, the 32nd Division's 64th Brigade utilized divisional artillery to destroy obstacles for an infantry advance while also simultaneously suppressing and neutralizing German machine gun positions. As a result, the 64th Brigade successfully captured Gesnes.²¹

Despite the success of these efforts, the lack of counterbattery fire hindered any further advance for the 32nd Division as a whole. Namely, to exploit success, the 32nd Division decided to continue with an attack on Bois de la Morine. Unfortunately, the 32nd Division rushed its plan to attack and failed to replicate the formula for success at Gesnes. They "issued no formal field order but endorsed copies of the corps order to its brigades."²² With no artillery support or clear understanding of German positions, the 64th Brigade failed to seize Bois de la Morine, and withdrew. Learning from their mistake, the 32nd Division planned to better coordinate and concentrate artillery before the next infantry assault.²³

Rather than repeat their mistake at Bois de la Morine, the commander of the 32nd Division, Major General William Haan, directed the coordination of artillery support focus on a clear understanding of German positions. The plan of 4 October brought every division asset to bear on the Bois de la Morine in a synchronized manner. In conjunction with massed artillery for the suppression and neutralization of German positions, the 32nd Division cross-attached "gas and flame troops and tanks" to infantry units of the 64th Brigade.²⁴ In doing so, Major General Haan and his staff deviated from existing doctrine. The innovative solution overwhelmed the Germans at Bois de la Morine and solved the problem of tempo that plagued the previous divisions of V Corps.

From Bois de la Morine to the Kriemhilde Stellung, the 32nd Division continued to innovate as they deviated from doctrine to synchronize enablers. Meanwhile, their higher headquarters, V Corps, remained largely ineffectual in supporting its divisions. V Corps had no plan other than directing its divisions to penetrate the Kriemhilde Stellung. As a result of this disconnect between V Corps and its lower echelons, divisions under

Major General Haan wanted to avoid frontal assaults in the main defensive belt around Romagne. The plan was to use artillery to suppress German forces while the 32nd Division's 126th Infantry Regiment penetrated the defense south of Romagne. Again, cross-attached tanks and infantry, in coordination with artillery, broke through the German lines, and the rest of the 32nd Division's infantry brigades poured through the penetration point.²⁶

As the fight progressed, the Germans realized they were outflanked and began taking up positions along the surrounding hills. In spite of this, the 32nd Division continued to employ their new, innovative tactics. From 10–11 October, the fighting remained difficult, but the ad-hoc application of combined arms maneuver enabled the 32nd Division to seize opportunities that forced the Germans to continually reposition forces.²⁷

On 13 October, V Corps began to change their approach to planning and synchronization. Extensive coordination occurred between V Corps and the 32nd Division to plan the suppression of defenses on La Cote Dame Marie and other hills surrounding Romagne. During this time, Major General Charles P. Summerall replaced Major General Cameron as the V Corps commander, and changes to V Corps's planning accompanied his arrival.²⁸ Major General Summerall ordered his staff to synchronize V Corps artillery with divisional artillery to support combined arms assaults on Hill 258 and other hills that flanked La Cote Dame Marie. The result was a decisive penetration of the Kriemhilde Stellung and envelopment of Romagne by the 32nd Division, forcing the German forces to withdraw under pressure.

Combined Arms Innovation within the 3rd Division

Simultaneously, the 3rd Division's learning process mirrored the learning process of the 32nd Division. Despite starting the second phase of the Meuse-Argonne with a rolling barrage for their initial attack, 3rd Division launched their assault brigade, the 5th Infantry Brigade, without any significant artillery preparation. The lack of artillery coordination allowed the Germans to defend machine gun positions and mass their artillery and aviation assets against elements of the 5th Brigade. Instead of continuing the attack, the commander of the 5th Brigade halted his formation and sent a request to the 3rd Division Headquarters for concentrated artillery fire on the machine gun positions located to the south of the woods near Hill 250.²⁹ Deviating from doctrine, the commander sought to mass artillery on an objective before committing his infantry. The 5th Brigade commander's decisions enabled success as the concentrated artillery fire suppressed and dislodged the Germans.

The innovation at the brigade level helped the 3rd Division learn to fight as a combined arms team. In another assault in Woods 250, the 4th Infantry Brigade took a tactical pause, consolidated personnel and requested a 15 minute artillery barrage on the German machine gun positions in Woods 250. This barrage aimed to suppress enemy positions so the 4th Brigade could advance. The effect of this decision allowed the 3rd Division to gain ground and preserve combat power.³⁰

Over the next four days, the 3rd Infantry Division utilized reconnaissance from aviation and infantry brigades to develop the situation. Once they identified enemy strongpoints, they massed their efforts against those points. Their actions demonstrate a dramatic shift from the overreliance on corps assets to requesting corps assets only when the division exhausted its own assets. This process incorporated combined arms methods as the standard operating procedure, and the 3rd Division's systematic clearance of objectives with synchronized and concentrated firepower supporting well-timed infantry assaults drove the Germans back.³¹

Analysis: Linking Divisional Combined Arms Maneuver to V Corps Operations

In his review of the 32nd Division, Paul Jacobsmeyer asserted that during this period, Major General Haan communicated a desire to plan combat operations outside of existing doctrinal approaches to his staff.³² Haan's challenge to his staff enabled them to understand the operational environment better. As a result, the 32nd Division focused reconnaissance and intelligence efforts that resulted in better-coordinated artillery bombardments with infantry attacks. To complement these efforts, 3rd Division, under the command of Major General Beaumont B. Buck, also came to similar conclusions and changed tactics, employing concentrated and synchronized artillery to support a combined assault of infantry, tanks, flamethrowers, and machine guns.³³

Capitalizing on the innovations of 32nd Division and 3rd Division, Major General Summerall recognized that V Corps's divisions needed support from their higher command to implement changes. Fortunately, the new First Army commander, Lieutenant General Hunter Liggett, supported Summerall's changes. Like Summerall, Liggett aimed to synchronize planning between echelons.³⁴

During this time, Liggett ordered an operational pause to retrain First Army in an effort to improve synchronization across all echelons. Summerall utilized this time to incorporate a counterbattery system to better prioritize and synchronize corps-level fires. While the previous leadership

of V Corps focused primarily on infantry, Summerrall concentrated more on artillery employment and its synchronization across V Corps.³⁵ Divisions would now mass their artillery at more localized objectives, providing faster and more concentrated effects to the infantry. Summerall ensured V Corps artillery supplemented these effects when requested. Corps counterbattery freed divisional artillery to better support maneuvering infantry. While the plans to move guns quickly into support positions were not perfect, better planning between echelons made it possible to sustain success in the final phase of the Meuse-Argonne.³⁶

It was through innovative commanders like Major Generals Buck and Haan who adapted doctrine by tailoring their forces and assets to achieve success on the battlefield. In truth, their examples blended both Pershing's and Allied artillery concepts into a hybrid concept that Paul Jacobsmeyer aptly called "semi-open" warfare.³⁷ This blending of US and Allied ideas on warfare did not precisely fulfill General John Pershing's wish of open warfare, but in the end, V Corps began to adapt by embracing combined arms maneuver in a unique way that captured the American offensive spirit.³⁸

Seizing the Objective: Adaptation in the Third Phase of the Meuse-Argonne

Even though V Corps replaced the 3rd and 32nd Division with the 2nd and 89th Divisions for the last major offensive, the adaptations made during the second phase were not lost with the addition of these new units.³⁹ While retraining and organizational restructuring occurred, lower echelons at the regiment and brigade level actively maintained contact with German forces through multiple patrols. These measures allowed units within the new divisions of V Corps to build a common operating picture across echelons.⁴⁰ The official account of V Corps cites the actions of the 89th Division on 21 October as vital to the planning of the final phase because their efforts captured a German map that "point[ed] out the main topographical features upon which the [German] defense of the line was based."⁴¹ Planning efforts began shifting from top-down objectives to a mix of focused bottom-up intelligence collected by divisions with Corps reconnaissance.

While bottom-up intelligence became integral to division and corps planning, it still had its limits. In order to confirm reports as well as fill in remaining gaps, V Corp further adapted its intelligence collection with innovations in their Corps Air Service.⁴² The collection efforts resulted in critical information where future planning efforts could concentrate. The official V Corps history accounts for continued adaption, stating that the aerial reconnaissance provided "much valuable information was derived

The other remarkable outcome of this innovative process was the development of the combined Infantry Assault and Artillery Objective Map.⁴⁴ This document demonstrates how adaptation became part of the operational system. Decentralized information gathering efforts at lower levels helped higher echelons identify gaps in plans, ultimately helping them focusing their planning efforts as they sought to reduce unknowns.

Through the Objective Map, V Corps addressed the lingering tempo problem that plagued them from the beginning. Whereas original objectives during the first two phases did not acknowledge a realistic understanding of tempo, objectives during the final phase were realistic, thoroughly researched, and properly planned. The most important part of this collaborative planning was that it allowed for synchronization through a shared common operating picture. The overall success of V Corps highlights the effects of this synchronization during the final phase of the Meuse-Argonne. The planning was so effective that the coordinated effort of artillery and infantry isolated German artillery units, preventing them from leaving their shelters to conduct counterbattery operations in support of their infantry in the defense.⁴⁵

Unlike in the first two phases of the Meuse-Argonne, V Corps and divisional planning did not stop synchronization of artillery after the first planned assault.⁴⁶ V Corps, with the help of its divisions, built artillery displacement tables for artillery at each echelon while accounting for the necessary sustainment requirements to ensure continuous artillery support to advanced infantry objectives. This planning table also incorporated the capabilities of new technology, such as the ranges of tanks, aircraft, and machine guns. Doing so combined every asset that V Corps could bring to bear in a synchronized manner.⁴⁷

This planning effort resulted in combined arms synchronization across V Corps that isolated both German infantry and artillery positions by overwhelming and forcing them to withdraw from their positions along the Barricourt Crest. With an accurate common operating picture and shared understanding of equipment capability across the formation, V Corps and its subordinate echelons created flexible plans that allowed them to continue concentrated attacks against the defending Germans.⁴⁸

In this case, less was more in that V Corps could concentrate operational resources to fill in gaps that tactical levels could not. The manner in which V Corps allocated resources created an agile and adaptive organization that embraced combined arms maneuver. It also removed the unnecessary burden from the corps staff in planning every detail in a vac-

uum. This system grew to accept input from lower echelons, allowing V Corps to leverage assets toward remaining gaps. At the same time, staff officers worked diligently to produce documents that were simple, effective and could be used by multiple echelons to coordinate efforts. Doing so finally combined the capabilities of new technologies with the American offensive spirit, creating a lethal combined arms approach toward combat that turned the tide of the Meuse-Argonne and gave the Allies the breakthrough they needed.

Conclusions and Recommendations

Despite the passing of 100 years, corps and division missions remain focused on creating opportunities that enable continuous positions of relative advantage.⁴⁹ As with the corps and divisions of 1918, the impact of new technology today can create opportunities for positions of relative advantage if implemented correctly. However, balancing new technology with existing doctrine can challenge even the best units today in terms of finding the right tempo with which to conduct large-scale combat operations (LSCO). As the Meuse-Argonne case study indicates, operational tempo is vital to success in large-scale combat operations and maintaining it requires corps and division staffs to consider the dynamic impact of technological integration and the application of doctrine on synchronization across echelons.

A fundamental assumption concerning this analysis centers on corps as a tactical headquarters maneuvering divisions throughout the course of LSCO. As the Meuse-Argonne case study demonstrates, V Corps struggled in this regard by neglecting the necessary tactical synchronization needed to successfully maneuver its divisions. As a new headquarters, V Corps relied on existing doctrine to create a fighting force that centered on a top-down approach toward artillery employment. This top-down approach also did not account for the simultaneous requirement of sustainment of other combined arms assets, preventing units across V Corps from maintaining tempo.

Field Manual (FM) 3-0, *Operations*, states that “commanders conduct decisive action to seize, retain and exploit the initiative. This involves the orchestration of many simultaneous unit actions in the most demanding of operational environments.”⁵⁰ Unfortunately for V Corps in the early stages of the Meuse-Argonne, the “orchestration of many simultaneous unit actions” overwhelmed the capabilities of the staff and directly impacted their ability to ensure tempo across the entire corps. This is evidenced by their lack of planning for the V Corps support area. As a tactical organization, V Corps could have benefited from a more detailed plan for their support

area to ensure that logistics and casualties did not clog routes needed by supporting artillery units. As the case study shows, a failure to properly plan and synchronize efforts within the support area directly impacts the tempo of operations within the close area.

Maintaining tempo throughout combat operations also requires an iterative dialogue between staffs and commanders to anticipate changes. The 3rd Division and the 32nd Division used this iterative dialogue to creatively adjust to battlefield conditions. While altering how they employed artillery fires, they also changed the organizational structure of their infantry regiments to include tanks, machine guns and flamethrowers. In this instance, Major General Haan and Major General Buck created dialogue with Major General Summerall and his staff that linked innovation at the divisional level to an adaptation of the V Corps operational process.

In this regard, V Corps's change allowed them to choose the most vital points in the battle to assist subordinates in achieving their objectives while also allowing for subordinate freedom of action at the tactical level. In doing so, they struck the right balance of decentralized control while also ensuring more synchronized efforts across V Corps. This concept may seem paradoxical, but it is in this delicate balancing act of two seemingly opposing ideas that the leaders of V Corps achieved success.

Another important factor that impacts the challenge of balance is implementation of new technology. While there were other factors, like training and experience, which negatively impacted organizational cohesion within V Corps, it is important to note that the organizational structure built on older models of warfare confused leaders and staffs. In effect, the rigidity within the organization prevented leaders from focusing on their environment because older doctrinal methods did not account for the complex endeavor of merging new technology with a new organization.

Today, political factors and other operational environment conditions present similar challenges to Army combat unit structures that form new relationships through the creation of task forces that are "scalable and tailorable" depending on the mission.⁵¹ To create organizations capable of adapting during large-scale combat operations, leaders and staffs should give serious thought to developing methods of studying, synchronizing, and employing new technology to ensure operational tempo. Central to this is a recognition that the shifting of task organizations often requires a shift in technological capability. Doing so helps staffs and commanders gain a clearer picture of the capabilities of their new subordinate units and the overall change that their addition brings to the overall organization.

Finally, balancing organizational and technological requirements requires an honest look on the applicability of doctrine. As the case study of the Meuse-Argonne demonstrates, doctrinal methods succeed when they are malleable enough for the user to creatively apply as responses from the operational environment dictate. In the latter part of the second phase and into the final phase, V Corps did not completely throw out existing doctrine. Instead, officers linked existing doctrine with new techniques and technology by changing the sequence, timing, and process of synchronization of artillery and other combined arms assets to better suit infantry support. Rather than mass fires effects before assaults or on poorly conceived objectives, they allowed lower echelons to build an intelligence picture that allowed them to mass *all* effects of their formations on decisive points.

This nuanced change to existing doctrine produced striking results that gave birth to modern combined arms. Infantry assaults remained vital, as General Pershing wanted, but their timing and sequence changed to dramatic and successful effect. In essence, these officers shifted the paradigm with a nuanced change to doctrine by changing how they conceptualized the battlefield. In short, doctrine should not be discounted, but similarly, it should not be followed rigidly. If it is, military planners run the same risk as their predecessors in the first phase of the Meuse-Argonne who remained whetted to the checklists and dogma that prevented unit success.

In conclusion, as the Army looks toward possible future wars that may return to LSCO, communication and synchronization are just as important today as they were in 1918. Corps and division leaders and staffs should remain vigilant in their efforts to create opportunities so seize positions of relative advantage by carefully analyzing all the factors that impact operational tempo. Ensuring the right tempo throughout large-scale combat operations requires an in-depth analysis of the dynamic interactions between technology and doctrine. If not properly planned, unsynchronized tempo becomes a no man's land that can prevent even the best units from succeeding. Avoiding unsynchronized operations depends on the willingness of leaders and staffs to creatively and honestly approach problems. Doing so may make us more adaptable while operating in complex environments, and it may help prevent relearning the hard lessons of the Meuse-Argonne at the corps and division level.

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10. Paul Strong and Sanders Marble, *Artillery in the Great War* (Barnsley, South Yorkshire: Pen and Sword Books, Ltd., 2011), 194–195.
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13. Branson, "Critical Analysis," 9.
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15. Carl von Clausewitz, *On War*, trans. and eds. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1984), 119.
16. Center of Military History, *American Armies and Battlefields in Europe* (Washington, DC: US Government Printing Office, 1992), 177.
17. Paul Jacobsmeyer, "On the Edge of a Breakthrough: Semi-Open Warfare in the American Expeditionary Force -- the Experience of the 32nd Division (Michigan-Wisconsin National Guard)." (Paper presented to the Society for Military History 75th Annual Meeting and Conference, 2008), 18.
18. Center for Military History, *American Armies*, 177–79.

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21. Wisconsin War History Commission, *The 32nd Division in the World War, 1917-1919* (Madison, WI: Joint War History Commissions of Michigan and Wisconsin, 1920), 98.
22. American Battlefield Monuments Commission, *32nd Division Summary of Operations in the World War* (Washington, DC: US Government Printing Office, 1944), 38–41.
23. Wisconsin War History, *The 32nd Division*, 100.
24. Wisconsin War History, 100.
25. Charles P. Summerall, *The Way of Duty, Honor, Country: The Memoir of General Charles Pelot Summerall* (Lexington, KY: University Press of Kentucky, 2010), 141–42. Constant boundary shifts and the incorporation of the 42nd Division into the fight complicated V Corps' situational understanding.
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27. *The 32nd Division*, 102–05.
28. Summerall, *Duty, Honor, Country*, 142–48.
29. Unit history, *History of the Third Division*, 16.
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34. Michael Bigelow, "Lt. General Hunter Liggett: Command in the AEF," *The Story of the American Expeditionary Forces*, accessed 2 November 2017, <http://www.worldwar1.com/dbc/hunterliggett.htm>.
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41. Vilner, "History of the Fifth American Army Corps," 7.
42. Vilner, 7. The coordination and employment of aircraft enabled V Corps to gain valuable information on enemy positions in-depth to support ground assaults and counterbattery targets. This focus indicates that the V Corps' culture continued to adapt to the capabilities of its formations.
43. Vilner, "History of the Fifth American Army Corps," 8.

44. Vilner, 8. The active reconnaissance patrols of divisions, coupled with changes in air corps utilization gave V Corps a rough estimate of enemy positions and strength from which they could tailor the use of their assets to confirm or deny information gaps.

45. Vilner, 8.

46. J.B.A. Bailey, *Field Artillery and Firepower* (Annapolis, MD: Naval Institute Press, 2004), 265–70.

47. Vilner, “History of the Fifth American Army Corps,” 8.

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Chapter 6

Stalemate to Victory: Combined Arms in World War II's New Guinea Campaign

Robert M. Young

*In no other profession are the penalties for employing untrained personnel so appalling as in the military.*¹

—General Douglas MacArthur
Chief of Staff, US Army, 1933

From antiquity to the present day, the use of a combined arms doctrine has served as a predictor of success on the battlefield. The weapons evolve; the basic concept does not. One part of an army cannot win a battle, least of all a war, on its own. The above is blatantly obvious when viewing history's most famous conflict, the Second World War. Technology had advanced to the point where combined arms comprised many different facets of the military art. These included infantry, artillery, armor, tactical air support, engineers, anti-aircraft units, etc. Yet, all were not always available, and at various points in the war those components operated at far from an optimum level. At some points in the war armor or air power would excel while engineer support or artillery was lacking. The value of a combined arms doctrine is as obvious in cases where absent as it is when present. This contrast is starkly obvious in what the United States labeled the Southwest Pacific Area (SWPA). Two battles, at Buna in 1942 and Wakde in 1944, displayed how vital an effective employment of combined arms was to victory.

TTT: troops, tools, and training.² All are essential for effective combined arms warfare. At Buna in 1942 they did not exist until the very end of the battle and even then in very limited numbers. Yet the three Ts secured victory. The Battle of Buna evolved from the failed Japanese attempt to secure the vital port of Port Moresby, on the island of New Guinea. American naval forces thwarted Japan's attempted seaborne invasion of Port Moresby at the Battle of the Coral Sea (4–8 May 1942). The Japanese still managed to land several thousand troops on New Guinea's northern coast. Those men would spend several months crossing the treacherous, jungle infested Owen Stanley Mountains by foot. They arrived in the area of Buna disease ridden, malnourished, and exhausted. Buna, an old coconut plantation, had two airstrips necessary for control of the immediate area and the vital sea lanes to Australia. Supply and communications ran from Hawaii to Australia across thousands and thousands of miles of open ocean. The Japanese,

with their bases throughout the various island chains of the South Pacific, posed a threat to all shipping. Should they secure Buna and then Port Moresby, Australia itself could be isolated. General Douglas MacArthur, the American commander of the SWPA, recognized the threat a Japanese occupation of Buna presented and decided to eliminate it. MacArthur tasked the recently arrived 32nd Infantry Division with the mission.

MacArthur's G-2 (Intelligence Section) saw little to fear from the Japanese at Buna. They considered them completely useless after their journey through the mountains. All anticipated an easy operation. All also failed to notice the bunker system created by the Japanese and the several thousand fresh troops that arrived at Buna immediately prior to the first American attacks. These bunkers were expertly located, forcing all attacks to advance frontally on the only dry land available.³ According to one description:

[The bunkers had] a framework of columns and beams . . . the walls were riveted with coconut logs ranging up to one-and-a-half feet in thickness, and a ceiling of two or three courses of such logs was laid on top. Not content with this construction, the enemy reinforced the wall, using steel oil drums and ammunition boxes filled with sand, as well as log piles and rocks. Over all this was piled earth and sand mixed with short logs, coconuts, and the like. When the bunker, seven to eight feet high, was camouflaged with fast-growing, jungle vegetation, it became almost impossible to spot in the tangled underbrush. The campaign as to prove that as a shelter it would withstand almost anything but a direct hit by a heavy artillery shell with delayed-action fuse.⁴

The troops that assaulted those bunkers were members of the 32nd Infantry Division, principally its 126th and 128th Infantry Regiments. The 32nd consisted of recently activated Wisconsin and Michigan National Guardsmen. By the time they reached the SWPA, they had done little more than travel.⁵ The lack of training time became obvious when the unit entered battle.

Operating in a jungle environment magnifies the already strenuous combat conditions of warfare. Heat, vegetation, and torrential rains all further magnify the stress of combat. To operate effectively in such an environment requires acclimation and extended training in an actual jungle environment. This requires time but given the gravity of the situation, MacArthur could not allow Buna to remain under Japanese control, and at this point the 32nd Infantry Division was the only American unit he had available; there wasn't time to prepare for the conditions his men would

face. A patrol toward Buna by the 126th Infantry Regiment revealed this lack of acclimation and preparation. The patrol commander noted:

Marching, living, and fighting in the jungle requires special training and special equipment. The regiment had neither. If it had been known that future operations would be in the jungle, the regiment could have started specialized training in Australia. All through the Papuan campaign no jungle equipment was issued to the regiment. Even clothing had to be dyed green by improvised methods. Troops are going to be inefficient in jungle operations until they have had a minimum of jungle training actually given in jungle terrain.⁶

These men never trained for night problems. They had never simulated an attack while following their own artillery. The principles of patrolling were foreign to these troops. The 32nd Infantry Division was not ready for any type of combat. General Robert Eichelberger would assume command of the Buna operation in December after the initial attacks failed but during the summer of 1942 he inspected the 32nd in Australia, rating them “barely satisfactory” and completely unprepared for jungle war.⁷ General Robert Richardson, dispatched in July by General George Marshall, the Army Chief of Staff, to observe the SWPA echoed the sentiments of General Eichelberger, noting as far as their training they were “still in the elementary stages” and required many months before actually fighting.⁸ General Edwin Harding, the 32nd Division commander, after his relief stated:

I have no quarrel with the general thesis that the 32d was by no means adequately trained for combat—particularly jungle combat. . . . From February when I took over until November when we went into battle we were always getting ready to move, on the move or getting settled after a move. No sooner would we get a systematic training program started than orders for a move came along to interrupt it.⁹

Combined arms requires weapons, the tools of combat. The troops of the 32nd weren’t ready for jungle war; training was nonexistent. Despite these obvious deficiencies at Buna weapons could have overcome them. Buna was a very limited engagement with relatively small numbers of enemy troops occupying static positions, themselves devoid of many heavy weapons or tactical air support. In other theaters of the war weapons alone were not usually enough to win a battle. At Buna, the tools were the weakest part of the American equation.

Poorly trained troops entered combat at Buna without the tools necessary for victory. The infantry had their basic weapons though even many of their hand grenades were defective. Machine gun ammunition was perilously low.¹⁰ There were no bazookas; a lone flame thrower proved as dangerous to its operator as to the enemy.¹¹ There were light 60-mm mortars but none of the heavier 81-mm variety. Artillery support consisted of a single American 105-mm howitzer and four Australian 25-pounders (87.6-mm). All the guns had only quick action fuse ammunition (exploded directly upon impact). The 25-pounders also had a very limited trajectory, making their value in the thick jungle dubious at best. Veterans of the 32nd noted:

Just to make victory double certain Harding and his artillery officer, Brigadier General W. Waldron, had been trying to get some tanks and heavy artillery to use in the attack on Buna. They received little support from General MacArthur, and for this the responsibility partly lay with General Kenney, who argued that tanks and artillery had no place in jungle warfare. Kenney's influence over MacArthur remained very strong—strangely so in a manner concerning ground action in the jungle, on which he could have had no real knowledge. Loyal to Air, Kenney maintained that “the artillery in this theater flies.”¹²

George Kenney commanded the US Fifth Air Force and was at MacArthur's side until his forces reached Japan's doorstep. Kenney's fault is the same as many who command air power: they believe they can win battles if not wars completely on their own.¹³ Tactical air support also requires training, between ground forces and pilots, to be effective. That did not happen. Even in Europe, where the land and climate offered far better observation, tactical air support was far from a perfect art, besieged by inaccuracy and poor coordination. In a jungle environment those problems are magnified. Targets are harder to locate; radio communications are often unreliable. Further, to locate targets requires vigorous patrolling by ground forces, a skill far beyond the capabilities of the green, poorly trained 32nd Infantry Division. Despite the obvious problems, the 32nd Infantry Division's 126th and 128th Infantry Regiments were supremely confident that they and their rifles could do the job.

A legitimate question at this point is why did MacArthur commit an obviously unprepared unit to combat in a strange environment? Looking at the situation faced by America at this point in the war, November 1942, several reasons appear. American forces had launched two other major operations at this time, one nearby at Guadalcanal and the other in North Africa. Politics is an unfortunate but persistent part of war. MacArthur

would not have wanted his part of the war overshadowed. He had to do something with whatever he had available. Buna was a legitimate target. His intelligence told him the Japanese were weak. It is easy to see that a commander could view this as a rather simple operation, even with an inexperienced, under-equipped division. The inexperience was unavoidable. Most American units were inexperienced. The lack of weapons and support is a legitimate area of criticism. Again, thinking an easy opera-

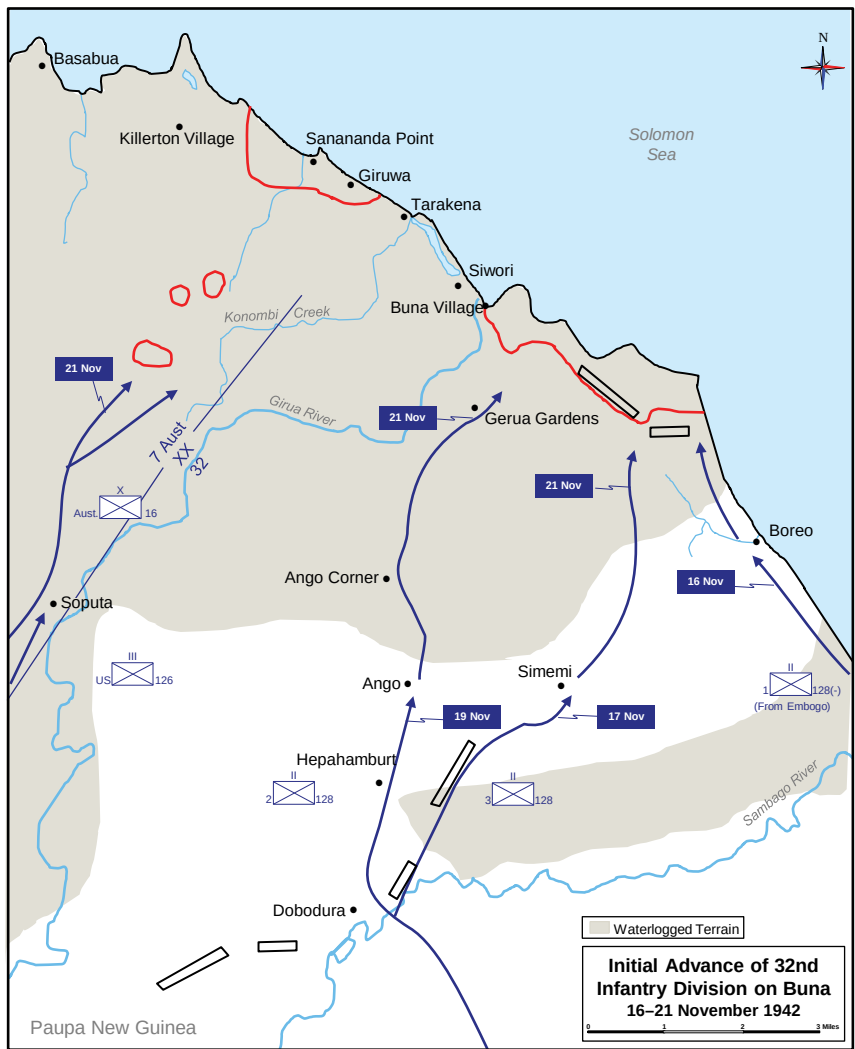


Figure 6.1. Initial Advance of 32nd Infantry Division on Buna. Map created by Army University Press.

tion loomed may have prevented any urgency in securing the weapons the 32nd would need.

The first American attack of the Buna campaign occurred on 19 November. General Harding had hoped to precede the attack with both an artillery barrage and an air strike. The 25-pounders fired a few sporadic rounds but had no specific targets. Heavy rains the previous night forced the cancellation of the air strike. The infantry advanced toward the Old and New Strips. Murderous small arms fire stopped the advance. The fire emanated from the Japanese bunkers guarding the two airstrips though the American troops still could not locate them. Japanese infantry weapons gave off no flash and sounds reverberated in the jungle. Undaunted General Harding offered another attack for the 21st. A pre-attack air strike by Fifth Air Force medium bombers (A-20's and B-25's) missed the Japanese positions, and US troops were hit instead, resulting in four dead and two wounded.¹⁴ The early attack never jumped off but was rescheduled for the early afternoon. It was late afternoon before finally happening. Unable to locate their targets in the thick jungle, most of the planes returned home with their ordnance. The infantry finally advanced and were again driven back by heavy automatic weapons fire. The only positive to come from the second failed attack: the pinpointing of most of the Japanese bunker locations. The 25-pounders, 60-mm mortars, and lone American howitzer now had targets. Before a 23 November attack all available support would fire on Japanese positions. General Harding also gave General Kenney another chance to substantiate his claim that in the jungle "artillery flies." P-40 fighters strafed not Japanese positions but the 128th Infantry's Regimental command post. Once the planes cleared the area, the mortars and artillery opened fire. While many actually hit the Japanese positions, they were as ineffective as the failed air strike. Since delayed action fuses for the American howitzer wouldn't arrive for several weeks, the available ammunition did little more than spread the bunkers overhead cover over a greater area. The 23 November attack and an attack on the 26th both failed. Automatic weapons and the jungle whittled down the numbers of infantry while frustration sapped their morale.

Why had frustration arrived? The infantry could not handle the bunkers alone. Light mortars, no bazookas or flamethrowers, ineffective artillery and air support, and above all else no armor made the only method of destroying a bunker a very lucky and resourceful infantryman advancing close enough to an enemy position to pass a hopefully functional grenade through a vision slit. The artillery problem was particularly frustrating because ammunition existed. On 3 December 800 rounds of delayed action

105-mm ammunition arrived in Australia where it remained for several weeks.¹⁵ Had it been brought forward the bunkers could have been reduced. A corps level combined arms offensive wasn't necessary. Just a few functional weapons with the proper ammunition. Samuel Milner, author of *Victory in Papua*, the official US Army history of the campaign, noted:

General Harding had little luck in his pleas for additional support. When he asked for tanks he had been promised Bren gun carriers, but even the carriers had not arrived. When he asked for ten more artillery pieces, he was promised four sometime in December. When he asked for all or part of the 127th Infantry (his division's third regiment), General Herring (his Australian superior) had disapproved the request with the remark, "I cannot see what it is needed for as you seem to have ample reserves."¹⁶

For his frustration with trying to get his men the support they needed—and for failing to win—General MacArthur relieved General Harding.¹⁷ His replacement, General Eichelberger, received the now-famous pep talk from his boss that ended with: "Bob, I want you to take Buna, or don't come back alive!"¹⁸ He arrived at the front and most likely against his better judgment launched an attack on 5 December no different than those previously launched by General Harding. The result was also no different. It failed, and losses continued to mount. Until he received tanks, the ammunition for his howitzer, and fresh infantry, no further attacks would happen.

By 18 December, Eichelberger had his tools. The howitzer ammunition—800 rounds with delayed action fuses—arrived. More importantly, so did the tanks. The armor was six Stuart light tanks. Thinly armored and armed with a small 37-mm gun, they were overmatched against heavier armor encountered in Europe. Against the Japanese at Buna, an enemy that possessed few heavy weapons or anti-tank guns, they were still formidable. At short range, their 37-mm guns were effective. The final part of the equation, the infantry, also received an infusion. Several veteran Australian infantry companies would lead the initial attack alongside the tanks. The 126th and 128th Infantry Regiments would initially provide support before assuming the brunt of the responsibility. They spent the days since the failed 5 December attack resting, patrolling, and hoping. It would be a multi-pronged attack. One thrust would move through the Duropa Coconut Plantation to Cape Endaiadere. The other would drive toward the airstrips and the small bridge connecting them. All the guns, though only the lone howitzer mattered, opened fire on the Japanese positions that morning. The howitzer was the only gun with the right trajectory, ammunition, and power to do any damage. Tanks were effective at short range. At the

longer ranges artillery operated from 75-mm and 105-mm guns lacked the power to damage the reinforced bunkers used by the Japanese. The Japanese must have thought another typical American attack just began. Few of their positions were effected. As they looked through their bunker vision slits instead of seeing unsupported infantry launching another frontal attack, tanks entered the battle.

The tanks had an immediate effect. One infantry battalion commander noted:

The tanks really did that job. They apparently completely demoralized the Japs . . . who fought like cornered rats when they were forced into the open as a result of having their fires masked when the tanks broke through their final protective line. . . . There were few holes knocked in the bunkers except where the tanks stood off and blasted them at short range with their 37-mm guns.¹⁹

The heavy small arms fire, which had stalled the American infantry for a month, had no effect on the tanks. American and Australian infantry, operating with the tanks, eliminated Japanese troops fleeing their bunkers. Two Stuarts were lost, one to a Molotov Cocktail, the other to mechanical failure. The attack continued to within 500 yards of Cape Endaiaere, destroying Japanese strongpoints along the way.²⁰ The tanks and infantry pivoted toward the Bridge and airstrips.

The attack against the Bridge and the New Strip was initially less successful. Twenty Japanese bunkers thwarted the attack until the four remaining tanks arrived. Joined by two Australian infantry companies and the 1st Battalion of the 128th Infantry, they overran the most formidable Japanese defensive system on the Buna battlefield. The infantry finished what was not destroyed by the tanks, able to now advance within a few feet of the bunkers since the tanks drew most of the Japanese fire. The solitary howitzer also destroyed many enemy positions now that their exact locations were pinpointed and the proper ammunition came forward. Some mopping up remained but the 18 December attack won the Battle of Buna.²¹

Approximately one battalion of veteran Australian infantry, a single 105-mm gun, and six tanks that would be laughed at in other theaters of World War II won this campaign. None could do it alone. American infantry met nothing but frustration as they repeatedly assaulted reinforced bunkers. The 105-mm howitzer was of little help until the precise location of targets happened and the proper ammunition came forward. Even the tanks, though they did destroy most of the Japanese positions, required infantry support to protect them from fleeing Japanese soldiers. Air power,

the part of combined arms doctrine believed to be, at least by General Kenney, the truly decisive weapon at the start of the campaign, proved useless in a heavy jungle environment unless as an Army Ground Observer noted, “it is employed no closer than targets 500 yards in front of the infantry.”²² If the 32nd Infantry Division had another six to eight weeks of training and acclimation in a jungle environment, a whole battery instead of a single howitzer, and the six Stuart tanks on their initial attack, the campaign

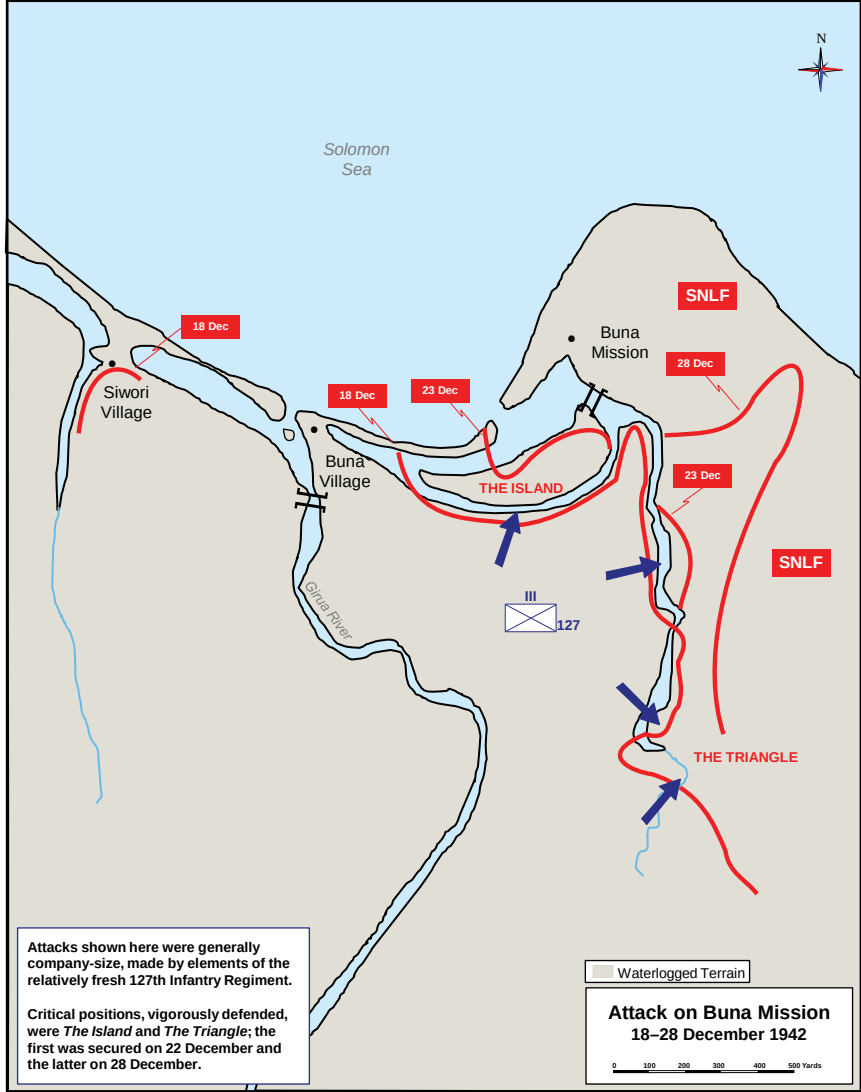


Figure 6.2. Attack on Buna Mission. Map created by Army University Press.

could have ended quickly and with far fewer than the 690 killed in action (KIA), 1,680 wounded in action (WIA,) and 7,125 men who at one time or another succumbed disease and non-battle injuries (most of those 7,125 men would return to duty).²³ Along with the 32nd, other units arriving in the SWPA spent most of the next sixteen months readying themselves for the drive toward Japan.²⁴ The troops, tools, and training all molded into an efficient combined arms doctrine, demonstrated their proficiency when invading the island of Wakde on 18 May 1944.

MacArthur and his SWPA began their drive toward Japan along the northern coast of New Guinea in the spring of 1944. Hollandia, the first objective, was attacked and secured in April. Wakde was next. It contained a single airstrip capable of supporting both the fighters and bombers of General Kenney's Fifth Air Force. (It had greatly enhanced its numbers and capabilities since the Buna campaign). The 163rd Regimental Combat Team of the 41st Infantry Division (a unit which did most of the mopping up in the Buna campaign) was ordered to secure Wakde.

The support available to the 163rd demonstrates how much American power had grown in the time since the costly victory at Buna. The assault unit, designated Tornado Task Force, had two field artillery battalions, one each of 105-mm and 155-mm howitzers, in direct support. These battalions were reinforced by another battery of 105-mm howitzers. Naval gunfire support included two heavy cruisers (8-inch guns), three light cruisers (6-inch guns), 20 destroyers (5-inch guns), and several rocket-equipped ships. Kenney's Fifth Air Force also dominated the skies.

Wakde, as with most positions occupied by the Japanese during World War II, was superbly prepared. The island itself is only 3,000 yards long and 1,200 yards wide at its widest point. The airstrip dominated the island. Eight hundred Japanese soldiers garrisoned the island and had erected approximately 100 bunkers, many of which were reinforced with concrete or coconut logs and concealed by nature and superb Japanese camouflage. The pre-invasion bombardment and airstrikes destroyed many of these positions before the 163rd went ashore.²⁵

The landing was made with little difficulty. Once ashore, Company C of the 1st Battalion made first contact with the enemy. They encountered a series of bunkers and cleared them in little more than an hour. This was largely an infantry victory accomplished despite heavy enemy fire.²⁶ The next bunker system encountered was better concealed with scattered underbrush and fallen coconut trees from the pre-invasion bombardment over many of the positions. The infantry required tank support. Two Sherman

tanks, each armed with a 75-mm gun and two machine guns, arrived and quickly proved their value. They attacked each bunker separately, a task made easier by the failure of the Japanese to make their positions mutually supporting. The tanks, with infantry close behind, blasted the Japanese positions at point-blank range. Forced to engage the tanks, though lacking weapons capable of defeating them, the Japanese allowed American infantry to get right on top of the bunkers, where grenades and flamethrowers eradicated whatever the Sherman tanks had left standing. Fleeing Japanese soldiers were cut down by tank machine guns and infantry small arms fire. The tank-infantry team worked flawlessly in this action.²⁷

Meanwhile, F Company of the 2nd Battalion, 163rd Infantry, was occupied with the old coconut plantation on the eastern end of the island. Quickly pinned down by automatic weapons fire they awaited assistance. The two Sherman tanks that had aided C Company arrived and in a few hours cleared the entire plantation.

At the same time, A Company of the 1st Battalion moved to clear the western end of the island. Three Japanese bunkers thwarted the advance. The two tanks arrived and quickly destroyed all three bunkers from distances as close as twenty yards. A Japanese counterattack was easily repulsed, and A Company quickly cleared the western and northern shores of the island.

The tanks returned to the beach to reload while artillery continued eliminating Japanese positions. The days of Buna, where the norm was scarce guns and inadequate ammunition, were gone. Positions were spotted, Forward Observers called them in, and indirect fires destroyed them. The battle ended for the day. The morning of 19 May the attack resumed, preceded by an hour-long artillery and mortar barrage. Following immediately behind their artillery fire, C Company was the first to encounter enemy opposition.

Two C Company platoons led the attack. One platoon had a single tank, the other two Sherman tanks. The third rifle platoon and the weapons platoon followed in support. The tanks once again drew most of the enemy fire and again the infantry advanced to within point-blank range of the Japanese positions. The trailing infantry platoon was then available to deal with isolated pockets of resistance, allowing the main attack to continue. As Company C advanced they encountered a small rise in the ground riddled with Japanese positions. The tanks destroyed each position while the infantry killed any fleeing Japanese soldiers. The company now advanced to the beach and turned north, encountering Japanese positions

in small coral caves. The Shermans advanced to within throwing distance of the caves, blasting away en route. Riflemen and flamethrowers then finished the job.

The other unit in action was B Company. They were attempting to clear the southern edge of the airstrip and progress was slow. Two tanks quickly arrived. A rifle platoon accompanied each tank, with the third rifle platoon in support. The tanks advanced, encountering bunkers and heavy brush. By early afternoon the airstrip was secure.

Wakde was a rousing victory. Japanese losses were 759 killed and four captured; American losses were only 40 killed and 107 wounded.²⁸ The US Army and its combined arms capabilities certainly came a long way from the dark days of Buna. It still came down to the three Ts: troops, tools, and training. American industry provided the tools. Sherman tanks replaced Stuarts. Artillery, both the guns and ammunition feeding them, was plentiful. Naval gunfire and plentiful tactical air support also made their mark. Yet, soldiers and their weapons must train. The 163rd spent over a year integrating all the various tools it possessed into an effective combined arms team. Wakde validated that work. Buna also validated it by its absence. While small in scope when compared to other operations in this war Buna and Wakde still demonstrated the inherent value of combined arms operations.

Notes

1. Ed Imparato, *General MacArthur Speeches and Reports 1908–1964* (Paducah, KY: Turner Publishing Company, 2000), 65.
2. TTT is solely a creation of mine. It was not standard military terminology of the time and is used here as a simple way to describe the basic tenets of warfare in this period.
3. S-3 Annex, "Report of the Commanding General Buna Forces on the Buna Campaign, December 1, 1942–January 25, 1943," I Corps, 1943.
4. *The Buna-Sanananda Operation, 16 November 1942–23 January 1943* (Washington DC: War Department, 1943), 14.
5. Samuel Milner, *Victory in Papua* (Washington DC: Department Of The Army, Office of the Chief of Military History, 1957), 170–75.
6. Major Alfred Medendorp, "Personal Experience Of A Patrol Commander In The Attack On Wairopi," US Army Center of Military History, 3.
7. Robert Eichelberger, *Our Jungle Road to Tokyo* (New York: The Viking Press, 1950), 22.
8. Milner, *Victory in Papua*, 133.
9. Milner, 133.
10. Milner, 176.
11. Eichelberger, *Our Jungle Road to Tokyo*, 43.
12. 32nd Infantry Division Veterans Association, "The Battle of Buna," accessed 22 June 2018, <http://www.32nd-division.org>.
13. To see the fallacy of this belief, refer to Robert Young, "The Myth of Modern Airpower," *Modern War*, January–February 2017.
14. Milner, *Victory in Papua*, 177.
15. Milner, 246.
16. Milner, 200–01.
17. MacArthur sent one of his staff officers to Harding; he reported back that the 32nd lacked fire and seemed already defeated. General Eichelberger would also visit the front and though not as critical of the morale of the division, he was alarmed at its debilitated physical condition. MacArthur judged the division to be lackluster and incompetent despite never visiting the front—acknowledging the lack of weapons or appreciating the effects of the jungle.
18. General Eichelberger as quoted in the introduction to "The Eichelberger Papers," accessed 21 June 2018, <https://library.duke.edu/rubenstein/findings/gaids/eichel/>.
19. Milner, *Victory in Papua*, 263.
20. Robert Young, *They Too Fought the Japanese* (Ann Arbor, MI: Proquest Publishers, 2003) 35.
21. Young, 36–39.
22. Colonel Willis J. Tack, "R-1620 AGF Observer's Report on Jungle Warfare," Incl #2, US Army Center of Military History.
23. Milner, *Victory in Papua*.

24. The 41st Infantry Division would spend approximately six months of 1943 engaged in the Salamaua Campaign.

25. Robert Ross Smith, *The Approach to the Philippines* (Washington, DC: Center of Military History, 1953), 206.

26. 163rd Infantry Regiment, "History: Wakde, Ibdri Ridge," Headquarters, 163rd Infantry Regiment, 41st Infantry Division, 1944, 2.

27. Descriptions of the Wakde battle taken from Young, *They Too Fought the Japanese*, 81–89.

28. Robert Ross Smith, *Triumph in the Philippines* (Washington, DC: US Army Center of Military History, 1963), 230–31.

Chapter 7

The 80th Infantry Division's Crossing of the Moselle River: A Case Study in Combined Arms Maneuver

Major Paul P. Cheval

Almost every American corps and division in the ETO performed some type of river crossing operation. But Third Army's efforts to cross the Moselle during the Lorraine campaign best illustrate the wide variety of problems, setbacks, and successes that American troops experienced.

—Michael D. Doubler

*Closing with the Enemy: How GIs Fought the
War in Europe, 1944–1945*

Two weeks after celebrating its second anniversary on 15 July 1944, the 80th Infantry Division debarked in northern France and joined the Third US Army to participate in Operation Cobra. On the eve of his division's first major engagement at Argentan, Major General Horace L. McBride, Commanding General of the 80th Infantry Division, wrote in General Order Number Fourteen that "we can look back on two years of varied and intensive training which . . . will be put to the test in the near future . . . the members of the Division can enter battle with confidence in themselves, their comrades, and their units."¹

McBride's comments were not simple words of encouragement; the 80th Infantry Division appeared uniquely prepared to conduct combined arms operations when compared with other divisions trained by the Army Ground Forces (AGF) in World War II (WWII).

Unlike the majority of infantry divisions the AGF manned, equipped, and trained in World War II, the 80th Infantry Division experienced unusual training time and leadership continuity. The 80th Infantry Division trained for 23 months prior to embarking for Europe in July 1944, compared to an AGF average of 12 months. Of the 64 divisions fielded by the AGF from 1942–1944, only 20 trained as an entire unit in maneuvers and 13 trained at the vaunted Desert Training Center (DTC); the 80th Infantry Division did both.

The 80th Infantry Division also experienced unusual leadership stability at the highest level; the commanding general, McBride, commanded the division through all training maneuvers and during the division's combat actions in Europe, culminating in the surrender of the 6th German Army

in Austria. The Division Commander, Assistant Division Commander, and Division Artillery Commander all studied at the US Army's Command and General Staff School and War College during the interwar period, which contributed to Field Marshal Gerd von Rundstedt's remark that "we cannot understand the difference in your leadership in the last war and in this . . . we now find all of your corps commanders good and of equal quality."²

Despite this unusual amount of training time prior to entering combat in WWII, the 80th Infantry Division failed to cross the Moselle River on its first attempt in September of 1944. The division struggled to apply US Army river crossing doctrine, conduct combined arms maneuver, and wrest the initiative from the German Army. This manifested itself through difficulty in applying phasing and transitions to maintain tempo and manage risk to prevent culmination while crossing the Moselle River. The 80th Infantry Division's initial struggles and subsequent success while applying doctrine to cross the Moselle River provides insights for modern US Army division and corps-level leaders training their units to prepare for large-scale combat operations involving river crossings, and thus combined arms maneuver.³

Field Manual (FM) 100-5, *Operations*, defined combined arms in 1941 as "the combined action of all arms and services," and deemed them, "essential to success."⁴ This study uses four of the ten elements of operational art defined in Army Doctrine Reference Publication (ADRP) 3-0, *Operations*, to measure the 80th Infantry Division's effectiveness in applying combined arms maneuver to cross the Moselle River: tempo, phasing and transitions, risk, and culmination. "Tempo" refers to the relative speed and rhythm of military operations over time with respect to the enemy. A "phase" is a planning and execution tool used to divide an operation in duration or activity; "transitions" mark a change of focus. Commanders accept "risk" while seeking opportunities to create and maintain the conditions necessary to seize, retain, and exploit the initiative and achieve decisive results. A unit reaches "culmination" when it no longer has the capability to continue its form of operations, offense, or defense.⁵

World War II River Crossing Doctrine

FM 100-5 and FM 5-6, *Operations of Engineer Field Units* prescribed river crossing operations in 1941. According to historian Michael D. Doubler, "the doctrine and tactics of river crossings were well developed and known throughout the American army."⁶ FM 100-5 divided river crossings into three major phases: actions to prepare the crossing, the crossing of the river, and the exploitation of the crossing. This framework supported achiev-

ing three sequential objectives: neutralizing immediate enemy resistance on the opposite bank of the river, neutralizing enemy observation points on high ground beyond the bank, and exploiting a third objective beyond the crossing itself, which referred to the unit's purpose for crossing the river.⁷

Doctrine emphasized a combined arms approach to preparing the crossing involving infantry, armor, artillery, engineers, and close air support. With respect to preparing the crossing, FM 100-5 designated “*special preparations*, both technical and tactical,” as critical to ensuring tactical success in river crossings.⁸ FM 100-5 emphasized reconnaissance of both the terrain and the enemy. It deemed close support by combat aviation as essential, as well as gaining and maintaining air superiority during the operation. Doctrine directed the use of artillery to both degrade enemy positions on the opposite side of the river and conduct demonstrations designed to confuse the enemy as to the main effort and timing of the crossing. Finally, FM 100-5 stressed the importance of incorporating engineer units early in the planning and reconnaissance of the crossing to

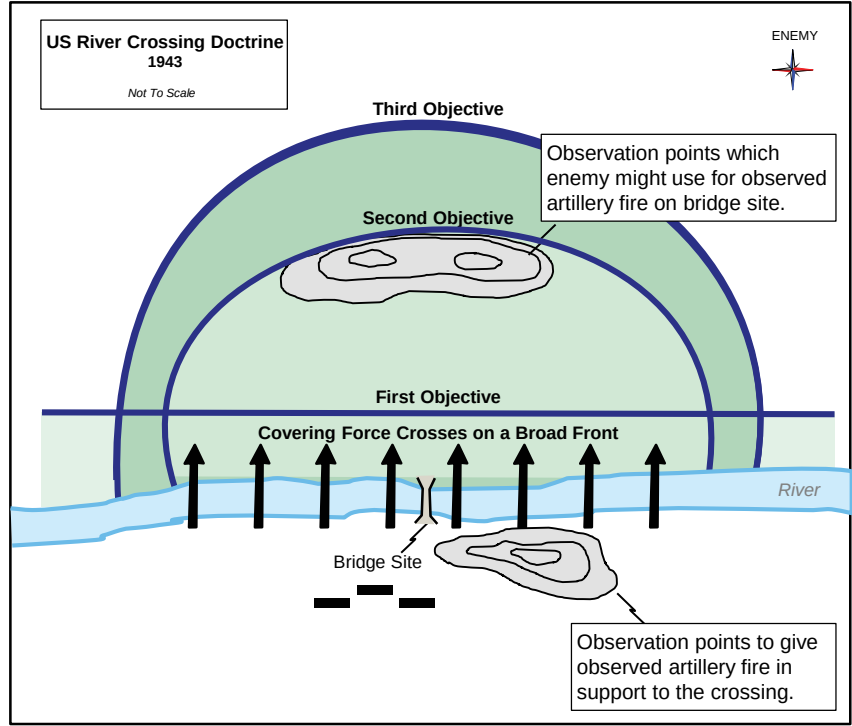


Figure 7.1. US River Crossing Doctrine, 1943. Graphic created by Army University Press.

enable them to provide the most efficient support. These combined arms techniques aimed to set conditions for a successful crossing by applying tempo against the enemy.⁹

While crossing, FM 100-5 stated that “in general, an attacker should operate on a wide front with several determined attacks at separated localities.”¹⁰ The application of a wide front combined with feints and demonstrations sought to further confuse the enemy as to the timing and location of the main effort. As for the exact location of the main crossing, FM 100-5 recommended the selection of existing bridges or water areas unobstructed by natural obstacles such as bars or islands. Doctrine encouraged timing the assault to ensure the first assault force reached the hostile bank immediately prior to dawn to provide forces with maximum obscurity during movement and daylight for the assault. FM 100-5 recommended the use of assault boats for the first and second waves and emphasized the importance to establishing footbridges and ponton raft ferries immediately after securing the opposing hostile river bank. It prescribed continuous artillery support throughout the assault and stated that “a portion of the command is held in *reserve* to exploit the most successful crossing.”¹¹ This doctrinal construct of phases and transitions aimed to reduce initial risk during the crossing and enable the successful exploitation of the crossing by the assault force.¹²

Following the seizure of the hostile river bank, FM 100-5 prescribed immediate measures involving deliberate phasing and transitions to prevent culmination in the attack. The first transition required the immediate continuation of the attack by infantry units onto the second objective, the high ground beyond the crossing providing enemy artillery observers with observation. The second transition prescribed the displacement of individual artillery batteries across the river to provide continuous support to units assaulting the second objective. Finally, with the second objective secured, FM 100-5 emphasized the importance of establishing ponton bridges to open lines of communication across the river. This enables the flow of combat units and sustainment forward to press on to the third objective, a tactical objective which required the unit to cross the river in the first place. Units such as the 80th Infantry Division using this construct expected to maintain sufficient tempo to present multiple dilemmas to a defending enemy.

Training for Combined Arms Operations

The 80th Infantry Division trained on the tactics and techniques prescribed by this doctrine at three major AGF training centers. On 7

December 1942, the AGF issued a directive to all maneuver areas in Louisiana, Tennessee, West Virginia, Oregon, and the DTC, prescribing the following maneuvers:

a. Movement to contact, meeting engagement, and aggressive action by both sides.

b. Meeting engagement, aggressive action by a larger force, and the withdrawal of a small force.

c. Aggressive action against a covering force, with a view to forcing it to withdraw across or through an obstacle.

d. *Attack and defense of a river line, the objective of the attacker to require the crossing of his major elements.*

e. Coordinated attack of a prepared position. Situation to be so drawn as to permit at least 24 hours of uninterrupted and unobserved work on the defensive position.

f. Delaying action on successive positions over a considerable distance.

g. Breakthrough of an over-extended position and the withdrawal of the defender over a considerable distance.¹³

The 80th Infantry Division left Camp Forrest for the Tennessee Maneuver area in June of 1943, culminating with maneuvers against the 83rd Infantry Division. It then moved to Camp Phillips, Kansas in August of 1943, where it continued training. The 80th Infantry Division began its final training on 17 November 1943 at the DTC, known as the “graduate school of combined training.”¹⁴

Major General George S. Patton designed the DTC for the AGF in March of 1942, making it the premier training center in the US Army. Lieutenant General Leslie J. McNair, commander of the AGF, lauded it as “our best training agency for both combat and service units.”¹⁵ The AGF designed the DTC as “a theater of operations . . . to afford maximum training of combat troops, service units, and staffs under conditions similar to those which might be encountered overseas.”¹⁶ The 80th Infantry Division trained at the DTC from its arrival on 17 November 1943 until the AGF closed the center approximately five months later on 5 April 1943. The division then deployed to Europe, where it joined the Third US Army in France in August of 1944 and fought at Argentan as part of Operation Cobra’s exploitation of the Falaise Pocket.¹⁷

Establishing Context: Approaching the Moselle River

Following its initial combat experience at Argentan, the 80th Infantry Division next fought to cross the Moselle River. In August 1944, aiming to conclude the war, General Dwight D. Eisenhower directed a northeast attack into Germany as the main effort of allied forces in Europe. On 1 September, while the 80th Infantry Division established a bridgehead across the Meuse River, Eisenhower assumed direct operational control of allied ground forces in Europe. Eisenhower ordered Patton's Third Army to attack along the Verdun-Metz axis to surprise, confuse, and disperse German army elements by presenting multiple dilemmas.¹⁸

The Third Army's receipt of these orders coincided with challenging operational conditions for allied forces in Europe. A lack of distribution in the Communications Zone, the base of supplies for allied forces in Europe, disrupted the tempo of operations for all allied armies in late August and early September. The Third Army's fuel requests "remained at 250,000 gallons a day until 26 August, where they almost doubled," and the First Army simultaneously increased its fuel requirements amidst this theater-wide challenge.¹⁹ Thus, Lieutenant General Omar N. Bradley "repeatedly placed restrictions on the Third Army's operations, authorizing only limited advances with the thought that General Patton's forces should not overextend themselves . . . and jeopardize the army group's mission."²⁰

Despite this context, Patton requested to cross the Moselle River, to the west of which German forces benefited from additional time to prepare defenses while US Army forces dealt with gasoline shortages. In a letter to his wife Beatrice, Patton lamented that "books will someday be written . . . on that 'pause which did not refresh anyone but the Germans.'"²¹ While Eisenhower shifted resources to support General Bernard Montgomery's Operation Market Garden, Patton continued to press for permission to cross the Moselle. Eisenhower conceded, justifying the move as defensive in nature to anchor and protect the Allied right flank. He warned Patton to reconsider if he became too heavily engaged. Patton instructed Major General Manton S. Eddy's XII Corps, consisting of the 4th Armored Division, the 35th Infantry Division, and the 80th Infantry Division, to cross the Moselle River.²²

The XII Corps advanced 250 miles in 16 days through a combination of speed and surprise across the Marne and Meuse Rivers; Eddy wished to maintain this momentum. Prompted by previous success, Eddy initially considered ordering the 4th Armored Division to cross the Moselle, and the infantry divisions to follow and support. Neither Major General John S. Wood, commanding the 4th Armored Division, nor McBride

The XII Corps scheme of maneuver, outlined in Field Order Number Six dated 4 September consisted of four elements. First, it required the 317th Infantry from the 80th Infantry Division to establish the northernmost bridgehead at Pont-a-Mousson. Second, with the bridgehead established, it called for Combat Command A (CCA) of the 4th Armored Division and a battalion of the 318th Infantry to exploit the bridgehead and attack Nancy. Third, it tasked the 319th Infantry to secure the southernmost bridgehead at Toul. Finally, the plan held the remaining two battalions of the 318th Infantry in reserve, yet also tasked them with establishing a “limited bridgehead in the center of the division zone . . . east of the Belleville-Marbache sector (See figure 2).”²⁴

The XII Corps assigned the 80th Infantry Division to “secure [a] bridgehead across the Moselle and Meurthe [Rivers] vicinity Nancy, employing not to exceed one (1) CT [Combat Team], clearing Forêt de Haye and seizing Nancy, and one (1) CT preceding [the] 4th Armored Division.”²⁵ The 80th Division issued orders to its subordinate regiments. It ordered the 317th Infantry to establish the main bridgehead across the Moselle to permit the 4th Armored Division to cross, the 319th Infantry to attack west from Toul and seize Nancy with the 4th Armored Division, and the 318th Infantry to establish a limited bridgehead in the center of the division sector. The division orders did not specify a division reserve and directed the 317th Infantry to begin the attack at five in the evening on 5 September.²⁶

The planning and execution of this crossing of the Moselle River provides an opportunity to evaluate the 80th Infantry Division’s adherence to doctrine and its resulting effectiveness in applying combined arms maneuver. Michael Doubler described the 80th Infantry Division’s plan to cross the Moselle River as “almost a direct lift from FM 100-5.”²⁷ Doubler’s observation is correct in a sense; the division planned to attack across a wide front with “several determined attacked at separated localities,” across its sector.²⁸ However, key differences exist between the 80th Infantry Division’s initial attempt to cross the Moselle River and what doctrine prescribed. The 80th Infantry Division failed to coordinate combined arms to set the conditions for the crossing, did not attempt to confuse the enemy as to the location of the crossing, and accepted risk by crossing in daylight and not designating a division reserve. Instead, it applied similar efforts at all three crossing points. These factors contributed to the initial plan’s failure. The 80th Infantry Division attempted the crossing again on 12 September and established a crossing site. Both attacks proved costly; the 317th Infantry Regiment alone suffered over 3,000 casualties.²⁹

Combat Operations: Crossing the Moselle

The 80th Infantry Division's difficulties during the first attempt to cross the Moselle began with a weak understanding of the enemy's posture in defense of the Moselle River. Lieutenant Colonel Richard R. Fleisher, 80th Infantry Division G-2, provided contradictory analysis of enemy dispositions. He predicted that German artillery would "wait until [US reconnaissance] elements approached, [to subsequently] fire, and withdraw," and that "no small arms fire was expected [west] of [the] Moselle [River]." ³⁰ Paradoxically, he also predicted that the division would encounter enemy forces dug in on the east bank of the Moselle, and that the enemy emplaced strong points at nearly every significant location in the XII Corps plan: Pont-a-Mousson, Toul, Nancy, and Forêt de Haye. ³¹

Eddy struggled to determine the enemy's disposition and strength as well. He believed the 80th Infantry Division faced little enemy resistance along the Moselle. During a visit to the 317th Infantry Regiment, he declared to Colonel Cameron and Major James Hayes while overlooking the Moselle that "there aren't any Germans out there." ³² Unknown to Eddy, the 3d Panzer Grenadier Division occupied the west bank of the Moselle in a deliberate defense; its recent transfer from Italy to Lorraine placed battle-tested troops across from the 80th Infantry Division. Despite lacking engineers and armor, the 3d Panzer Grenadier Division's posture reflected its readiness to fight. By contrast, with "none of the troops [having] yet seen the river and the surrounding terrain or [having] any idea of the enemy situation," the 80th Infantry Division muddled its way through its initial attack to cross the Moselle River. ³³

The 80th Infantry Division did not apply the steps prescribed in FM 100-5 as special preparation necessary for a river crossing. As a result, it struggled to plan and manage phasing and transitions and ceded the element of tempo to the enemy. The 80th Infantry Division did not conduct appropriate reconnaissance of the terrain and enemy, nor did it position its artillery to prepare and support the crossing of its infantry regiments. Captain Andrew Z. Adkins of Company H, 317th Infantry Regiment reflected that "in our mad dash across France, we reached the river before the Army was ready to properly support us . . . we did not have enough time for reconnaissance, intelligence, air support, or artillery support." ³⁴

On 4 September, before the beginning the attack, Colonel Cameron, commander of the 317th Infantry Regiment, "assured his battalion commanders that air and artillery support would be available" for the cross-

ings.³⁵ His regiment soon found that inaccurate. According to Lieutenant Colonel Shaw, the executive officer of the 80th Infantry Division Artillery, “on the 5th of September the infantry attempted crossing [and] no artillery was requested.”³⁶ The complete lack of fire support resulted in infantry forces “pinned down without any support [with] the Moselle to our front and the Rhine-Marne Canal behind us.”³⁷

ADRP 3-0 notes that “commanders normally seek to maintain a higher tempo than an enemy does; a rapid tempo can overwhelm an enemy’s ability to counter friendly actions.”³⁸ In this instance, elements of the 80th Infantry Division lost the advantage in speed and rhythm of military operations and ceded tempo to the German Army. The 80th Infantry Division’s plan, containing numerous simultaneous objectives for subordinate units, further complicated its hasty approach to the Moselle.

The 80th Infantry Division’s first attempt to cross the Moselle at three separate points between the 4th and 6th of September aimed to maximize simultaneity to increase tempo and “degrade enemy capabilities throughout the area of operations.”³⁹ Although consistent with FM 100-5’s idea of an attack on a wide front, this plan failed to create the feints and deceptions that doctrinally required carefully synchronized phasing and transitions. When defining phasing and transitions, ADRP 3-0 specifies that “simultaneity, depth, and tempo are vital to all operations,” yet “they cannot always be attained to the degree desired; in such cases, commanders limit the number of objectives engaged simultaneously.”⁴⁰ The division failed to mass effects against a particular objective as recommended in FM 100-5 then, and as ADRP 3-0 counsels today.

Instead, the division attempted simultaneity across three objectives: Pont-a-Mousson, Toul, and Marbach. While the simultaneous assault on three objectives presented the 3d Panzer Grenadier Division with multiple dilemmas, the 80th Infantry Division lacked the depth or combined arms synchronization necessary to overwhelm the enemy at any one of the three. This resulted in the early culmination of two infantry battalions from the 317th Infantry Regiment, which found themselves pinned down between the Moselle River and the Rhine-Marne Canal by German artillery, mortar, and machine gun fire. Unable to place any effects on the enemy, “commanders feared that a withdrawal might result in excessive casualties, so for the rest of the day soldiers remained huddled in shallow foxholes and exposed to a continuous artillery and mortar bombardment.”⁴¹ Both battalions experienced what ADRP 3-0 defines as culmination in the offense: “the culmination point occurs when the force cannot continue the attack and must assume a defensive posture or execute an operational pause.”⁴²

The 80th Infantry's decision to cross at five o'clock in the afternoon and the decision to not designate a reserve compounded the severity of the 317th Infantry Regiment and the 80th Infantry Division's culmination in attempting to cross the Moselle for the first time. The hasty nature of the first crossing highlighted the dilemma that ADRP 3-0 proposes with respect to risk: "inadequate planning and preparation risks forces, and it is equally rash to delay action while waiting for perfect intelligence and synchronization."⁴³ Influenced by Patton's aggressive nature and Eddy's belief in light enemy resistance, McBride appeared to risk inadequate planning and preparation to avoid a delay in the attack.

Following the retreat of both battalions at three in the afternoon on 5 September 1944, McBride decided to commit a third battalion from the 317th Infantry Regiment to attempt yet again to force a crossing. He ordered it at the same location as the previously failed assault, with a smaller force and less support. During the first crossing, elements of the 3d Panzer Grenadier Division destroyed 38 of 64 assault boats belonging to the 305th Engineer Combat Battalion, rendering them unable to support the third battalion's attack. Furthermore, artillery support remained uncoordinated.⁴⁴

During the night of 5 September and against all odds, four platoons from Companies I and L established a shallow bridgehead on the east bank of the Moselle and dug in. The enemy quickly attacked. Without any air or artillery support, nor the ability to reinforce rapidly due to the recent loss of boats, the four platoons ceased to exist by eleven in the morning on 6 September, at the cost of all 160 men. This last failure finally caused Eddy to cancel the crossing. XII Corps transitioned to a defensive posture along the West bank of the Moselle to prepare for a second crossing.⁴⁵

In total, the 80th Infantry only achieved one of three objectives as a result of its failure to employ a synchronized combined arms approach to crossing the Moselle River. Its failure to secure a bridgehead at Pont-a-Mousson and enable the crossing of the 4th Armored Division resulted in the entire XII Corps assuming a defensive posture from 6 September to 11 September. Additionally, the 318th Infantry Regiment failed to secure the heights in Marbache and prepare for a crossing in the face of stiff enemy resistance. The 319th Infantry Regiment succeeded in establishing a bridgehead and began consolidating around Toul. The 80th Infantry Division failed to create the momentum and secure the routes necessary to seize Nancy, the XII Corps objective. Accordingly, Eddy halted XII Corps to prepare for a second crossing attempt in the 80th Infantry Division zone, writing in his diary that "this time we will make sure it goes through."⁴⁶

The second attempt to cross the Moselle not only involved more resources and deliberate planning than the first attempt, it successfully arranged tactical actions in time, space, and purpose to achieve its mission, and more closely followed doctrine in FM 100-5. Generally, the plan involved a deliberate preparation of the crossing, accounted for enemy positions and the topography of the river more closely, and designated a reserve. XII Corps issued Field Order Number Eleven on 11 September. It directed the 80th Infantry Division to force a crossing of the Moselle River “in the vicinity of Dieulouard, and establish a bridgehead from Pont-a-Mousson south to Millery.”⁴⁷ After the failure of 5–6 September, McBride, with his staff and regimental commanders, developed a more appropriately phased and deliberate plan reflecting doctrine to cross the Moselle River.⁴⁸

The plan now involved phasing and transitions within the 80th Infantry Division and synchronized combined arms to create conditions for a successful crossing. The 80th Infantry Division now received support from the XIX Tactical Air Command, eight battalions of artillery, 50 heavy machine guns, and heavy engineers from the 1117th Engineer Combat Group. The plan adhered to the general phasing construct outlined in FM 100-5.

First, beginning on 8 September, the 80th Infantry Division prepared for the crossing: it conducted reconnaissance and determined a suitable crossing site at Dieulouard, and “each day the American artillery fired concentrations on targets selected for special treatment on the day of the assault . . . to forestall an enemy alert prior to H Hour.”⁴⁹ Second, it tasked the 317th Infantry Regiment to seize the river crossing and secure a hold on the enemy bank, with an initial objective of the hills east of Dieulouard. Third, it tasked the 318th Infantry Regiment to exploit the bridgehead and seize Mousson Hill and the surrounding heights. Finally, the 80th Infantry Division planned to pass the 4th Armored Division through terrain held by both infantry regiments. These phases and transitions aimed to maintain tempo against the 3d Panzer Grenadier Division in a specific location and prevent the culmination of either infantry regiment in the offense.

McBride mitigated risk through combined arms planning and reconnaissance. He also applied FM 100-5’s recommendation to immediately establish pontoon bridges to ensure the flow of heavier combat equipment and supplies to the assaulting forces. On 12 September, he balanced risk and opportunity and ordered the heavy construction companies to work immediately; he believed that the speed and ease of infantry movements warranted it. His decision proved prudent; the armor of the 702d Tank Battalion and the 313th Field Artillery Battalion crossed the pontoons and enabled the division’s successful defense of the bridgehead. The 80th In-

fantry Division faced one more test of its ability to transition and prevent culmination after crossing the Moselle; the 3d Panzer Grenadier Division, 17th SS Panzer Grenadier Division, and the 29th Panzer Grenadier Regiment counterattacked at one in the morning on 13 September.⁵⁰

In chaotic, bitter fighting that ensued and often resulted in “majors commanding platoons and captains commanding battalions,” the division rapidly transitioned to the defense and held its ground.⁵¹ Heavy casualties included the division’s artillery commander, Brigadier General Edmund W. Searby, killed in action while coordinating artillery fires. McBride ordered a final transition in the battle for the Moselle River Crossing—a counterattack into the remnants of the 3d Panzer Grenadier Division. By the afternoon of 13 September, the 80th Infantry Division secured the bridgeheads once more, allowing the 4th Armored Division to pass through its defensive line and advance to Nancy.⁵²

McBride and the 80th Infantry Division’s initial failure to apply combined arms doctrine failed to achieve a relative advantage over German Army elements defending the Moselle River. In contrast, a second attempt following combined arms doctrine and a more deliberate application of river crossing principles succeeded in wresting the initiative from the German Army at the Moselle River. The 80th Infantry Division’s actions at both attempts to cross the Moselle River reinforce the importance of synchronized combined arms maneuver and draw our attention to modern US Army doctrine concerning offensive operations and river crossings.

Contrast with Modern Doctrine: ADRP 3-0, FM 3-0, and ATP 3-90.4

Much like FM 100-5 in 1941, modern doctrine stresses the importance of combined arms maneuver. ADRP 3-0 defines it as, “the synchronized and simultaneous application of all elements of combat power that together achieve a greater effect than if used separately or sequentially.”⁵³ Though the definition retains a similar spirit, modern US Army doctrine lacks the level of detail on applying combined arms maneuver in a large-scale combat operations such as a river, or wet-gap, crossing.

FM 3-0, *Operations*, and Army Techniques Publication (ATP) 3-90.4, *Combined Arms Mobility*, refer to river crossings as wet-gap crossings and distinguish them from dry-gap crossings. It places gap crossing operations in the larger context of offensive operations. Compared to FM 100-5 from 1941, which discussed river crossings independently, FM 3-0 considers gap crossing operations as part of a larger breaching operation, stating that

“combined-arms breaching sometimes includes gap crossings as a reduction method.”⁵⁴

Unlike FM 100-5, which dedicated ten pages to river crossings, FM 3-0 provides broad guidance on the conduct of gap crossings and refers to ATP 3-90.4. FM 3-0 generally states “a wet-gap crossing requires special planning a support,” and recommends that, “attackers should strive to cross rivers without loss of momentum regardless of how they get across.”⁵⁵ FM 3-0’s discussion on large-scale offensive operations section, however, provides key considerations in planning for offensive tasks which resemble the lessons learned by the 80th Infantry Division at the Moselle River.

FM 3-0 states that “the commander and staff consider give complementary elements when planning offensive tasks:

- a. How will the corps or division conduct reconnaissance and security operations forward and to the flanks and rear of the corps or division’s decisive and shaping operations?

- b. How will the corps and division conduct shaping operations directed against vital enemy elements regardless of their locations in the AO [Area of Operations]?

- c. The initiation of the corps or division’s operations requires the reaching of what conditions?

- d. What is the acceptable degree of risk in regards to the corps or division reserve’s composition, size, and location?

- e. What activities by the other elements of combat power are necessary to maintain offensive momentum?”⁵⁶

While not specifically oriented towards gap crossing operations, these guidelines seem to highlight the failures of the 80th Infantry Division’s first attempt to cross the Moselle River.

ADRP 3-0 and FM 3-0 describe wet gap crossings in broad frameworks. They recommend how to structure forces, battlefield frameworks, and command relationships. This tone continues in ATP 3-90.4, the modern version of FM 5-6. While AT 3-90.4 describes in exhaustive detail the technical details necessary for engineers to consider, it fails to provide the detailed quality of combined arms maneuver procedures found in FM 100-5 and FM 5-6 in 1941. FM 100-5 prescribed for division and corps staffs the timing and methods necessary to successfully employ combined arms in river crossings; modern doctrine does not.

ATP 3-90.4 refers to the different types of gap crossings, recommends control measures to structure the crossing, and offers fundamentals of successful gap crossings. Many of these details pertain to engineers, and not to the remaining warfighting functions within a corps or division. ATP 3-90.4 provides just as much or more detail than FM 5-6 did in 1941 with respect to engineering considerations for wet gap crossings, but neither FM 3-0 nor ATP 3-90.4 provide detailed concepts for synchronizing combined arms. Modern doctrine concerning gap crossing is either very generic and conceptual in ADRP and FM 3-0, or extremely specific to engineering considerations in ATP 3-90.4.

Conclusion

While the doctrine in 1941 specifically prescribed the crossing of river lines and the 80th Division trained in unusually stable conditions for over two years, it still struggled to synchronize combined arms at the Moselle River in September 1944. Doctrine in FM 100-5 and FM 5-6 in 1941 provided a detailed structure for crossing rivers with sequential objectives, and detailed methods for the employment of artillery, aviation, armor, and engineer assets. The 80th Infantry Division failed to cross the Moselle River on its first attempt because it did not apply principles of combined arms maneuver or follow the doctrine of the time. A week later, it succeeded on its second attempt, following doctrine and synchronizing combined arms.

Modern doctrine provides less detail on the application of combined arms maneuver to wet-gap crossings. US Army doctrine today, when compared to FM 100-5 in 1941, provides many guiding principles and frameworks but does not specify how to synchronize combined arms to cross a wet-gap. Instead, doctrine in ADRP 3-0, FM 3-0, and ATP 3-90.4 provide general guidance for corps and division leaders, and exacting detail for engineers.

The applicability of this analysis for today's leaders is clear. In the absence of a doctrine such as FM 100-5 that provides the "how" to river crossings, units must develop standard operating procedures (SOPs) that synchronize the warfighting functions in time, space, and purpose to achieve a relative position of advantage against a defending enemy. Headquarters must not only rehearse these SOPs as a staff, but with the totality of a division's or corps's warfighting functions, enablers, and subordinate headquarters.

Tactical headquarters must plan a synchronized operation with phases and transitions that enable tempo, prevent culmination, and mitigate tac-

tical and operational risk to successfully cross a wet gap crossing. While modern US Army doctrine provides us with the overall architecture and the engineer-specific details for these operations, history provides us with what leaders may find lacking in doctrine: examples of success and failure, and ideas from old doctrine for developing SOPs. Leaders must ensure the lessons learned by the Soldiers of the 80th Infantry Division at the Moselle River in 1944 are not learned a second time; the cost was significant.

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Chapter 8

Field Artillery and Flying Columns: Combined Arms Maneuver in the Advance on and Seizure of Manila, 1945

Captain James Villanueva

By the end of 1944, General Douglas MacArthur—commander of the Southwest Pacific Area—stood poised to retake Luzon in the Philippines and realize his long-awaited goal of a triumphal return to the Bataan Peninsula and the city of Manila, capital of the Philippines. MacArthur charged General Walter Krueger’s United States Sixth Army, which landed on Luzon at Lingayen Gulf on 9 January 1945, with the initial phase of operations on Luzon and the seizure of Manila from defending Japanese forces.¹ For American units on Luzon, the island’s large open Central Plain, and robust urban terrain in Manila proper, presented unique challenges not previously encountered in the Pacific Theater.

Given restrictions on the use of airpower, American infantry units of the Sixth Army’s XIV Corps, primarily the 37th Infantry Division and 1st Cavalry Division, increasingly turned to adaptive combined arms teams, sometimes designated “flying columns,” to help continue their advance in the face of stiffening Japanese resistance leading up to the month-long struggle to seize Manila.² XIV Corps attached artillery, tank, and tank destroyer battalions to infantry units in several configurations to create these combined arms teams, overcoming challenges as varied as Japanese armored counterattacks near Clark Field, pillboxes in the Rizal baseball stadium, and *trace-italienne* fortifications in the old walled city in Manila, the *Intramuros*. As they do under current doctrine, reflected in Field Manual (FM) 3-0, *Operations*, coordination measures at the corps and division level took on an increasing importance in 1945 as the 11th Airborne Division advanced from southern Luzon while XIV Corps artillery units supported them from north of Manila. XIV Corps’s remarkable ability to flexibly task organize subordinate units, and implement detailed planning and control measures allowed it to synchronize maneuver and fires in decisive large-scale combat operations on Luzon in 1945.

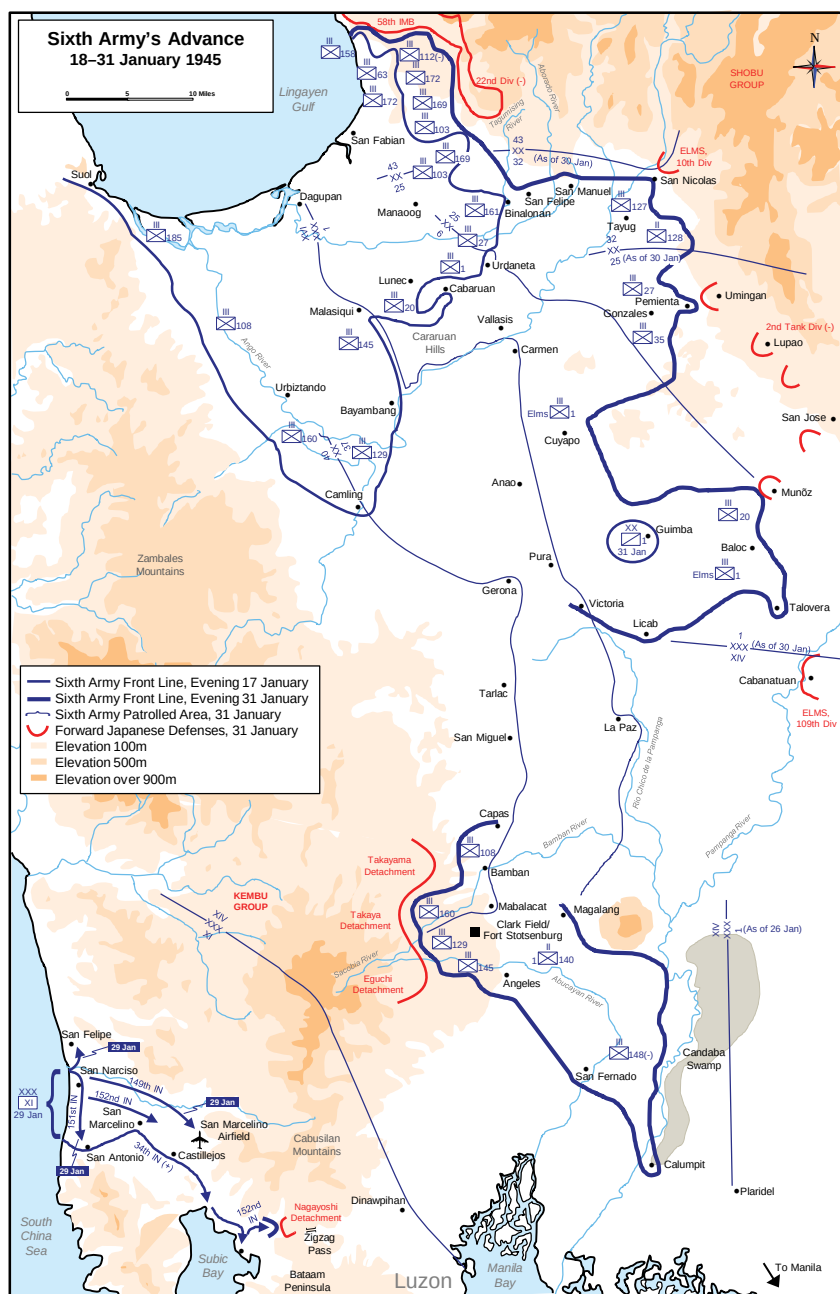
The Japanese elected not to defend the Central Luzon Plain in force, only conducting delaying actions and blowing bridges to hinder the American advance.³ General Yamashita Tomoyuki’s plan for the defense of Luzon organized the defending units into three groups.⁴ The 150,000 men of the *Shobu* Group served as Yamashita’s main fighting force on Luzon, holding a line east of the Central Luzon Plain and intending to fight a delay-

ing action in the island's northeastern mountains.⁵ The 30,000-man *Kembu* Group and 80,000-man *Shimbu* Group occupied the Clark Field and southeastern portions of Luzon, respectively. In the Clark Field/Fort Stotsenburg area, while not as heavily defended as the *Shobu* Group's area, the Japanese laid extensive minefields and had pre-plotted fire plans for artillery.⁶

Besides positions at Clark Field proper, the *Kembu* Group also held strong emplacements in caves and on ridgelines overlooking Clark Field/Fort Stotsenburg with numerous machine guns, mortars, and dual-purpose antiaircraft guns.⁷ Lacking a complete picture of Japanese dispositions, American intelligence analysts disputed Yamashita's combined strength on Luzon and in some cases underestimated it by as many as 100,000 men, making General Krueger hesitant about driving southward in the face of unknown enemy strength.⁸ After an initially easy landing at Lingayen and advance toward Manila against token Japanese forces, the Americans encountered more substantial resistance in the vicinity of Fort Stotsenburg and Clark Field northwest of Manila.

The Sixth Army's main subordinate units were I and XIV Corps, commanded by Major General Innis P. Swift and Major General Oscar V. Griswold, respectively.⁹ While I Corps moved east from Lingayen and bore the brunt of the fighting against Japanese General Yamashita's main forces in the northern part of Luzon, Griswold's units—primarily the 37th and 40th Infantry Divisions—moved south on the Central Luzon Plain towards Manila. As the 40th Infantry Division cleared the Bataan Peninsula, the 37th Infantry Division became the primary force in the drive on Manila until the arrival of the experienced and well-regarded 1st Cavalry Division several weeks after the initial landings.¹⁰

Although a veteran unit by the time of the Luzon Campaign, the combat experiences of the 37th Infantry Division did not include large-scale urban combat, but it showed its experience during the drive on Manila by demonstrating good combined arms integration.¹¹ In the drive on the Filipino capital, attachment of XIV Corps's 517th Field Artillery Battalion (155-mm guns) to the 37th Infantry Division provided the infantry with longer ranged fires than those the division possessed organically and contributed to the division's success near Clark Field.¹² Despite such successes, after the Lingayen landings, the 37th Infantry Division's methodical advance (mostly due to well-founded fears of a Japanese assault on its extended left flank) was far too slow for MacArthur, who was anxious to liberate Manila by his birthday on 26 January and anticipated little Japanese opposition in the city.¹³ The 37th Infantry Division, mostly moving on foot, soon found itself in a race to Manila with the newly arrived 1st Cavalry Division.¹⁴



The 1st Cavalry Division, commanded by Major General Verne D. Mudge, was well-regarded for its combat performance in the Admiralties and on Leyte Island before landing on Luzon. However, like the 37th Infantry Division, it lacked experience with fighting in cities.¹⁵ Largely serving as motorized infantry, the division had several hundred cars and trucks for mobility and was trained for dismounted combat.¹⁶

In order to speed the 1st Cavalry Division's drive to Manila, Major General Mudge organized two "flying columns" with enhanced mobility, each having a cavalry squadron supported by a howitzer battery.¹⁷ Under Brigadier General William C. Chase, commander of the 1st Cavalry Brigade, the "flying columns" were each reinforced by a medium tank company (M4 Shermans) from the 44th Tank Battalion.¹⁸ As the "flying columns" were short on troop-carrying vehicles, many cavalymen rode on tanks in the drive on Manila. With the addition of these tanks, the "flying columns" rapidly advanced 100 miles in three days compared to the 37th Infantry Division's relatively slow march forward on foot, which covered some 40 miles from 18–31 January.¹⁹

As the race to Manila continued, XIV Corps had several tasks to conduct during the advance, several of which are reflected in past and current US Army doctrine under FM 100-5, *Operations* (1944), and FM 3-0, *Operations* (2017). These included task-organizing and employing its subordinate divisions; integrating and synchronizing the operations of those divisions; massing effects at decisive points; allocating resources and setting priorities; and leveraging joint capabilities.²⁰ XIV Corps's subordinate divisions in the drive to Manila, 37th Infantry Division, 1st Cavalry Division, and later the 11th Airborne Division, largely had similar tasks at their levels. XIV Corps's ability to achieve all of these tasks was reflected in its extensive planning and the issuance of clear guidance in its field orders (what would be called operations orders under current doctrine). The divisions of XIV Corps also became increasingly adept at task organizing combined arms teams, grouping infantry and air support with tank, tank destroyer, and artillery battalions to seize heavily fortified structures in Manila. As will be seen later, in accordance with recommendations in the 1944 version of FM 100-5 and similar to current doctrine, the divisions massed assets for decisive attacks.²¹

Tank and tank destroyer units were often assets that XIV Corps massed for decisive attacks, including the 754th Tank Battalion, 44th Tank Battalion, and the 637th Tank Destroyer Battalion. With the 1st Cavalry and 37th Infantry Divisions lacking tanks or tank destroyers (outside of 17 light tanks in the 1st Cavalry Division), XIV Corps attached tank and

tank destroyer units to these and other divisions as the need arose, a piecemeal and ad hoc process. The attached battalions rarely fought as complete units but instead were parceled out to various cavalry and infantry units in company (attached to infantry/cavalry regiments) or platoon (attached to battalions/squadrons) strength. In one case Company A of the 754th Tank Battalion was attached to the 1st Cavalry Division while Company B was attached to the 37th Infantry Division.²² This resembled a similar practice in Europe, where, in accordance with army-wide doctrine, separate tank battalions (those not in armored divisions) and other specialty units were held in General Headquarters Reserve until attached to various divisions. In *Making the Difficult Routine*, Lieutenant Colonel Brian C. North notes that the lack of habitual relationships was detrimental to combat effectiveness for specialty units.²³ To mitigate this, in Europe, commanders attempted to habitually attach tank battalions to infantry formations with whom they had worked in the past, however this was often difficult to achieve. As will become clear, the units on Luzon did not adopt such a practice, the various companies of separate tank battalions serving in numerous units over the course of the campaign.

Beyond questions of task-organization, in order to facilitate XIV Corps's movements south from Lingayen Gulf, the corps headquarters took care to establish unit boundaries as the divisions advanced, and gave specific guidance to units as far as areas for them to reconnoiter, especially screening the corps's increasingly vulnerable eastern flank as shown in Figure 1.²⁴ The corps's field orders established clear limits of advance anchored on towns, roads, and other significant terrain features. For example, the corps's Field Order 2 set the corps's intermediate objective as the road linking the towns of Tarlac and Victoria, while giving the 37th Infantry Division specific instructions to advance along a route linking a series of ten towns and villages from Bayambang to Victoria.²⁵ Such control measures enabled the XIV Corps to coordinate and control the movements of its subordinate divisions and not clog the road network, but also gave division commanders clear guidelines and objectives in meeting Major General Griswold's intent to conduct a deliberate advance. The use of control measures remains important today "to ensure the successful synchronization and timely convergence of subordinate and supporting formations and capabilities against the enemy."²⁶

In addition to extensive planning, XIV Corps also utilized its corps-level artillery assets in a judicious manner, gaining fire superiority at decisive points on the battlefield. Because Luzon's Central Plain was very flat and provided few elevated locations for artillery forward observers, XIV Corps

units effectively utilized aerial observers to locate targets and adjust American artillery fires.²⁷ Due to the effectiveness of the air-ground artillery team at firing counterbattery missions, Japanese defenders seldom fired when artillery liaison planes were airborne.²⁸ Integration of aerial observers with corps artillery units continued to great effect during the Battle of Manila, with aircraft serving as the primary platform for observation despite the ability of observers to use multi-story buildings to observe fires.²⁹ Gaining fire superiority rightly remains a priority under current doctrine.³⁰

On the ground, despite adoption of ad hoc task organizations, XIV Corps and its subordinate units created increasingly effective tank-infantry teams. American armor provided mobile direct fire support to the infantry, while the latter were able to cross areas impassable to vehicles. At Clark Field, tanks and tank destroyers were “used as direct fire support against caves and pillboxes.”³¹ Although the Japanese generally lacked armor in defending the Central Luzon Plain or the City of Manila, when Japanese tanks did appear, American armor dealt with them successfully, providing welcome support to the otherwise vulnerable infantry. During the Clark Field operation, five tank destroyers, “disregarding [their] lack of protective armorplate [sic],” rushed to destroy six attacking Japanese medium tanks which had already destroyed one M-7 self-propelled howitzer and caught the 129th Infantry Regiment’s Company I in the open.³² Although I Company suffered heavy casualties, the tank destroyers undoubtedly prevented more by destroying four of the six Japanese tanks and forcing the withdrawal of the other two. In this instance, the combined arms team accomplished more than could the infantry or tank destroyers operating alone.

Following a relatively easy advance through the Central Plain, the 37th Infantry and 1st Cavalry Divisions encountered heavy resistance in the City of Manila proper, where Japanese Vice Admiral Iwabuchi Sanji decided to make a last stand despite orders to the contrary.³³ Iwabuchi’s Manila Naval Defense Force consisted of 26,000 men from various army and navy units. The determined Japanese defense came as a surprise to MacArthur’s command, whose intelligence proved faulty in assuming that the Japanese would not defend Manila.³⁴

In Manila, both the old walled city, or *Intramuros*, and the steel-reinforced concrete government buildings were able to withstand most infantry weapons.³⁵ The heaviest direct fire weapon that an American infantry company had in 1945 was a single .50-cal. machine gun. At battalion level, there was an anti-tank platoon with three 57-mm antitank guns, and the regimental antitank company had several platoons armed with 57-mm antitank guns and 2.36 in. (60mm) bazooka rocket launchers.³⁶ Both the 57-

mm antitank guns and 2.36 in. bazookas were woefully inadequate when dealing with reinforced Japanese defenses like those in the *Intramuros* and government district. Therefore, tanks, tank destroyers, and artillery assets became essential to the reduction of these Japanese positions.

In addition to or within existing buildings in Manila, the Japanese created a large number of fortified positions and obstacles to hinder the American advance. Japanese roadblocks were often substantial, some consisting of “steel rail[s], six to eight feet high, supported by steel drums filled with sand, soil, or cement.”³⁷ Explosive obstacles included “aerial bombs plugged nose-up in the streets” and minefields.³⁸ In conjunction with prepared pillboxes and sandbagged positions, the Japanese used a variety of other explosives to create obstructions which hindered the American advance.³⁹ Outside of obstacles, 120-mm dual purpose naval guns in particular were a significant weapon against American tanks, accounting for four of the nine Shermans lost by the 44th Tank Battalion from 7 February to 9 March.⁴⁰

While Japanese defenses did prove troublesome for the Americans, initial difficulties in American armor-infantry coordination were partially due to a lack of specific doctrine on such cooperation in urban combat. Although they had sections dealing with fortified positions (certainly relevant to the seizure of Manila), American doctrinal manuals from this period did not give extensive detail on tank/tank destroyer-infantry cooperation or the use of armor-infantry teams in cities or urban areas. FM 31-50, the US Army’s urban combat manual, gave few practical ideas on how to conduct such operations, only recommending the use of combined arms but not specifying how to employ them.⁴¹ The 1944 version of FM 18-20, *Tactical Employment of Tank Destroyer Platoon Self-Propelled*, only offered a few sentences on dealing with hostile infantry. A page-long section of the 78-page manual FM 18-5, *Tactical Employment, Tank Destroyer Platoon Unit*, dealt with tank destroyer-infantry cooperation, but the tank destroyers’ role was primarily that of destroying enemy armor to protect the infantry. The tank destroyers were also to “assist the infantry advance by fire,” but there were no specific guidelines on tactics in assisting the infantry, and this section was not provided with a diagram while other sections of the same length were.⁴² Finally, while the manual described attacks on fortifications, it nowhere describes urban combat, a serious omission which ensured the taking of Manila would be an improvised affair. American units had to adapt in order to overcome shortcomings in their doctrine.

FM 17-33, *Tank Battalion*, gave a little more, albeit still limited, attention to tank-infantry cooperation. The three roles of a medium tank were as-

saulting fortified positions, supporting other units in the absence of known enemy fortified positions, and reinforcing the antitank defense of an infantry unit. FM 17-33 emphasized coordination with infantry and engineer units in the breaching of minefields, although there is a method proscribed in the absence of these units. The manual proscribes one infantry squad per tank in a night attack. Although infantry protection for the tanks was emphasized in the final paragraph, the section promoted the use of armor in encircling towns and argued against direct employment in an attack unless absolutely necessary. Tanks were supposed to destroy bunkers and sniper positions with high explosive shells and provide “unhesitating and effective support” to the infantry.⁴³ Despite the lack of codified doctrine, as the battle wore on, XIV’s Corps effective and flexible employment of armor in task-organized combined arms teams facilitated success against Japanese forces.

American adaptability notwithstanding, the Japanese defense of Manila was so formidable that despite MacArthur’s intentions to capture the city quickly, the battle for the capital stretched until 3 March.⁴⁴ During the battle, armor was habitually attached to infantry units in increasing numbers; as division and regimental headquarters worked to allocate resources to decisive operations, tanks and dismounted infantry gradually formed a symbiotic and close relationship with one tank platoon being attached to each attacking infantry battalion. 1st Battalion, 148th Infantry met with some success when “supported by tanks and M-7’s [self-propelled 105-mm howitzers]” on 17 February. Several armored vehicles (a platoon of Shermans and one tank destroyer) supported 2nd Battalion, 148th Infantry Regiment on 15 February, in conjunction with the regiment’s cannon company.⁴⁵

The amount of armor attached to infantry units grew in the latter part of the Battle for Manila, proof that XIV Corps and division commanders increasingly viewed tank-infantry teams as necessary to overcoming Japanese defenses. In initial assaults on the Legislative Building on 25 February, 1st Battalion, 148th Infantry’s armored support was much larger than usual, including “three platoons of tank destroyers [and] one tank company” and a heavy attachment of artillery and mortars.⁴⁶ For the final assault on the Legislative and Finance buildings on 26 February, even more tanks and tank destroyers were provided to the assaulting infantry. The 148th Infantry Regiment had two platoons from the 754th Tank Battalion’s B Company attached, and the regiment’s 1st Battalion was later heavily reinforced with “three platoons from the 637th Tank Destroyer Battalion” (M-18s) and all of the 754th Tank Battalion’s Company B.⁴⁷ The use of task-organized ground-based direct- and indirect-fire assets to support

the infantry became increasingly crucial to keeping casualties low as the Americans advanced through the city, and effective task organization is emphasized in Chapter 4 of the Army’s current Army Training Publication (ATP) 3-06, *Urban Operations*, from December 2017.

To facilitate the coordination of fires in Manila, XIV Corps ordered both the 37th Infantry and 1st Cavalry Divisions to “be prepared to place the fires of at least two (2) artillery battalions in the zone of action of the other.”⁴⁸ The corps also ordered each division to coordinate its fires along the division boundary by sending an artillery liaison officer to the respective cavalry or infantry battalion along the boundary.⁴⁹ The importance of liaison officers to proper coordination between adjacent and higher/lower echelons units cannot be overstated, reflecting similar success in Europe.⁵⁰

Later in the fight for Manila, the 11th Airborne Division transferred from Eighth Army to XIV Corps control as it advanced on Manila from the south.⁵¹ Because the 11th Airborne Division had only light 75-mm and

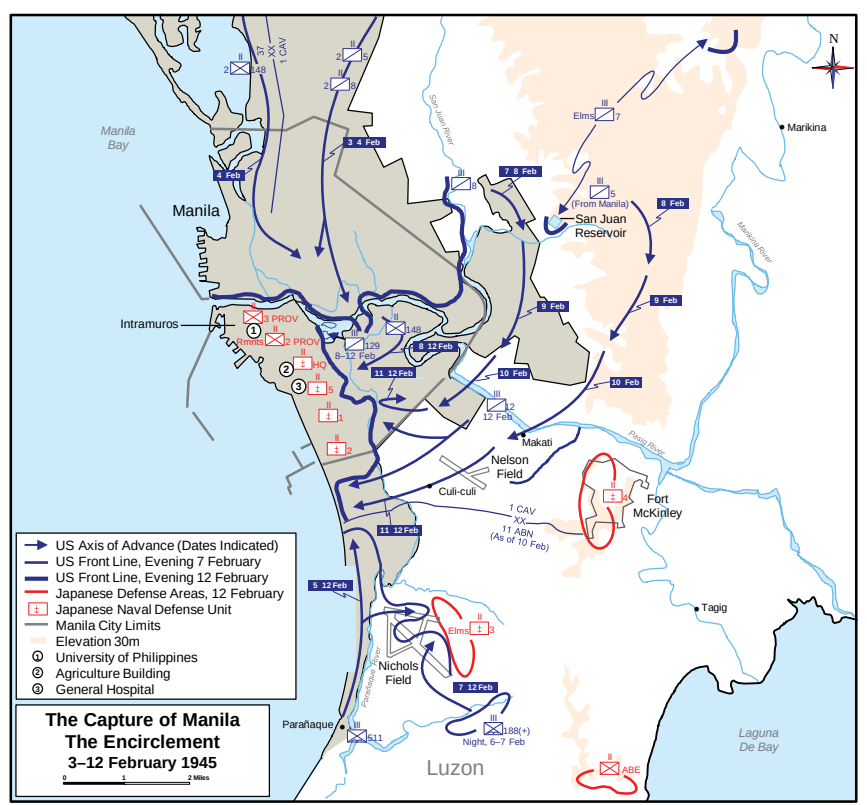


Figure 8.2. The Capture of Manila. Map created by the Army University Press.

105-mm infantry howitzers for fire support, on 9 February it requested XIV Corps artillery support in order to reduce concrete pillboxes to the south of Manila. With XIV Corps artillery several miles north of the Pasig River firing directly to the front of advancing paratroopers, aerial spotters, with 11th Airborne Division liaisons, took care to observe and adjust the impact of artillery rounds to mitigate the danger of fratricide in firing sixteen fire support missions from 9–10 February.⁵² Remarkably, the fire support missions were successful and had no incidents of fratricide.

As at Clark Field, American tanks and tank destroyers provided direct fire support crucial to destroying Japanese defenses in Manila, especially in the reduction of the imposing government buildings and *Intramuros*.⁵³ Major General Griswold cited tanks as “indispensable in the reduction of [sandbag barricades]” in Manila.⁵⁴ Tanks and tank destroyers also provided “point-blank fire” in reducing the New Police Station, Agricultural Building, University of the Philippines, and Philippine General Hospital.⁵⁵ The 600 rounds of main gun ammunition fired into the Legislative Building by one M-18 tank destroyer platoon on 26 February demonstrated the sheer quantities of direct fire that armor provided to the attacking infantry.⁵⁶ Similarly, the 44th Tank Battalion’s Company B fired over 3,000 75-mm shells and 183,000 rounds of .30 caliber ammunition in ten days of combat in Manila.⁵⁷

Despite the extensive use of tank fire, because of the limited capabilities of tanks to reduce heavy structures, corps- and division- level artillery batteries increasingly bore a large part of the direct and indirect fire missions in Manila including 155-mm pieces fired at the concrete government buildings at point-blank range, in some cases under 600 yards.⁵⁸ Although some have said that American forces in the Pacific relied too heavily on firepower at the regimental and division-level artillery nonetheless proved crucial in the final assault on the *Intramuros*, creating breaches for a tank-infantry assault.⁵⁹

Attached to XIV Corps Artillery, 8-inch howitzers from Battery C, 465th Field Artillery Battalion and Battery C, 544th Field Artillery Battalion fired 150 rounds to create a breach large enough to allow the passage of tanks.⁶⁰ In conjunction with tank destroyers, XIV Corps artillery supported the 37th Infantry Division’s attack on 23 February, conducting an effective sixty-minute direct-fire bombardment which allowed the infantry to “virtually walk . . . into the fortress standing up.”⁶¹ During the initial bombardment of the *Intramuros*, units fired 179 rounds of 8-inch howitzer shells and 150 155-mm shells.⁶² When effectively task-organized to sup-

port XIV Corps's decisive operation, both armor and artillery provided crucial preparatory fires during the fight for the *Intramuros* prior to the successful infantry assault.

After the assault on the *Intramuros* and several days of consolidation, Major General Griswold finally declared Manila secure on 4 March 1945.⁶³ The current version of FM 3-0 highlights the consolidation of gains, including providing security and stability, as a key task after large-scale combat operations, and lists the American consolidation of Luzon as an exemplary case study where American troops restored law and order, rebuilt infrastructure, provided medical aid to prisoners of war, and alleviated shortages of food before transitioning from military to civil governance.⁶⁴ Given the city's estimated 100,000 civilian dead and heavy damage to buildings and utilities, the destruction wrought in Manila over the preceding month almost equaled that in Warsaw, the only other Allied capital to suffer greater damage in World War II.⁶⁵ Iwabuchi's Manila Defense Force, cut off and refusing numerous orders to withdraw to the north and east, was practically annihilated, suffering 16,665 confirmed dead with much of the remainder missing in the rubble of their defenses.⁶⁶ American casualties totaled more than 6,500 men, with more than 1,000 Soldiers killed in action.⁶⁷

The combat actions in the beginning stages of the 1945, Luzon Campaign show that the US Army was as adaptable in the Pacific as it was in the European Theater. Although the initial attempts to integrate tanks, tank destroyers, and artillery with infantry units were somewhat haphazard, as cooperation increased, American commanders gradually saw armor and artillery as essential for victory and attached them to assaulting units in increasing numbers.⁶⁸ Meanwhile, corps- and division-level staffs conducted detailed planning, culminating in clear field orders, to coordinate this combined arms team while utilizing liaison officers and control measures to ensure security, economy of force, and synchronization and preventing fratricide. American success in this large-scale combat operation demonstrated an ability to adapt to hitherto unforeseen terrain in the Pacific Theater, with forces of XIV Corps skillfully transitioning from an amphibious landing to an armored advance on open terrain and finally a tough urban fight. Future American forces will likely have to conduct such transitions on a large-scale and should heed the lessons of the liberation of Manila when applying current doctrine.

Notes

1. Robert Ross Smith, *The US Army in World War II: Triumph in the Philippines, The War in the Pacific* (Honolulu, HI: University Press of the Pacific, 2005), 73–75.

2. General MacArthur prohibited the bombing of targets in Manila and he initially restricted the use of artillery in the city. Richard Connaughton, John Pimlott, and Duncan Anderson, *The Battle for Manila* (Novato, CA: Presidio Press, 2002), 192–93.

3. Blown bridges were the only thing which significantly slowed the southward advance of the XIV Corps until the corps came up against strong opposition in the vicinity of Clark Field and Fort Stotsenberg. In some cases, the bridges had been blown by American air attacks to prevent Japanese reinforcement of the landing area. Headquarters, XIV Corps, “After Action Report, M-1 Operation,” dated 29 July 1945, Box 8604, Entry 427, RG 407, National Archives and Records Administration, College Park, MD [hereafter referred to as NARA II], 57–58.

4. Edward J. Drea, *MacArthur’s ULTRA: Codebreaking and the War against Japan, 1942–1945* (Lawrence, KS: University Press of Kansas, 1992), 192–193. Yamashita commanded the Fourteenth Area Army, which the Japanese High Command charged with defending the Philippines. He was known as the “Tiger of Malaya” for his brilliantly successful campaign to take British-held Singapore early in the war. The Allies eventually charged Yamashita with the atrocities committed by the Japanese in Manila and hanged as a war criminal, although the units which committed these atrocities were not under his direct command and had stayed in the city contrary to his orders. See A. Frank Reel’s *The Case of General Yamashita* (Whitefish, MT: Kessinger Publishing, 2010) for more information surrounding his trial and conviction.

5. Significantly, the Shobu Group contained the 2nd Armored Division, a unit of much concern for Sixth Army Headquarters because it lay astride Sixth Army’s exposed left flank. The 13th Armored Group was initially held in reserve to counter an attack by the armored division. Eventually, however, the Japanese 2nd Armored Division was destroyed by infantry antitank guns and the 716th Tank Battalion from I Corps. Milton T. Hunt, *Use of Armor in Luzon* (Fort Knox, KY: The Armor School, 1948), Military History Institute, Carlisle, PA, [hereafter referred to as MHI] 3.

6. Walter Krueger, *From Down Under to Nippon* (Nashville, TN: Battery Press, 1953), 233; Clark Field had been the main American Army Air Corps base in the Philippines prior to the Japanese invasion in 1942, while Fort Stotsenburg was the primary training area for ground forces.

7. Smith, *Triumph in the Philippines*, 171–75.

8. Smith, 182–85. Colonel Charles A. Willoughby, General MacArthur’s intelligence officer (G-2), estimated the total Japanese strength on Luzon at 158,000 men as of 21 November 1944, basing most of his figures on ULTRA decrypts. Krueger’s G-2, Col. Horton V. White, thought the actual figure was

closer to 234,500 troops, accounting for Japanese units sighted by Filipino guerrillas in addition to units which may have reinforced Luzon undetected. White's numbers proved closer to the actual Japanese strength on Luzon, although his estimates were still under the true number by approximately 30,000 men. The dispute over the Japanese strength on Luzon remained quite heated through the actual landings on Lingayen Gulf, and Willoughby consistently underestimated the Japanese strength because he assumed that the Japanese were attrited at a faster rate than was really occurring. Drea, *MacArthur's ULTRA*, 181–82, 193.

9. Smith, 660. Griswold, nicknamed "Griz," graduated from West Point in 1910 as an infantry officer and served on the Western Front in World War I, where he earned a Purple Heart. He commanded XIV Corps on Guadalcanal, New Georgia, Bougainville, Green Islands, and Emrau Islands before commanding it in the Luzon Campaign. Robert H. Dunlop, "Oscar Wolverton Griswold," in *Assembly XIX*, no. 3 (Fall 1960), 82–83. The XIV Corps staff had been hastily created from the staff of the American Division, but had done well on Guadalcanal, New Georgia, and Bougainville and was arguably one of the best corps in the Pacific Theater. Stephen R. Taaffe, *Marshall and His Generals: US Army Commanders in World War II* (Lawrence, KS: University Press of Kansas, 2011), 221.

10. The 11th Airborne Division landed on Luzon on 31 January in a amphibious assault followed by a parachute assault on 3 February. The division drove on Manila from the south. William B. Breuer, *Retaking the Philippines: America's Return to Corregidor and Bataan, October 1944–March 1945* (New York: St. Martin's Press, 1986), 137–41; The 1st Cavalry Division was originally not part of Sixth Army's task organization. Deeming Sixth Army's initial force structure inadequate for the campaign, MacArthur's headquarters planned to send the division, in conjunction with several other units, to reinforce Sixth Army within two months of the Luzon landings once shipping became available. Smith, 29–30.

11. An Ohio National Guard organization commanded by Major General Robert S. Beightler from 1940 until the end of World War II, the 37th Infantry Division was federalized in 1940 and ordered to mobilize by 15 October of that year. John Kennedy Ohl, *Minuteman: The Military Career of General Robert S. Beightler* (Boulder, CO: Lynne Rienner Publishers, 2001), 68–69, 72–73. The 37th Infantry Division's first combat had been in hard-fought battles in the jungles of the Solomon Islands, first on New Georgia and then on Bougainville. After earning an excellent reputation following these campaigns, the division trained and refitted in Bougainville before participating in the Luzon Campaign. Eric Bergerud, *Touched With Fire: The Land War in the South Pacific* (New York: Penguin Books, 1996), 228, 509; Ohl, 140–41, 145.

12. Headquarters, XIV Corps Artillery, "Historical Report, XIV Corps Arty, Luzon Campaign," dated 6 June 1945, Box 8604, Entry 427, RG 407, NARA II, 9.

13. Although MacArthur prodded Krueger incessantly about the 37th Infantry Division's sluggish progress, the "Prussian," as Krueger was known, stood his ground and refused to advance with a long, exposed left flank border-

ing on the eastern Central Luzon Plain. William Manchester, *American Caesar: Douglas MacArthur, 1880–1964* (New York: Dell Publishing, 1978), 478. Even though MacArthur's Chief of Staff, General Richard K. Sutherland (who desired Krueger's command), prompted MacArthur to relieve Krueger, the former did not do so and allowed Krueger to proceed as he saw fit. Kevin C. Holzimmer, *General Walter Krueger: Unsung Hero of the Pacific War* (Lawrence, KS: University Press of Kansas, 2007), 224.

14. Robert S. Beightler, "Report on the Activities of the 37th Infantry Division, 1940–1945," dated 1945, MHI.

15. Landing on Luzon on January 27, 1945, the 1st Cavalry Division was a Regular Army formation formed in 1920 and originally equipped with horses. During 1940 and 1941, the division re-equipped and reorganized, eventually adopting a square organization of four cavalry regiments (the 7th, 8th, 5th, and 12th) formed into two brigades. Truscott, *The Twilight of the US Cavalry* (Lawrence, KS: The University Press of Kansas, 1989), 180. The 1st Cavalry Brigade included the 5th and 12th Cavalry Regiments while the 2nd included the 7th and 8th. For more on the Admiralties Campaign see Chapter 3 of Stephen R. Taaffe's *MacArthur's Jungle War: The 1944 New Guinea Campaign*.

16. Truscott, 180, 183.

17. Truscott, 215.

18. MacArthur gave Chase command of the 38th Infantry Division after his brigade was the first American unit to enter Manila. Chase eventually commanded the 1st Cavalry Division during the occupation of Japan. William C. Chase, *Frontline General* (Houston, TX: Pacesetter Press, 1975), 101, 123; Vernon Maurer, *Tank Tracks: 44th Tank Battalion, Tennessee to Tokyo* (n.p., circa 1945), 29. M4 Shermans, armed with a 75mm gun and .30 and .50 cal. machine guns, were considered medium tanks while M5 Stuarts, with a 37mm gun and .30 cal. machine guns, were light tanks. The 44th Tank Battalion's A, B, and C Companies were equipped with Shermans while its D Company had Stuarts. The 44th's D Company also provided support to the "flying columns," although neither of the squadrons specifically.

19. Chase, *Frontline General*, 82–83. Although Chase's force could rightly proclaim itself as "first in Manila," it found itself cut off from other American units, and the 37th Infantry Division had to reestablish contact with and "rescue" these forward elements. Stanley A. Frankel, *The 37th Infantry Division in World War II*, Frederick Kirker and John MacDonald, eds. (Washington, DC: Infantry Journal Press, 1948), 255; Smith, *Triumph in the Philippines*, 211–212.

20. Department of the Army, FM 3-0 *Operations* (Washington, DC: October 2017), 2-11.

21. Similar to current doctrine, FM 100-5 recommended distributing troops into "two or more principal tactical groupings: one or more main or decisive attacks . . . and one or more secondary or holding attacks" with "[m]ain attack groupings . . . designed to secure the objective and destroy the hostile force." Department of the Army, FM 100-5, *Field Service Regulations: Operations* (Washington, DC: June 1944) 110.

22. Gene Eric Salecker, *Rolling Thunder Against the Rising Sun: The Combat History of US Army Tank Battalions in the Pacific in World War II* (Mechanicsburg, PA: Stackpole Books, 2008), 289; The General Board, *Organization, Equipment, and Tactical Employment of Separate Tank Battalions* (United States Forces, European Theater, 1945), [microfilm edition], USMA Library, 4. Initially, several of the armored units involved in the Luzon Campaign were concentrated in the 13th Armored Group, including the 44th Tank Battalion. The 775th Tank Battalion, 632nd Tank Destroyer Battalion, and 156th Engineer Combat Battalion were also in the 13th Armored Group but did not participate in the seizure of Manila. Milton T. Hunt, *Use of Armor in Luzon* (Fort Knox, KY: The Armor School, 1948), MHI, 2–3.

23. Brian C. North, *Making the Difficult Routine: US Army Task Organization at the Army and Corps Level in Europe, 1944* (Fort Leavenworth, KS: Combat Studies Institute Press, 2016), 2.

24. Headquarters, XIV Corps “After Action Report, M-1 Operation,” 29 July 1945, Box 8604, Entry 427, RG 407, NARA II, 63.

25. Headquarters XIV Corps, “FO 2,” 18 January 1945. Box 4100, Entry 427, RG 407, NARA II.

26. Department of the Army, FM 3-0 *Operations*, 7-5.

27. Headquarters, XIV Corps Artillery, “Historical Report, XIV Corps Arty, Luzon Campaign,” 3.

28. “Historical Report, XIV Corps Arty,” 10.

29. “Historical Report, XIV Corps Arty,” 14.

30. Department of the Army, FM 3-0, 7-6.

31. Frankel, *The 37th Infantry Division in World War II*, 234.

32. Frankel, 234. The 754th Battalion was also present at this incident, and one report claims that tanks from its D Company destroyed four of these Japanese vehicles. William S. McElhenney, et al., *Armor on Luzon* (Fort Knox, KY: The Armor School, 1950), 65; The 637th Tank Destroyer Battalion History, 37th Infantry Division History, and the 129th Infantry Regimental History, however, all say the tank destroyers repulsed this Japanese attack, so this author has gone with the preponderance of evidence in recounting the action. Headquarters, 637th Tank Destroyer Battalion, “S-3 Operations Narrative, 637th Tank Destroyer Battalion,” 25 January 1946, Ike Skelton Combined Arms Research Library, Fort Leavenworth, KS [hereafter referred to as CGSC Library], 7, accessed 4 June 2018, <http://cgsc.contentdm.oclc.org/cdm/ref/collection/p4013coll8/id/3594>; 129th Infantry Regimental Staff, *The 129th Infantry in World War II* (Washington, DC: Infantry Journal Press, 1947), 88–89, MHI.

33. Smith, *Triumph in the Philippines*, 241–243; Iwabuchi had previously commanded the battleship *Kirishima* when it was sunk off Guadalcanal in 1942, and was also a veteran of the New Georgia campaign. Because he was disgraced by both of these defeats, Iwabuchi resolved to reclaim his honor in a fight-to-the-death in Manila. Drea, *MacArthur's ULTRA*, 189–191. Although nominally under the Japanese Army's Shobu Group, Iwabuchi also reported to Vice Adm.

Okochi Denshichi, commander of the Southwestern Area Fleet, and his force was a de facto independent unit. Smith, *Triumph in the Philippines*, 241.

34. Drea, 197–99.

35. The government buildings were designed to withstand earthquakes. Headquarters XIV Corps, “Japanese Defense of Cities as exemplified by the Battle for Manila” (Philippines: HQ, 6th Army, 1945), MHI, 4.

36. Robert S. Rush, *GI: The US Infantryman in World War II* (Oxford, UK: Osprey Publishing Ltd., 2003), 24–32.

37. Herald H. Smith, “The Operations of the 148th Infantry Regiment (37th Infantry Division) at Manila, Luzon, Philippine Islands, 9 January–3 March 1945 (Luzon Campaign) (Personal Experience of a Regimental Intelligence Officer)” (Fort Benning, GA: The Infantry School, 1948), MHI, 24.

38. Frankel, *The 37th Infantry Division in World War II*, 261.

39. Besides passive defenses, Iwabuchi’s forces possessed a large number of direct fire weapons. By the time Manila was taken, over 1,500 Japanese machine guns and antiaircraft cannon were found in the city. Smith, *Triumph in the Philippines*, 308; XIV Corps, “Japanese Defense of Cities,” 10.

40. 44th Tank Battalion, “Historical Reports Luzon Operation,” 9. The Japanese utilized indirect fire only sporadically in Manila, most of it consisting of mortars and naval guns modified for duty ashore. XIV Corps, “Japanese Defense of Cities,” 11; Outside of these capabilities, new rockets provided the Japanese with substantial, albeit inaccurate, indirect fire capabilities. H. Smith, “The Operations of the 148th Infantry Regiment,” 31; Headquarters XIV Corps, “Japanese Defense of Cities,” Annex 4. Due to the large number of direct fire weapons in Manila and the Japanese’s preoccupation with immediate targets, as well as a lack of organic artillery, indirect artillery fire did not figure prominently into the Japanese defense. However, mortars caused numerous casualties among the attacking Americans. Headquarters XIV Corps, “Japanese Defense of Cities,” 11.

41. Connaughton, et al., *The Battle for Manila*, 191–192.

42. Department of the Army, Field Manual (FM) 18-5, *Tactical Employment, Tank Destroyer Platoon Unit* (Washington, DC: 1944), 50–51, 43–44.

43. Department of the Army, Field Manual FM 17-33, *Tank Battalion* (Washington, DC: 1944), 9, 220–21, 218, 212–14.

44. MacArthur declared the complete seizure of the city on 6 February. “All Manila Won: M’Arthur,” *Chicago Daily Tribune* (1872–1963); Feb 6, 1945; ProQuest Historical Newspapers *Chicago Tribune* (1849–1986), 1.

45. H. Smith, “The Operations of the 148th Infantry Regiment,” 32; Frankel, *The 37th Infantry Division in World War II*, 278.

46. H. Smith, “The Operations of the 148th Infantry Regiment,” 34.

47. Frankel, *The 37th Infantry Division in World War II*, 293. The 37th Infantry Division History says that “Company G, 754th Tank Battalion” was attached to 1st Battalion, 148th Infantry Regiment at this time, but the 754th Tank Battalion only contained four line companies, lettered A through D. The only company attached to the 37th Infantry Division at this time was Company

B, and that is what this author has put in place of “Company G.” McElhenney, et al., *Armor on Luzon*, 70–71.

48. Headquarters XIV Corps, “FO 6,” dated 7 February 1945, NARA II.

49. “FO 6.”

50. North, *Making the Difficult Routine*, 54.

51. Headquarters, XIV Corps “After Action Report, M-1 Operation,” 92.

52. Headquarters, XIV Corps Artillery, “After Action Report, M-1 Operation,” 11.

53. Although Manila lies on Manila Bay and thus is within range of naval gunfire from ships in the bay, the approaches to Manila Bay were not cleared for most of the Battle of Manila and American ships therefore were not present offshore to support attacking US Army ground units. Corregidor Island, guarding Manila Bay, was attacked on 16 February in a combined amphibious/airborne assault by the 503rd Parachute Regimental Combat Team and the 34th Infantry Regiment, 24th Infantry Division. The island was declared secure on 1 March. Manila was declared secure three days later. Stanley Falk, *Liberation of the Philippines* (New York: Ballantine Books, Inc., 1971), 110–14.

54. “XIV Corps Operations on Luzon” (n.p. circa 1945), 147, Oscar Griswold Papers, box 5005, LU 4924, USMA Library Special Collections [hereafter referred to as USMA Special Collections].

55. Frankel, *The 37th Infantry Division in World War II*, 279–281.

56. Headquarters, 637th Tank Destroyer Battalion, “S-3 Operations Narrative, 637th Tank Destroyer Battalion,” 13. This firepower contributed to the collapse of the structure.

57. 44th Tank Battalion, “Historical Reports Luzon Operation,” 10.

58. XIV Corps, “Japanese Defense of Cities,” 4, 22. The Americans’ use of artillery in Manila was, in the early stages of the battle, very limited by MacArthur. As casualties mounted and American forces encountered increasingly robust Japanese defenses, both Beightler and Griswold advocated greater use of artillery, and MacArthur relented. Beightler in particular used artillery fairly often and exceeded his division’s monthly allocation of artillery shells to keep his casualties down, despite protests from higher headquarters. Connaughton, et al., *The Battle for Manila, 192–196*; Ohl, *Minuteman*, 182–84; American artillery created a great deal of collateral damage and accounted for a number of civilian casualties, although the exact figure is disputed. Japanese forces in the city were responsible for numerous atrocities against civilians. Whether American shelling or Japanese atrocities killed more civilians is a subject of intense debate. See Homer Duncan’s *Holocaust in Manila During World War II: Stories Never Told Before by Filipino WWII Veterans, Sixty-one Years After the War* (Bloomington, IN: Trafford Publishing, 2006) and Alfonso J. Aluit’s *By Sword and Fire: The Destruction of Manila in World War II, 3 February 1944–3 March 1945* (Columbus, OH: Commission for Culture and the Arts, 1994) for more information on the devastation and atrocities in Manila.

59. In *Learning Under Fire: The 112th Cavalry Regiment in World War II*, James S. Powell argues that the 112th Cavalry Regiment on Leyte had some dif-

ficulty with Japanese strongpoints, and “perhaps relied too much on indirect fire support . . . [instead of] closing with the enemy to pinpoint individual bunkers so that they could be destroyed by accurately delivered fire.” However, this seemed much less of a problem for XIV Corps units on Luzon examined in this study, perhaps, as Powell acknowledges, divisions were better at disseminating lessons learned and implementing new tactics, techniques, and procedures than were independent regiments. James S. Powell, *Learning Under Fire: The 112th Cavalry Regiment in World War II* (Kindle Edition; Texas A&M University Military History Series, 2010), Location 2716.

60. Headquarters, XIV Corps Artillery, “Historical Report, XIV Corps Arty, Luzon Campaign,” 15.

61. “Historical Report, XIV Corps Arty,” 15.

62. 129th Infantry Regimental Staff, “The 129th Infantry in World War II,” 108. A total of 120 guns, mortars, and howitzers, the largest being 240mm howitzers, bombarded the Intramuros, with 11,237 rounds expended from 0730 to 0830 hours on 23 February. John Gordon IV, “Battle in the Streets- Manila 1945,” *Field Artillery Journal*, August 1990, 28.

63. Dale Andrade, *The US Army Campaigns of World War II: Luzon* (CMH Publication 72-28) (Washington, DC: US Army Center for Military History, 1996), 18.

64. Department of the Army, FM 3-0, 8-7-8-8.

65. Connaughton, et al., *The Battle for Manila*, 15, 174.

66. Connaughton, et al., 15, 174. American forces, in a pattern consistent throughout the Pacific War, captured very few Japanese prisoners in Manila, most instead fighting to the death without any hope of escape.

67. Smith, *Triumph in the Philippines*, 307.

68. Among American armored units on Luzon, the 637th Tank Destroyer Battalion and the 44th Tank Battalion won the Presidential Unit Citation for the successful march on and capture of Manila. James A. Sawicki, *Tank Battalions of the US Army* (Dumfries, VA: Wyvern Publications, 1983), 80, 282.

Chapter 9

Into Cambodia: The 1970 US Cross-Border Campaign

Lieutenant General (Retired) Daniel P. Bolger

Chief Phillips: *That's Cambodia, Captain.*

Captain Benjamin L. Willard: *That's classified. We're not supposed to be in Cambodia, but that's where I'm going.*¹

—*Apocalypse Now*, 1979

Be careful what you wish for. From the outset of America's big-unit war in Vietnam in 1965, US senior commanders longed to crush the North Vietnamese in their lair. Ideally, that meant an offensive into North Vietnam proper, culminating in the destruction of the hostile army and the seizure of the capital city of Hanoi.² All of the American generals and admirals had served in World War II, and pretty much all of them agreed. Go right after the foe. Go for the jugular. That's the way you win wars.

But it wasn't going to happen. The civilian political leaders had no stomach for it. Cold War fears limited the US war effort. Washington officials thought any major American ground attack into North Vietnam might well trigger a massive Communist Chinese response akin to their surprise 1950 intervention in the Korean War. Worse, it could provoke the nuclear-armed Soviet Russians to come to the aid of their North Vietnamese allies.³ America's civilian masters had no desire to poke the Chinese dragon or the Russian bear.

With land invasion ruled out, the US relied on bombing North Vietnam. At times heavy, and now and then reasonably targeted, the aerial bombardment proved more or less effective depending on the prevailing whims in Washington. Advice from experienced Air Force generals and Navy admirals was ignored. As a result, the North Vietnamese endured it all in pretty good shape, mounting the huge Tet Offensive of 1968 largely unhindered by American bombing.⁴ There'd be no victory through airpower in Vietnam.

Denied a land invasion or a powerful air knock-out, the favored US military approaches had been ruled out. But experienced commanders know the value of a good backup plan, and the top US uniformed leadership involved in Vietnam had one. If going into the North was out, why not slash the opposition's logistical umbilical cord? That meant cutting North Vietnam's principal supply line, the infamous Ho Chi Minh Trail that snaked south through allegedly neutral Laos and Cambodia.⁵ After the shock of the enemy's massive Tet Offensive in January and February of

1968, and buoyed by the strong allied counterstrokes, General William C. Westmoreland, the commander of US Military Assistance Command Vietnam (MACV), advocated an attack on the Ho Chi Minh Trail. He asked for more than 200,000 reinforcing troops to carry out the effort.⁶

President Lyndon B. Johnson weighed the troop request and the concept for an incursion against the Ho Chi Minh Trail. Go big or go home? Haggard and haunted, stunned by the scale and ferocity of the surprise Tet Offensive, Johnson chose the latter. He decided to begin the long, agonizing US pullout from Vietnam. Johnson elected to try negotiations in Paris, not ground attacks into Laos or Cambodia. Johnson even suspended the bombing of North Vietnam.⁷ In Hanoi, it smelled like victory.

A Window of Opportunity

By the spring of 1970, President Richard M. Nixon had been in office for over a year. Tough talk during the 1968 election gave way to same old, same old. Nixon's plan to end the war, such as it was, consisted of training and equipping competent South Vietnamese forces ("Vietnamization") and steady American troop withdrawals. As a later president said in a subsequent unpopular war, as they stood up, we stood down.⁸

It briefed well. The Army of the Republic of Vietnam (ARVN) grew in numbers and improved some in capabilities. Were they good enough to take over? They'd better be. The US withdrawal schedule did not let up. Come late 1972, the Americans would be gone, less some advisory elements.⁹

As good guerrillas do, the North Vietnamese waited out their American adversaries. The Tet Offensive and the other 1968 battles in and around Khe Sanh, the A Shau Valley, Tay Ninh, and Saigon had ravaged the People's Army of Vietnam (PAVN) guerrilla battalions in the South. The regulars, too, had taken a beating, and avoided combat to rebuild.¹⁰ A few years more and the Americans would leave. The wise heads in Hanoi knew the deal. Hold out, hold on, and then finish the war on Hanoi's timetable.

The Ho Chi Minh Trail fed this important rebuilding effort. Each month, more and more PAVN units and replacement soldiers moved down the Ho Chi Minh Trail. Ammunition, new weapons, vehicles, other military gear, and medical supplies also went South. By 1970, the trail comprised some 3,700 kilometers (2,299 miles) of roads, including five main routes, 29 key branches, and numerous lateral cutoffs and bypasses. Much of this network was paved, and almost all had been improved. By 1970, the system averaged 10,000 tons moved per week. North Vietnamese forces required 1,370 tons a day (9,590 tons a week) of ammunition and other

items. The Ho Chi Minh Trail readily met this need, even allowing for losses to US bombing.¹¹ It all threaded through the wilderness of Laos and Cambodia, countries supposedly uninvolved in the Vietnam War. Both states remained ostensibly neutral.



Figure 9.1. Vietnam Theater. Map created by Army University Press.

Laos attracted the brunt of US attention. Starting in 1964, in a shadowy campaign largely directed by the Central Intelligence Agency, some two million tons of bombs—nearly twice the amount of US aerial munitions dropped in World War II (including both atomic weapons)—rained down on rural Laos.¹² The hammering killed PAVN troops and slowed the movement of vital supplies. But the Laotian portion of the trail never stopped running. As PAVN Colonel Bui Tin recalled, “We put so much in at the top of the trail that enough men and weapons to prolong the war always came out at the bottom.”¹³

The neutrality of Cambodia was assumed rather than proven. Unlike Laos, Cambodia seemed to have a functioning government. Playboy Prince Norodom Sihanouk juggled domestic factional strife, his PAVN “guests,” and occasional US cross-boundary reconnaissance. He looked the other way as PAVN logistics outfits moved supplies north from Cambodia’s main port of Sihanoukville (Kampong Som). The North Vietnamese gladly took charge of a burgeoning assortment of arms and munitions delivered by theoretically neutral shipping; by some estimates, up to 70 percent of PAVN sustenance came in through this “neutral” seaport. The prince also ignored the steady flow of men and trucks nightly heading south from Laos. North Vietnamese logistics and antiaircraft teams infested a third of Sihanouk’s country. Everything east of the Mekong River amounted to PAVN territory, a classic guerrilla sanctuary, a lattice of roads, staging bases, and assembly areas.¹⁴ Sihanouk permitted it all.

He also paid little heed as the Americans did what they did. Officially, the United States respected Cambodian neutrality. But in reality, other things happened. Beginning in 1967, American special forces probed and scouted in eastern Cambodia. Sometimes, in self-defense, US helicopter gunships engaged PAVN troops along the side routes of the Ho Chi Minh Trail. When Nixon assumed office in 1969, he took the gloves off. The United States began secretly bombing Cambodia. Over time, the airstrikes increased dramatically, approaching Laotian scale. But shielded by the greenery, the resilient PAVN, with trucks, bicycles, carts, animals, and human porters, kept right on moving men and materiel.¹⁵ Absent effective terminal targeting, the heavy bombing amounted to throwing fireworks at ant hills. It all made a mess but the ants kept right at it.

So it might have gone until the Americans pulled out and the South Vietnamese stood on their own, ready or not, waiting for PAVN to close for the decisive struggle. But in the early weeks of 1970, Prince Sihanouk finally guessed wrongly. He traveled to France one time too many times. While the prince was gone, his military chief, General Lon Nol, took pow-

er. He closed the port of Sihanoukville to North Vietnamese suppliers, an effective measure that hobbled PAVN almost immediately. Lon Nol then boldly announced the eviction of all PAVN forces from Cambodia.¹⁶

Of course, the wretched little Cambodian military couldn't enforce Lon Nol's audacious order. Not surprisingly, PAVN battalions moved almost immediately to secure their key routes and supply dumps, brushing aside the ill-trained Cambodians. Overmatched, Lon Nol appealed for US help.¹⁷ He wanted Americans in Cambodia. At long last, the MACV generals had a chance to fight their kind of war. Or so they thought.

Plans and Portents

Tough old General Creighton W. Abrams, Jr. knew what to do. He had been in command in Vietnam since 10 June 1968, following directly on 13 difficult months in country as the MACV deputy. His combat record was legendary. In World War II, General George S. Patton, Jr. stated that although people believed him to be the best tank commander in the US Army, "I have one peer—Abe Abrams. He's the world's champion."¹⁸ Now it fell to Abrams to oversee the painful US withdrawal from Vietnam.



Figure 9.2 A US Air Force B-52D Stratofortress drops M117 750-pound bombs on a target in Southeast Asia. These eight engine bombers delivered punishing strikes during the 1970 Cambodia campaign. Photo courtesy of US Department of Defense.

He didn't ask for the Cambodia operation. In his view, it was probably too late in the game.¹⁹ But he sure knew how to run an offensive.

The MACV plan on the shelf dated back to Westmoreland's tenure. Over time, there were various versions and options developed, but the basics were known as El Paso I. In the 1966 concept for this operation, the 3rd Marine Division drew the task of attacking west through Khe Sanh and on to Tchepone, Laos to block PAVN forces moving from the north. Driving from the Central Highlands, the 4th Infantry Division had a similar blocking mission to the south near the Laos/Cambodia border. In the main effort, between the Marines and the 4th Infantry Division, the 1st Cavalry Division (Airmobile) would cut the Ho Chi Minh Trail by establishing a large airhead on the Bolovens Plateau. The US divisions, suitably reinforced, then intended to push on to the Laos/Thailand border, some 80 miles west. Optimistic MACV planners referred to sealing off and securing the Laotian corridor, no easy task in such rugged, heavily vegetated terrain, especially up against a jungle-savvy foe like PAVN. When fully developed, MACV planners envisioned severing the PAVN's supply line with a force of five US, one ARVN, and two South Korean divisions. The American contingent alone came to 200,000 troops and included up to 18,000 engineers. Even at the height of US strength in country, it would have been awfully hard to assemble and carry out such a massive offensive. The North Vietnamese response is hard to figure. The whole undertaking may have worked. Or it might not. It would have certainly extended the war into Thailand, a wild card in its own right. A study from the Army Staff in Washington assessed the draft plan as unfeasible.²⁰ President Johnson's 31 March 1968 decision to de-escalate the war and begin peace talks left El Paso I as a might-have-been.

Now Lon Nol's brazen assumption of power in Cambodia and PAVN's fierce reaction reopened the option of crossing the border. An attack into Cambodia wasn't as useful as punching through Laos. And how deep could the Americans and ARVN go? Was this to be a permanent land-grab or a big raid, in and out? Nobody knew. The Americans had to prepare a flexible plan that could be launched with little notice, adjusted on the fly, and wrapped up abruptly.

In theory, ARVN planners should have been included. But they were not. General Abrams didn't command the South Vietnamese. His predecessor Westmoreland had long ago rejected that option. Unity of command had worked well with the South Koreans in the 1950–1953 war. But Westmoreland didn't want authority over the Southern forces. He offered various rationalizations, to include considerations of South Vietnamese sovereign-

ty, the desire to avoid patronizing colonial overtones, and the belief that as long as the US had advisors at every level down to battalion, and control of supporting artillery fires and air support, “co-operation on the battlefield posed few problems.”²¹ Westmoreland might have been the only American in Vietnam who saw it that way. But his decision stuck. Americans could influence, ask, cajole, and beg. But ARVN did things ARVN’s way.

Along with a bevy of incompetent, politically-chosen generals and rather casual attitudes toward discipline, training, and tactics, the Southerners leaked like a sieve. Agents of PAVN lurked in every recess of the South Vietnamese chain of command. The US officers knew that only too well.²² So the ARVN would be included when necessary and not before.

With these guidelines, Abrams established a very tight circle of trust. Initially, he shared his thinking with only a few senior generals, although a select number of more junior US planners were eventually included. Abrams directed the II Field Force commander, Lieutenant General Julian J. Ewell, to work up a corps plan. He also included the I Field Force commander, Lieutenant General Arthur S. Collins.²³ Ewell’s II Field Force drew the major role.

On 27 March 1970, Ewell himself and a few carefully chosen subordinates started crafting a plan. They drew up both the American and the South Vietnamese portions of the offensive. Ewell and his team created a scheme of maneuver for a conventional combined American/South Vietnamese operation paced by armored attacks to link up with airmobile blocking forces, the classic Vietnam-era hammer and anvil tried over and over in previous operations with minimal success.²⁴ Maybe this time, with PAVN stuck atop its critical Ho Chi Minh Trail, it would pay off.

There would be three major thrusts: one by III ARVN Corps (with US advisors and air support) against the Parrot’s Beak region, a second by the US 25th Infantry Division and ARVN into the Dog’s Head border sanctuaries, and the third, the big one, by the American 1st Cavalry Division (Airmobile) and ARVN Airborne forces into the Fish Hook area. This coordinated corps attack was to be the main effort for the Cambodian campaign.²⁵

Two supporting operations were also fleshed out by other American elements. In a concept developed by their US advisors, and coordinated with II Field Force, IV ARVN Corps would assail the enemy base areas west and south of the Parrot’s Beak, ranging out to the Mekong River. To the north in the Central Highlands, I Field Force organized another US/ARVN push, led by the 4th Infantry Division, against hostile assembly areas in north-eastern Cambodia.²⁶ This effort was synchronized in timing, but separated

in space from all of the planned activity in and around the Parrot's Beak and the Fishhook. These draft plans went up to MACV, then on to Washington. The response was . . . nothing. Days, then weeks, ticked by.

All the units tagged for the offensive continued daily combat operations. Most were already patrolling on the friendly side of the Cambodian border; proximity had governed the selection of the majority of Allied battalions chosen for the operation. Even so, beyond the three-stars and the few insiders at corps level, American division, brigade, and battalion commanders remained in the dark, busy carrying out day-to-day combat missions. But there were indicators that the Cambodia gambit was still in play. During April, maps were ordered for Cambodia. That got attention all right.²⁷

The ARVN knew even less than the Americans, although rumors began to circulate. Some III ARVN Corps units made shallow cross-border raids into the Parrot's Beak, penetrating to a depth of five miles (eight kilometers). In one of these attacks, a column of ARVN armored cavalry, backed by powerful US airstrikes, flushed a key enemy headquarters, sending its leaders and staffers running west on foot, abandoning much equipment and some interesting files. It was not the infamous Central Office for South Vietnam (COSVN), sometimes jokingly called the "Bamboo Pentagon," and supposedly MACV's evil twin, directing the enemy's guerrilla war in the South.²⁸ There was a COSVN headquarters, and it did do things, but in reality, PAVN's war was run from one place: Hanoi.

Be that as it may, the ARVN efforts certainly got North Vietnamese attention. A PAVN message from March was reissued for immediate action. "When facing enemy forces," it read, "attempt to break away and avoid shooting back." It went on: "Our purpose is to conserve forces as much as we can."²⁹ The North Vietnamese knew something was up. But so far, they had seen only ARVN—not many, and not too deep—try anything on the Cambodian side of the boundary line.

For the Americans and the bulk of ARVN forces, risk increased as each day went by without a decision from Washington. The enemy seemed to be tipped off. Clearly, something was up. And whatever PAVN knew or suspected, Mother Nature had her own timeline. Come the first days of June, the monsoon rains would make cross-country armored movement and helicopter flights very dicey indeed.³⁰

Unimpressed by hostiles or climate, Washington senior leaders in general, and President Nixon in particular, kept to their own schedule. The waiting went on, deep into April. The Cambodia offensive seemed destined for the file drawer, another contingency scheme that never saw the light of

day. On 20 April, Nixon even made a major television address announcing another drawdown of 150,000 troops. Some noted that Nixon also made a threat of “strong and effective action” in the face of ongoing North Vietnamese provocations in “South Vietnam, Laos, and Cambodia.”³¹ Most viewers and listeners, including those in Hanoi, had heard all of that in the past. News coverage at home focused on troops heading home.

Yet almost as soon as the broadcast ended, the word came. Get ready to go. In II Field Force, Lieutenant General Michael S. Davison had taken over from Ewell on 15 April 1970, a routine change of command that would have never happened had anyone really thought the Cambodian offensive to be imminent. Well, now it was. On 24 April, Davison was asked for his revised plan of attack. He and his staff jumped to it. In the confusion, personnel turnover, strict security, and limited time (about two days), II Field Force didn’t make use of most of the March planning work. They did the best they could in pulling something together, underscoring the old Army adage of “you want it bad, you get it bad.” Davison and his harried staff forwarded their hastily drawn plans to MACV. Abrams barely had time to read them. He sent them on up. In the White House on 26 April 1970, aide Larry Lynn commented on the operation plan’s “sloppiness.”³² If that gratuitous critique got back to Vietnam, it made no impression. Nobody had time for that anymore.

At the business end, Davison and all the other US and ARVN commanders scrambled to issue orders, stage forces, and prepare for battle. Most brigades were lucky to get 48-hours notice. Battalions got even less. Unfortunately, the enemy had a lot more warning.³³ No matter. The great campaign was set to begin.

Order, Counter-order, Disorder

At the last minute, somebody well up the chain, possibly Nixon himself—he certainly approved it—decided that the ARVN must go first. It would emphasize the progress in Vietnamization. So the South Vietnamese III Corps kicked off in the Parrot’s Beak on 30 April (29 April in Washington). The Americans followed 24 hours later.³⁴ Across the front, the extra day proved useful as US Soldiers completed their preparations for what they figured to be a knock-down clash inside the opposition’s key border sanctuaries.

Back home, at 2100 Eastern Time on 30 April 1970, Nixon himself went on television to explain the offensive. Later, stories circulated that the president had steeled himself by watching the famous war movie *Patton*. Maybe so. In any event, Nixon’s delivery exuded confidence and

vigor. With the aid of a big map, the president walked the American public through the operation already underway on the far side of the world. He asserted that American and South Vietnamese forces would “go to the heart of the trouble.” “Tonight,” he continued, “American and South Vietnamese units will attack the headquarters for the entire Communist military operation in South Vietnam.” So the hunt for the white whale, COSVN itself, was officially on. There was more. Nixon spoke in terms rarely heard during the Vietnam War. After stating baldly “we will not be humiliated,” he went on. “We will not be defeated,” he said, then added “We will not allow American men by the thousands to be killed by an enemy from privileged sanctuaries.” He concluded by saluting the Americans fighting as he spoke.³⁵ It was an impressive speech.

Yet the president’s address included one decidedly mixed signal, some sentences that largely flew past the folks back home, but meant plenty to those pushing into Cambodia. “This is not an invasion of Cambodia,” said Nixon. Americans and South Vietnamese would go in, drive back the enemy, and destroy the opposition’s supplies. Then they’d pull back.³⁶ It was a raid, in and out, not an offensive to take and key terrain.

Within days, the orders came, right from Nixon. Go across the border, but not too far across. A limit of 30 kilometers (just under 19 miles) was imposed. Destroy the adversary’s supplies in the sanctuaries, but don’t stay there. The time limit became 60 days.³⁷

All frustrating enough—but then Nixon compounded it. His backbone wilted some in the face of ferocious domestic dissent. More than a thousand college campuses erupted, with tragic and lethal results at both Kent State in Ohio and Jackson State in Mississippi. The US Senate repealed the 1964 Tonkin Gulf Resolution, the authorization for the use of military force in Vietnam. A law to prohibit funding for all US ground operations in Cambodia and Laos gathered increasing support. A few more viewings of *Patton* wouldn’t stop this deluge. Nixon tried to throw a bone to his political opponents. At an 8 May press conference, he reiterated the focus on the border sanctuaries (implying the US limit of advance) and publicly announced the 60-day time restriction. He even alluded to the likelihood of earlier American pull-outs from Cambodia.³⁸ It made no difference. The campuses quieted on their own; examinations, graduations, and summer saw to that. The US Congress, the Senate more than the House, continued to seethe. They’d keep chipping away for months. But in Hanoi, Nixon’s comments on 8 May confirmed suspicions about America’s lack of staying power.



Figure 9.3. President Richard M. Nixon explains the cross-border offensive into Cambodia in a televised address to the nation on 30 April 1970. Photo courtesy of White House Press Office.

The raid would do damage. But it would not destroy PAVN or its sanctuaries. And it wouldn't even cover most of the Ho Chi Minh Trail network, about 60 miles wide, and up to 90 in some areas.³⁹ The entire US offensive amounted to a pulled punch, a half-hearted try. The North Vietnamese need only back-peddle, reroute key traffic to the west, and watch the calendar. Their senior leaders, old Viet Minh hands, rode it out in good guerrilla style.

Over the Line

The South Vietnamese went first. Observers often found ARVN units tentative and slow to act. Not this time. Lieutenant General Do Cao Tri commanded III ARVN Corps. He was one of the better Southern commanders, and he relished this starring role in the cross-border effort. Steered by his US Army advisors, paced by concentrated American air pounding, Tri's massed armor advanced into the Parrot's Beak, overrunning PAVN Base Areas 367 and 706. The dry ground, much of it open and grassy, proved ideal for tracked vehicles.

Dubbed the "Patton of the Parrot's Beak" by accompanying American journalists, Tri mugged for the press, sporting sunglasses, a .38 pistol in a shoulder holster, and a swagger stick. Tri joked that "if the VC [Viet Cong] get too close, I'll use my stick on them."⁴⁰ He didn't have to do so.

The ARVN tracked armada had little contact with the long-gone PAVN elements. American airstrikes delivered most of what little damage was inflicted on the enemy.⁴¹

On 2 May, IV ARVN Corps attacked from the southwest, crossing through Base Area 709. At one point, five South Vietnamese armored cavalry regiments lined up abreast, spreading nearly 250 M-113 armored personnel carriers across a six kilometer (3.7 miles) frontage. The IV Corps armor contingent linked up with Tri's III Corps armored cavalry regiments just after mid-day on 4 May. The South Vietnamese then fell to locating and clearing enemy supply caches.⁴² On the map, it constituted a lovely double envelopment. But the bag was pretty much empty.

East of the ARVN armor thrusts, in the Fishhook, Brigadier General Robert M. Shoemaker commanded the American/ARVN main effort for II Field Force. A violent series of powerful B-52 Stratofortress bombings initiated the US attack at 0600 sharp on 1 May. Additional fighter-bomber strikes came next, then the 94 guns of II Field Force Artillery opened up. Finally at 0730, Task Force Shoemaker followed. American helicopters inserted ARVN paratroopers and 1st Cavalry Division infantry elements into key blocking positions across the border northwest of PAVN Base Area 352. Powerful US ground columns pushed across the border, with tanks and mechanized infantry (attached from the 25th Infantry Division) to the west and the 11th Armored Cavalry Regiment to the east. The idea was to use the armored hammer to smash PAVN against the airmobile anvil. Supposedly COSVN was in the vicinity.⁴³ All hoped to stick a harpoon into Moby Dick.

It didn't happen. As in the Parrot's Beak, most of PAVN wasn't there. Those few who were fought bitterly to hold up the US tanks while the rest of the hostile forces backed off. The 11th Armored Cavalry Regiment lost two troopers killed tangling with a dug-in enemy outfit. Those losses were the only US dead on the first day of the campaign. In the words of a senior MACV intelligence officer, "The great battle was on—except there was no great battle."⁴⁴ There were hidden treasures to find, but not many foes to guard them.

The one big smash-up occurred in and around the ramshackle road junction of Snoul. On 4 May, the 11th Armored Cavalry Regiment banged into dug-in defenders from a battalion of the 141st PAVN Infantry Regiment. If they were supposed to leave, somebody forgot to tell them. Enemy rocket-propelled grenades and land mines took a toll. The firefight sputtered on all afternoon. With nightfall imminent, the 11th Armored Cavalry



Figure 9.4. Three South Vietnamese M-113 armored personnel carriers drive down the road in Cambodia during the 1970 campaign. The vehicles were provided by the US government. The wide variety of headgear and somewhat random mixture of weapons and protective armor typified the rather casual discipline of the Army of the Republic of Vietnam. Photo courtesy of US Department of Defense.

Regiment leadership reassessed. The regiment lacked dismounted strength and the senior officers were rightly wary of being enticed into a house to house meat grinder in Snoul's few but tightly packed streets. Instead, the US cavalry troopers stretched a cordon around Snoul and waited for daybreak. All night and into the morning. American artillery, helicopter gunships, and airstrikes pounded the encircled opposition.⁴⁵ There wasn't much of a town left after all of that.

When the 11th Armored Cavalry Regiment rolled into Snoul on 5 May, the enemy was not there. The battle cost 16 US wounded and one South Vietnamese interpreter killed. Although the Americans claimed 144 PAVN dead and grabbed two prisoners, accompanying American correspondents saw only four bodies, all in civilian clothing. One was a teen-aged woman. In this war, they might have been enemies.⁴⁶ Who knew? As usual, PAVN had slipped away like ghosts.

Even as the confrontation in Snoul sorted out, 1st Cavalry Division troopers began finding PAVN facilities and supplies. As early as 2 May, scout aviators of 1-9 Cavalry saw something that looked man-made in Base Area 352 south of Snoul. The next day, rifle platoons from 1-5 Cavalry landed and found a well-disguised assembly area. Dubbed "The City," the rudimentary facilities spread across three square kilometers (a bit more than a square mile). The place had tons of munitions in 182 bunkers as well as 18 mess halls and even a chicken farm complete with live fowl.⁴⁷

A few days later, on 8 May, patrols from Company D, 2-12 Cavalry caught a withdrawing PAVN element. After an intense dusk clash resulted in an all-night standoff that left seven US dead and 22 wounded, the enemy pulled away. An American airstrike the next morning caused a large secondary explosion. The cavalry troopers had discovered an even bigger camouflaged supply complex than "the City." It turned out to be the largest ever found during the Vietnam War. The Americans called it "Rock Island East" after the famous Illinois arsenal. Two weeks later, 5-7 Cavalry troopers located another one almost as big. The riflemen called it "Shakey's Hill," after the late Private First Class Chris "Shakey" Keffalos, who'd stepped on a booby trap in the vicinity. In all, the 1st Cavalry Division found 335 separate caches.⁴⁸ The Americans had found plenty of stuff. But nobody had found the big prize: COSVN.

It wasn't for lack of trying. Up at MACV, even though General Abrams didn't want to get fixated on it, the president's speech encouraged the experts keep on looking for signs of COSVN. They couldn't help themselves. Hour by hour, then day by day, intelligence teams tried to find the mysterious, elusive enemy headquarters. On 5 May, the 25th Infantry Division took over the effort to the west of the Fishhook in and around Base Area 353. Some of the division's battalions had already been fighting under control of the 1st Cavalry Division. But the airmobile troopers were pressing to the east, hunting fleeing PAVN remnants and rumors of large supply sites. Chasing COSVN fell to the 25th Infantry Division Soldiers.⁴⁹

Focused on Base Area 354, the 25th Infantry Division cleared numerous airstrikes, including more B-52 attacks. Then the division plunged into Cambodia, with airmobile assaults followed by ground columns led by armor. The hammer and anvil worked, after a fashion. On 9 May, when the Americans closed on the cratered moonscape created by the B-52 bombers, they ran into 35 dazed PAVN clerks. Along with these prisoners American riflemen found typewriters, documents, and even blank forms with the "COSVN" letterhead. But Moby Dick had slipped away the day before.⁵⁰ Close, but no cigar.



Figure 9.5. Two troopers of the American 1st Cavalry Division (Airmobile) take up security positions as a UH-1H Huey helicopter takes off. The 1st Cavalry Division led the US attack into Cambodia on 1 May 1970. Photo courtesy of US Department of Defense.

North of the II Field Force effort, the 4th Infantry Division and 22nd ARVN Division attempted to cross the border by helicopter on 5 May, focused on Base Area 702, the usual haunt of the enemy B-2 Front Headquarters. Effective enemy fire on the landing zones caused aborts. After much heavier preparatory bombardments, both US and ARVN forces inserted successfully on 6 May. Some caches were found, as well as a deserted PAVN staging camp with a 30-bed field hospital. The B-2 Front Headquarters escaped. The Americans departed ten days later. The 22nd and 23rd ARVN divisions continued operations on their own until late June.⁵¹

There was one more major undertaking. In the south, riverine elements of IV ARVN Corps, to include South Vietnamese Marines and Navy units, worked their way up the Mekong River toward Phnom Penh, the Cambodian capital city. These advances represented the deepest al-

lied penetrations into Cambodia. The Mekong River thrusts generated sporadic contact.⁵²

With the first few days of June, the monsoon rains began in earnest. Americans and South Vietnamese worked to remove PAVN supplies, destroy them, or pass them to grateful Cambodian troops. Well aware of the Allied timeline, the enemy harassed as they saw fit. The Americans were boxed in by their limit of advance, and as it applied to US advisors as well, few ARVN units went much past the 30-kilometer line. As for the Patton of the Parrot's Beak, Lieutenant General Tri found his aggressiveness curbed by lousy ARVN vehicle maintenance. By June, most of the South Vietnamese armored vehicles were immobilized, broken down, and awaiting parts. The South Vietnamese marked time, hunting PAVN supply dumps.⁵³ For Tri, perhaps a wrench might have been more useful than a swagger stick.

In any case, the Americans were out on schedule as June ended. The South Vietnamese followed by 22 July 1970. Behind them, PAVN drifted back into their old base areas. American cross-border special forces reconnaissance and aerial bombing resumed.⁵⁴ In many ways, it was as if the great offensive never happened.

The Reckoning

From President Nixon on down, the Americans called it a victory, and a big one. For once, the Americans and South Vietnamese took the initiative. About 30,000 Americans and 48,000 Southerners went after PAVN's border sanctuaries, and did so to the tune of rumbling tanks and thundering bombs. For most Americans, in and out of uniform, this was war as it should be—firepower and maneuver, not scrabbling through nondescript village manure piles hunting booby traps and rice bags. Nixon himself called the operation an "immediate military success" and went on to state "We have inflicted extensive casualties and very heavy losses in material on the enemy." He then ran through a scoreboard of enemy killed, prisoners taken, and supply stockpiles removed or destroyed.⁵⁵ It sounded great. But as they say in the National Football League, statistics are for losers.

Going all the way back to the time of Gilgamesh, commanders have judged victory by which side held the field. By that standard, the North Vietnamese won. The American and their Saigon allies never blocked the Ho Chi Minh Trail, let alone destroyed it or held it. Instead, the offensive did the equivalent of tearing up the shoulder and one or two lanes of an eight-lane superhighway. And even that was temporary.



Figure 9.6. The crews of three US M-48 tanks of the 2nd Squadron, 11th Armored Cavalry Regiment halt after entering Snoul, Cambodia, on 5 May 1970. The firefights in and around Snoul were among the most intense during the Cambodia campaign. Photo courtesy of US Department of Defense.

North Vietnamese supplies lost totaled 16,300 tons, a hefty amount. But PAVN could replace all of it, every bullet and bandage, with two weeks of average effort on the Ho Chi Minh Trail.⁵⁶ The allied seizures probably set back the enemy anywhere from six months to two years. In any event, in Hanoi's spring offensive of 1972, three PAVN divisions led by North Vietnamese tanks rolled right out of the Fishhook and attacked south toward An Loc.⁵⁷ It foreshadowed PAVN's swift seizure of Saigon three years later.

Whatever the scale of damage to the Ho Chi Minh Trail, the human losses mattered more in the near term. While the sad American casualty numbers were all too verifiable, ARVN's own reporting was always suspect. As for the hostile dead, who really knew? The body count of 11,349 seemed conveniently precise, but most of the figure came from estimates tied to air and artillery bombardment. Even the prisoner tabulation, a respectable 2328, probably was greatly inflated, as most of the total came from the South Vietnamese. The 1st Cavalry Division and its attachments (including the 11th Armored Cavalry regiment) took only 49 prisoners. When seizing prisoners, ARVN units tended to scoop up whomever they could, civilians and refugees too, and counted them all as PAVN. Not sur-

prisingly, the Central Intelligence Agency cast shade on the entire balance sheet. They didn't buy it.⁵⁸

South Vietnamese troops did OK, a positive endorsement of Vietnamization. But ARVN continued to rely heavily on US advisors and US air and artillery support, as well as American logistical assistance. The Southerners were a better military than they were in 1968 and far better than they had been in 1964. But they were not as good as PAVN and never would be. They barely held on in 1972 with a lot of US help. Without American advisors and firepower in 1975, ARVN folded like cardboard in the rain.

And the Americans? Tankers Abrams and Davison finally got to run their major armor offensive, with full integration of airmobile blocking forces and heavy fires. But their North Vietnamese enemy didn't play along. They rarely did. Done earlier in the war, or done more often, cross-border ground attacks might have changed the complexion of the war. Or not. Nobody really knew. They never would, because it was not repeated.

Abe Abrams probably understood the Vietnam War better than any other US general. His entire command tenure amounted to losing as slowly as he could, hoping something might work to arrest the downward slide. The chance to get into Cambodia might have been it. But it, too, got bogged in half measures and arbitrary restrictions, crippled by porous operational security, and tied to a hapless ally. These faults seemed as endemic to Vietnam as stink to a swamp. Looking at the map in MACV headquarters on 3 May 1970, Abrams mused aloud: "What we need right now is another division—go in deep. We need to go west from where we are. We need to go north and east from where we are. And we need to do it now. It's moving and—goddamn goddamn."⁵⁹ There wasn't anything left to say.

Notes

1. Francis Ford Coppola, John Milius, and Michael Herr screenwriters, *Apocalypse Now* (San Francisco, CA: American Zoetrope, 1979). Former Vietnam War reporter Michael Herr, author of the well-regarded book *Dispatches* wrote the film's evocative, hypnotic narration. The movie was set in 1969, before the US cross-border campaign into Cambodia.
2. Harry G. Summers Jr., *On Strategy: The Vietnam War in Context* (Carlisle Barracks, PA: Strategic Studies Institute, 1981), 68.
3. David Halberstam, *The Best and the Brightest* (Greenwich, CT: Fawcett Publications, 1973), 558–561, 593–595.
4. Lewis Sorley, *A Better War: The Unexamined Victories and Final Tragedy of America's Last Years in Vietnam* (Orlando, FL: Harcourt, Inc.: 1999), 84–88.
5. Phillip B. Davidson, *Vietnam at War: The History, 1946–1975* (Novato, CA: Presidio Press, 1988), 449, 531, 560. Lieutenant General Phillip B. Davidson served as MACV J-2 (Intelligence chief) from 1967–1969. In US parlance, the Ho Chi Minh Trail extended from the North to the western borders of South Vietnam. The so-called Sihanouk Trail connected the Cambodia port of Sihanoukville with the main trail from North Vietnam. The North considered it part of the overall Truong Son Road network.
6. William C. Westmoreland, *A Soldier Reports* (Garden City, NY: Doubleday and Company Inc., 1976) 179, 330, 431–432.
7. Davidson, *Vietnam at War*, 481–485.
8. For a good summary of Vietnamization, see Andrew J. Krepinevich, *The Army and Vietnam* (Baltimore, MD: The Johns Hopkins University Press, 1986), 251. On 15 November 2005 in a speech in Annapolis, Maryland, President George W. Bush said: “as the Iraqi security forces stand up, coalition forces can stand down.” See Thomas E. Ricks, *The Gamble: General David Petraeus and the American Military Adventure in Iraq, 2006–2008* (New York City, NY: The Penguin Press, 2009), 14.
9. Shelby L. Stanton, *Vietnam War Order of Battle* (Washington, DC: US News Books, 1981), 334. American troop withdrawals totaled 14 increments. Three of these, amounting to 115,500 personnel, occurred before the 1970 Cambodia operation.
10. Davidson, *Vietnam at War*, 543. The Americans called the guerrillas Viet Cong (VC) and the regulars North Vietnamese Arm (NVA). Hanoi considered all of them one force, the People's Army of Vietnam (PAVN), although the VC, at least early in the war, recruited almost exclusively in the South. By 12 June 1969, US MACV intelligence estimated that 87 percent of the hostile manpower was North Vietnamese in origin. See Lewis Sorley, transcriber and editor, *Vietnam Chronicles: The Abrams Tapes 1968–1972* (Texas Tech University Press, 2004), 209.

11. John Prados, *The Blood Road: The Ho Chi Minh Trail and the Vietnam War* (New York City, NY: John Wiley and Sons, 1999), 374; Sorley, *A Better War*, 198.

12. Arnold R. Isaacs, Gordon Hardy, MacAlister Brown, and the Editors of the Boston Publishing Company, *The Vietnam Experience: Pawns of War* (Boston, MA: The Boston Publishing Company, 1987), 74–76, 100. For the bomb tonnage dropped on Laos compared to US bombing in World War II, see BBC News, “Laos: Obama Regrets ‘Biggest Bombing in History,’” 7 September 2016, accessed 26 April 2018, <http://www.bbc.com/news/world-asia-37286520>.

13. Sorley, *A Better War*, 198.

14. Prados, *The Blood Road*, 296–97.

15. For the reconnaissance and air attacks, see John L. Plaster, *SOG: The Secret Wars of America's Commandos in Vietnam* (New York City, NY: Simon & Schuster, 1997), 95–103, 233–34. Major John L. Plaster completed three one-year tours in the Studies and Observation Group (SOG). With regard to continued use of the Ho Chi Minh Trail despite the bombing, see Prados, *The Blood Road*, 296–297 and Sorley, *A Better War*, 197–200.

16. Isaacs, Hardy, Brown, and the Editors of the Boston Publishing Company, *The Vietnam Experience: Pawns of War*, 90.

17. Samuel Lipsman, Edward Doyle, and the Editors of the Boston Publishing Company, *The Vietnam Experience: Fighting for Time 1969–70* (Boston, MA: The Boston Publishing Company, 1987), 146–147.

18. Lewis Sorley, *Thunderbolt: From the Battle of the Bulge to Vietnam and Beyond, General Creighton Abrams and the Army of His Times* (New York City, NY: Simon & Schuster, 1992) 95–96. A West Point graduate (Class of 1936), Abrams also served in the Korean War as a corps chief of staff in 1953.

19. Sorley, *A Better War*, 201.

20. Westmoreland, *A Soldier Reports*, 179, 330, 431; Krepinevich, *The Army and Vietnam*, 180, 262–263.

21. Westmoreland, 160–61. The United States repeated this error in both the Afghanistan (starting in 2001) and Iraq (beginning in 2003) counterinsurgencies.

22. Davidson, *Vietnam at War*, 357. Davidson, the MACV J-2 in 1967–1969, noted that in carrying out planning and operations, “the Americans had to assume that Communist agents had made substantial penetrations into the RVNAF [Republic of Vietnam Armed Forces].”

23. John M. Shaw, *The Cambodian Campaign: The 1970 Offensive and America's Vietnam War* (Lawrence, KS: University Press of Kansas, 2005), 31. This is by far the best single-volume account of the Cambodian campaign.

24. Shaw, 58. Ewell himself and Major Earl W. Leech worked up the basic concept of operation for II Field Force's Cambodia campaign.

25. Lipsman and Doyle, *The Vietnam Experience: Fighting for Time*, 152, 166 (map). Shelby L. Stanton, *Anatomy of a Division: The 1st Cav in Vietnam*

(Novato, CA: Presidio Press, 1987), 177–81. The 1st Cavalry Division (Airmobile) had been briefly retitled the 1st Air Cavalry Division from 5 August 1968 until 10 September 1968. The division was unofficially the “Air Cav” through the Vietnam War. The 101st Airborne Division was also briefly called the 101st Air Cavalry Division after reconfiguring as an airmobile organization in 1968. Within that division, the traditional title 101st Airborne Division continued to be used.

26. For the overall scheme, to include the ARVN IV Corps and US I Field Force, see Shaw, *The Cambodian Campaign*, 31, 146. See also Lipsman and Doyle, *The Vietnam Experience: Fighting for Time*, 166 (map).

27. Donn A. Starry, *Vietnam Studies: Mounted Combat in Vietnam* (Washington, DC: US Government Printing Office, 1978), 169. Colonel (later General) Starry commanded the 11th Armored Cavalry Regiment during the Cambodian campaign. See also Stanton, *Anatomy of a Division*, 177.

28. Truong Nhu Tang, David Chanoff, and Doan Van Toai, *A Vietcong Memoir: An Inside Account of the Vietnam War and Its Aftermath* (New York City, NY: Vintage Books, 1987), 178–81. Truong Nhu Tang was with the PAVN headquarters element engaged by ARVN troops inside Cambodia in early April of 1970. For the ARVN side, see Starry, 167.

29. The captured PAVN order of 17 March 1970 is quoted in Sorley, *A Better War*, 203.

30. Starry, *Mounted Combat in Vietnam*, 169. For comments on COSVN, see Davidson, *Vietnam at War*, 386, 533–534, 561. The Americans spent much time looking for COSVN. They never found it.

31. Lipsman and Doyle, *The Vietnam Experience*, 149.

32. Lipsman and Doyle, 152. For his part, US Army Chief of Staff General William C. Westmoreland also criticized the plan as “very hastily thrown together.”

33. Starry, *Vietnam Studies*, 169. Starry was blunt: “The enemy definitely knew of the attack.”

34. Lipsman and Doyle, *The Vietnam Experience*, 152–53. See also Davidson, *Vietnam at War*, 561.

35. President Richard M. Nixon, “Address to the Nation on the Situation in Southeast Asia,” 30 April 1970 accessed 28 April 2018, <http://www.presidency.ucsb.edu/ws/?pid=2490>. For Nixon watching *Patton*, see Rick Perlstein, *Nixonland* (New York City, NY: Scribner, 2008), 472–74, 476.

36. Nixon, Address to the Nation on the Situation in Southeast Asia.”

37. For the restrictions in space and time as experienced at the unit level, see Plaster, *SOG*, 248; Stanton, *Anatomy of a Division*, 181; Starry, *Mounted Combat in Vietnam*, 169, 176.

38. For the press announcement, see President Richard M. Nixon, “The President’s Press Conference,” 8 May 1970, accessed 28 April 2018, <http://www.presidency.ucsb.edu/ws/?pid=2496>. For the domestic reaction to the Cambodian campaign, see Perlstein, *Nixonland*, 489–97 and Lipsman and Doyle, *The Vietnam Experience*, 178–84. At Kent State on 4 May 1970, Ohio National

Guardsmen killed four students and wounded 10. At Jackson State on 15 May 1970, state police officers killed two students and wounded 12.

39. Prados, *The Blood Road*, 374.

40. For the description of Lieutenant General Do Cao Tri, see Lipsman and Doyle, *The Vietnam Experience*, 174.

41. For the South Vietnamese operations in III ARVN Corps, See Tran Dinh Tho, *The Cambodia Incursion* (Washington, DC: US Army Center of Military History, 1979), 56. Former ARVN Brigadier General Tran Dinh Tho refers to “fierce” resistance, but ARVN casualties were limited to 16 killed and 157 wounded, not indicative of heavy contact for a division-sized South Vietnamese force. He admits that the use of armor and US air support allowed ARVN “to rapidly overwhelm” their foe.

42. Tran Dinh Tho, 57–60.

43. Stanton, *Anatomy of a Division*, 181–82; Starry, *Mounted Combat in Vietnam*, 171.

44. Davidson, *Vietnam at War*, 562. For the 11th Armored Cavalry regiment firefight, see Starry, 171–72.

45. Starry, 170–72. For a personal account, see Tom Clancy with Frederick M. Franks, Jr. *Into the Storm: A Study in Command* (New York City, NY: G.P. Putnam’s Sons, 1997), 64–65. Near Snoul, the 11th Armored Cavalry Regiment command group got into the fight at some cost. Seven troopers were wounded in an enemy grenade attack, including Colonel Donn A. Starry and Major Fred Franks. Both survived, although Franks was badly wounded and lost his left foot and lower leg. Both officers later rose to four-star rank.

46. Keith William Nolan, *Into Cambodia* (Novato, CA: Presidio Press, 1990), 160. Nolan’s gripping collection of personal combat narratives is among the best. See also Lipsman and Doyle, *The Vietnam Experience*, 164–65.

47. Major Donald V. Phillips, *Across the Border: The Successes and Failures of Operation Rockcrusher* (Fort Leavenworth, KS: US Army Command and General Staff College, 1999), 71–73.

48. Stanton, *Anatomy of a Division*, 182–183; Lipsman and Doyle, *The Vietnam Experience*, 167; Phillips, *Across the Border*, 84, 120–21.

49. Intelligence reports at the MACV level are quoted in Sorley, *Vietnam Chronicles*, 411–12, 417, 426. For the start of the 25th Infantry Division’s effort to find COSVN, see Phillips, *Across the Border*, 77.

50. Phillips, *Across the Border*, 77–78.

51. Shaw, *The Cambodian Campaign*, 6 (map), 146–47.

52. Tran Dinh Tho, *The Cambodian Incursion*, 88–89.

53. On the monsoon’s effects and arrival, see Starry, *Mounted Combat in Vietnam*, 175; for the breadth of ARVN armor unit maintenance and resupply problems, see Tran Dinh Tho, 180. See also Davidson, *Vietnam at War*, 565–66. Maintenance woes also affected US units. In one extreme case, the 2nd Battalion, 34th Armor was pulled out for refit after the first five days of the offensive. See Starry, 171.

54. Starry, 177; Phillips, *Across the Border*, 121; Tran Dinh Tho, 127–33.

55. President Richard M. Nixon, “Report on the Cambodian Operation,” 30 June 1970, accessed 2 May 2018, <http://www.presidency.ucsb.edu/ws/index.php?pid=2564>.

56. For the tonnage lost by PAVN, see Sorley, *A Better War*, 204–05. For the North Vietnamese rate of resupply, see Prados, *The Blood Road*, 299–303, 374.

57. For the six-month estimate, see Sorley, 204–05. For longer estimates, see Davidson, *Vietnam at War*, 563. Davidson described the 1972 An Loc operation on 623–29.

58. For casualties, see Phillips, *Across the Border*, 88–89. For 1st Cavalry Division prisoners taken, see Stanton, *Anatomy of a Division*, 188. For the CIA view, see Lipsman and Doyle, *The Vietnam Experience*, 178.

59. Sorley, *Vietnam Chronicles*, 412.

Chapter 10

Egypt vs. Israel: Combined Arms in the Yom Kippur War and the Lessons for the US Army

Tal Tovy

On 6 October 1973, the Egyptian and Syrian armies launched a surprise attack against Israel. Meticulous planning, massive acquisitions of new weapon systems, and intensive training paid off, bringing the Arab armies significant achievements during the first days of combat.¹ In the military dimension, one of the most important factors accounting for the success of the Arab armies was their ability to conduct combined arms attacks compared to the Israeli Defense Force's (IDF) counterattacks, which relied only on armored forces. In addition, the Arab armies succeeded in neutralizing the ability of the Israeli Air Force (IAF) to provide effective close air support (CAS) to the Israeli ground forces over the fighting zone, by integrating massive air defense into their war planning. Thus, the Arab armies succeeded in neutralizing both components of the IDF combat power that had decided the Six Days War for Israel.²

This chapter analyzes the significance of the concept of combined arms (or its absence thereof) in the combat activities of the Egyptian and Israeli armies during the period between the beginning of the War and the Egyptian counterattack of 14 October. The chapter will start by discussing the Egyptian preparations for war, and especially the analysis of the strong points of the Israeli army, and the building of a combat force that successfully contested the power of the IDF during the first days of the war. The second part will analyze the reasons for the failures of both the Israeli counterattack of 8 October and the Egyptian attack of 14 October, where the discussion will focus on the aspect of combined arms operation. The third part of the chapter will describe the lessons the US Army has learned from the war in the areas of combined arms and the joint operations.

The Egyptian Lessons and the Preparation for War

After the Six Days War, the Egyptian army started to analyze the reasons for its severe defeat, where the lessons of 1956 were added on top of the lessons of 1967. The conclusions formed by the Egyptian army were that the IDF used combat formations, consisting of several armored brigades, backed by massive CAS from the IAF, which had achieved almost complete air superiority over the war zone. These combat teams surprised the Egyptian forces by moving through areas that the Egyptians considered as impassable for armored forces. Thus, in the opinion of the Eyp-

tian army, the IDF had achieved tactical and operational surprise, throwing the Egyptian defensive formations in Sinai into an operational paralysis and causing their collapse.³

At this time, an important conclusion emerged: According to the Israeli doctrine, the task of attacking and breaking through the enemy formations was assigned to the armored forces because of their high strike power and maneuverability, including the ability to attack from the flank or from the rear. The Egyptian analysts deduced that the Israeli infantry was used as a “second wave” force or as a reserve, and did not join the armored force in a combined arms assault.⁴ The Egyptians’ main conclusion was that the absence of combined-arms methodology from the Israeli doctrine and the heavy reliance on CAS were weak points in the IDF offensive doctrine.

The formulation of the lessons of the 1956 and 1967 wars became a significant component in the preparation of the Egyptian army for the next war. Anwar Sadat, who took over the presidency following Gamal Abdel Nasser’s death by a heart attack (September 1970), recognized the fact that his army could not overcome the Israeli advantage in armored maneuvering and air power.⁵ Thus, when the military option became relevant again, in an attempt to break the political deadlock and to restore Egypt’s national honor, Sadat decided that the Egyptian army should initiate a full-scale war, albeit with limited goals.⁶ Translating this goal to military language means that Sadat’s intention was to cross the Suez Canal, take control of a narrow, several-kilometers-deep strip on the Eastern Bank of the canal, and repel the IDF’s counterattacks. Undoubtedly, the Egyptian planning was based on the Soviet doctrine; however, this doctrine only gave a partial answer to the unique strategic problems facing the Egyptian planners. Thus, we can state that although the crossing of the Suez Canal was performed according to the Soviet doctrine, setting up a defensive formation and breaking the Israeli counterattacks were based on original Egyptian ideas.

The Egyptian war plan apparently included two phases. The first phase consisted of crossing the Canal and setting up defensive positions on the eastern bank; the second phase consisted of reinforcing the forces on the eastern bank of the Canal, strengthening the defensive positions, and repelling Israeli counterattacks. This two-step plan was fully executed during the first days of the war.⁷ The Egyptian forces crossing the Canal bypassed the few Israeli outposts on the eastern bank of the Canal and repelled the improvised attempts by Israeli armored units to uproot them or join forces with the beleaguered Israeli outposts. Later on, the Egyptian efforts focused on expanding their hold on the eastern bank. The expansion took place both eastward, in order to create some defensive depth,

and northward and southward, in order to join forces with the other bridge-heads, and form two continuous defensive zones, each one consisting of a field army.

The defensive zone established by the Egyptian army was 8 to 12 kilometers deep, and consisted of four layers, based on combined arms methodology, and emphasizing fire-power against the IDF's superiority in maneuvering. The first layer consisted of minefields, laid at the front and at the flanks of the defensive zone. The second and most important layer was a dense array of various anti-tank weapons, mainly AT-3 "Sagger" anti-tank guided missile (ATGM) and RPG-7 rocket launchers, but also including anti-tank guns of various calibers as well as tanks and APCs carrying Sagger missiles in order to strengthen the defense against Israeli attacks.⁸ Additionally, there were tanks on the western bank, providing direct fire support. The anti-tank set up also included "tank hunter" teams, mostly based on commandos, which often came out of the defensive zone and laid ambush to the Israeli tanks, moving toward the crossing zone.⁹

The third layer was a dense anti-aircraft formation, consisting of various types of missiles and AAA guns. Both the stationary missile batteries (SA-2, SA-3) and the mobile batteries (SA-6) were located on the western bank of the Canal. The fire zones of the batteries were overlapping, providing mutual support between batteries, and the stationary formation was also enhanced by mobile batteries, capable of changing positions, thus surprising the Israeli attacks and closing the gaps in case some of the stationary batteries were hit. On the eastern banks, the soldiers were armed with SA-7 shoulder-launched missile and were supported by AAA guns, mainly ZSU-23X4.¹⁰ Using this Integrated Anti-Aircraft Defense System (IADS), the Egyptians were capable of intercepting Israeli attack planes at various altitudes, and in fact, succeeded in severely impairing the ability of the IAF to provide support to the Israeli ground forces. The fourth layer of the Egyptian plan was extensive use of artillery, first as support for the crossing, and then shelling the Israeli armored units in order to prevent them from regrouping or from firing at the Egyptian troops from stationary positions.¹¹

In the opinion of Saad el Shazly, the Egyptian Chief of Staff during the war, these moves were the operational solution to the equation of force ratios and operational effectiveness between the Israeli and the Egyptian armies. He stated that Egypt's main problem was Israel's air superiority and capacity for rapid armored counterattacks. Thus the solution was a rapid crossing of the Canal and an immediate establishment of defensive positions. Any offensive attempt beyond this, according to Shazli, was impossible and would have been doomed to fail.¹² In the estimate of the

Egyptian high command, the IDF was capable of launching an armored counterattack within 30 minutes to two hours, but the Egyptian armor would require 16 hours in order to cross the Canal and be ready for combat. The solution was equipping the infantry soldiers with huge numbers of anti-tank weapons, limiting the eastward advance by digging in a short distance from the Canal so that the tanks on the Western Bank could provide supporting fire, a massive use of artillery and staying under the IADS umbrella.¹³ As we shall see, this defensive formation succeeded in repelling the Israeli counterattacks, especially the one launched on 8 October.

Combined Arms in Sinai: 6–14 October 1973

The IDF victories over the Egyptian army in 1956 and especially in 1967 were mainly achieved by rapidly maneuvering armored units, which had broken through the Egyptian defensive lines, enjoying ample CAS. Thus, after the 1967 war, the force building of the IDF focused on strengthening its armored corps and air force. Israeli doctrine stated that stopping an Arab assault must be achieved by the regular armored forces, with the air force serving as flying artillery, immediately followed by a counterattack, with the help of reserve forces. Thus, the number of armored brigades was increased from nine to 16, while the infantry and artillery did not enjoy similar increases in their force. The experience of the previous wars had demonstrated that wars could be decided by the armored forces alone and that the enemy's infantry could not withstand the onslaught of the IDF maneuvering units. The IDF doctrine also stipulated that the most efficient weapon against the Arab armor was the might of the Israeli armored forces and that only a maneuvering armored force could break through the enemy's defensive lines.¹⁴ Although the Egyptian army employed ATGMs in 1967, they did not cause significant damage to the Israeli armor. The IDF has also acquired ATGMs, however, the success of the tanks in anti-armor combat made the use of ATGMs seem superfluous.¹⁵ In the military conflicts between the wars, the Egyptian or Syrian anti-tank missiles failed to cause significant damage to Israeli tanks, which had been armed with mortars in order to attack the anti-tank teams. To summarize: all the solutions adopted by the IDF were developed in the context of the armored forces and did not include any thinking in terms of combined forces, where the tank units would have been used as a strike force, accompanied by infantry, in order to defend their flanks against tank-hunter teams.

Because of these various reasons, the IDF did not acquire new ATGMs for use by the infantry. The combat capability of the mechanized forces was also neglected. Consequently, just before the Yom Kippur War, this force building process created a situation in which the IDF maneuvering

divisions were based on tank brigades only, rather than a balanced force mix, including also mechanized infantry and artillery.¹⁶ The importance of the armored forces in the Israeli military is also demonstrated by the fact that the armored corps became the main path for promotion, so that officers, who aspired to be promoted to the senior ranks, had to “learn the trade” of commanding armored units.¹⁷ Albeit some articles, published in the years before the war, had warned against over-reliance on the tank, they failed to rekindle a debate about armored doctrine in the IDF.¹⁸

The Egyptian offensive took the IDF forces in Sinai by surprise, and the “fog of war” prevented the activation of the war plan, which was based on a rapid movement of the armored brigades of the 252nd Armored Division (Sinai Division) to prepared posts along the Canal. In reality, the movement toward the canal was executed by small formations lacking artillery or air support, which were repelled by Egyptian infantry units armed with a variety of anti-tank weapons, as well as by efficient artillery fire.¹⁹ During the first two days of the war, the IDF 252th armored division lost about a third of its tanks, while the Egyptians succeeded in moving additional forces and getting a solid foothold on the eastern bank of the Canal. It is important to note that during the first three days of the war, there were neither enough artillery batteries nor enough infantry units in Sinai because, in the mobilization process, tank units had priority in transportation toward the front over other fighting forces.²⁰

At this point, the Southern Command attempted to launch a major counter-offensive, without waiting for the build-up of the reserve forces. At the start of the offensive, the Southern Command had two divisions (143rd and 162nd) at its disposal, while the combat capacity of the third (252nd) division had been severely eroded during the first two days of fighting. Even the divisions that had a full or nearly full number of tanks lacked infantry and artillery units. To make matters worse, the military pressure in the Golan Heights caused a diversion of almost the entire effort of the IAF to the Northern Front, so that the plan for destroying the Egyptian air defense system was only partially executed. Thus the IAF had to operate in a missile protected area, making it extremely difficult to provide effective CAS to the ground forces.

This was the background for the counter-offensive launched by the IDF on 8 October, aiming to break through the defensive lines of the Egyptian 2nd army. The Southern Command instructed the 162nd division, under the command of Major General Avraham Adan, to attack from North to South at the northern edge of the front, to join forces with the besieged outposts and provide support for the trapped units. The Southern Command also

instructed General Adan to attempt to capture one of the Egyptian floating bridges, in order to move forces to the other bank of the Canal.

Many factors account for the failure of the Israeli counter-offensive of 8 October. One of the explanations is the fact that the division launched the attack without infantry support, with hardly any artillery and no CAS. Thus, for example, the division had only three batteries of artillery at its disposal, and the 113th Armored Battalion, which was attacked by an anti-tank and artillery ambush and lost 18 out of its 25 tanks, could not obtain any artillery support. In comparison, the Egyptians employed an effective combined arms doctrine, which included occasional bombing and strafing runs by Egyptian attack planes. Ultimately, the division failed to fulfill its mission: the attack failed completely, costing it heavy losses in terms of both personnel and equipment.²¹

The Egyptian defensive formation succeeded in completely neutralizing the IDF's operational advantage: armored maneuvering and air power. The Egyptian army kept the same positions during the first week of fighting, not coming out of the lines, in order to maintain the protection of the anti-tank weapons and anti-aircraft defense system. At this time it looked like Egypt has achieved its goals, especially after its forces had defeated the Israeli counter-offensive of 8 October. Thus, the Egyptians could leverage their military achievements in order to achieve political gain. Militarily, the Egyptian high command estimated that the Egyptian army had used its limited ability against the Israeli advantage in maneuvering in full. The Egyptian forces had maintained their ability to hold the areas essential to the stationary defense, without getting involved in complex operations required by a mobile war. Practically, as soon as the Egyptian forces had completed the crossing and dug into the defensive lines, the Egyptian high command had given up any attempt to break out and enter a maneuvering war.

The failure of the Israeli counter-offensive brought a standoff to the Southern Front, especially since the IDF moved its operational focus to the Golan Heights front in order to cause a retreat of the Syrian forces and later even to invade Syria. During the following days, the General Staff instructed the Southern Front to maintain the defense, rebuild the force and avoid attrition battles. However, during 10–11 October, both sides launched several local and limited attacks. These attacks failed to bring significant gains to either side or to change the front lines; however, they are interesting in the context of the current chapter, since their success or failure can be explained in terms of combined arms: for example, an Egyptian armored brigade launched an attack on 10 October in the southern sector of the Canal Zone. During the attack, the brigade went out of

The IDF forces used those days for developing tactical means against the Egyptian use of combined arms. The armored units started integrating machine-gun carrying M-113 APCs, which operated on the flanks of the attacking armored battalions, made extensive use of smoke screens, and improved the collaboration between the armored forces and the artillery.²³ But most clearly, the lack of proper combined arms operation was one of the main causes for the failure of the Egyptian major assault launched on 14 October.

The reason for the assault was probably political—an attempt to relieve the military pressure that Israel was putting on the Syrian army. It was decided over the objection of several senior Egyptian officers who had acknowledged the inferiority of the Egyptian army in maneuvering battles against the Israeli armor.²⁴ Israeli Intelligence had anticipated the attack, and the plan devised by the Southern Command was to allow the Egyptian armored forces to advance eastward, thus causing them to come out of the protective umbrella provided by the anti-tank weapons formation and the IADS.²⁵ As soon as the Egyptian army lost the protection of its defensive arrays, the IDF operational advantages in the areas of armored maneuvering and the use of the air force for providing CAS could be realized.

The Egyptian offensive was executed in multiple efforts across the front, attempting to reach the Mitla and Gidi passes, which would allow the charging forces to advance into the depth of the Sinai Peninsula. The main effort was carried out by armored forces, which, in some cases, were preceded by infantry units riding APCs armed with ATGMs. As soon as the IDF forces detected the advancing columns, they opened artillery fire on them, and armored units, operating in conjunction with infantry units armed with mortars and various anti-tank weapons, especially M40 106mm recoilless rifles and French-made SS.11 ATGMs hit the Egyptian tanks. As the Egyptian armored columns had come out of the IADS umbrella, they became vulnerable to aerial attacks, so that the defending Israeli forces also benefited from effective CAS.²⁶ In other locations, where the Egyptian attack was based solely on armored maneuver, without infantry support, artillery or CAS, the attacks were defeated as a result of effective combined arms fighting by the Israeli forces. Moreover, the lack of support for the Egyptian forces allowed the Israeli armored units to maneuver and attack the Egyptian columns from the flanks, without fearing anti-tank ambushes.²⁷ The Egyptian chief of staff describes the reasons for the failure of the Egyptian offensive in the following words: “Concentrated enemy fire from . . . tanks supported by . . . anti-tank guided weapons and close air support halted all our four thrusts within 10 miles.”²⁸

The Egyptian offensive of 14 October is considered the largest armored battle since the battle of Kursk (July 1943)—ending with a crushing defeat of the Egyptian army, which had lost about 200 tanks, compared to 20 tanks lost by the IDF. Following the battle, Lieutenant General Haim Bar-Lev, commanding general of the Southern Front stated: “The Egyptians have reverted to their old self, and we have reverted to ours.”²⁹ Following the

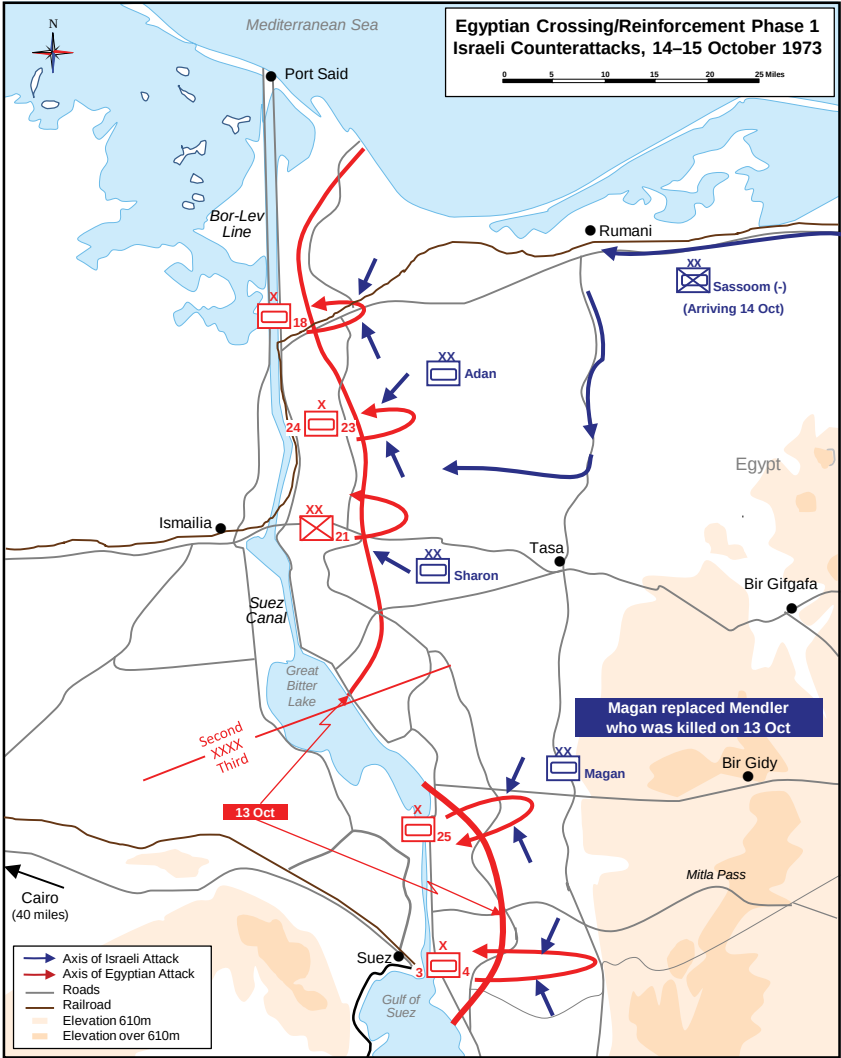


Figure 10.2. Campaign in Sinai: Egyptian attacks 14 October 1973, Israeli counterattacks 14–15 October in the Suez Canal Area. Map created by Army University Press.

failure of the offensive, the Egyptian army retreated to its defensive lines, and the IDF took the initiative in the Southern Front, where two days later, the Israeli forces started crossing the Canal and taking control of areas in the western bank of the Canal. Thus we can argue that one of the main reasons for the Egyptian failure on 14 October was the fact that they had abandoned the combined arms approach for more tank-heavy formation.³⁰

The Lessons of the US Army: The Evolution of a New Doctrine

During the early 1970s, the US Army launched a comprehensive reform process. The Army Chief of Staff, General Creighton Abrams, charged the complex task to the newly founded Training and Doctrine Command (TRADOC). Several months after its establishment, the Yom Kippur War broke out. The rich literature describing and analyzing the reforms process, including the official history of the Army, attaches great importance to the lessons learned from the war on the development of the new doctrine. This is, as Paul Herbert states, because the Yom Kippur war has proved that the American Army was totally unprepared for the next war.³¹ Although the doctrine documents published by the Army in 1976 and 1982 do not mention the Yom Kippur War explicitly, reading the memoirs of the first two TRADOC commanders, Generals William DePuy and Donn Starry, clearly testifies to such an influence. DePuy stated that the war presented significant lessons to the Army.³² Richard Swain wrote that the Yom Kippur War has been one of the main factors which had influenced DePuy while serving as TRADOC commanding general.³³ As to Donn Starry, the influence of the war on his military thinking is evident both in his writing and in historical research works, which indicate its influence on his thinking.³⁴ This claim can also be seen in the secondary literature written by TRADOC history department.³⁵ However, one must remember that the war was only one of the factors influencing the reforms. Nowhere has it been stated that the Yom Kippur War had an exclusive influence.³⁶

During 1974 American officers arrived in Israel in order to investigate the war. Their impressions and conclusions were processed by TRADOC and incorporated into the intensive work involved with the publishing of the new doctrine. The investigation by General DePuy resulted in several important lessons.³⁷ The lesson which is most relevant to this chapter is that the battlefield has become more lethal than before, thus requiring a modern fighting force to employ a fully integrated combined arms methodology. This conclusion was derived from the observation that the IDF relied exclusively on the tank as a single weapon system, thus sustaining heavy losses when fighting against the Arab armies, which had integrated

armored units with infantry armed with ATGMs and artillery.³⁸ The American doctrinal recommendation was that the Army must improve the collaboration between the various components of the ground forces, equip the infantry units with advanced anti-tank weapons, integrate infantry forces into the armored units, and enhance the firepower and accuracy of the artillery. These recommendations became part of the process of development and acquisition of new weapon systems for the Army.

In 1976, TRADOC published the “Active Defense” doctrine, which received harsh criticism within the Army; especially because it was seen as a doctrine focusing more on preventing defeat than on achieving a decisive victory.³⁹ However, it has directed the American Army into systematic thinking about the ways to win a war against the masses of Soviet armor and firepower in the European arena. General Starry started developing new methods of fighting after he had taken command of the V Corps, facing four Warsaw Pact armored Armies, arrayed in three echelons. In Starry’s opinion, the Active Defense doctrine was capable of stopping the first assault wave. However, the American and other NATO forces lacked the required capacity in order to conduct a holding battle against the two following waves, let alone to take the initiative and launch an offensive. Thus, Starry came to the conclusion that he needed to find a way of hitting the armored forces in the deep zone of the arena, in order to stop them from joining the battle at the front. He continued to develop these ideas when he took over command of TRADOC in 1977.⁴⁰

The crystallization of Starry’s doctrine had some practical dimension as it entails the development and acquisition of new weapon systems: a heavy battle tank (M-1 Abrams), an armored fighting vehicle carrying the infantry units accompanying the battle tanks (M-2/3 Bradley), an attack helicopter (AH-64 Apache), an assault helicopter (UH-60 Blackhawk) and an anti-aircraft missile (HIM-104 Patriot). To this list, we must also add the M-270 multiple rockets launcher (MLRS).⁴¹ During the same period, the Tactical Air Command (TAC) also started the deployment of new aircraft, targeted at providing a more effective and lethal support to the ground forces, especially the A-10 (Thunderbolt II), which was a specialized “tank killer.”⁴² These innovative weapon systems provided the combat capacity required for the new doctrine. In 1982 TRADOC published a new version of the Field Manual (FM) 100-5, *Operations*, which specified the new Army doctrine—AirLand Battle (ALB).⁴³

The manual specified two offensive actions. The first one was a precision attack by MLRS, attack helicopters, in-depth attacks by elite units,

transported by assault helicopters, in order to hit the enemy's front line, focusing on command, control and communications centers, transportation infrastructure, and logistics depots.⁴⁴ These attacks should create gaps in the enemy's formations, which will later serve as a basis for the development of a heavy armored counterattack. The second proposed action was the rapid detection of gaps within the enemy's formation, followed by a heavy armored attack, supported by tactical air units and attack helicopters. In Starry's belief, the tank remained the main weapon system in the land battle, and that the ATGM could not demote the tank from its elevated status, but that the tank's use in the battlefield would require a better combined arms methodology. Starry has stated that no single weapon system could decide the war by itself, and that despite the continued importance of the tank, there was a need for better integration of all the weapon systems used by the Army.⁴⁵

Starry added that the Army should also acquire various types of guided missiles in order to attain two goals. The first one would be to improve the defensive ability of the NATO forces. The second goal stated that using missiles would free more aircraft and tanks for offensive missions against the enemy's forces. As mentioned above, the tank would remain the main weapon system to be used against Soviet armor, and Starry meant for it to be used as armored fists in the attack. However, the more anti-tank weapons became available, the more tanks could be freed from the defensive tasks and moved to the offense, where the defense would be based on missile-carrying (anti-tank and anti-aircraft) platforms.⁴⁶

Reviews of these two modes of offensive operations show that Starry's intention was to allow the Army to take the initiative by creating a dual warfighting doctrine, i.e. a simultaneous defensive-offensive action against the enemy's frontline units, combined with an offensive action against its rear echelon.⁴⁷ However, the need to attack the enemy's formations at the deep end of the operations area required a wider operational view, beyond the tactical view of the corps's headquarters. Such capabilities were only available to the Air Force, and thus TRADOC started looking at ways to integrate the Tactical Air Command (TAC) into this new army doctrine. The goal of this integration would be to look beyond TAC's role in CAS tasks and involve it in air interdiction (AI) missions.⁴⁸

During 1979, TRADOC established a joint thinking group with TAC in order to develop a joint doctrine.⁴⁹ This collaboration between the Army and the Air Force brought about a 1983 set of joint principles of operation, summarized in *The 31 Initiatives*, by which TAC actually became an

inseparable part of the land battle.⁵⁰ According to this doctrine, the TAC took upon itself the task of attacking enemy targets beyond the operational range of the corps level. Under this framework, the TAC developed a doctrine called Battlefield Air Interdiction (BAI), whose main goal is to isolate the enemy forces operating at the front and to prevent their being reinforced by destroying enemy units moving toward the front.⁵¹ This doctrine became part of the 1986 version of FM 100-5, *Operations*. Thus we can view the integration of ALB and BAI as an example of joint operations.

Summary

Generals are often described as preparing for the last war. This was painfully true when describing the Israeli generals in the years before the Yom Kippur War but did not apply to the Egyptian army. It would be more correct to say that the generals of the *victorious* side were still fighting the last war. In the years following the Six Days War, the IDF high command adopted the concept—promoted by Major General Israel Tal—that an armored force can operate independently, relying on the high gunnery skills of its crews and the ability to shoot while in motion as well as concentrating the tanks into powerful Iron Fists. This concept was formed based on the lessons of the Six Days War, causing the IDF to form uniform divisions consisting solely of tanks and depending on CAS for fire support but, however, vulnerable to foot soldiers armed with ATGMs. Meanwhile, the IDF neglected the development of its artillery, as compared to a significant strengthening of its armored forces. The lack of artillery forces was justified by treating the IAF as “flying artillery.” However, the Egyptian IADS neutralized the IAF, preventing it from providing effective CAS to the ground forces.

The humiliating defeat of the Egyptians in 1967 caused them to analyze the operational and fighting strength of the IDF and discover its weak points. This analysis later generated the concept of a total war with limited objectives, i.e. crossing the Canal in force and being able to establish a defensible zone on the Eastern Bank. The Egyptian army correctly identified the IDF advantage in operating its armored units and understood that this almost absolute advantage would pose a critical operational problem to the forces crossing the Canal, and would further threaten the consolidation of the bridgeheads on the eastern bank. The operational solution to this problem was the planning, establishment, and operation of a defensive array based on a combined arms concept and consisting of a wide variety of anti-tank and anti-aircraft weapons. The first forces to cross the Canal—consisting mostly of infantry soldiers—managed to destroy about

100 tanks, a third of the IDF's regular armored forces in the Sinai Peninsula in the first day of the war. This inhibited the Israeli counterattacks in the first days, allowing the continuation of the crossing and the consolidation of the defensive zones on the eastern bank of the Canal. By relying on its defensive force, the Egyptian army succeeded in defeating several Israeli armored counterattacks, especially the attack launched on 8 October, and caused severe losses to the IAF and armored units. However, the abandonment of the combined arms doctrine by the Egyptians—together with rapid battlefield adaptation by the IDF, followed by the development of an improvised combined arms doctrine—brought about the failure of the Egyptian offensive on 14 October.

Although the American army was not defeated in Vietnam, the American senior officer corps had no intention of fighting another war having the characteristics of the Vietnam War, let alone when the enemy was the massive war machine of the Soviet Union in Central Europe. After Vietnam, the critical problem facing the Army was the lack of knowledge of the characteristics of the next war. The Yom Kippur War gave them a view of a modern war—where sophisticated weapons would be employed in large quantities and the battlefield would become more intensive and lethal, with a high attrition rate for both troops and weapon systems. The Yom Kippur War demonstrated that all types of conventional weapon systems must be integrated into combat and that the mobility of all the forces, both combat and supporting forces, had increased considerably. These observations found their way into the new American doctrines. In other words, the American reformers studied the Yom Kippur War in order to avoid a repetition of past errors made by all the fighting parties.

Notes

1. For an exhaustive review of the war, see Edward Luttwak and Dan Horowitz, *The Israeli Army* (London: Penguin Books, 1975), 337–97.
2. On the Yom Kippur War as a war which has put an emphasis on combined arms, see Frank Aker, *October 1973* (Hamden, CT: Archon Books, 1985), 25.
3. Kenneth M. Pollack, *Arabs at War: Military Effectiveness, 1948–1991* (Lincoln, NE: Nebraska University Press, 2002), 64–71, 86–88.
4. Jonathan M. House, *Combined Arms in the Twentieth Century* (Lawrence, KS: University Press of Kansas, 2001), 232–33.
5. Peter Allen, *The Yom Kippur War* (New York: Charles Scribner's Sons, 1982), 31.
6. Aker, *October 1973*, 14–16; George W. Gawrych, *The Albatross of Decisive Victory* (Westport, CT: Greenwood Press, 2000), 131–35; Charles Wakebridge, "The Egyptian Staff Solution," *Military Review* 55, no. 3, March 1975, 3–11.
7. On the Egyptian war plans see Pollack, *Arabs at War*, 99–104. For a general review of the progression of the fighting during 6–8 October, see for example Edgar O'Ballance, *No Victor, No Vanquished: The Yom Kippur War*, (San Rafael: Presidio, 1978), 65–91; Pollack, *Arabs at War*, 108, 110–11.
8. Trevor N. Dupuy, *Elusive Victory: The Arab–Israeli Wars, 1947–1974* (New York: Harper & Row, 1978), 401–10.
9. A similar operational approach can be found in the Syrian army. See George E. Knapp, "Anti-armor Operations on the Golan Height, October 1973," in Roger J. Spiller (ed.), *Combined Arms in Battle Since 1939* (Fort Leavenworth, KS: US Army Command and General Staff College Press, 1992), 27–34.
10. For a discussion of the Egyptian IADS, see Kenneth P. Werrel, *Archie to SAM: A Short Operational History of Ground-Based Air Defense* (Maxwell Air Force Base, AL: Air University Press, 2005), 149–52.
11. House, *Combined Arms in the Twentieth Century*, 233; Anthony H. Cordesman and Abraham R. Wagner, *The Lessons of Modern War (vol. 1): The Arab-Israeli Conflicts, 1973–1989* (Boulder, CO: Westview Press, 1990), 54–55.
12. Saad El Shazly, *The Crossing of the Suez* (San Francisco, CA: American Mideast Research, 2003), 18–27.
13. Shazly, *The Crossing of the Suez*, 33–34; Allen, *The Yom Kippur War*, 116–39.
14. Gunther E. Rothenberg, *The Anatomy of the Israeli Army* (London: B.T. Batsford, 1979), 160; Luttwak and Horowitz, *The Israeli Army*, 363.
15. The IDF was using French Nord SS.10 and SS.11 ATGM. See the discussion in Meir Finkel, *On Flexibility: Recovery from Technological and Doctrinal Surprise on the Battlefield* (Stanford, CT: Stanford University Press, 2011), 152–53.
16. House, *Combined Arms*, 231–32; O'Ballance, *No Victor, No Vanquished*, 54–55; Rothenberg, *The Anatomy of the Israeli Army*, 157–61.

17. On the tension in the IDF between armor and infantry, focusing on the IDF's power buildup in the years before the war see Jac Weller, "Armor and Infantry in Israel," *Military Review* 57, no. 4, April 1977, 3–11.
18. Finkel, *On Flexibility*, 152–53.
19. Pollack, *Arabs at War*, 112.
20. Finkel, *On Flexibility*, 161; Aker, *October 1973*, 78–79.
21. For a review of the 8 October 8 counter-offensive, see Rothenberg, *The Anatomy of the Israeli Army*, 185–192; Gawrych, *The Albatross of Decisive Victory*, 184–89.
22. Shazly, *The Crossing of the Suez*, 241–42.
23. Pollack, *Arabs at War*, 113; Finkel, *On Flexibility*, 161–62; Avraham Adan, *On Both Banks of the Suez* (San Rafael, CA: Presidio, 1980), 221.
24. See for example Shazly, *The Crossing of the Suez*, 236–37, 246.
25. Elchanan Oren, *The History of Yom Kippur War* (IDF Military History Department, 2013), 309. In Hebrew.
26. On 14 October, the Egyptian air force carried out only about 40 sorties, compared to more than 150 sorties by the Israeli air force.
27. Adan, *On Both Banks of the Suez*, 237–39.
28. Shazly, *The Crossing of the Suez*, 248.
29. See also Pollack, *Arabs at War*, 126–29.
30. See Garwych, *The Albatross of Decisive Victory*, 208. For more information about the Egyptian offensive and the reasons for its failure, see Depuy, *Elusive Victory*, 485–91.
31. Paul H. Herbert, *Deciding What Has to be Done: General William E. DePuy and the 1976 Edition of 100-5 Operations* (Fort Leavenworth, KS: US Army Command and General Staff College Press, 1988), 36. The official history of the US Army describing the Gulf War clearly states that the lessons of the Yom Kippur War were among the most important tiers in the rehabilitation of the Army after the Vietnam War. These lessons were integrated into the training, instruction, and doctrine of the Army before the campaign of the winter of 1991. See Robert H. Scales, *Certain Victory: The US Army in the Gulf War* (Washington, DC: US Army Command and General Staff College Press, 1993), 9–15. John Romjue, TRADOC's official historian, also states that the lessons of the Yom Kippur War had an influence on the writing of the 1976 and 1982 editions of Field Manual (FM) 100-5, *Operations*. See John L. Romjue, "AirLand Battle: The Historical Background," *Military Review*, March 1986, 53.
32. Richard M. Swain, *Selected Papers of General William E. DePuy* (Fort Leavenworth: US Army Command and General Staff College Press, 1994), 75–77. See also Robert A. Doughty, *The Evolution of US Army Tactical Doctrine, 1946–76* (Fort Leavenworth, KS: US Army Command and General Staff College Press, 1979), 41–42.
33. Richard M. Swain, "AirLand Battle," in George F. Hofmann and Donn A. Starry (eds.), *Camp Colt to Desert Storm: The History of US Armored Forces* (Lexington, KY: Kentucky University Press, 1999), 365.

34. Donn A. Starry, "Reflections," in Hofmann and Starry (eds.), *Camp Colt to Desert Storm*, 548–50. See also Diene L. Urbina, "Lethal beyond All Expectations: The Bradley Fighting Vehicle," in Hofmann and Starry (eds.), *Camp Colt to Desert Storm*, 408–09, and House, *Combined Arms*, 239–40.

35. John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973–1982* (Fort Monroe, VA: TRADOC Historical Office US Army, 1984), 2.

36. For a discussion of the total scope of the reforms, see Scales, *Certain Victory*, 7–8; Richard W. Stewart, *American Military History* (vol. 2): *The United States Army in a Global Era, 1917–2003* (Washington, DC: Center of Military History, 2005), 370–92; Adrian R. Lewis, *The American Ways Culture of War* (London: Routledge, 2012), 294–98; Matthew S. Muehlbauer and David J. Ulbrich, *Ways of War: American Military History from the Colonial Era to the Twenty-First Century* (London: Routledge, 2014), 485–88. These studies indicate the contribution of the lessons learned from studying the battles of the Yom Kippur War and their assimilation into the various domains of the Army's activity within the scope of the reforms.

37. Herbert, *Deciding What Has to be Done*, 31, 33.

38. Romjue, *From Active Defense to AirLand Battle*, 6–7. See the discussion in Seymour J. Deitchman, *New Technology and Military Power* (Boulder, CO: Westview Press, 1979), 63–80. The chapter discusses classic armored warfare and the new threats to armored maneuvering due to the fact that the battlefield had become saturated by anti-tank missiles. The battles of the Yom Kippur War were the historical basis for this chapter.

39. Swain, "AirLand Battle," 372–73.

40. John L. Romjue, *American Army Doctrine for the Post-Cold War* (Washington, DC: Military History Office, US Army Training and Doctrine Command, 1997), 16.

41. Thomas G. Mahnken, *Technology and the American Way of War since 1945* (New York: Columbia University Press, 2008), 131–35; Scales, *Certain Victory*, 19–20.

42. About the A-10, see Kenneth P. Werrell, *Chasing the Silver Bullet: US Air Force Weapons Development from Vietnam to Desert Storm* (Washington DC: Smithsonian Press, 2003), 99–119.

43. For a review of the development of the ALB doctrine, see Robert Leonhard, *The Art of Maneuver: Theory and AirLand Battle* (Novato: Presidio, 1991), 129–55.

44. House, *Combined Arms*, 256–59.

45. Donn Starry, "Tanks Forever and Ever: Address to American Defense Preparedness Association, 23 September 1981" in Lewis Sorley (ed.) *Press On! Selected Works of General Donn A. Starry Volume I* (Fort Leavenworth, KS: Combat Studies Institute Press, 2009), 101–05.

46. Donn Starry, "The Central Battle: Address to Association of the US Army, 24 April 1978" in Sorley, *Press On!*, 315.

47. Starry, "The Central Battle," 312–17.

48. Important to note that following the Vietnam lessons in the CAS area, the two branches initiated a meticulous staff planning process in order to improve coordination and effectiveness in this area. The purpose of the discussions between the Army and the Air Force was to define the status of Army Aviation and the division of tasks between the Army attack helicopters and the Air Force CAS planes. On the process of operational rapprochement between the Army and TAC, see Harold R. Winton, "An Ambivalent Partnership: US Army and Air Force Perspectives on Air-Ground Operations, 1973–90," in Philip S. Meilinger (ed.), *The Paths of Heaven: The Evolution of Airpower Theory* (Maxwell Air Force Base, AL: Air University Press, 1997), 402–14.

49. Richard G. Davis, *The 31 Initiatives* (Washington DC: Office of Air Force USAF, 1987), 24–33; Benjamin S. Lambeth, *The Transformation of American Air Power* (Ithaca, NY: Cornell University Press, 2000), 83–85; Richard P. Hallion, *Storm over Iraq: Air Power and the Gulf War* (Washington, DC: Smithsonian Institution Press, 1992), 72–82; Robert F. Futrell, *Ideas, Concepts, Doctrine: Basic Thinking in the United States Air Force (vol. 2), 1961–1984* (Maxwell Air Force Base, AL: Air University Press, 1989), 539–46.

50. Davis, *The 31 Initiatives*, 47–50.

51. Lambeth, *The Transformation of American Air Power*, 85–87; Futrell, *Ideas, Concepts, Doctrine* (vol. 2), 546–55. See also Scales, *Certain Victory*, 26–27.

Chapter 11

Today and Tomorrow: Echelons Above Brigade—Combined Arms Maneuver in Large-Scale Ground Combat Operations

Lieutenant General Michael D. Lundy

While our Army learned invaluable and enduring lessons over the last 17 years of sustained limited contingency operations, the experience culturally imprinted a generation of Army leaders and the entire institution for one type of warfare. An increasingly dynamic and volatile operational environment characterized by great power competition demands that our Army adapt to the realities of a world where large-scale ground combat against a peer threat is more likely than at any time in recent memory. We must prepare for the most lethal and challenging threat to our nation: the increasing likelihood of great power conflict across the full range of military operations and the conflict continuum. This requires continued changes in how we man, equip, train, and employ Army forces, especially those forces at echelons above brigade.

Our peer and near-peer competitors have studied us as we reshaped our force while conducting operations over the last 17 years. They have adapted and improved. They are fielding more professional forces with advanced capabilities, improved training, and combined arms formations designed to contest us and our multi-national partners across all of the domains. The current and foreseeable future strategic environment is defined in large part by Russian, Chinese, North Korean, and Iranian revisionism, as well as violent extremist organizations with global reach. It demands a US Army prepared to continually (and persistently) shape the security environment to our advantage, deter adversary aggression through strength, and—when necessary—prevail in large-scale ground combat as a member of the Unified Action team. We are in heavy competition and at risk of conflict today; this is not just a problem for the tomorrow's leaders.

Success in large-scale combat operations requires that we continue to evolve the Army's capabilities and readiness culture from a focus on predictable rotational deployments for stability operations to expeditionary operations against a peer or near-peer threat with few indicators or warnings—operations we have not conducted since early 2003. The number of leaders with large-scale ground combat experience was not large relative to the size of the Army then and most are now senior leaders or retired. With little of that experience remaining in the force, we must continue to focus on the mastery of the atrophied or non-resident skills that enabled us

to seize Baghdad but were less important to subsequent operations in Iraq, Afghanistan, and elsewhere. There will always be tension between readiness for the worst case of large-scale ground combat and the requirements of current operations the Army conducts around the world. Retaining what we've learned over the last two decades is critically important, and the Army cannot afford to walk away from that experience.

The Army is on the right path to developing leaders and units with the requisite skills and attributes to prevail in large-scale ground combat against peer threats. Our combat training centers (CTCs) have increased the intensity and realism of our unit decisive action rotations, unit home station training occurs at higher operational tempo and under more demanding conditions, and we have made significant adjustments to the rigor and focus of our professional military education and functional training. However, the skills and experiences acquired during training, education, and operations are perishable—sustaining and improving what we are doing now is our challenge. Preparing and certifying leaders, hardening the force physically, ethically, and morally—and reorganizing our formations while fielding advanced technologies and new equipment—requires an enduring and persistent focus. These adjustments will be at least as difficult as those made by our predecessors after Vietnam. Unlike post-Vietnam, however, as we make these adjustments we will be careful not to eschew the lessons of Iraq and Afghanistan.

To drive this cultural change, we are shaping the future of combined arms operations in large-scale ground combat with our newest doctrine, Field Manual (FM 3-0), *Operations*. FM 3-0 is the Army's capstone tactics manual for execution of unified land operations against peer and near-peer threats in contested environments. It serves as a pivot point to steer the Army toward both persistent competition below armed conflict and, when necessary, armed conflict against highly lethal and adaptive enemies. FM 3-0 does not disregard what we've learned over the last 17 years. In fact, it reinforces and provides deeper context to the value and necessity of persistently competing and prevailing across the range of military operations and the conflict continuum. To address the continuum, FM 3-0 is organized in accordance with the four strategic roles that the US Army uniquely performs for the Joint Force: shape the security environment, prevent conflict, prevail in large-scale ground combat, and consolidate gains. It emphasizes that maintaining positions of strategic advantage requires enduring outcomes favorable to US interests.

FM 3-0 acknowledges we will not always enjoy the full domain superiority we have come to expect since the early 90s. It recognizes that

with only a fraction of the forces forward-deployed just 20 years ago, we must optimize available force posture and activities to successfully compete below the threshold of armed conflict. We do this by improving our own readiness for armed conflict and that of our partners around the world. Demonstrating the capability and will to win as part of a larger team prevents conflict. Multi-national and joint operations are essential to this approach. How we build capacity and maintain access with our allies and partners—while denying adversaries positions of cognitive, virtual, temporal, and physical advantage—are increasingly important to a largely CONUS-based Army. To assure allies, we must be able to deter. To deter, we must be able to prevail.

FM 3-0 addresses the challenges of current and future multi-domain operational environments and guides our approach to winning against all possible competitors. Aspects of emerging multi-domain capabilities which can be executed with the current force have been integrated into FM 3-0, including space, cyber, electronic and information warfare. These capabilities reinforce our combined arms approach to the traditional aspects of warfare in the land, air, maritime domains. FM 3-0's new operational framework provides an expanded physical, virtual, cognitive, and temporal perspective to account for the multi-domain extended capabilities of friendly and threat forces. The physical and temporal considerations pertain to space and time, while the cognitive considerations apply to enemy decision-making, enemy will, and population behavior. The virtual considerations address friendly and threat cyberspace activities, cyber-enabled capabilities, and the entities that exist in cyberspace. Collectively the considerations allow commanders and staffs to better integrate multi-domain capabilities at echelon with tempo and intensity necessary to present the enemy with multiple dilemmas from positions of tactical, operational, and strategic advantage.

Central to the challenge of evolving the Army's culture is re-enabling our division, corps, and theater armies to operate and fight as combat formations. Beginning with a perception in the mid- to late-1990s of a reduced risk of great power conflict and bolstered by the pressing need to sustain ongoing limited contingency operations in the early years of this century, the Army transformed from a division-based to a brigade-based modular force. As a result, echelons above brigade (EAB) transformed from highly capable warfighting formations to mere headquarters which could be force-tailored with warfighting "modules" to accomplish a variety of missions. Over time, the separate modular components were further optimized for the prevailing fight—counterinsurgency and other stability

operations. When coupled with heavy reductions during directed downsizing, EAB headquarters became much less capable of supporting anything more than limited contingency operations. While justified at the time, the degradation of echelons above brigade formations and their capabilities significantly reduced the Army's ability to meet the entirety of its primary function—to execute prompt and sustained land combat to defeat any threat throughout the range of military operations.

As we adapt today's EAB headquarters into warfighting formations, we must also keep an eye on tomorrow. Future EAB formations require complementary organizations with the appropriate capacities and capabilities necessary to create cross-domain positions of advantage across the competition continuum. Future theater armies must be uniquely tailored to the specific theater to conduct their critical theater management responsibilities, see and understand the threats in their area of responsibility (AOR), and conduct operational preparation of their environment to allow the US Army to succeed in any of its four strategic roles. In AORs with the highest risk of large-scale ground combat operations (LSGCO), a standing field army must be task-organized organically to the theater. Its focus must be on deterring a specific peer threat and, if necessary, rapidly transitioning to a land component command (LCC) with multiple corps to defeat the enemy in armed conflict. The future corps must be organized as the Army's most agile and versatile echelon capable of commanding multiple divisions as an intermediate tactical command as well as accepting augmentation and conducting operations as a land component or joint force command in limited contingency operations (LCO). Future battlefields will be complex, chaotic, highly-lethal, and unforgiving; the cost of avoidable tactical mistakes is unacceptably high. Accordingly, future Army divisions must be specifically organized, equipped, and trained to dominate the close fight against a peer adversary in LSGCO.

Uniquely-tailored future theater armies must maintain enduring operational initiative. The theater army is unique as it is the only persistent Army echelon for a geographic area of responsibility. As an army service component command (ASCC), all theater armies share the same basic set of theater management tasks distilled to five primary categories: setting conditions in the theater for the employment of landpower (setting the theater); Army support to theater security cooperation; Army support to other services; administrative control over all Army forces in the AOR; and operational control and sustainment support of any assigned or attached Army forces until the combatant commander attaches those forces to a subordinate joint command. In peer adversary theaters, theater armies

require greater operational warfighting capabilities—including threat-specific intelligence, surveillance and reconnaissance (ISR), electronic warfare (EW), air and ballistic missile defense (AMD), cyberspace, space, information warfare, and hardened command and control—to defeat adversary aggression in competition below armed conflict. Theater armies enable freedom of movement during the transitions from competition to armed conflict and back. In the future operational environment (OE), theater armies will be central to winning in competition below armed conflict and ensuring that Army and Coalition forces can operate from distributed and protected positions of advantage during armed conflict.

Threat-focused future field armies must provide credible deterrence, execute multi-domain competition against peer threats, and enable rapid transition to LSGCO. While all theaters require an operational capability, some theaters have adversaries which present enough risk of LSGCO that they require an additional standing echelon to manage specific operations within the AOR and then transition rapidly to a land component command. Historically, this has been a field army commanding two or more corps. A field army is employed to relieve operational burden on the theater army, where attention to a specific operation in a subordinate geographic area would detract from the theater army's ability to support strategic objectives in the theater as a whole. The field army is forward-stationed to account for higher probability of LSGCO or other vital geopolitical considerations that may require partner assurance. It is required in areas of persistent, intense competition with a peer threat capable of conducting large-scale land combat. The field army can serve as the foundation for a joint task force (JTF) or joint forces land component command (JFLCC), or merge into a standing—but under-resourced—alliance headquarters. A standing field army allows rapid transition from competition to conflict. The presence of a field army changes the threat's risk calculus and helps prevent conflict or sets the conditions for success in LSGCO.

The future corps must be the linchpin of EAB versatility and agility. The corps of tomorrow must be the most versatile echelon in the Army because no other echelon can. Since future theater armies will be tailored to their respective theaters, and operational support of Army missions will define their functions to a great degree, their versatility will be limited. Similarly, a future field army must be sharply focused on succeeding in competition below armed conflict against a specific peer threat within the theater and setting conditions to rapidly transition to armed conflict as a land component command. Meanwhile, future divisions must maintain an uncompromising emphasis on readiness for the task of integrating multiple

brigade combat teams (BCTs) and enabling formations as a highly lethal tactical formation to win the close fight during armed conflict. This limits some aspects of versatility at the division level. The future corps—functioning as the link between the operational and tactical levels of war—will emerge as the echelon that affords the greatest potential for adaptation in response to uncertainty of both future threats and environment. This agility will mitigate the operational risk naturally found in warfare when predictions of the future OE frequently fail to match reality.

Highly versatile, future Army corps must be foremost tactical warfighting formations—assigned with redundant capabilities and capacities to see and understand, decide, shape, strike rapidly, and endure. The corps of tomorrow must have assigned military intelligence, multi-domain reconnaissance and security, fires (artillery and air defense), maneuver support, space, cyberspace, information warfare, EW, sustainment, and aviation formations as principal capabilities to deploy on short notice to conduct operations immediately upon arrival. Future capabilities must enable the corps to conduct deep operations physically, temporally, virtually, and cognitively, and must enable subordinate tactical formations to dominate the close fight. While assigned to the future corps, these capabilities can be task-organized to directly support the main effort of a subordinate division.

Tactically focused future divisions must shape, dominate, and win the close fight. The division's role of commanding and sustaining multiple BCTs and enabling formations in tactical operations remains its primary focus and is the crux of the Army's ability to gain and maintain contact and defeat an enemy maneuver force in violent combat. This demands that future Army divisions singularly focus on lethal, tactical warfighting; it is the principal tactical echelon above brigade. Future Army divisions must have assigned reconnaissance and security, aviation, fires, maneuver enhancement, and sustainment formations in addition to capable brigade combat teams. When properly force-tailored, postured, and positioned, divisions are a powerful, credible, and devastatingly lethal deterrent to any would-be threat.

Large-scale ground combat is more likely today than at any point since the end of the Cold War. As the Army prepares for the future, it must evolve and adapt both its culture and capabilities to stay ahead of our nation's adversaries. The Army must recast the current EAB headquarters into interdependent, echeloned multi-domain warfighting formations. While the 17 years of limited contingency and counterinsurgency operations were largely brigade-centric, the future battlefield against peer and near-peer threats will rely on divisions, corps, field armies, and the-

ater armies to shape the security environment, prevent conflict, prevail in large-scale combat, and consolidate gains to make tactical success strategically enduring. These formations will require organic capabilities and organizations optimized for large-scale combat operations while maintaining the flexibility needed to respond to other contingencies across the range of military operations. EAB formations need to be able to see and understand, decide, shape, and strike faster than our adversaries, across all domains, to endure and win in the future. Preparation of our Army for the demands of large-scale ground combat operations and adaptation to the multi-domain battlefield of tomorrow must begin now. Only through enhancing its EAB formations and evolving its warfighting culture can the US Army remain as the world's preeminent ground combat force.

About the Authors

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Colonel (Retired) Kevin C.M. Benson commanded tank and cavalry units from company to battalion. A School of Advanced Military Studies (SAMS) graduate, he served as a general staff officer from corps through land component command level. As J5, Combined Forces Land Component Command (CFLCC), he led the planning efforts for the initial operations in Iraq, Cobra II and Eclipse II. He also assisted in planning for the conclusion of operations in Iraq, 2010–2011. Benson's final assignment in the Army was Director, School of Advanced Military Studies. He holds a PhD in American History from the University of Kansas, a Master's in Military Arts and Sciences from SAMS, a Masters in Engineer Management from The Catholic University of America, and a BS from the US Military Academy at West Point.

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Daniel P. Bolger served 35 years in the US Army, retiring in 2013 as a lieutenant general. He commanded troops in both Iraq and Afghanistan. His military awards include five Bronze Stars (one for valor) and the Combat Action Badge. He earned a bachelor's degree at The Citadel and a master's degree and doctorate from the University of Chicago. The author of nine books and numerous articles, he teaches history at North Carolina State University in Raleigh, North Carolina.

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William S. Wallace

General (Retired) William S. Wallace retired on 1 January 2009 after nearly 40 years of active service spanning five decades. Wallace commanded at every level from platoon to corps and on two occasions led Soldiers in combat. In 2003 as the V Corps commander, he led the Army's attack on Baghdad in Operation Iraqi Freedom. In 1972, he served as the military advisor in Bac Lieu Province, Vietnam. Wallace's last assignment was as Commander, US Army Training and Doctrine Command (TRADOC). He holds Master's degrees from the Naval Post Graduate School in Operations Research, Salve Regina University in International Relations, and from the Naval War College in National Security Affairs.

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