DEEP MANEUVER

Historical Case Studies of Maneuver in Large-Scale Combat Operations

Edited by Jack D. Kem

LARGE-SCALE COMBAT OPERATIONS SERIES

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Cover image: Soldiers in an interim armored vehicle and AH-64 Apache helicopters with Battle Group Poland move to secure an area during a June 2018 exercise in Poland involving allies and partners from 10 countries. US Army photo by Specialist Hubert D. Delany III.

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Editor
Diane R. Walker

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

Jack D. Kem

Deep attack is not a luxury; it is an absolute necessity to winning.[1]

—General Donn A. Starry

All right, Mister, let me tell you what winning means . . . you're willing to go longer, work harder, give more than anyone else.[2]

—Vince Lombardi

The various terms of "deep maneuver," "deep attack," and "deep operations" have been prominent in Army doctrine for many years. The concept relates to extending operations in time, space, and purpose in order to gain an advantage over enemy forces and capabilities before adversaries can use their capabilities against friendly forces.[3]

Field Manual (FM) 3-0, *Operations*, emphasizes this concept of extending operations in time, space, and purpose in order to gain an advantage over potential peer enemies—in highly contested, lethal environments—in order to prevail and win.[4] Deep maneuver—the employment of forces using the combination of movement and fires to gain a position of relative advantage over enemies—is fundamental to warfighting.[5]

Deep maneuver for large-scale combat operations at the division and corps level has not been practiced for many years in the US Army. The focus on stability operations and protracted counterinsurgency campaigns caused a shift away from large-scale combat operations and conducting deep maneuver. The current operational environment demands that we once again sharpen our focus on the threats that exist today and study deep maneuver as a core competency.

So, we turn to the past to study both the successes and failure of deep maneuver in warfighting. This book is a collection of 11 historical case studies of deep maneuver operations and campaigns drawn from the past 100 years with lessons for modern large-scale ground combat operations (LSCO). The book is also focused on operations at the division and corps level, chronologically organized to include case studies from World War II, the 1967 and 1973 Arab-Israeli Wars, Vietnam, Desert Storm, and Operation Iraqi Freedom. The last two chapters provide perspectives on the future of deep maneuver.

The authors were asked to look at deep operations in terms of time, space, and purpose; the default is to think of deep maneuver only in terms

of space, but time and purpose are critical factors to understand the concept of deep operations. We also asked the authors to not only include successes but also failures and shortfalls. Each of the chapters are relatively short and are focused on deep maneuver. When possible, the authors provided their insight into the implications of the lessons learned—or not learned.

Deep operations require boldness and audacity and yet carry an element of risk due to overextension. Readers should carefully study these case studies and reflect on the components that still apply today and in the future—and to reflect on those components that are not applicable today. The critical role of commanders communicating their vision in terms of purpose and end state are enduring; weapon systems and their capabilities are ever-changing. Balancing boldness and risk are enduring challenges; geography and weather are situationally independent. Readers should read, study, and analyze each case study in light of these considerations.

Chapter 1 by Edward P. Shanahan, "Surprise: The XIX Panzer Corps' Lightning Advance into France, May 1940," studies the German penetration of the Ardennes in May 1940. The operations by the Wehrmacht took less than one week to shatter the French Army; in less than three weeks the Germans conquered France and drove the British Army from the European continent. The element of surprise—attaching in a way that was completely unexpected—allowed the German Army to accomplish in six days what they had only attempted to complete in World War I.

Glen L. Scott addresses operations in Northern Africa in November 1941 in "Considerations for Deep Maneuver: Operation Crusader" as Chapter 2 of the book. This chapter focused on corps-level operations details the actions of the British XXX Corps, who had moved deep into Axis territory to fight the German Afrika Korps. Initially, Rommel's Afrika Korps achieved a tactical victory in a series of battles and maneuvers. Rommel then led the Axis mobile on a bold, but futile, maneuver designed to encircle the British 8th Army and break their will to continue the offensive. At the end of the operation, neither side had a conclusive victory.

Chapter 3 by Robert F. Baumann and William E. Bassett is titled "The Debaltsevo Raid by the Bashkir Cavalry Division during 'Operation Gallop,' February 1943." The chapter outlines a 1943 raid by the most decorated Soviet division in World War II—the 112th "Bashkir" Cavalry Division, later re-designated as the 16th Guards Cavalry Division. The division, which began this operation at 48-percent strength, conducted two successive major operations and months of hard combat against some of the best German divisions fielded during World War II. The 112th Cavalry

Division (16th Guards Cavalry Division) penetrated German defenses and achieved tactical mission objectives as well as complicated coordinated operations with friendly units over vast distances.

Christopher J. Shepherd authored Chapter 4, "Creating Operational Depth through Coalition Integration." Shepherd describes the second invasion of Western Europe (after Normandy) along the Southern Riviera known as Operation Dragoon. The objectives of Dragoon were the ports of Marseille and Toulon, which enabled the logistical support for continuing Allied efforts through France and into Germany. A key consideration for this operation was the integration of US, French, and British forces, including the US Seventh Army, the French Armée B, the American VI Corps, the Anglo-Canadian-American First Special Service Force (1st SSF), a provisional airborne division, the Anglo-American First Airborne Task Force (FATF), and the French Group of Commandos and French Naval Assault Group.

Chapter 5 by Dean A. Nowowiejski is titled "Command Decisions on Counterattack and Deep Envelopment in the Battle of the Bulge." In December 1944, Hitler's Fifth and Sixth Panzer Armies attacked the US First Army in the Ardennes Forest of eastern Belgium, a surprise move that penetrated the army front and created a large salient in the Allied lines known as The Bulge. Rather than reviewing the defense in the early days of the German offensive, this chapter focuses on decisions that the Allied generals made to counterattack the German salient in order to save Bastogne and, most importantly, the decisions they made in order to remove the Bulge itself. Nowowiejski specifically addresses the employment of counterattacks in the Battle of the Bulge to not only gain a position of tactical advantage but also achieve the larger purpose of counterattack to stop the enemy and take the initiative away from the enemy through envelopment.

Chapter 6, the last chapter in the book to address World War II deep maneuver, was written by Timothy Heck and titled "From the Vistula to the Oder: Soviet Deep Maneuver in 1945." By 1945, the Soviet Army had pushed the Germans back to the Vistula River in Poland; the Soviets planned a series of front-sized campaigns to defeat the Germans and allow the seizure of Berlin. The Vistula-Oder strategic offensive was the main Soviet effort during these 1945 campaigns. The offensive was conducted in two fronts—each consisting of 10 armies (approximately 2.2 million men), an air army, and four to five corps-sized mobile groups, giving the two front commanders the ability to echelon their forces for breakthrough

and exploitation phases. The application of mass and tempo, along with the necessary enablers, was fundamental to Soviet success when conducting large-scale maneuver in depth during the Vistula-Oder campaign.

We shift away from World War II case studies in Chapter 7, written by Ronnie L. Coutts of the British Army. In "The Israeli Experience: The Apogee of Blitzkrieg," Coutts describes the adoption of the concept of deep maneuver in 1967 and 1973—necessitated by the Israelis' lack of maneuver space and the need to avoid deliberate battles of destruction. In 1967, General Israel Tal's Ugda (division) conducted rapid deep maneuver across the Sinai to quickly bring the battle into Arab territory. Then in 1973, General Ariel Sharon gambled to attack across the Suez Canal into Egyptian rear areas—a gamble that was won only due to the piecemeal attacks by the Egyptians.

Colonel Paul E. Berg and Kenneth E. Tilley authored "Task Force Normandy: Deep Operation that Started Operation Desert Storm" in Chapter 8. This chapter describes the initial strikes in Operation Desert Storm by Task Force Normandy, which initiated Operation Desert Storm in January 1991. This operation by Task Force Normandy showed the effects of dramatic changes in thinking about the dimensional multi-domain battlefield and how to organize and fight in it. Task Force Normandy also proved the doctrinal ideas about deep attack operations in large-scale combat operations and aviation in the 1990s. This deep maneuver mission also proved the importance of moving toward joint integrated operations that will be fundamental in the thinking of future Army doctrine and the current continued concepts of large-scale combat operations.

Chapter 9 by Gregory Fontenot, E.J. Degen, and David Tohn is titled "Army Attack Aviation: The 11th Attack Helicopter Regiment's Attack in Karbala." This chapter, an excerpt from *On Point: The United States Army in Operation Iraqi Freedom*, describes the unsuccessful deep strike by the 11th Attack Helicopter Regiment (AHR) on 23 March 2003 as part of Operation Iraqi Freedom. In this attack, 31 of 32 aircraft were damaged, one aircraft was downed in enemy territory, and two pilots were captured—without decisively engaging the Iraqi Medina Division. As a result, it took 30 days for the 11th AHR to restore the regiment to full capability, and the situation cast a shadow over deep-attack operations throughout the duration of major combat operations in Iraq.

Joseph A. Royo, Stephen E. Ryan, and Daniel E. Stoltz authored Chapter 10, titled "Task Force Viking: Conventional Forces-Special Operations Forces—Synergy in Large-Scale Ground Combat Operations." This

chapter outlines the importance of gaining synergy between Conventional Forces (CF), Special Operations Forces (SOF), and indigenous forces at all levels of warfare. Using Coalition operations in Northern Iraq during Operation Iraqi Freedom, the authors describe how Task Force Viking integrated the 52,000-man-strong Kurdish Peshmerga to effect the liberation of Kirkuk and Mosul in 2003.

Chapter 11, written by Brendon E. Terry, is titled "Maintaining Capability and Options: Dismounted Reconnaissance in the Division and Corps Deep Area." This chapter describes the importance of a critical enabling capability for deep operations—dismounted reconnaissance. Focusing on the Division and Corps fights, Terry describes the evolution of dismounted reconnaissance. Terry then provides two case studies on the utility of this enabling capability: Long-Range Patrol (LRP) units in Vietnam and Long-Range Surveillance Units (LRSU) in Operation Desert Storm and Operation Iraqi Freedom I. He concludes that the US Army must maintain this capability for the future.

The final two chapters focus on the future of Deep Maneuver. Major General William K. Gayler, the Commander of the US Army Aviation Center of Excellence discusses "The Future of Army Aviation in Deep Maneuver" in Chapter 12. Major General Gary M. Brito, the Commanding General of the Maneuver Center of Excellence, and Major Keith Boring explore the future of multi-domain battle in Chapter 13, "Disrupted, Degraded, Denied, but Dominant: The Future Multi-Domain Operational Environment." Both of these chapters provide insight into the future of deep maneuver.

We owe thanks to the staff of Army University Press for putting this book into physical and electronic form as part of *The US Army Large-Scale Combat Operations Series* book set. Special thanks to Colonel Paul E. Berg, project general editor; Donald P. Wright; Robin D. Kern; Diane R. Walker, and Lynne M. Chandler Garcia for their support. As the general editor, I alone am responsible for errors, omissions, or limitations of this book.

Notes

1. Donn A. Starry, "Extending the Battlefield," *Military Review* 61, no. 3, March 1981, 32.

2. Hannah Hutrya, "115 Vince Lombardi Quotes to Use in the Game of Life," accessed 14 July 2018, http://www.keepinspiring.me/vince-lombardi-quotes.

3. Department of the Army, Army Techniques Publication (ATP) 3-94.2, *Deep Operations* (Washington, DC: 1 September 2016), 1-2.

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

5. FM 3-0, 2-202.

Chapter 1

Surprise: The XIX Panzer Corps' Lightning Advance into France, May 1940[1]

Lieutenant Colonel Edward P. Shanahan

> *In the offense, the decisive operation is a sudden, shattering action against an enemy weakness that capitalizes on speed, surprise, and shock. If that operation does not destroy the enemy, operations continue until enemy forces disintegrate or retreat to where they no longer pose a threat.*[2]
>
> —Field Manual (FM) 3-0, *Operations*

The desire to achieve surprise in military operations is timeless. Considered an essential element of victory from ancient times to the present, the concept of surprise is almost universally enshrined as a principle of war. Because surprise is vital to successful offensive and defensive operations, particularly at the operational and tactical levels of war, it can decisively shift the balance of combat power and affect the outcome of campaigns and battles.

Surprise influences the enemy's sense of self-confidence, mental stability, competence, and will and ability to fight. Surprise induces psychological shock in enemy leaders and soldiers when it targets their command, control, and communications systems—thus delaying their reactions and reducing the effectiveness of their combat and support systems. The enemy need not be taken totally unaware but only become aware too late to react effectively, thereby allowing the attackers to establish favorable battlefield conditions and set the terms of battle. Through the use of surprise, success out of proportion to the effort expended can be gained.

A classic example of surprise is the Germans' penetration of the Ardennes in May 1940. The German plan in 1940 was to win a quick, decisive victory against the French and their Allies by achieving strategic surprise. Beginning its operation at 0535 on Friday, 10 May 1940, the Wehrmacht launched its campaign in the west by invading the Netherlands, Belgium, and Luxembourg. In less than one week, the Wehrmacht had shattered the French Army and, within the next six weeks, had conquered France and its Continental Allies in the west, driving the British Army from the Continent. The key to the Wehrmacht's smashing victory was the successful attack of a major German force through the Ardennes, an operation that achieved almost complete surprise. General Heinz Guderian's XIX Panzer Corps, which spearheaded the advance, moved approximately 220 miles in

11 days, penetrating the "impassable" Ardennes Forest, breaching a fortified river line, and defeating a major slice of the French Army. The decisive German victory reaffirmed the critical importance of surprise in warfare.

The original German plan to invade France and the Low Countries (*Fall Gelb* or Plan Yellow) was unimaginative and highly conservative. When *Fall Gelb* was compromised in January 1940, French forces were alerted and deployed to the frontiers. Nothing happened, however, and operations on the Western Front lapsed into the routine of the so-called "phoney war." Fortunately for the Germans, the Allies had revealed a preview of their wartime strategy and dispositions. As a result, two changes occurred: The Germans altered their plans, and Hitler tightened the security surrounding the forthcoming operations. The Allies also initiated their own changes, deciding to reinforce the Netherlands and Belgium. General Maurice Gamelin shifted the French Seventh Army from strategic reserve and committed it to the Allied left flank in the Netherlands. Under this revision, known as the Breda Variant to the Dyle Plan, 30 French divisions would wheel into Belgium and the Netherlands at the outset of the German attack. The hinge of this operation was the French Ninth Army, composed of 10 weak, mostly reserve, divisions. The other unit facing the so-called impenetrable Ardennes was the French Second Army, deployed with its strongest division on its right, to protect any attempt to outflank the Maginot Line, and its weakest divisions on the left, behind Sedan and adjacent to the Ninth Army.

One of the alternative plans to *Fall Gelb* was drawn up by General Erich von Manstein, the chief of staff of General Gerd von Rundstedt's Army Group A. The Manstein variation shifted the main effort from the northern right wing to the center in the Ardennes region. Manstein's aim was to achieve a decisive victory through a two-phase campaign: Phase I was to break through the enemy's front and cut off forces that had advanced into Belgium; phase II was to envelop the remaining enemy forces north of the Somme River. Manstein's plan was predicated on achieving strategic surprise. He believed the French High Command would anticipate a German repetition of the World War I Schlieffen Plan and would react to stop a German drive into Belgium as far to the east as possible. Manstein also argued that the bulk of the Allied forces would be committed prematurely. Therefore, the German main effort should be shifted from Army Group B in the north to Army Group A in the center, and the penetration should occur along the Meuse River between Namur and Sedan.

On 24 February, the *OKH* (Army High Command) issued a modified version of Manstein's plan. Army Group B, with 30 divisions, would

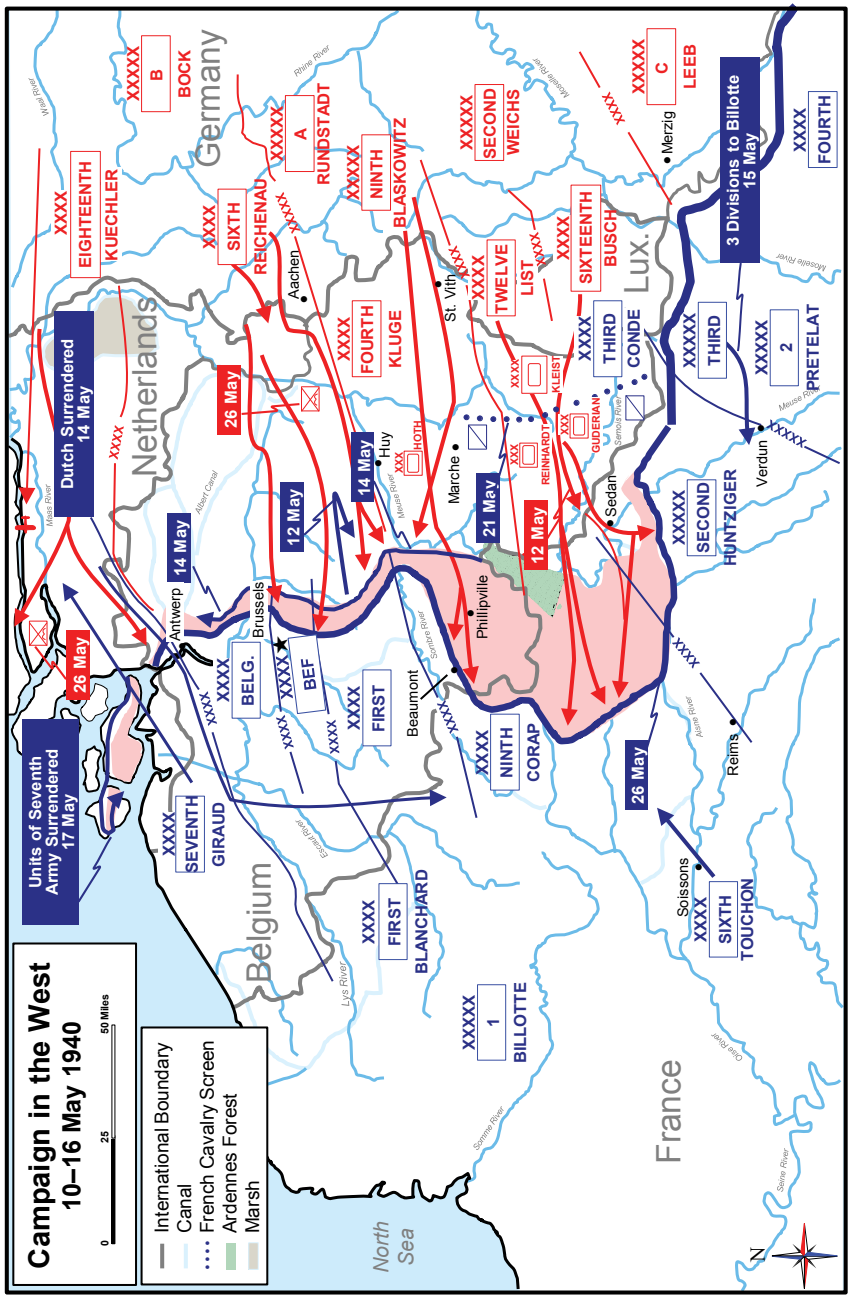

Figure 1.1. Campaign in the West, 10–16 May 1940. Map created by Army University Press.

strike the Allied left flank as a major supporting attack to confirm the Allies' preconceived belief that they were the main effort. This would draw the Allies into the Low Countries prematurely and divert their attention from the critical area of the main attack executed by Army Group A. Army Group C, with 19 divisions on the left wing, would hold the southern flank and demonstrate in front of the Maginot Line defenses to hold those forces, particularly the reserves, in place.

The main effort through the hilly and densely wooded Ardennes would be made between Liege and Luxembourg. This thrust through the "impassable" Ardennes would be entrusted to General Ewald von Kleist's panzer group, comprised of two spearheads—General Heinz Guderian's XIX Panzer Corps with three divisions aimed at Sedan and, on his right, General Georg-Hans Reinhardt's XL1 Panzer Corps of two panzer divisions aimed at Montherme. Farther north was General Hermann Hoth's 5th and 7th Panzer Divisions to cover the northern flank of the main attack.

The plan could only work if German armored and motorized units successfully negotiated the difficult Ardennes, with its limited road network, before the Allies identified the main effort. Surprise, speed, and operational security would be critical, as would the success of the deception executed by the right wing. German intelligence on Allied troop dispositions confirmed Manstein's conviction that the Allies had discounted a blow in the Ardennes.

Army Group A's divisions were packed into the Ardennes from the Luxembourg border to the vicinity of Giessen-Marburg, some 200 kilometers. Despite the need for surprise, the assault tanks were moved as far forward as possible prior to the actual attack and put on designated priority roads. Guderian's formations were drawn up in the attack zone with three divisions abreast. The main effort of the XIX Panzer Corps was the 1st Panzer Division in the center, the 2nd Panzer Division on the right, and the 10th Panzer Division and the *Grossdeutschland* Infantry Division on the left.

On 9 May 1940, Hitler authorized the initiation of operations. In turn, Kleist's panzer group issued its start order. While the bulk of the XIX Panzer Corps prepared for the assault, special operations troops infiltrated across the border to seize key targets, thus facilitating surprise and the swift movement of major units.

In conformity with their plans, the Allies turned their attention north to what appeared to be the main assault. The II and XI Corps, on the left of Ninth Army, moved from their frontier positions into Belgium between Namur and Givet. To their right, with orders to delay the enemy, two light

cavalry divisions, a brigade of Spahis (African) Cavalry, plus a similar force (four-and-one-half cavalry divisions) from the Second Army, moved across the Meuse to meet Rundstedt's vanguard in the Ardennes. The Belgian forces in the Ardennes consisted of two light infantry divisions, also with a mission to delay the Germans.

On the morning of 10 May, elements of the XIX Panzer Corps rushed across the Luxembourg border. The 1st Panzer Division, in the center of the corps advance, crossed at Wallendorf and headed for Martelange (the Belgian's first line of resistance) and then to the first day's objective at Neufchriteau. The 2nd Panzer Division on the northern (right) flank crossed at Vianden and headed for Tintage and then Libramont, while the 10th Panzer Division, on the southern (left) flank, crossed near Echternach and proceeded toward Rosignol. The entire corps advanced in a tight formation, presenting an excellent target, but the Allies had been unable to penetrate the Luftwaffe screen and were taken in by the deception in the north. Meanwhile, the Luftwaffe completely surprised the Allies by attacking 72 key airfields in France, Belgium, and the Netherlands—in some cases to a depth of 300 kilometers. In addition, the German use of special operations forces, unconventional tactics in Luxembourg, and airborne and air assault operations behind Belgian lines assisted the rapid movement of the XIX Corps by securing key facilities and critical passage points along the major routes of advance. By 1000, the 1st Panzer Division's forward detachment reached the Belgian frontier east of Martelange.

At Martelange, a company of Belgian chasseurs blocked the Wehrmacht's advance, the first of several short but costly battles that upset the Germans' timetable. By 1100, however, German lead elements had seized the high ground northeast of the town. By 1200, the advance guard had reached Bodange. Again encountering fierce resistance by Belgian defenders, the Germans attacked using concentrated artillery and four 88-mm antitank guns. By 1800, the defenders, unable to withdraw, surrendered. By evening, the Belgian frontier had been penetrated, but as a result of the battles along the frontier, Guderian's XIX Corps did not accomplish its first day's objectives—a credit to the valiant Belgian soldiers.

During the night of l0–11 May, the 10th Panzer Division, ordered to halt, prepared a hasty defense between Etalle and Arlon against an anticipated French counterattack on the left flank. Guderian vehemently argued against halting his advance, insisting that reaching the Meuse River should remain the XIX Corps' main focus to exploit the advantage of surprise. Guderian prevailed. The orders were canceled and the three panzer divisions continued their advance until around 0430 on 11 May.

The divisions' objective for the 11th was to reach the Meuse River. As the German panzer divisions proceeded, they struck the next defensive line about 1130. Then, the 10th Panzer Division bogged down in the forest around Arlies and Rulles, while the 2nd faced stiff resistance at Libramont. Though slowed again by numerous road obstructions and artillery fire, the 2nd penetrated the second Belgian defensive line, and by 2100, its advance guard had pushed out to Paliseul, 15 kilometers west of Libramont.

Guderian intended for the 1st Panzer Division to break through the second defensive line in the vicinity of Neufchateau (the first day's objective) and, if possible, advance to Sedan. The 1st, however, did not begin its advance until around noon and then ran into numerous road demolitions and mines. To add to the confusion, the Belgian chasseurs had changed many of the road and town signs. Neufchateau was not secured until 1500.

At 1700, for the first time since the beginning of the operation, the Germans of 1st Panzer Regiment encountered French troops, the 5th Division *Légère Mécanique*. The French put up stiff resistance but, after an hour, withdrew to Bouillon, a key defile on the Semois River leading to the Meuse at Sedan. In two days, the 1st Panzer Division had advanced 100 kilometers, 5 kilometers short of the French border and 20 kilometers from Sedan.

Additionally on the 11th, *OKH* intelligence positively identified the Allied main effort along the Dijle River. Orders for operations on 12 May reiterated the importance of reaching the Meuse River and establishing bridgeheads there. On the 12th, the XIX Panzer Corps resumed its attack, again successfully exploiting the element of surprise. By evening, the bulk of the XIX Corps (except for the 2nd Panzer Division, which was delayed due to numerous detours) reached the northern bank of the Meuse River in the vicinity of Sedan. By 1900, the French withdrew to the left bank, destroying all bridges as the Germans concentrated their artillery to support the river crossing.

The *OKH*, apprehensive about the river crossing, threatened to slow down the advance, but Kleist objected, emphasizing the importance of speed, timing, and surprise. He ordered Guderian to cross the Meuse at 1600 on the 13th. In response, the XIX Panzer Corps' staff worked on the operations order throughout the night. The final order was issued at 0815 on 13 May, which gave the divisions little time to execute a difficult operation. Fortunately, the plan mirrored an operation they had wargamed and rehearsed earlier along the Moselle River.

Guderian's attacking forces, the 1st and 10th Panzer Divisions, were to attack on line, with the main effort in the 1st Panzer Division's zone of action (the 2nd Panzer Division was still delayed at the Semois River). The *Grossdeutschland* Infantry Regiment, corps artillery, and heavy artillery battalions were to follow the 1st Panzer Division. To encourage his men, Guderian personally visited each of his three divisions that morning prior to their assaults.

In the vicinity of Sedan, the Meuse was 55 meters wide and unfordable. Further enhancing the main line of resistance were concrete bunkers and trenches hedged by belts of barbed wire. In addition, each defensive position had an antitank gun and machine guns spaced at 183-meter intervals. However, the defenses were incomplete and were manned by the French 55th and 71st Infantry Divisions, which were composed of elderly reservists. Nonetheless, Marfee heights, which overlooked Sedan, provided an excellent position for observation by French artillery observers, and the 55th had massed 140 guns in this sector.

By 0800, after working all night, all German elements were in their assault positions in the wood lines along the river. Forward of these positions, they faced several hundred meters of ground open to enemy observation and fire. At 1000, the Luftwaffe commenced a five-hour bombardment of enemy artillery, defensive positions, and assembly areas. At 1500, as the Luftwaffe bombing effort reached its culmination, the German artillery joined in for a massive combined, concentrated preparation. At the same time, infantry and engineers in the initial assault elements used this opportunity to cover their advance to the river's edge.

At 1600, the 1st Panzer Division advanced slowly but gradually increased its momentum. By dark, Lieutenant Colonel Hermann Balck's 1st Infantry Regiment had gained a foothold across the river. By 1730, the lead elements of the 2nd and 3rd Battalions had reached the Donchery-Sedan rail line 1½ miles southwest of the crossing site. By 1800, Guderian crossed the river and joined the 1st Infantry Regiment in the advance. Meanwhile, Balck attacked the defensive line south of the Sedan-Bellevere road. By 2030, he had breached the line and opened a gap in the French line between Frenois and Wadelincourt. Balck realized the surprise he had achieved, understood his commander's intent, and kept pressing the attack in order to carry the bridgehead as far forward as possible. At this point, French resistance was still minimal. A bridgehead 3 miles wide and 6 miles deep was established by dawn, and the first tanks were ferried across.

The 2nd and 10th Panzer Divisions of the XIX Corps fared worse than the 1st Panzer Division, even with their superior firepower. Due to extremely effective defensive fires, the 10th managed to establish only a small foothold by 1930—at a tremendous cost in lives and materiel. The 2nd Panzer Division suffered an even worse fate than the 10th. The 2nd assaulted across open terrain under devastatingly accurate artillery fires and faced tank-to-bunker firefights. At 2100, Guderian redirected its crossing efforts.

Guderian's XIX Panzer Corps managed to establish the critical bridgeheads south of Sedan and at Gaullier. Without these significant bridgeheads across the Meuse, the corps would not have been able to maintain its center of gravity.

By midnight, the XIX Panzer Corps had established a salient 6 kilometers deep and 5 kilometers wide. Guderian, now concerned about a French counterattack, used the remainder of the night to strengthen his positions. He directed the infantry to dig in and all available panzer and antitank units to continue to move forward. On 14 May, he intended to widen and protect the bridgehead, exploit his success, secure crossing sites along the Ardennes Canal, and conduct a breakout toward Rethel.

The actions of 14 May proved to be highly significant in terms of the campaign, as the XIX Panzer Corps continued to enlarge its bridgehead south toward Stonne and the Ardennes Canal. Throughout the day, the French tried unsuccessfully to cut Guderian's lifeline by attacking the bridgehead, both sides attacking and counterattacking throughout the day. Guderian, staunchly sustained by his vision of how the attack should unfold and the campaign's objectives, continued to push armor and artillery over the Gaullier bridge site—some 300 armored vehicles and a 105-mm battalion. Also during the night, the 2nd Panzer Division managed to advance a panzer regiment with infantry across. To keep the bridge operable, corps engineers endured continual air attacks.

The 1st Panzer Division absorbed the brunt of the French counterattacks. In these engagements, the tactical competence and leadership of the well-trained Germans proved to be critical. The Germans' capability to communicate and maneuver quicker than the slower-reacting French allowed them to engage French armor with flank shots—in microcosm, an analogy of the entire campaign in France. By 2400, the XIX Panzer Corps had fought off five and one-half French divisions and secured a great tactical victory—but at the operational level, it would be for naught if Guderian did not continue to exploit the advantage that surprise had given him and maintain the momentum and initiative he held.

Again, Guderian's superiors expressed concern for the security of his rapidly moving corps and feared that it was overextended. Guderian, however, opposed stopping and wanted the uncommitted divisions so he could continue the deep attack. By striking immediately and continuously, he could disrupt any Allied countermoves, and the speed of his advance would ensure XIX Corps' security. Late that night, Kleist withdrew the order to stop Guderian and allowed him to continue the advance. As it turned out, *OKH*'s intelligence assessment reported no significant repositioning by the French reserves that would indicate a counteroffensive.

On 15 May, the XIX Panzer Corps' breakthrough continued to develop successfully, literally splitting two French armies at their weakest points and setting the stage for the pursuit of forces to the English Channel. As a result of this success, the bridgehead was expanded to a depth of 25 kilometers by 50 kilometers, and French resistance in the sector dispersed. By nightfall, however, the operation was again halted because *OKH* feared that the XIX Panzer Corps' deep penetration would be cut off by a French counterattack. Once again, Guderian pleaded to continue so he could take advantage of the surprise he had gained. Guderian believed that he should advance as long as he had the freedom to maneuver. If the XIX Panzer Corps slowed down or halted operations, the French would have the critical time they needed to react effectively. With Kleist's support, the *OKH* rescinded the order, and Guderian spurred his weary troops on and effected a linkup between his 1st Panzer Division and the 6th Panzer Division from Reinhardt's XLI Panzer Corps at Montcornet. By establishing this two-corps front, Guderian set the stage for the pursuit phase of the operation.

As the XIX Panzer Corps' soldiers surveyed the open horizon on the morning of 16 May, they realized their achievement. The XIX Corps accomplished in six days what the German Army in World War I had only attempted. As Guderian wrote, "We are in the open now, the men are wide awake and aware that they have achieved a complete victory."

Notes

1. This article is reprinted from Roger J. Spiller, ed., *Combined Arms in Battle Since 1939* (Fort Leavenworth, KS: US Army Command and General Staff College Press, 1992), 231–239. Sources for this chapter include Robert A. Doughty, *The Breaking Point: Sedan and the Fall of France, 1940* (Hamden, CT: Archon Books, The Shoe String Press Inc., 1990); Heinz Guderian, *Panzer Leader* (Washington, DC: Zenger Publishing Co., 1979); Alistair Horne,*To Lose a Battle: France, 1940* (Boston, MA: Little, Brown and Co., 1969); Erich von Manstein, *Lost Victories* (Novato, CA: Presidio Press, 1982); and Florian K. Rothbrust, *Guderian's XIXth Panzer Corps and the Battle of France: Breakthrough in the Ardennes, May 1940* (New York: Praeger, 1990).

2. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 6 October 2017), 7-1.

Chapter 2
Considerations for Deep Maneuver: Operation "Crusader"[1]

Major Glen L. Scott

> *The ability of a commander to posture friendly forces for a decisive or shaping operation depends on the commander's ability to move that force. The essence of battlefield agility is the capability to conduct rapid and orderly movement to concentrate combat power at decisive points and times*.[2]
>
> —Field Manual (FM) 3-0, *Operations*

The British offensive termed Operation "Crusader" began on 18 November 1941 in the vicinity of the Egyptian-Libyan frontier and lasted until the middle of January 1942, by which time the Axis forces had withdrawn to El Agheila. Whereas in "Battleaxe" the maneuver forces were divisions, in "Crusader" corps formed the maneuver base. "Crusader" thus provides an excellent opportunity to observe the maneuver of large units by both the Allied and Axis forces.

This chapter focuses upon the period of greatest relevance for the study of maneuver warfare, 18–23 November and 24–27 November 1941. Beginning 18 November, the British XXX Corps moved deep into Axis territory and fought the German Afrika Korps in a series of battles and maneuvers that culminated at Sidi Rezegh on 23 November with a tactical victory for the Axis. From 24 to 27 November, Rommel led the Axis mobile forces on a bold, but futile, maneuver designed to encircle the British 8th Army and break their will to continue the offensive. The emphasis during discussion and analysis will thus be upon the actions of the British XXX Corps, the German Afrika Korps and the respective army commanders. Actions of other major units, the British XIII Corps and German and Italian supporting forces, will be limited to that necessary to maintain continuity.

Setting

After "Battleaxe" in June 1941, both sides were exhausted. Rommel was unable to exploit his success. Instead he began to assemble forces to assault Tobruk and remove it as a threat to his rear prior to invading Egypt. On the British side, Churchill relieved Wavell and the British forces in North Africa underwent extensive reorganization. As the time for "Crusader" approached, the British were increasingly able to devote more resources toward North Africa, particularly as the Russians successfully

slowed the German advance to the Caucasus. The German war effort, on the other hand, was concentrated upon their Russian campaign. The British realized that they must strike during the period of German preoccupation with Russia and before Rommel could overpower Tobruk.

General Sir Claude Auchinleck replaced Wavell as commander of the Middle East in July 1941. He immediately came under pressure from London to resume the offense in North Africa. His reaction was to insist on receiving sufficient resources to conduct a major operation. The remnants to the British Western Desert Force were redesignated as the 8th Army, under the command of Lieutenant General Sir Alan Cunningham. With reinforcements and new equipment, the 8th Army grew to two corps—the XIIIth, commanded by Lieutenant General A.R. Godwin-Austin, and the XXXth, commanded by Lieutenant General Sir W. Norrie. The XIIIth consisted of two infantry divisions (4th Indian and New Zealand) and a tank brigade. The XXXth contained an armored division (the 7th), an armored brigade group, an infantry division, and a motorized infantry brigade. Within Tobruk, commanded by Lieutenant General Sir R. Scobie, was an infantry division (the 70th), an armored brigade, and a Polish infantry brigade. An infantry division (2nd South African) and infantry brigade group formed the Army reserve. En route to North Africa were elements of a second armored division.[3]

The British estimated the Axis forces could field seven armor battalions with about 390 tanks, including light German tanks but excluding light Italian tanks. According to official records, the British 8th Army fielded 12 armor battalions (including 3 battalions of "I" tanks, but excluding the mixed tank brigade in Tobruk) with 477 tanks in XXX Corps and 135 tanks in XIII Corps. Additionally, the British maintained more than 250 tanks in reserve, to serve as replacements for battle losses, with another 236 tanks en route by sea.[4]

The British reorganization and refitting effort neared completion by the end of October 1941. However, as in the case for "Battleaxe," many units were not fully trained.[5] Recognition of this was a major factor in delaying the offensive to last half of November. Another concern was the relative quality of equipment. Although the British expected to outnumber the Axis at least 3-to-2 in armor strength, the German tanks, if not the Italians, were more heavily gunned. The British had greater numbers of anti-tank guns than previously but they were still primarily the weak 2-pounder, except for some 18-pounders in the 1st South African Division.[6]

The British expected to gain air superiority.[7] After "Battleaxe," the Desert Air Force sought to improve army/air cooperation and revised many of its procedures for providing close support and conducting the tactical air campaign. One significant change was the recognition that the air commander must locate control elements forward with the ground forces.[8]

Rommel believed the British would attack sometime around November 1941. British strength had grown sufficiently and, more importantly, the German advance toward the Caucasus was slowing.[9] Thus the British could concentrate upon attacking without worrying about a German attack through the Caucasus.[10]

Rommel faced much the same situation as he had prior to "Battleaxe." By the beginning of September, the Italian and German High Commands had concluded that until the port of Tobruk was captured, any advance into Egypt was pointless.[11] While Tobruk remained under British control, the Axis had no supply port close to the front near Sollum. Benghazi was 300 miles away and Tripoli almost 1,000. Accordingly, it became a question of who could build up enough strength to attack first—Rommel against Tobruk or the British against Rommel.

Rommel's forces consisted of one German and two Italian corps. The heart of the Axis forces was the German Afrika Korps. Commanded by Generalleutnant Ludwig Cruewell, the Afrika Korps consisted of the veteran 15th and 21st Panzer Divisions and a newly formed provisional infantry division (the Afrika Division, later to be renamed the 90th Light). The Italian XXI Corps under Generale di Corpo Navarrini consisted of five infantry divisions. The Italian Armored Corps, under Generale di Corpo Gambara, consisted of the Ariete Armored Division and the Trieste Motorized Division. The Italian Armored Corps was nominally under Italian national control and not subject to Rommel's orders; however, General Gambara agreed to position his forces to support Rommel's desires.[12]

The Axis forces were far from uniform in equipment or quality. The German forces were generally mobile, well-armed (particularly with anti-tank guns when compared to the British), and well-led. The Italian forces suffered from poor equipment and leadership.[13] The Italian infantry was generally without transport and weak in anti-armor weapons while the Italian armor was obsolete and inferior to the British. The Axis tank strength comprised 260 German and 154 Italian tanks.[14] Unlike the British, the Germans did not seek to build a reserve of tanks, at least in part because they simply did not have any to spare.

Rommel intended to attack Tobruk 23 November 1941.[15] By 16 November, the Axis forces had been repositioned to attack Tobruk while also guarding against an attack out of Egypt.[16] Four divisions of the Italian XXI Corps, strengthened with some German units, invested Tobruk. The German Panzer divisions were centrally located between Tobruk and the frontier, relatively close to the Mediterranean Coast. The Italian Armored Corps was located south of Tobruk (the Ariete Armored Division at Bir el Gobi and the Trieste Motorized at Bir Hacheim). The Axis frontier defenses were mostly manned by Italians with some German elements. In the months since "Battleaxe," continued improvements had been made in the frontier defenses, including the use of extensive mine fields.[17]

If the British launched a major attack out of Egypt, Rommel depended on their mobile forces making a wide movement to bypass the static Axis frontier defenses. Rommel would then have the option of either attacking the British armor or its vulnerable line of communications.

The Plan and Preparations

The British mission was to destroy Rommel's Army, relieving Tobruk in the process. Exploitation toward and beyond Tripoli was thought possible. With the defeat of the Axis forces in Libya and subsequent occupation of airfields by the Royal Air Force, decisive British air and naval influence would expand well into the central Mediterranean; pressure on Malta would be eased and Italy itself threatened with invasion. The key to accomplishing this had not changed since "Battleaxe." Rommel's armor, particularly his two German panzer divisions, had to be destroyed.

Two courses of action were considered for "Crusader." The bolder alternative involved a deep thrust from the Libyan-Egyptian frontier across the bulge of Cyrenaica to seize the key Axis port of Benghazi, severing Rommel's line of communication. A supporting attack would be made against the Axis forces around and to the east of Tobruk. The second course of action considered was a much shorter hook from the frontier, around the Axis frontier defenses, toward Tobruk. This attack would directly threaten the Axis forces around Tobruk and also the Axis line of communications with their frontier defenses. A supporting attack would serve to mask the frontier defenses. The idea of the second alternative was to force Rommel into a decisive tank battle short of Tobruk.[18]

The first course of action, the deep thrust to Benghazi, was rejected as too risky. It required the movement of large forces over 400 miles of questionable terrain. There were doubts such a force could be supplied and provided effective air support. Perhaps the most disturbing aspect was the

uncertainty as to Rommel's reaction to such a movement. It might be the British rather than the Axis supply line that was cut or, worse still, Rommel might ignore the British advance and attack a weakly defended Egypt where he could live off the British stores in the Delta.[19]

The alternative selected bore a resemblance to "Battleaxe," substituting corps for divisions. XIII Corps would fix the Axis frontier defenses while XXX Corps thrust around the defenses to the south, then turned northwest to engage the Axis armor near Tobruk. After the Axis armor was defeated, the siege of Tobruk would be raised in conjunction with a sortie by the garrison. An armored brigade group, nominally under command of XXX Corps, would operate between the two corps to guard the left flank and rear of XIII Corps from any German armor attack. As a deception measure, a small brigade-sized force, would thrust along the route originally envisioned in the alternative plan for a deep thrust on Benghazi.

The critical assumption of the plan was that Rommel would react strongly to the penetration by XXX Corps. On the first day, the British armor would advance about 30 miles into the Axis rear, near the vicinity of Gabr Saleh. General Cunningham, 8th Army commander, left his options open for subsequent movements, depending on how Rommel reacted. The commander of XXX Corps, General Norrie, favored advancing on the second day to the area El Adem-Sidi Rezegh. The Sidi Rezegh area both contained an excellent airfield and was dominating terrain. If the British held the airfield, and the ridge to its north, they would effectively interdict Rommel's line of communications west of Tobruk as well as overlooking the Axis forces investing Tobruk.[20]

The British were determined not to repeat the mistakes of "Battleaxe." The Army Commander intended to be positioned well forward.[21] The British knew they could not deceive Rommel that there would be an attack. However, they intended to deceive him as to the time and place of the attack.[22] A significant effort was made to achieve surprise and prevent German observation of preparations for the offensive.[23] An example of the British deception measures were the elaborate camouflage efforts, including the use of canvas "sunshades" to disguise hundreds of tanks as trucks when seen from the air.[24]

Unlike "Battleaxe," British preparations for "Crusader" were methodical and complete. The railway line was extended more than 50 miles west of Mersa Matruh, water was piped from Alexandria almost as far as the railhead, and more than 25,000 tons of supplies were stockpiled in forward areas.[25]

Opening Phases of the Battle: 18–23 November

Preparations for "Crusader" were not limited to the Army. In the days preceding 18 November 1941, the Desert Air Force conducted an extensive air campaign against Axis air, ground and sea logistics.[26] The British navy conducted aggressive patrolling to further disrupt the Axis supply effort. Deep operations by parachutists and commandos were staged against supply centers, airfields and critical command centers.[27] As expected, the Desert Air Force achieved air superiority from the start of the operation and maintained it, with rare exceptions, throughout the campaign in North Africa.[28]

By midnight on 17 November, the 8th Army and the Desert Air Force was concentrated along the frontier. At dawn, XXX Corps crossed the frontier and by evening had generally completed its planned advance for the first day, encountering only light resistance from reconnaissance elements. XIII Corps by evening had closed on the Axis frontier defenses. The British now waited for Rommel to react.

While the Germans expected a British attack, they did not know when or where it would occur. British security and deception measures during the preparations for "Crusader" had succeeded to such an extent that the attack was a tactical surprise. British success in thwarting German reconnaissance and signals intelligence was reinforced by other factors, among them the German concentration upon their own planned assault on Tobruk, heavy rains on the Axis airfields, and the fact that Rommel himself was out of North Africa for several days preceding the 18th.[29]

Rommel was initially skeptical of the significance of the British attack, believing it might simply be a reconnaissance in force to distract him from his attack on Tobruk. Not until the 19th did Rommel give General Cruewell of the Afrika Korps permission to attack, with one panzer division only, in the direction of the British armor.[30]

For the British, things had not worked as planned. The British armor had penetrated deep into Axis territory, but Rommel had not reacted. Early on the 19th, the 7th Armored Division commander gave orders which, rather than concentrating his division, dispersed the three armored brigades of XXX Corps. The 4th Armored Brigade was ordered to continue protecting the flank of XIII Corps. The 7th Armored Brigade was ordered to reconnoitre toward Sidi Rezegh. The 22nd Armored Brigade was to reconnoitre toward Bir el Gobi. The Support Group was to be prepared to support either the 7th or 22nd Armored Brigades.[31]

As a result of British impatience and Axis sluggishness, a series of separated and indecisive engagements were fought on the 19th. The 22nd

Armored Brigade fruitlessly assaulted the Italian Ariete Armored Division at Bir el Gobi. The 7th Armored Brigade overran the airfield at Sidi Rezegh against light resistance, barely 10 miles from Tobruk. The 4th Armored Brigade dueled elements of the German 21st Panzer Division probing down from the north toward Gabr Saleh. Meanwhile, XIII Corps continued to develop a shallow envelopment around the Axis frontier defenses.

On the 20th, the British were faced with a dilemma. They had reached the airfield at Sidi Rezegh, only 10 miles from Tobruk, but had not yet engaged the bulk of the German armor. Indications were that the Germans were concentrating their armor and would be moving south toward Gabr Saleh. The British decided to modify their offensive plan and relieve Tobruk while simultaneously fighting Rommel's armor. The position at Sidi Rezegh would be strengthened (7th Armored Division's Support Group would join the 7th Armored Brigade there), and the Tobruk garrison (70th Division) was ordered to sortie on the 21st toward Sidi Rezegh. At the same time, the 22nd Armored Brigade would move to join the 4th Armored Brigade at Gabr Saleh to face the Afrika Korps. XXX Corp's infantry division was split, one brigade assuming the mission of "masking" the Italian armorer at Bir el Gobi while the other moved to Sidi Rezegh.[32]

While the 4th Armored Brigade was fighting at Gabr Saleh on the 19th and 20th, the XIII Corp's New Zealand Division and "I" tank brigade were only 7 miles away at Bir Gibni. Offers by these units to assist XXX Corps at Gabr Saleh were declined.[33]

By the 20th, Rommel had finally concluded the British were mounting a major offensive. Unwilling to abandon the investment of Tobruk, or his frontier defenses, he instructed General Cruewell to destroy the British mobile forces. Believing the British 4th Armored Brigade near Gabr Saleh had been largely destroyed in combat with elements of the Afrika Korps since the 19th, he ordered Cruewell to attack the British forces at Sidi Rezegh on the 21st. As the 20th progressed, the Afrika Korps broke contact with the 4th Armored Brigade (and the arriving 22nd) and began to move toward Sidi Rezegh, leaving anti-tank screens to protect its rear.

During the period 21–23 November 1941, a confusing series of engagements were fought on and around the airfield and ridges of Sidi Rezegh. The British Official History captures the complex nature of the battlefield as it stood on the 21st:

> Over the 20 or so miles of country from the front of the Tobruk sortie to the open desert southeast of Sidi Rezegh airfield, the forces of both sides were sandwiched like the layers of a Neopolitan

> ice. In turn, starting from the north, there were (a) the troops of the 70th Division who had broken out, opposed by (b) German and Italian troops facing north and west; (c) a layer of Axis troops facing south, opposing (d) part of the 7th Support Group north of Sidi Rezegh airfield; the rest of the 7th Support Group and the 7th Armored Brigade facing south to oppose (e) the bulk of the Deutsches Afrika Korps heading north, pursued by (f) the 4th and 22nd Armored Brigades. To complete the picture, there were the troops of the 361st Afrika Regiment on Pt 175 to the east of Sidi Rezegh airfield, and the whole of the 155th Regiment to the west. A complicated situation indeed, which if suggested as the setting of a training exercise, must have been rejected for the reason that in real life these things simply could not happen.[34]

Each side had a different interpretation of what was happening. The Germans were attacking to destroy the British around Sidi Rezegh, believing they had already badly hurt the British armor around Gabr Saleh. In contrast, the mood at XXX Corps and 8th Army Headquarters on the 21st was optimistic. The British believed the Germans were retreating from Gabr Saleh and hoped to trap the Afrika Korps between their pursuing brigades (the 4th and 22nd) and their forces at Sidi Rezegh. They estimated 170 German tanks had been damaged while 209 British tanks were still operational. Elements of the British XIII Corps were also making good progress.[35]

Throughout the 21st and 22nd, both the British and Germans alternately attacked and retreated. Without clear information on losses or exact locations of units, both sides maneuvered and fought almost continuously. There were differences in the way in which they fought, however. Invariably it seemed that a British or South African Brigade, often without supporting arms, would battle a German panzer division organized for and practicing combined arms tactics.

By the 22nd, the British armored forces were in serious trouble. Tank losses on both sides were mounting, with the British having actually lost almost 200 tanks on the 21st alone. Late on the 22nd, an example of Clausewitzian chance occurred. The 15th Panzer Division, responding to a call for support from the 21st Panzer Division, made a night movement and literally stumbled into the night leaguer of the British 4th Armored Brigade with devastating results. The 4th Armored Brigade was overrun and scattered with a loss of several hundred prisoners and about 50 tanks. The brigade was effectively out of the battle until reorganized on the 24th. In a period of five days, the 450 tanks of XXX Corps had been reduced to

about 50. By contrast, the Germans still had 173 operational tanks out of a starting strength of 250.[36]

By morning on the 23rd, the extent of British tank losses was being realized at British headquarters. Still, it was thought the Germans had also suffered heavy losses. In fact, the German losses had not been as severe, in part due to their superior tactics and in part to their superior battlefield vehicle recovery and repair capability.

Early on the 23rd, Rommel ordered Afrika Korps to "encircle the enemy and destroy them." To accomplish this, the Italian Ariete Armored Division would advance northeast from Bir el Gobi while the 15th and 21st Panzer Divisions drove down from the north and east. When the armored forces met, the British would be driven against the German infantry and guns holding the ridge at Sidi Rezegh.[37]

General Cruewell's attack on 23 November ("Totensonntag" or Sunday of the Dead in German) was costly. While the attack did not develop exactly as planned, the Germans succeeded during the day in attacking and overrunning the separated British brigades in the Sidi Rezegh area (primarily the 5th South African Brigade and the 7th Armored Division's armored brigade and Support Group), while preventing the remnants of the British 4th and 22nd Armored Brigades from interfering. Cruewell's forces killed or captured 3,000 men but lost more than 70 of its remaining tanks. This was the highest daily loss of German tanks during "Crusader." Nevertheless, most of the 7th Armored Division and part of the 1st South African Division were destroyed and XXX Corps was shattered. The remnants of XXX Corps withdrew southward to reorganize. The immediate danger to the investment of Tobruk had passed, and the British armored forces were greatly weakened and disorganized.[38]

The British came close to admitting defeat on the 23rd. Citing his tank losses, General Cunningham prepared to abandon the offensive, but General Auchinleck realized that Rommel had no reserves left and intervened, stating: "continue to attack the enemy relentlessly using all your resources even to the last tank. Your main object as always to destroy the enemy tank forces. Your ultimate object remains the conquest of Cyrenaica and then advance to Tripoli."[39]

When General Cruewell reported his victory to Rommel early on the 24th, he recommended that he be allowed to complete the destruction of the British armor which had escaped from Sidi Rezegh to the south. Rommel, however, had other ideas.[40]

Raid and Retreat: 24 November to 7 December

Rommel decided the time had come for a bold move. Generalleutnant Fritz Bayerlein, chief of staff of the Afrika Corps, stated:

> Rommel's intention was to exploit the disorganization and confusion which he knew must exist in the enemy's camp, by making an unexpected and audacious raid into the area south of the Sollum front. He hoped to complete the enemy's confusion and perhaps even induce him to pull back into Egypt again. Our entire mobile force was to take part in the operation.[41]

At midmorning on 24 November 1941, Rommel left his headquarters and personally led the Afrika Korps toward the Egyptian border. From the 24th to the 26th, the Afrika Korps spread chaos and panic through the British rear areas.[42] Unfortunately for the Germans, the British infantry units of XIII Corps did not panic and fought stubbornly. Not only did the British not withdraw but Rommel was unable to relieve the pressure upon his frontier garrisons, and elements of XIII Corps (the New Zealand Division) continued a dogged advance toward Tobruk.[43]

An essential factor in the British resolve to continue the offense was the attitude of the British Commander for the Middle East, General Claude Auchinleck. On the evening of the 25th, he decided to relieve the 8th Army commander, no longer having confidence in his ability to continue an aggressive offensive. On 26 November, Auchinleck appointed his own Deputy Chief of Staff, Major General N.M. Ritchie, to replace Cunningham and continue the offensive.[44]

While Rommel was raiding toward Egypt with the Axis armored forces, the British were busy. XXX Corps was engaged in reconstituting an armored force. The 7th Armored Brigade was sent back to the Delta to be re-equipped. Remnants of the 7th were consolidated and attached to the 4th and 22nd Armored Brigades. The tank reserves which Auchinleck had insisted upon and recovery efforts began to have an effect; 37 Cruisers joined XXX Corps on the 27th, 44 arrived on the 28th, and another 31 arrived on the 29th. While XXX Corps was reconstituting, XIII Corps had assumed the mission of relieving Tobruk.[45]

The situation for the Axis forces in the Tobruk-Sidi Rezegh area became critical by the 25th. Urgent signals were sent to Rommel explaining the need for the Axis armor to return, but Rommel had been out of radio contact for most of the time he had been leading the raid toward Egypt. Growing desperate on the 26th, Rommel's operations officer, General Siegfried Westphal, contacted the 21st Panzer Division directly and

ordered it to return to the Tobruk area.[46] That same day, elements of XIII Corps effected linkup with elements of the 70th Division from Tobruk.[47]

By evening on the 26th, it was clear to Rommel that his raid was not having the desired results. Rather than collapsing, the British were continuing offensive operations around Tobruk. Throughout the raid, and particularly on the 26th, the German columns had sustained losses from heavy British air attacks. On the 27th, the Afrika Korps turned back toward Tobruk.

From 27 November to 1 December 1941, a series of engagements were fought around Tobruk. The German and Italians fought to sever the corridor linking Tobruk's garrison with the XIII Corps while the British sought to maintain the corridor while continuing to bring up reserves.[48] On 1 December, the Germans succeeded in isolating Tobruk again, but it was becoming clear that whereas the British were able to bring fresh forces forward (particularly the 2nd South African Division and elements of the arriving 1st Armored Division), the Axis had no reserves left to commit. Furthermore, because of the British naval and air superiority, Rommel could not expect any reinforcements before the beginning of January.[49]

Reluctant to admit that time was now favoring the British, Rommel attempted to relieve his frontier garrisons by ordering armored battle groups to break through to them on 3 and 4 December while continuing to attack in the vicinity of Tobruk. However, the British were also attacking and the Axis assaults were generally unsuccessful. XXX Corps had reconstituted to the point it was again engaging in offensive operations, and XIII Corps (in conjunction with the Tobruk garrison) continued to stubbornly fight both to reestablish the corridor to Tobruk and reduce the frontier defenses.

On the 6th and 7th, the Afrika Korps launched final attacks against the British in the vicinity of Bir el Gobi. The attacks failed with heavy losses. Rommel was now forced to admit that his forces, both German and Italian, were too exhausted and depleted to continue offensive operations. Local withdrawals had already begun as early as the 4th; on 7 December, the Axis forces began a general withdrawal to the west.[50]

Withdrawal: 7 December to 17 January

From 7 December to the beginning of January 1942, Rommel conducted a skillful withdrawal of almost 500 miles across the breadth of Cyrenaica to strong positions in the vicinity of El Agheila. The combination of British logistical difficulties, the steady shortening of his own line of communications, and aggressive delaying tactics by the Afrika Korps allowed Rommel to successfully extract the bulk of his forces. The notable exceptions were his frontier garrisons in the Bardia-Halfaya-Sollum

area. The last of the Axis frontier garrisons held out against ground attacks, aerial bombing and naval bombardment until 17 January. The resistance of these cutoff defenses, interdicting as they did the main east-west roadways, were one of the key reasons for British logistical difficulties in pursuing Rommel.[51]

Results of "Crusader"

Although the British lost more tanks in combat, because of the Axis retreat they were able to recover and repair many of them, an opportunity the Germans did not have. Thus the final tank losses were 278 British to about 300 German and Italian. With respect to personnel, during the mobile fighting casualties were roughly equal at around 18,000 each. However, the British ultimately captured 4,000 Germans and 10,000 Italians who had been cut off in the frontier defenses at Bardia, Sollum and Halfaya. Approximately 300 British aircraft were lost, while Axis losses were well over 300. Thus according to the numbers and by ground gained, the victory belongs to the British.[52]

The difficulty which even the British acknowledged in claiming a major victory was that in one essential aspect, the offensive had failed. Tobruk had been relieved and Cyrenaica recaptured, but the Afrika Korps had not been destroyed. Moreover, of the approximate 13,000 German casualties, a considerable portion were administrative personnel. The bulk of the British losses were combat soldiers whose experience would be missed.[53]

"Crusader" was a long, complex, and confusing offensive. The Clausewitzian concepts of chance and friction were much in evidence. Nevertheless, "Crusader" is a rich source of insights regarding the maneuver of large forces in mobile warfare. The analysis first addresses the British failure to destroy the Afrika Korps during the period 18–23 November 1941. Last is a discussion focusing on Rommel's thrust to Egypt from 24–26 November 1941.

As in "Battleaxe," the immediate tactical objective of the British was the destruction of the Axis armored forces. From the very beginning, the British recognized that all other objectives—including the relief of Tobruk and reduction of the Axis frontier defenses—must be secondary to destroying the estimated seven battalions of armor that Rommel could field. Against this criteria for success, the British failed in "Crusader." The Afrika Korps and the Italian Armored Corps were weakened but not destroyed.

Why the British failed to destroy the Axis armor is fundamental to any examination of "Crusader." To all appearances the British should have succeeded, certainly they were in a much superior position than during "Bat-

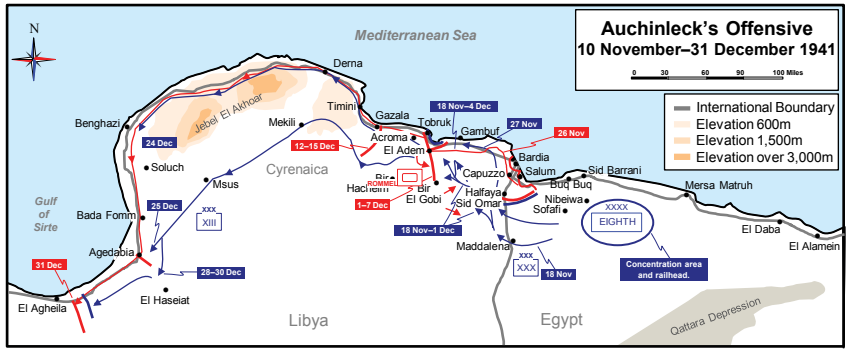

Figure 2.1. Auchinleck's Offensive, 10 November–31 December 1941. Map created by Army University Press.

tleaxe." They achieved tactical surprise. They had accurate intelligence of enemy numbers and dispositions and were familiar with the ground. They were numerically superior both on the ground and in the air. Their logistical preparations were thorough and complete. With the Tobruk garrison, they already had a significant force in the enemy rear. Because of the naval and air situation, it was unlikely the Axis would receive significant reinforcement. Finally, British morale was excellent.

Part of the reason for the British failure can be attributed to equipment and training. The British armor and anti-armor systems were generally inferior to those of the Germans. Not all units and headquarters were fully trained. However, these reasons are insufficient to explain the problems the British encountered. Italian equipment and training were markedly inferior, yet the Italian mobile forces generally acquitted themselves quite well. The problem was not in the tools but rather in how they were employed.

The concept for "Crusader" was sound. The idea of seizing ground in the Axis rear which Rommel would feel compelled to retake with his armor is not new. Basil H. Liddell Hart called this the "baited gambit." J.F.C. Fuller referred to it when he wrote:

> Seldom can armoured forces be fixed, because not only does their mobility enable them to refuse battle, but also to disengage after engagement. Therefore, in order to bring the enemy armour to battle, it is necessary to attack an objective which is of such importance that the enemy must protect it.[54]

The validity of Fuller's thought was amply demonstrated by the repeated attacks that Rommel conducted in the Sidi Rezegh area. Clearly the Axis command considered the area around Sidi Rezegh as critical, dominating as it did both the Axis line of communications to the frontier gar-

risons and overlooking Tobruk. Auchinleck recognized this and the Sidi Rezegh area acted like a magnet, drawing British and Axis forces to it. Jomini would have recognized Sidi Rezegh as the "decisive point," while Carl von Clausewitz would have identified the Afrika Korps as the Axis "center of gravity."

What went wrong was the British failure to balance mass and economy of force to achieve concentration at the decisive point. The decisive point was recognized by both sides as being the Sidi Rezegh area. The difference was that the Axis command was able to concentrate better than the British. The British demonstrated, as they had in "Battleaxe," an inferior ability to handle large mobile forces. This inferiority began with the initial allocation of forces and continued through the offensive.

The British consistently maneuvered their armor brigades in a piecemeal manner. Five total tank brigades were available to the British 8th Army. One was in Tobruk and thus not available for the initial stages of the offensive. A second tank brigade, with more than 100 "I" tanks, was assigned to support the fixing attack by XIII Corps. That left three armor brigades, a total of nine tank battalions, to engage the Axis armor. But examination of the first week of "Crusader" reveals that these three brigades were never effectively concentrated. On the 19th, the opportunity was missed to mass all four brigades (the "I" tank brigade of XIII Corps was only seven miles away) near Gabr Saleh and overwhelm the Afrika Korps; instead the brigades were further dispersed.

On the 20th, the British made a fundamental mistake. Unable to resist temptation, they decided to split their effort and simultaneously relieve Tobruk, fight the Afrika Korps, and continue operations against the frontier defenses. This resulted in a continued dispersion of British armor which, in many cases, reverted to its traditional British role of infantry support and protection. The original intention of first concentrating upon destruction of Rommel's armor was lost. With the destruction of the Axis armor, the relief of Tobruk would have been virtually uncontested. Instead, the British responded to German attacks at different locations by sending tank brigades off, like firetrucks, to put out fires.

In contrast to the British, the Germans consistently sought to mass their armored forces. The result of this difference in orientation was that by the end of 23 November, the Axis armor was still an effective fighting unit whereas the British XXX Corps was disorganized and decimated.

The British clearly missed the lesson of "Battleaxe" concerning combined arms operations. They persisted in employing relatively pure forma-

tions. Still, even these relatively pure ground formations would have been formidable if effective air-ground interoperation had been achieved. British tank brigades at Sidi Rezegh, with effective close air support, would have been tough to beat. Unfortunately, while the British succeeded in gaining air superiority, the Desert Air Force still had great difficulty delivering ordinance in support of ground tactical maneuver. There was still not a sense of close coordination of the air and ground efforts. The British showed no better ability to integrate aerial fires with their armored formations than they did artillery and anti-tank fires.

The Germans continued to demonstrate a keen appreciation for the efficacy of combined arms operations. They invariably attacked using combined arms formations. They considered the anti-tank gun to be a primary tank killer and fully integrated them, with artillery and infantry, into offensive maneuver. The British took a far more rigid approach, viewing the anti-tank gun as essentially a defensive weapon for the protection of infantry. The British considered the tank as the primary weapon to kill enemy tanks. Aside from the impact this had on degrading the effectiveness of British armor in the attack, it also encouraged a reflexive response to throw whatever armor was available at Axis armor which attacked British infantry. The result was to dissipate British armor strength and degrade its mobility to that of the "helpless" infantry.

This rigidity of outlook extended to the employment of the "I" tank brigade. Once the decision had been made to allocate this potent asset to XIII Corps, there was no consideration given to using it in conjunction with the armor brigades of XXX Corps.

Finally, in looking at the events of 18 to 23 November 1941, the impact of personal leadership cannot be overlooked. Two factors surface, the importance of forward command and the impact of moral resoluteness. With respect to leading forward, while the British did better than during "Battleaxe," there were still problems with senior commanders not understanding what was happening at the decisive point. The disaster at Sidi Rezegh did not happen suddenly. It built up over several days. The British commanders simply were not aware of the severe losses which their armor had sustained since the 19th. Contrarily, the Afrika Korps commander invariably was at the critical point. On the cautionary side, Rommel demonstrated the danger in being too far forward. While he led the Afrika Korps into Egypt from 24 to 26 November, his headquarters was unable to contact him and was left to fight a desperate battle around Tobruk. The resulting confusion of orders resulted in lost opportunities in both efforts.

The significance of Auchinleck's intervention on the 23rd cannot be overstated. General Cunningham had admitted defeat. Only Auchinleck's insistence that the offensive continue prevented "Crusader" from ending in a British withdrawal on the 24th.

Many soldiers and historians have debated the wisdom of Rommel's raid from 24 to 26 November. As many arguments supporting it can be raised as those condemning it as foolhardy. What is certain is that Clausewitz correctly stressed the importance of chance and friction in war. Rommel did not have an accurate picture of the enemy in the frontier region. There were problems of coordination and logistics with the raid itself. The Axis columns suffered from almost continuous air attacks. Yet the panic and chaos which spread through the British rear areas was phenomenal.

The issue of how deep an envelopment or penetration should also be raised. Shallow operations tend to yield immediate results, whereas deeper operations are slower but tend to produce more significant results. The problem with the deeper operations is the increased time required for their effects to be felt. The British infantry divisions simply continued to fight and advance despite heavy German armored forces pillaging through their rear. Whether they would have continued to fight after several days of disrupted logistics is unknown. Also clear is that in such a raid the mobile raiding forces can be very successful in overrunning "soft" targets, yet lack the ability to overwhelm resolute resistance from determined combat formations. Again, the influence of moral factors is supreme. Cunningham was relieved on the 26th, at the height of the panic in the British rear. His successor was determined to show the same degree of resoluteness as Auchinleck.

The British ability to sustain their offensive logistically was a key factor in Rommel's decision to withdraw. The British tank reserves enabled XXX Corps to be virtually rebuilt and resume offensive action in a matter of days. On the other hand, the German ability to recover and repair armored vehicles on the battlefield was a significant factor in their ability to wage offensive maneuver warfare over a period of weeks of intense combat despite a lack of reserve equipment. The British logistical preparations for "Crusader" freed them from the immediate need to reduce the Axis frontier garrisons. Thus, rather than being tethered to an infantry attack on the garrisons, as happened during "Battleaxe," the British armorer was, at least in theory, free to maneuver.

British tactical doctrine had not appreciably improved since "Battleaxe." The British soldier fought stubbornly and courageously, but not as smartly as the Germans. Despite enjoying overall numerical superiority, at

the actual point of tactical combat the British usually faced a locally superior and more agile enemy who could focus greater combat power. What forced Rommel to withdraw was not British tactics but steady attrition and the recognition that whereas the British could replace losses, the Axis forces could not.

An unresolved issue arising from German operations is what constitutes victory. On several occasions, notably on the 20th at Gabr Saleh and the 24th at Sidi Rezegh, Rommel stopped short of exploiting tactical successes. On the 20th, this led to the Afrika Korps turning toward Sidi Rezegh rather than completing the destruction of the 4th Armored Brigade and destroying the approaching 22nd Armored Brigade. After General Cruewell's attack at Sidi Rezegh on the 23rd, Rommel chose to thrust toward the Egyptian border on the 24th rather than seeking to complete the destruction of XXX Corps. As a result, XXX Corps was reconstituted and reentered the battle. In each of these incidents, it appears that faulty intelligence and overoptimistic reports contributed toward a misleading impression of how badly the enemy had been hurt. However, it is also clear that Rommel probably did not properly credit the British with the ability to rapidly recover from a severe tactical setback.

The implication drawn from the rebirth of the British XXX Corps is that decimating the weapon systems of a mobile formation, even a corps, is only a temporary measure so long as the formation retains a functioning command structure and has access to reserve equipment or has a strong recovery and repair capability. Rommel chose to pursue the opportunity to achieve a staggering victory by maneuver at little cost rather than accept the cost in time and resources which destroying XXX Corps in detail would have involved. It worked in "Battleaxe" against Beresford-Peirse and Wavell but failed in "Crusader" against Ritchie and Auchinleck. Perhaps the critical lesson is the overriding importance of the moral factor.

Conclusion: Lessons for Deep Maneuver

The lessons of Operation "Crusader" would have been familiar to Napoleon Bonaparte, Antoine-Henri Jomini, and Clausewitz: throwing the weight of your forces upon the critical point and having the resources, both materially and morally to sustain the fight. For the commander contemplating deep maneuver, "Crusader" expands upon the lessons derived from the earlier Operation "Battleaxe." These lessons fall into two general areas, those of planning and those of execution.

A fundamental requirement for success in deep maneuver is accurate and realistic targeting or selection of the maneuver force objective. The

British succeeded in this during the planning for "Crusader." The mission could be accomplished either by destroying the Axis armor or by rendering the Axis defenses untenable (obviously accomplishing the former would result in the latter; the opposite did not necessarily follow). Both options would be addressed by threatening the dominant terrain of Sidi Rezegh; the Axis command would either have to commit its armor to Sidi Rezegh or retreat.

Essential to accurate "targeting" of the deep maneuver force during the planning phase is adequate intelligence concerning both enemy tactical dispositions and his operational situation, to include intentions. The British command was fortunate in having relatively accurate intelligence ranging from tactical to strategic sources.

Given appropriate "targeting" of the maneuver force, the next planning issue is the adequacy of the maneuver force to accomplish the mission, that is, ensuring it will have sufficient combat power to force a favorable decision at the critical point. For the British in planning "Crusader," the critical elements in ensuring this combat power were assignment of sufficient combat forces (to include aerial forces) and development of a logistical support operation that would allow the ground maneuver force to engage in sustained combat despite operating in the depth of the enemy defenses.

A final part of the planning process for deep maneuver revolves around the truism that combat power is not absolute. Accordingly, degrading the enemy's combat power is equivalent to enhancing one's own. Overall combat ratios in deep maneuver are less important than the relative combat power of forces at the critical point (Sidi Rezegh during "Crusader"). Surprise, with the attendant techniques of security and deception, constitutes a basic means by which the deep maneuver force can achieve local superiority at the critical point before the defender can react and shift forces. Planning for secrecy before and speed of movement after the operation begins is thus critical in the absence of overwhelming superiority.

Rommel's raid toward Egypt exemplifies what can happen when a maneuver force inadequately plans deep maneuver. Poor intelligence, leading to an inaccurate assessment of British vulnerabilities, coupled with inadequate combat forces and logistical support resulted in an operation which depended for success solely on psychological shock. While moral factors are certainly a fundamental aspect of war, basing operational maneuver upon them is at best a gamble.

The actual execution of Operation "Crusader" illustrates several important considerations for deep maneuver. Among the most important of these

considerations are the impact of uncertainty and chance, the importance of combined arms in generating combat power, and the impact of leadership.

During "Crusader," neither commander had totally accurate or complete information on either their own forces or the enemy. One implication of this is that the commander must consider the process of maintaining information on the status of his own subordinate units as being just as important as gaining intelligence of the enemy. Despite these efforts, however, a great amount of uncertainty is bound to exist, and therein lies a further danger.

In the face of uncertainty there is a temptation to adopt caution, to try and prepare for all eventualities. Trying to cover all possibilities inevitably results in a dispersion of effort. To concentrate at the decisive point, one must economize elsewhere. The willingness to accept risk is a necessary element in maneuver warfare. What is equally clear, however, is that there are means of reducing that element of risk, foremost among them being accurate intelligence and the ability to quickly use it. These, in turn, support the need for a continuous and large-scale reconnaissance effort and leaders being sufficiently forward to reap the benefits.

A conspicuous failing of the British in "Crusader" was their inability to synchronize the various combat arms to maximize combat power. Given the limited assets available to a force operating deep, the ability to integrate the use of infantry, armor, artillery, and air is essential. This requires adequate doctrine, organization, and equipment. The German approach of employing combined arms formations at relatively low levels of organization appeared to yield superior results as compared to the British tendency to employ pure formations. Likewise, British weakness in integrating aerial and ground fires resulted in ground formations being unable to achieve sufficient combat power in numerous instances.

Finally, the impact of leadership upon sustaining unity of effort during the execution of deep maneuver cannot be overemphasized. The commander of a deep maneuver force will be faced with many temptations to divert forces and attack targets of opportunity under the rationale of exploiting success. The difficulty with this is that such dispersion of effort may lead to an inability to generate sufficient combat power at the critical point. The maneuver commander must constantly reassess the situation and refrain from weakening his thrust unless and until he becomes convinced that the original objective is no longer appropriate.

Notes

1. This chapter is an excerpt from "Considerations for Deep Maneuver: Lessons from North Africa, 1941–1942," Military Art and Science (MMAS) thesis, US Army Command and General Staff College, Fort Leavenworth, KS, 2003, 63–96.

2. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 6 October 2017), 5-71.

3. J.F.C. Fuller, *The Second World War, 1939–45* (New York: Duell, Sloan and Pearce, 1949), 155; Colonel E.G. Keogh, *Middle East 1939–43* (Melbourne: Wilke and Company Ltd., 1959), 231; Barrie Pitt, *The Crucible of War: Western Desert 1941* (London: Jonathon Cape, 1980), 488–89.

4. General Auchinleck insisted on building up a substantial reserve of tanks in order to quickly replace battlefield losses, in part to offset the British weakness in battlefield recovery and repair operations. Major General Ian S.O. Playfair, *The Mediterranean and Middle East*, 2; *History of the Second World War, United Kingdom Series* (London: Her Majesty's Stationary Office, 1956), 4. For a detailed breakdown of British tank figures, see Playfair, *The Mediterranean*, 30–31. For information on British intelligence of Axis armor strength and dispositions, see F.H. Hinsley, *British Intelligence in the Second World War: Its Influence on Strategy and Operations* 2 (New York: Cambridge University Press, 1981), 296–297.

5. Playfair, *The Mediterranean*, 5.

6. Brigadier R.M.P. Carver, "Tank and Anti-Tank," *The Journal of the Royal United Service Institution*, February 1946, 42–43; Hinsley, *British Intelligence in the Second World War*, 297–298.

7. Prior to the end of October the British estimated they would outnumber the Axis air forces by 528 to 385. Playfair, *The Mediterranean*, 14.

8. British Air Ministry, *Air Support: The Second World War 1939–1945, Royal Air Force* (British Air Ministry, Air Historical Branch, 1955), 55–60; Lord Arthur W. Tedder, *With Prejudice: The War Memoirs of Marshall of the Royal Air Force Lord Tedder G.C.B.* (Boston: Little, Brown and Company, 1966), 188–189.

9. In early October, Berlin evaluated British strength in North Africa, excluding Tobruk, as 850 tanks (Cruisers and 10 tanks) and 775 light tanks and armored cars in eight infantry divisions and two armored divisions. Colonel General Franz Halder, *The Halder Diaries* 2 (Boulder: T.N. Dupuy Associates and Westview Press Inc., 1976), 1274–1275.

10. Erwin Rommel, *The Rommel Papers* (New York: Da Capo Press, 1983), 155; Major General F.W. Yon Mellenthin, *Panzer Battles* (New York: Ballantine Books, 1980), 69.

11. Playfair, *The Mediterranean*, 19–20.

12. Pitt, *The Crucible of War*, 489–490; Fuller, *The Second World War,* 155–156; Mellenthin, *Panzer Battles*, 71.

13. Generalfeldmarchall Albert Kesselring, *Kesselring: A Soldier's Record* (New York: William Morrow and Company, 1954), 120–122.

14. Rommel, *The Rommel Papers*, 156.

15. Heinz W. Schmidt, *With Rommel in the Desert* (London: George G. Harrap and Company, Ltd., 1953), 100.

16. Rommel, *The Rommel Papers*, 156; Mellenthin, *Panzer Battles*, 71.

17. Schmidt, *With Rommel in the Desert*, 104.

18. Major General Sir Francis De Guingand, *Operation Victory* (New York: Charles Scribner's Sons, 1947), 94.

19. De Guingand, 96.

20. Playfair, *The Mediterranean*, 6–8; Major General Gerald L. Verney, *The Desert Rats: The History of the 7th Armored Division 1938–1945* (London: Hutchinson and Son Ltd., 1954), 68.

21. Playfair, *The Mediterranean*, 7.

22. Lieutenant General Sir Arthur F. Smith, "The War in the Middle East: June 1940–March 1942," *The Journal of the Royal United Service Institution*, February 1943, 11.

23. For a discussion of British security and deception, see Playfair, *The Mediterranean*, 8–9, and *Notes from Theatres of War, No. 14: Western Desert and Cyrenaica August / December 1942*, British War Office Pamphlet (London: His Majesty's Stationary Office, 1943), 5.

24. Verney, *The Desert Rats*, 661; Robert Crisp, *Brazen Chariots* (New York: W.W. Norton and Company Inc., 1959), 19.

25. Crisp, *Brazen Chariots*, 66.

26. Air Marshall Sir P.R.M. Drummond, "The Air Campaign in Libya and Tripolitania," *The Journal of the Royal United Service Institution*, November 1943, 259.

27. Playfair, *The Mediterranean*, 15–19; US War Department, *The Libyan Campaign November 1941 to January 1942*, Military Intelligence Service, Campaign Study No. 1 (Washington, DC, 25 August 1942), 81; General Siegfried Westphal, *The German Army in the West*, (London: Cassell and Company, Ltd., 1951), 108.

28. *RAF Middle East Review No. 1* (Headquarters, Royal Air Force, Middle East, May–December 1942), 90.

29. Rommel, *The Rommel Papers*, 158; Schmidt, *With Rommel in the Desert*, 100; Westphal, *The German Army in the West*, 108.

30. Mellenthin, *Panzer Battles*, 73–74.

31. Playfair, *The Mediterranean*, 39.

32. Playfair, 41–44.

33. Basil H. Liddell Hart, *History of the Second World War* (New York: G.P. Putnam's Sons, 1970), 187.

34. Playfair, *The Mediterranean*, 46.

35. Playfair, 46.

36. Playfair, 48; Hinsley, *British Intelligence in the Second World War*, 306.

37. Mellenthin, *Panzer Battles*, 85.

38. Playfair, *The Mediterranean*, 49–50; Liddell Hart, *History of the Second World War*, 189.

39. Cunningham had already issued orders to begin a withdrawal back into Egypt when Auchinleck arrived at his headquarters and rejected the idea. D.W. Braddock, *The Campaigns in Egypt and Libya* (Aldershot: Gale and Polden Ltd., 1964), 60; De Guingand, *Operation Victory*, 98; Winston S. Churchill, *The Grand Alliance, The Second World War* 3 (Boston: Houghton Mifflin Company, 1950), 567–568; Playfair, *The Mediterranean*, 52. For an account of the intelligence available to Auchinleck on 23 November, see Hinsley, *British Intelligence in the Second World War*, 307.

40. Rommel, *The Rommel Papers*, 163; Westphal, *The German Army in the West*, 109; Playfair, *The Mediterranean*, 53.

41. Rommel, *The Rommel Papers*, 163.

42. For a first-hand account of the panic and confusion that Rommel caused, see Alexander Clifford, *Crusader* (London: George G. Harrap and Company Ltd., 1942), 83–98, and Alan Moorehead, *Don't Blame the Generals* (New York: Harper & Brothers Publishers, 1943), 68–73.

43. Keogh, *Middle East*, 237–239; Mellenthin, *Panzer Battles*, 90–921; Rommel, *The Rommel Papers*, 163–166; Playfair, *The Mediterranean*, 53–59.

44. Playfair, *The Mediterranean*, 61; De Guingand, *Operation Victory*, 98; Churchill, *The Grand Alliance,* 568–569.

45. *The Libyan Campaign*, 21; Playfair, *The Mediterranean*, 62; R.M.P. Carver, "The Seventh Armoured Division," *The Army Quarterly*, October 1948, 48.

46. Lieutenant Colonel Westphal was left in charge of Panzergruppe Afrika headquarters when Rommel left to lead the Afrika Korps toward Egypt on the 24th. Mellenthin, *Panzer Battles*, 92–93; Rommel, *The Rommel Papers*, 167.

47. Playfair, *The Mediterranean*, 61–62.

48. For a good overview of the fight for the Tobruk corridor, see *The New Zealand Division in Cyrenaica and Lessons of the Campaign*, Pamphlet by Headquarters, New Zealand Division, 4 January 1942, 16–21.

49. Rommel, *The Rommel Papers*, 167–171; Mellenthin, *Panzer Battles*, 94–97.

50. Rommel, *The Rommel Papers*, 171–172; Mellenthin, *Panzer Battles*, 97–98.

51. Playfair, *The Mediterranean*, 77–79, 81–921; Rommel, *The Rommel Papers*, 173–179; Schmidt, *With Rommel in the Desert*, 118–123; Westphal, *The German Army in the West*, 109–110; Mellenthin, *Panzer Battles*, 98–99.

52. Rommel, *The Rommel Papers*, 178; Playfair, *The Mediterranean*, 97–100.

53. Liddell Hart, *History of the Second World War*, 198.

54. Fuller, *The Second World War,* 164.

Chapter 3

The Debaltsevo Raid by the Bashkir Cavalry Division During "Operation Gallop," February 1943

Robert F. Baumann and William E. Bassett

> *The corps or division conducts deep operations . . . to defeat or destroy the enemy's cohesion, nullify the enemy's firepower, disrupt enemy command and control, destroy enemy supplies, or break the morale of enemy commanders and soldiers in the deep area. . . . Corps and division headquarters mass effects across multiple domains in the close area to enable maneuver forces to conduct a penetration. After the initial penetration, friendly forces exploit their success in sufficient depth to create dilemmas for the enemy commander across the entire depth of the enemy defense. . . . As elements of the enemy reposition, they become less effective and more vulnerable to attack by joint fires.*[1]
>
> —Field Manual (FM) 3-0, *Operations*

A February 1943 raid by the most decorated Soviet division in World War II provides a superb example of deep operations to achieve the operational objectives described above. It also illustrates how large scale combat operations can be desperate, uncertain, lethal and brutally relentless. The 112th "Bashkir" Cavalry Division—later re-designated as the 16th Guards Cavalry Division—*began* this operation at 48-percent strength, transitioning without pause from two successive major operations and months of hard combat outside Stalingrad against some of the best German divisions fielded during WWII. The Debaltsevo Raid illustrates how "*the fluidity and rapid tempo of large-scale combat operations poses challenges for the protection of friendly assets*."[2] The same fluid, chaotic conditions that helped the 112th Cavalry Division (16th Guards Cavalry Division) penetrate German defenses and achieve tactical mission objectives also complicated coordinated operations with friendly units and return of what remained of the division to Soviet lines.

Strategic Context

1943 was the year during which the war on the Eastern Front in World War II turned decisively in Russia's favor. This reversal of offensive momentum followed two successive summer campaign seasons dominated by spectacular German advances that failed to deliver a decisive strategic result. If the Soviet stand in front of Moscow in the fall of 1941 marked

the first turning point, the second was the battle at Stalingrad—a colossal confrontation of massed armies focused on the urban cauldron of a Soviet industrial city situated on the lower Volga River. In the late summer and autumn of 1942, the German 6th Army spearheaded a rapid drive eastward through the Don River basin to Stalingrad. There, once again with a great victory almost accomplished, the offensive bogged down in grim urban combat as the Red Army desperately dug in and preserved a toehold on the western bank of the Volga River. Hitler prematurely declared victory in December, but the city did not fall.

Hitler directed his field commander, General Friedrich von Paulus, to take the city at any cost and that his troops should not withdraw under any circumstances. Its strength eroded by months of combat, 6th Army slowly starved and froze due to lack of supplies and bitter winter conditions. The surrender of 6th Army on 2 February 1943 represented a huge psychological as well as strategic blow to Hitler's ambitions in the east.

As 6th Army neared collapse in December and January and the Soviets launched Operation Little Saturn, the first of several operations in rapid succession to sustain pressure on beleaguered German forces. A well-aimed counteroffensive, Little Saturn struck along 6th Army's flanks to enlarge the Stalingrad encirclement established by Operation Saturn and enable Soviet forces to roll westward toward Kharkov and Rostov, strategic cities in the eastern Ukraine.

This study encompasses the concluding stage of Operation Little Saturn in early and mid-January, the transition without pause to Operation Gallop in late January, and the Gallop offensive itself up until the point of culmination in late February 1943. This historical analysis concentrates on the operations of the 112th/16th Guards Cavalry Division within the framework of the deep raid assigned to the 8th Cavalry Corps/7th Guards Cavalry Corps. The 8th Cavalry Corps was subordinate to the 3rd Guards Army, which conducted a major thrust westward into Ukraine under the direction of Soviet Southwest Front, the equivalent of an army group in western parlance. Southwest Front, in turn, reported to the Supreme High Command, or STAVKA, in Moscow.

The westward thrust of Soviet Operation Little Saturn to some extent boiled down to a race. Red Army units hoped to exploit a massive breakthrough and reach the eastern Ukraine before German forces—which were in withdrawal across the front—could rally and consolidate a new defensive line. Thus, the 8th Cavalry Corps covered roughly 300 kilometers en route to its objective, and encountered increasing resistance as it

approached Voroshilovgrad (today known as Luhansk) along the North Donets River. To cross the river, it was first necessary to fight for control of the town of Belaia Kalitva near the east bank. More important still was control of Height 79.9, remembered today by residents as "the Height of Immortality" in honor of the combat action involving cavalrymen from the 112th that took place there on 21–22 January 1943.

Immediately upon the conclusion of Little Saturn, a pair of follow-on operations, Gallop and Star, commenced on 29 January 1943 in an effort to isolate German forces east of Stalino (today known as Donetsk). As Little Saturn moved seamlessly into Gallop, the 112th set its sights on the deep objective, Debaltsevo.

Colonel General N.F. Vatutin, commander of Southwest Front, directed Operation Gallop with support from Voronezh Front on his northern flank. To Vatutin's south, Southern Front would drive westward to assist, once it had secured Rostov.[3] Unfortunately for the Red Army, the depth of the operational objectives assigned to Southern Front "far exceeded their capabilities" in the estimate of Eastern Front scholar David Glantz.[4] Expecting a rapid German withdrawal, Southern Front faced a much stiffer defense around Rostov and the southern Donbas than anticipated. This delay allowed First and Fourth Panzer Armies to break contact and obstruct Soviet operations to the north, directed by the Southwest and Voronezh Fronts. Of course, this operational shift of German armies was unanticipated when offensive action began.

The German Perspective

The challenge facing German forces was how to regroup under extreme pressure during a rapid withdrawal from Stalingrad. Conversely, as Red Army units raced westward toward the Don River, they hoped to attack into Ukraine before German forces could consolidate a new line of defenses in the eastern Donbas region. On 6 February, a full week after the start of Operation Gallop, Field Marshall Erich von Manstein advised Hitler to conduct a general withdrawal from eastern Ukraine but did not receive an immediate decision.[5] Manstein did not believe it was possible to salvage the entire Donets Basin and sought permission to hold the western portion alone.[6] By this point, 6th Army was already effectively lost at Stalingrad, but a little time remained to pull back other units and organize coherent defenses several hundred kilometers to the west. Each day was consequential. Still, according to von Manstein, 6th Army's sacrifice by holding on into February at least prevented the Soviets from committing even greater forces to their westward advance.[7] Concurrently, as the sur-

viving elements of Army Group Don fell back, they were consolidated with the remains of Army Group B and renamed Army Group South on 12 February. The threat to German Army Group South was formidable, as Field Marshal Erich von Manstein informed the Fuhrer on 17 February—with only a force of 32 depleted divisions to cover a front of 470 miles. On 19 February, Hitler directed Army Group A to divert any forces it could spare to support von Manstein's defense in the south.[8]

Regardless of the operational risk, Hitler was determined to hold the Donbas region because of its vast resources, such as coal, upon which Germany had become highly dependent. On 4 February, Reich Minister Albert von Speer, who directed the German economy, and Paul Pleiger, the Managing Director for the Donets River Basin (a part of the Donbas) during the German occupation, informed Hitler: "Without the Donets Basin, the annual production of which amounts to 6 to 7 million tons, an increase in armament is impossible." Hitler himself observed that loss of the area would be a severe blow to the war effort.[9]

Soviet Operational View

The Soviet offensive raced westward with 16 armies along three major axes. Of these, the central thrust aimed at Voroshilovgrad and Rostov. Armies, corps, and divisions under Southwest Front—commanded by Colonel General Vatutin—advanced directly through gaps in Hungarian and Italian positions towards Voroshilovgrad. Southwest Front included the 6th, 1st Guards, 3rd Guards, and 5th Tank armies, along with Mobile Group Popov, to operate along a 160-mile front. Estimates of the Front's combat strength in early February were about 325,000 men and 360 tanks. Along roughly the same frontage, Vatutin's four armies and one mobile group faced German First Panzer Army, including Army Detachment Fretter Pico, as well as elements of Army Detachment Hollidt and Army Detachment Lanz, which accounted for about 160,000 men and 100 tanks. Two fresh SS Panzer divisions would subsequently bring 250 additional tanks into the equation.[10] Once Operation Gallop began, 3rd Guards Army conducted a crucial deep attack between Army Detachment Hollidt and First Panzer Army. Victory along this axis—if combined with a successful Soviet thrust toward Slavyansk to the northwest—would cause the collapse of German defenses at Voroshilovgrad. Furthermore, a push beyond Rostov by Southern Front would make First Panzer Army vulnerable to double envelopment.[11]

Planning for Gallop took place in January even as Little Saturn wound down. At best, the fast-moving situation was chaotic, but Soviet forces

commenced Gallop without an operational pause in hope of bagging as many Germans as possible. Units on both sides, with a few exceptions such as the SS Panzer divisions noted above, were far below authorized strength and in an acute state of fatigue. Intelligence, particularly concerning enemy intentions, was sketchy. Vatutin was convinced as late as February that German units were in a hurry to exit the Donbas and reach the left bank of the Dnieper where they could make a proper stand.[12] Hitler felt otherwise.

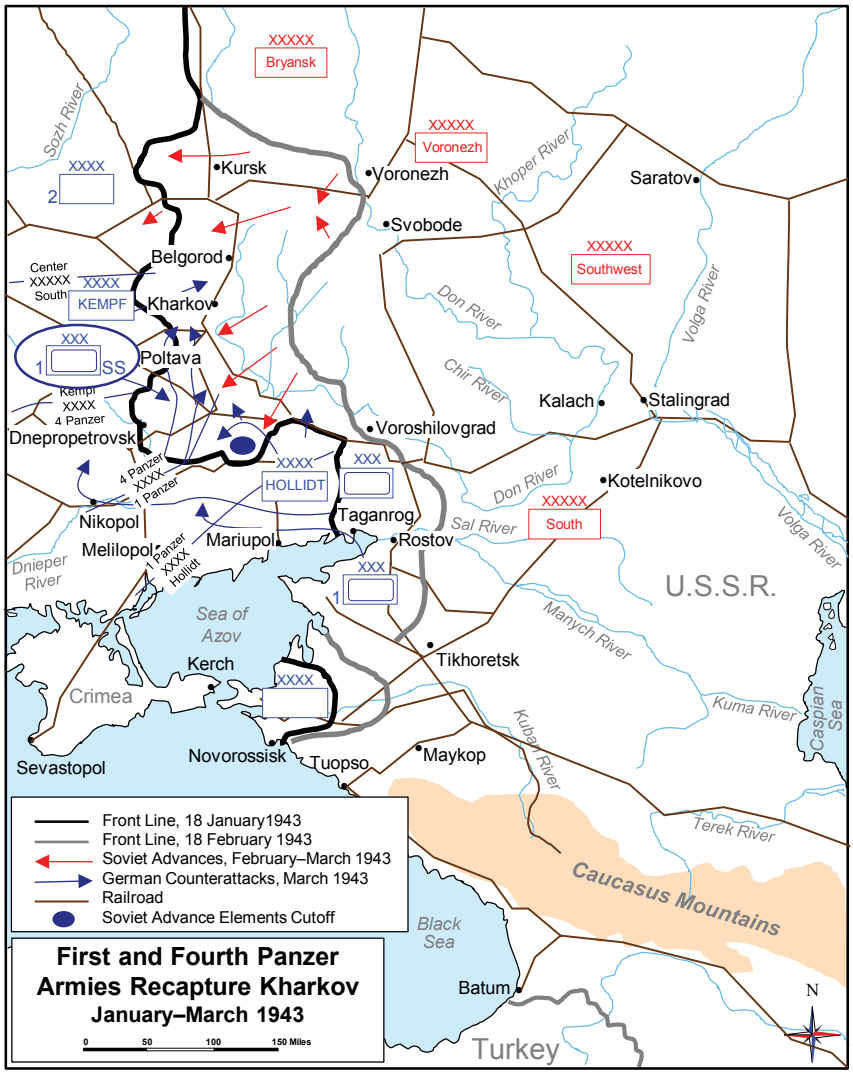

Figure 3.1. First and Fourth Panzer Armies Recapture Kharkov. Map created by Army University Press.

Southwest Front operations resumed on 29 January. The 3rd Guards Army received the mission to advance westward from positions north and south of Voroshilovgrad along a frontage of about 100 kilometers. According to the ambitious timetable established by STAVKA (supreme high command) planners, Soviet units would reach a line west of Stalino (modern-day Donetsk), a depth of more than 120 kilometers, on the ninth day.[13] The 3rd Guards Army would not come close to advancing so far, so fast. Unrealistic optimism pervaded the Soviet leadership at STAVKA, Front, and army levels. Tragically, they ignored warnings from field commanders regarding the exhaustion of men and resources and discounted evidence of the massing of German forces.[14]

112th Cavalry Division

Among the bold strikes undertaken by constituent forces of 3rd Guards Army as part of Gallop was a deep raid conducted by the 8th Cavalry Corps, which consisted of three cavalry divisions: the 21st, 55th, and 112th. The focus of this case study is the deep raid conducted by the 112th Cavalry Division (subsequently renamed the 16th Guards Cavalry Division) in the direction of an important rail junction at the town of Debaltsevo. The events of that raid exemplify both the opportunities and risks associated with rapid maneuver in a highly fluid environment while facing a still-capable and dangerous foe.

The 112th was a rarity in the Soviet Army. Often known as the "Bashkir Division," the 112th was raised in Ufa, the capital of the Soviet Autonomous Republic of Bashkortostan. In November 1941, as the demand for manpower intensified, the State Defense Committee (GKO) directed the formation of 20 cavalry divisions from the minority republics and autonomous republics of the Soviet Union. The principal functions of cavalry divisions were to exploit breakthroughs, pursue retreating enemy forces, and attack the enemy rear area. Bashkirs—a distinct Turkic ethnic group from the South Urals region with a semi-nomadic, horse-centered culture—made up the largest share of the personnel of the 112th, although many Soviet ethnic groups were represented in its ranks. To provide a level of seasoning, half of the personnel were recent draftees from the 1922 birth year cohort and the other half were Bashkir veterans pulled from other units. This blend of experienced troopers and raw recruits advanced the training process.[15] The Red Army classified the division as "light" cavalry—meaning that it lacked tanks, heavy artillery pieces, antitank weapons, and antiaircraft guns. Key support would come primarily from corps level. This expedient accelerated the process of fielding the division, which also required collecting a suitable horse for every rider.[16]

Yet another challenging task was the selection of officers. An inspection in January 1942 showed that the division had filled only 48 percent of its junior officer positions. Moreover, the 112th still lacked a commander, chief of staff, two regimental commanders, three regimental chiefs of staff, and seven squadron commanders. In addition, the division suffered an acute lack of weapons and had conducted only irregular training. Only 409 cavalrymen and 32 percent of officers had earned a high rating in military and political training. Due to a lack of barracks, the men were quartered on collective farms or in private cottages, and typically slept on bare dirt floors. Although morale was good, the inspection counted exactly 5 training rifles, 15 revolvers, a single machinegun, and 132 unsuitable saddles. Only 832 of a projected 3,221 cavalry horses were available. Draft horses, however, far exceeded need—with 2,182 on hand against a requirement of 310.[17]

A subsequent inspection followed from 26 February to 2 March and found that almost all of the officer slots had been filled. The enlisted ranks were slightly over strength at 109 percent; 91.7 percent of the men were Bashkir. Material deficits persisted, however. This situation began to improve with the selection of an experienced senior leader, who was given up to 15 days to get the division ready for transfer to the front once they were fully equipped. The 112th became one of four new cavalry divisions to join the active army in the spring of 1942.[18]

The choice for division commander was Mingalei Minazovich Shaimuratov (pronounced shy-moor-***Ah***-tov), a Bashkir from a village in the area. Born in 1899, Shaimuratov served the Red Army during Russia's civil war as a cavalryman. It was hardly surprising that he would gravitate toward cavalry service. Bashkir culture emphasized horsemanship and included a long cavalry tradition. Bashkir cavalry first entered into service of the tsars in 1798, and Bashkir units earned acclaim during Russia's triumphant repulse of Napoleon's ill-fated invasion of 1812.[19]

In any case, Shaimuratov enrolled in the Combined Arms School of the Red Army in 1924 and assumed command of a cavalry regiment in 1925. In 1931, he joined the faculty at the famous Frunze Academy in Moscow. Shaimuratov was a gifted linguist—fluent not only in Russian and Bashkir, but also German and Chinese. In 1935, he served as a Soviet attaché to China where he functioned as a military adviser to Mao Tse Tung until 1940, interrupted only by a period in 1937 during which he recovered in Moscow from a combat wound.[20] During German Operation Barbarossa in the summer of 1941, Shaimuratov saw action near Smolensk. On 13 November 1941, in response to a directive from the STAVKA, nation-

al military units began to form in the minority republics in Central Asia, Kazakhstan, and Bashkortostan.[21] In December 1941, six months after the start of the German invasion, Shaimuratov officially received command of the newly formed 112th Cavalry Division but did not reach his new unit until early 1942. On 17 April, the last elements of the 112th arrived by rail to the Tula region, where they began to train with other elements of the 8th Cavalry Corps. By fall, the 112th also acquired horse-drawn artillery, an antiaircraft battery, signal support, a veterinary detachment, and medical and other supporting elements.[22]

In June, the 8th Cavalry Corps joined the Bryansk Front and would take a place in the second-echelon defense between the Bryansk and Southwest Fronts. The 112th saw its first action against a German breakthrough on 4 July 1942. After five days of intense combat, the 112th was reassigned to a quieter sector to recover from significant losses, including 12 officers and more than 3,000 men.[23]

The division saw additional combat during the summer and joined the line for the Stalingrad counteroffensive in November 1942 as part of the 5th Tank Army. Prior to the start of the offensive, Shaimuratov surveyed the landscape and informed his corps commander, Major General M.D. Borisov, that the 112th would need antitank weapons and air defense artillery in such open terrain. Borisov declined to pass the request along to the commander of 5th Tank Army—to whom the corps was at that time subordinated—on the grounds that additional support was unnecessary. Sure of his own assessment, Shaimuratov replied that such improvements were inevitable. In fact, antitank and antiaircraft weapons would become standard for all cavalry divisions in 1943.[24]

In November, Shaimuratov received promotion to Major General. From November 1942 to January 1943 during Operations Saturn and Little Saturn, he led the 112th over a distance of more than 300 kilometers with almost no break in combat operations. Along the way, they helped cut off enemy communications with 6th Army and killed, wounded, or captured an estimated 3,000 Germans and destroyed 100 tanks.[25] The sustained fighting and movement would test the division's resilience.

Soviet horse cavalry divisions underwent several reorganizations between 1941 and 1943. At the start of the war, a division had an authorized strength of only 2,336 men. After the experience of combat in the summer of 1941, the size roughly doubled in 1942. Further combat experience showed the importance of greater firepower and air defense capabilities. Therefore, the 1943 standard cavalry division consisted of three cavalry

regiments supplemented by an artillery regiment (16 X 76-mm and 8 X 122-mm guns), a reconnaissance battalion, an antiaircraft squadron, an engineer squadron, and a signal squadron. Total authorized strength of the Red Army cavalry division reached 4,700 men; 42 guns; 18 anti-tank guns; and 6 anti-aircraft guns. Three such divisions made up the heart of a cavalry corps, which also included 2 tank regiments of 39 tanks each, a self-propelled artillery regiment, a tank destroyer regiment, an artillery regiment, an antiaircraft regiment, a mortar regiment, a mortar battalion, and a separate tank destroyer battalion. Overall strength was 14,000 to 15,000 men as well as 90 tanks or self-propelled guns.[26] Due to the lag time involved in adjusting unit structure and composition, it is difficult to ascertain the exact strength of the 112th in February 1943. Of course, by the time Operation Gallop began, actual strength was much lower than authorized due to two months of continuous combat.

The role of the cavalry division depended as much on the horses as on the men. By 1942, the authorized strength of a cavalry regiment as about 1,400 men and 1,500 horses. Given enough the latter, cavalry units enjoyed a great advantage in cross-country mobility over German defenders. The Russian countryside was vast and had minimal infrastructure. Spring and autumn both typically featured protracted muddy periods, which hindered movement. German vehicles were mainly confined to the roads, even in their poor unpaved condition, and most German soldiers were still dismounted infantry.

Soviet Action at Belaia Kalitva

In January 1943, the 112th Cavalry Division along with the elements of the 5th Mechanized Corps and 55th Cavalry Division coordinated in the encirclement of the city of Belaia Kalitva, a short distance east of the North Donets River but several hundred kilometers west of Stalingrad where the offensive began. After street fighting during the night of 19 January, German forces fell back across the North Donets. Cavalry elements in hot pursuit raced across the river to seize a toehold on the west or left bank, where they withstood a series of German counterattacks intended to crush them before reinforcement arrived. Anchored to these positions, Soviet forces concentrated and held until the end of the month.

On 21 January during the fight for Belaia Kalitva, Major General Shaimuratov ordered an attack to seize key terrain along the west bank of the river, noted in Russian sources as Height 79.9, from which German forces could survey the entire area.[27] Moving in darkness through a heavy snowfall, a small cavalry detachment of 30 men under the command of

Lieutenant Annaklych Ataev advanced with automatic weapons, machine guns, antitank guns, and grenades across a mine field directly toward German trenches along the military crest of Height 79.9. Backed by indirect artillery fire, the cavalrymen assaulted the trenches and seized the height. At dawn, German panzer grenadiers attacked with tanks in support, but Ataev's small detachment held its ground using antitank guns and grenades. Joining the next German assault were two companies of Schutzstaffel (SS) troops under the cover of artillery support. As the Germans drew near, Ataev led a counterattack—losing 13 of the 30 men under his direct command. The Soviets estimated that German forces suffered 200 casualties while scaling the height under fire. Ataev's unit withstood yet another counterattack on the 22nd.[28]

Aware of desperate fighting on Height 79.9, Major General Shaimuratov directed reinforcements to cross the river to reinforce Ataev's small detachment. Upon arrival they were struck by a nightmarish scene. The approaches were widely cratered and German corpses were strewn across adjacent slopes.[29] Ataev himself was killed during the last assault as his unit was wiped out by an overwhelming attack. His comrades found his body—shot through the heart—on the breastworks still clutching an automatic weapon. The lone surviving cavalryman, severely wounded, died within hours.[30] In all, 29 Soviet veterans of that fight were awarded the Order of the Fatherland War 1st Degree. Ataev was subsequently honored as a Hero of the Soviet Union.[31] Seizing and retaining Height 79.9—commemorated on the 25th anniversary of the fight as the "Height of Immortality"—enabled Soviet forces to cross the North Donets in force. The fight for Height 79.9 provides some sense of the kind of hard fighting experienced by 112th troopers in the months preceding Operation Gallop and the Debaltsevo raid.

Operation Gallop and the Road to Debaltsevo

Southwest Front operations against German Army Group Don, which would become part of German Army Group South in February, commenced on 19 January. On 31 January, the 8th Cavalry Corps—which would come under control of 3rd Guards Army on 6 February—received orders to attack Voroshilovgrad and prepare for a move on Debaltsevo. Despite reinforcements, the corps was well below strength in personnel and virtually every category of equipment. Especially acute was the lack of tanks, all of which had been destroyed in preceding battles.[32]

Together with the 55th Cavalry Division, the 112th advanced on 8 February—supported by corps artillery and division mortar fires—to en-

velop German infantry in hasty defenses on the western outskirts of Voroshilovgrad. In two days of fierce combat, the Germans lost more than 900 men and officers.[33]

On the evening of 10 February, the commander of the 3rd Guards Army, D.D. Leliushenko, ordered 8th Cavalry Corps to execute a rapid breakthrough to Debaltsevo in order to seize the rail junction and paralyze German rear-area communications. That same evening, Borisov instructed Shaimuratov to be prepared to turn over command of the 112th Cavalry Division and assume duties as his deputy corps commander upon conclusion of the operation.[34]

Initially expecting support from the 1st Guards mechanized and 2nd Guards Tank Corps, the 8th ended up largely on its own. According to Major General G.P. Koblov, then cavalry inspector of the Southwest Front, tanks were supposed to lead the raid. Their participation was preempt-

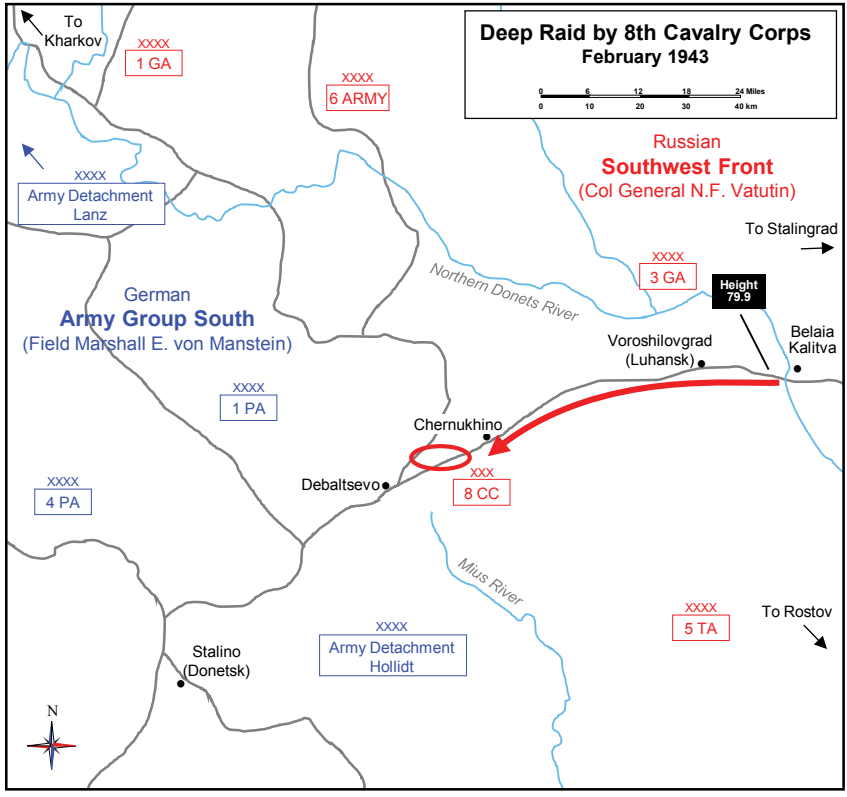

Figure 3.2. Deep Raid by Soviet 8th Cavalry Corps During Operation Gallop (February 1943). Map created by Army University Press.

ed by supply shortages and a German attack along the front at Voroshilovgrad. As 8th Cavalry Corps stormed forward, a German enveloping attack closed the door behind them.[35] Leaving that problem for 3rd Guards Army to solve, 8th Cavalry Corps proceeded as planned—encountering assorted enemy small units—and broke through a line of defense on 12 February. Meanwhile, the 8th Corps breakthrough had created disruption and confusion on the German side, and numerous motorized and railroad units hastily evacuated Voroshilovgrad and streamed west. Many were intercepted and destroyed by 8th Cavalry Corps. Despite foul weather, the corps advanced 70 kilometers westward, completely shutting down German communications between Voroshilovgrad and Debaltsevo. Yet, ominously, resupply from the Soviet rear was already sporadic and insufficient. Strain on depleted Soviet logistics, coupled with early German efforts to isolate Soviet forward elements, began to affect operations barely four days into a two-week operation.

As for the 112th Cavalry, the division was at 48 percent strength at the time of the raid and had only 45 percent of its prescribed complement of horses, 35 percent of its guns, and 30 to 40 percent of mortars. Nevertheless, the division broke through German lines on 11 February and quickly moved westward. By the evening of the 12th, the 112th Cavalry reached Iashchikova and Malo-Ivanovki.[36]

Across the front, the Soviet tactical success threatened to become an operational victory. German Field Marshal von Manstein ordered an urgent response to annihilate the cavalry forces now wreaking havoc behind Army Group South. Three German infantry divisions—the 62nd, 164th and 304th, as well as the 6th Tank Division—rapidly entered the Debaltsevo area to confront the Soviet raiders. (Authors' note: The size of the German response ordered by von Manstein, himself, is indicative of the threat posed by the 8th Cavalry Corps to German control of the eastern Donbas.) In addition to recommitting ground divisions, the Germans capitalized on their significant air assets. Under aerial bombardment, 8th Cavalry Corps advanced in two columns on Debaltsevo, slipping between the German 17th Corps and Army Detachment Fretter-Pico. By the morning of 13 February, the 55th and 112th Cavalry Divisions captured a number of small villages.[37]

From there, the two cavalry divisions moved westward on the 13th to Chernukhino, which proved to be well-defended by parts of two motorized infantry battalions backed by four heavy guns and light tanks. After a full day of fighting led by two cavalry regiments advancing from the east and southeast, Soviet cavalry entered the town. There they occupied defensive positions and withstood German aerial attack. Planned Soviet air support

was not forthcoming, and the town remained contested.[38] German defenders obliterated one Soviet reconnaissance squadron in the town center.

Undeterred by continuous casualties and dwindling supplies, the 112th and 55th resumed the offensive on 14 February. In the course of intense street fighting, they killed up to 200 Germans and knocked out four tanks. Nevertheless, counterattacks by German reserve elements succeeded in dislodging Soviet forces from Chernukhino, meaning that Debaltsevo was just out of reach. However, in the meantime, the 21st Mountain Cavalry division attacked the rail station at Baronskaia, where it destroyed stockpiles of enemy ammunition and supplies. Moreover, they blocked German rail access to Debaltsevo and severed another line of enemy communications with unit fighting for Voroshilovgrad, which fell to the Soviets on the 14th.[39]

As official acknowledgement of its heroic contribution to the capture of Voroshilovgrad, 8th Cavalry Corps on 14 February was re-designated as the 7th Guards Cavalry Corps. In turn, the 112th, 55th, and 21st Cavalry Divisions were henceforth designated the 16th, 15th, and 14th Guards Cavalry Divisions, respectively. The satisfaction resulting from this prestigious designation was quickly countered by German propaganda. On the 16th, a German aircraft passed over Soviet positions and dropped leaflets hailing Russian defeat. They read: "You hope to conceal your destruction by renaming yourselves as guards. It won't work. We will destroy you. We advise you to put down your weapons and cease resistance. Bayonets in the earth."[40]

The Germans acted quickly to keep their pledge. On the same day, 16 February, according to information obtained through prisoner interrogations, up to two infantry divisions and 50 tanks were committed to the

8th Cavalry Corps (Until Redesignation)	**7th Guards Cavalry Corps** (Upon Redesignation)
21st Cavalry Division	14th Guards Cavalry Division
55th Cavalry Division	15th Guards Cavalry Division
112th Cavalry Division	16th Guards Cavalry Division

Figure 3.3. Composition of Major General M.D. Borisov's Cavalry Corps before and after its 14 February 1943 re-designation as a Soviet Guards Cavalry Corps. Table created by Army University Press.

fight for Chernukhino. The main attack was directly against the 15th and 16 Cavalry Divisions. On the evening of the 17th, a German attempt to envelop the town failed but a separate counterattack succeeded in dislodging the 14th Guards Cavalry Division from Baronskaia. Meanwhile, the 7th Guards Corps commander requested support from army headquarters as enemy pressure increased.

In the meantime, the 7th Guards Cavalry Corps commander set up a 360-degree defensive perimeter and awaited the arrival of armored support. The 15th Guards Cavalry Division reinforced defensive positions to the northeast of Chernukhino, and the 16th covered the eastern and southeastern approaches. Unwilling to relinquish all initiative, the corps continued to disrupt rail connections leading to Debaltsevo. During the day of the 18th, Soviet forces lost a significant fraction of their guns and horses to aerial bombardment. It is worth mentioning again that when 7th Guards Cavalry commenced its raid on the 13th, the divisions were already reduced to 48 percent official strength and continued to take losses during the subsequent five days.[41] German maneuver forces, supported by artillery and aviation, advanced from Chernukhino and Debaltsevo to encircle Soviet forces.[42]

Following the bombardment, German forces conducted an attack aimed at the division and corps staff headquarters, situated on Red Partisan Street in Chernukhino. The attack failed, but German pressure continued to increase. Soviet troops were so low on ammunition that they had to scrounge up rounds from their own dead and grab the weapons of dead Germans. Combat in the town inexorably devolved into small unit engagements punctuated by close combat at scattered points.

Fighting Out of Encirclement

A message from the 7th Guards Cavalry Corps commander to 3rd Guards Army headquarters read as follows: “the ring is closing. There is no ammunition, and none has been received. Today enemy aviation conducted heavy bombing. No friendly units are nearby. I request urgent measures, especially aviation support, otherwise a catastrophe is possible.”[43] A further problem was that the eastern Donbas did not provide forested areas in which to conceal the horses, and forage was scarce.

According to 15th Guards Cavalry Division commander, I.T. Chalenko, 3rd Army promised resupply but advised encircled forces to hold their positions, and, if necessary, resort to partisan warfare.[44] By the end of the day on 18 February, the corps commander concluded that the existing defensive positions were untenable and that it would be necessary to return

to more mobile warfare and pull units out of Chernukhino. Meanwhile, information from prisoner interrogations indicated the hasty formation of a German defensive line along the Mius River in the areas of Striukovo and Faschevka. At Striukovo, Soviet forces withdrawing from Cherukhino collided unintentionally with German forces. To avoid encirclement, Major G.A. Chernikov, the chief of operations staff of the 16th Guards Cavalry Division, led units under the cover of darkness and through deep snow to envelop enemy positions. Meanwhile, the Soviets left a few men and a single piece of artillery in Chernukhino to cover the withdrawal and ambush entering enemy forces. This small stay-behind element managed to inflict significant casualties and take out three tanks before abandoning their position.[45]

That same day, von Manstein met with Hitler to advise that Soviet forces had struck German positions on the Mius River and had broken through in several places where Army Detachment Hollidt had not yet been able to secure a continuous front. Moreover, Russian cavalry units, though encircled, were still at large in the area of Debaltsevo. Even so, von Manstein believed a greater crisis was shaping up near his northwestern flank, and requested permission to redirect some motorized units in that direction. Elsewhere, Soviet forces were in evidence heading for the Dnieper crossings between First Panzer Army and Army Detachment Lanz, on the northern edge of von Manstein's defenses. Action against this threat could not wait.[46] On the following day, Hitler allowed some transfer of units from Army Group A to help secure the left flank Army Group South.

On 20 February, Soviet cavalry elements at Striukovo received word via prisoner interrogations that a significant German force was on its way. As enemy aerial bombardment continued, no aerial help from the Soviet side was forthcoming. At that point something remarkable occurred. At Shaimuratov's initiative, Borisov met with his senior commanders and resolved to withdraw from Chernukhino.[47] With no assistance coming from 3rd Army, Shaimuratov took the astonishing step of ordering his staff to send an encrypted message directly to Stalin himself spelling out the cavalry corps' predicament.[48] At Shaimuratov's insistence, 7th Guards Cavalry Corps moved toward Illiria to meet elements of the 1st Guards Mechanized Corps, which was supposed to be on its way to provide reinforcement. 16th Guards Cavalry Division advanced on the villages of Ivanovka, Petrovo, and Krasnosel'e, while the 15th moved against Krasnyi Kut based on reports of an enemy approach. German elements in the town were hit unaware, and hastily evacuated.[49]

On 22 February, 3rd Army directed 7th Guards Cavalry Corps to meet elements of the 14th Rifle Corps at Shirokii. From that point, Soviet forces began pulling back from their deep raid only to encounter German forces in positions astride the main roads. One was a German artillery brigade at Frondirovka. The 15th Guards Cavalry Division and 78th Cavalry Regiment drew the mission to clear the town. Prolonged fighting followed, and the Germans brought reinforcements. The 16th Guards Cavalry Division received orders to clear the area at Shirokii. After suffering severe losses, including Deputy Corps Commander I.S. Dudko, what remained of the corps took defensive positions.[50]

Elements of the 15th and 16th Guards Cavalry Divisions met at the northeastern edge of Ivanovka. Later on the 22nd, what remained of the two divisions attempted to break out to meet lead elements of the 3rd Guards Army, only a few kilometers to the east. The attack by this composite cavalry force was repelled by heavy enemy fire. After marching continuously for three days, exhausted Soviet soldiers collapsed in the snow, many seriously wounded.[51] At this point, the remnants of both cavalry divisions reformed as three composite regiments.

On the morning of the 23rd, MG Borisov summoned Shaimuratov to ask directly why no breakthrough had yet been achieved. Shaimuratov explained that the exhausted physical condition of his troops—combined with an acute shortage of ammunition and lack of information about German forces—would make a breakout suicidal. Instead, Shaimuratov requested one day to conduct reconnaissance to find the weakest point in enemy lines, and promised that he would not only extricate his own men, but the rest as well out of encirclement. Borisov, believed by multiple witnesses to have been intoxicated at the time, insisted on a breakout as soon as possible. Although differing in small details, eyewitness accounts generally indicated that a heated exchange occurred between the two generals. Determined to salvage as much of the force as possible, Shaimuratov personally led a small reconnaissance team as the remnants of his division followed about half a mile behind.[52] Shaimuratov suffered a severe wound near the village of Iurino No. 1 and was taken prisoner. By one account he died under torture at the hands of his captors, but his sacrifice was not in vain.[53]

Though they had to fight their way out, the 16th Guards Cavalry Division managed to lead a significant number of the force out of encirclement. A few who could not make it out linked up with local partisans and continued the fight behind enemy lines. On the 24th, the surviving elements managed to link up with leading elements of 3rdArmy at Malonikolaevka.[54] The losses were severe; one regiment made it out with only 80

survivors.[55] In recognition of its extraordinary efforts to carry out a raid in terrible winter conditions and through continuous combat, the 7th Guards Cavalry Corps earned the moniker "Wild Corps."[56]

During the raid, 7th Guards Cavalry Corps inflicted losses on the enemy estimated at 12,000 officers and men, 28 tanks, 70 motorcycles, 50 guns, 35 mortars, 54 machine guns, and two armored trains. In addition, they eliminated 6 communications centers, 30 supply depots, and 3 railroad bridges. Traffic along all three major rail lines eastward from Debaltsevo was severely interrupted.[57]

On the other hand, the German counterstroke against Southwest and Voronezh Fronts had not only blunted the Soviet advance, but pushed it back toward the Donets River with sometimes-severe losses. Overall, according to von Manstein, the efforts of First and Fourth Panzer Armies led to the ultimate defeat of Soviet Operation Gallop. German forces by their own estimate essentially destroyed 25 Soviet tank corps and three rifle divisions. German reports claimed 23,000 Soviet troops killed and another 9,000 taken prisoner. Von Manstein noted that the latter figure was small because German armored forces lacked the infantry support to seal encirclements of Soviet units.[58] During a three-week period from 3 to 24 February, Soviet losses attributable to Operation Gallop were estimated at 17,000 killed and more than 6,000 captured. Tank losses exceeded 500.[59] Von Manstein's decision to abandon positional warfare and exploit the maneuverability of his panzers made a huge contribution to stemming the Soviet tide. Writing of the "miracle of the Donetz," General von Mellenthin stated, "there was no miracle; victory was gained by masterly judgment and calculation."[60]

The reversal of the Soviet offensive also exposed intelligence limitations on the Soviet side. Soviet armored forces advancing west between Kharkov and Stalino (Donetsk) in late February were completely surprised by five panzer divisions. Soviet information depended heavily upon prisoner interrogations since the Soviet Air Force remained too depleted to effectively fulfill a reconnaissance function. At the same time, Soviet planners missed significant opportunities due to a lack of information in the extremely chaotic operational environment. German XXIV Panzer Corps, holding the extreme southern portion of the defensive front in March, actually had no tanks whatsoever but this vulnerability remained unexploited.[61]

In reality, "victory" meant that German forces narrowly avoided additional catastrophe at multiple points in February 1943, but the success was not sustainable. Soviet confidence and competence were growing in

tandem. The visionary deep operations doctrine—swept aside during Stalin's purge of the Red Army officer corps in 1937–1938—would mature in practice in 1944. Following Operation Gallop, the 16th Guards Cavalry Division would pause for reconstitution and return to the fray by summer. Most of the replacements were not Bashkirs, but the division retained its identity. Transferred to the Central Front, the 16th joined the successful offensive on Chernigov and participated fully in the two-year drive on Berlin that ended the war on 8 May 1945. Over three years of combat, the 16th compiled a remarkable combat record and—as measured by the 78 division veterans named Heroes of the Soviet Union—became the most decorated division in the Red Army.[62]

During Operation Little Saturn and Operation Gallop, German retreat under Soviet pressure created operational and tactical opportunities. It also exacerbated Soviet logistical weaknesses and complicated Soviet commanders' coordinated response to German counterattacks and the unexpected appearance of bypassed German forces from the east.

Summary

The opening paragraphs of FM 3.0 use operations in Ukraine in 2014 to illustrate the lethality of large-scale combat operations. Operations on the same ground in January and February 1943 illustrate lethality of a different but enduring nature. US forces may one day face operational and strategic opportunities that demand "come as you are" commitment of depleted forces with insufficient logistical support for sustained operations. Once committed, it may not be possible to sufficiently reconstitute or rotate units, or to declare an operational pause. That day will demand much of agile, resolute, highly competent cavalrymen like M.M. Shaimuratov and the 112th Bashkir Cavalry Division. It will also demand application of current Army doctrine in FM 3.0.

Notes

1. Headquarters, Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 6 October 2017)*,* 7-23–7-24.

2. FM 3-0, 2-248.

3. David M. Glantz, *Operation Don's Main Attack: The Soviet Southern Front's Advance on Rostov, January-February 1943* (Lawrence, KS: University Press of Kansas, 2018), 399.

4. Glantz, *Operation Don's Main Attack*, 601.

5. *World War II German Military Studies* 9, Part IV: The OKW War Diary Series (New York: Garland, 1979), 191. The relevant portions cited in this article are from the Situation Reports at Hitler's Headquarters from 12 August 1942 to 17 March 1943.

6. Daniel Sadarananda, *Beyond Stalingrad: Manstein and the Operations of Army Group Don* (Mechaniscburg, PA: Stackpole, 1990), 198.

7. Erich von Manstein, *Lost Victories: The Memoirs of Hitler's Most Brilliant General* (Novato, Ca: Presidio, 1994), 441–42.

8. Manstein, *Lost Victories*, 426–427.

9. *World War II German Military Studies* 191.

10. David Glantz, *From the Don to the Dneper*, (London: Routledge, 1992), 87–95. The Germans formed Army Detachments (Armee Abteilung) as an ad hoc response to operational exigencies. It was their means to rapidly cohere fragmented forces into stronger composite organizations.

11. Sadarananda, *Beyond Stalingrad*, 104.

12. Glantz*, From the Don to the Dnieper*, 95, 119–21.

13. Glantz*,* 95.

14. Glantz*,* 120–21.

15. *Natsional'nye voennye formirovaniia bashkirskogo naroda perioda velikoi otechestvennoi voiny, 1941–1945.*[National Military Formations of the Bashkir People during the Period of the Great Patriotic War]. This unsigned monograph appears on the Vatandash website at http://vatandash.ru/index.php?article=1927. This work, published by the Executive Committee of the World Bashkir Congress, makes extensive use of archival references from the Bashkir State Historical Archive and the Central State Defense Archive of the Republic of Bashkortostan.

16. National Military Formations of the Bashkir People during the Period of the Great Patriotic War. This reference is based on files in the Bashkir Military Historical Archives.

17. National Military Formations of the Bashkir People during the Period of the Great Patriotic War.

18. National Military Formations of the Bashkir People during the Period of the Great Patriotic War.

19. For full background on the Bashkir cavalry tradition in the tsarist army, see Robert F. Baumann, "Subject Nationalities in the Service of the Tsar:

The Case of the Bashkirs," *Slavic Review* 46, No. 3/4, Autumn/Winter 1987, 489–502.

20. A.Kh. Nasyrov, *Podvig generala: Vospominaniia komandira eskadrona 112-i Bashkirski kavaleriiskoi divizii* [The General's Achievement: Memoirs of a Squadron Commander of the 112th Bashkir Cavalry Division] (Ufa: Kitap, 2006), 1–8. The author of this book was himself an officer in the 112th and conducted interviews with other Soviet participants as part of his research.

21. "Sud'ba generala Shaimuratova," [The Fate of General Shaimuratov] Veteran Bashkortostana, www.veteranrb.ru. The full article is posted at http://nailtimer.com/articles_page/bashkortostan_general_shaymuratov.html.

22. *Natsional'nye voennye formirovaniia*.

23. *Natsional'nye voennye formirovaniia*.

24. G.G. Bulatov, ed., *Generaly Bashkortostana*,[Generals of Bashkortostan] (Ufa: Kitap, 1995), 318–19.

25. *Natsional'nye voennye formirovaniia*; Nasyrov, *Podvig generala,* 26–34; Bulatov*,* 319. The authors speculate that many of these German tanks were either out of gas or mechanically incapable of movement. Obviously, the requested anti-tank guns came in handy.

26. Glantz, *From the Don to the Dnieper,* 41.

27. M.S. Dokuchaev, *V boi shli eskadrony* [The Squadrons went into battle] (Moskva voennoe izdatel'stvo, 1995), 31.

28. Dokuchaev, 31–32; Nasyrov, *Podvig generala,* 28–29.

29. Dokuchaev, 32–33.

30. Dokuchaev, 33; Nasyrov, *Podvig generala,* 29.

31. A.I. Zakharov, *Gordost' i slava 16-i kavdivizii* [Pride and Glory of the 16th cav division] (Bashkirskoe knizhnoe izdatel'stvo, 1990), 48.

32. Dokuchaev, *V boi shli eskadrony*, 35; Bulatov, *Generaly Bashkortostana*, 320–22.

33. Dokuchaev, 36.

34. Nasyrov, *Podvig generala*, 31. This change never transpired due to Shaimuratov's death and Borisov's capture.

35. Dokuchaev, *V boi shli eskadrony*, 37.

36. Dokuchaev, 31–32.

37. Nasyrov, *Podvig generala*, 31; David A. Shunk, "Field Marshall von Manstein's Counteroffensive of Army Group South, February-March 1943: The Last Operational Level Victory of the Panzer Forces on the Eastern Front," Master of Military and Art and Science thesis, US Army Command and General Staff College, 1988, 25–26.

38. Dokuchaev, *V boi shli eskadrony*, 38.

39. Dokuchaev, 39; Nasyrov, *Podvig generala,* 35.

40. Nasyrov, 32.

41. Nasyrov, 32.

42. Dokuchaev, *V boi shli eskadrony*, 42–43.

43. Dokuchaev, 44.

44. Dokuchaev.

45. Dokuchaev, 45.

46. Manstein, *Lost Victories*, 425–26.

47. Nasyrov, *Podvig generala*, 33.

48. Nasyrov.

49. Dokuchaev, *V boi shli eskadrony*, 46–47.

50. Dokuchaev, 48–49.

51. Nasyrov, *Podvig generala*, 34.

52. Nasyrov, 32–40.

53. A.A. Maslov, "The Unknown Pages of a Heroic Raid," trans. David M. Glantz, *Journal of Slavic Military Studies* 10, no. 2, 1997, 176–180. For years after the war, there was doubt surrounding the exact circumstances of Shaimuratov's death. Accounts still differ in some details to this day. These circumstances delayed the general's receipt of the Hero of the Soviet Union award. Today there is a statue of Shaimuratov in his home village in Bashkortostan.

54. Dokuchaev, *V boi shli eskadrony*, 50–51.

55. *Natsional'nye voennye formirovaniia*.

56. Dokuchaev, *V boi shli eskadrony*, 56.

57. Dokuchaev, 58.

58. Manstein, *Lost Victories*, 431–33.

59. Sadarananda, *Beyond Stalingrad*, 126.

60. F.W. Mellenthin, *Panzer Battles* (New York: Ballantine Books, 1971), 253. Also of interest by the same author is *German Generals of World War II as I Saw Them* (Norman, OK: University of Oklahoma, 1977).

61. Timothy Wray, *Standing Fast: German Defensive Doctrine on the Russian Front During World War II: Prelude to March 1943* (Fort Leavenworth, KS: US Army Command and General Staff College, 1986), 163–65.

62. Accounts vary as to whether there were 76, 77, or 78 Heroes of the Soviet Union in the 112th / 16th Guards Cavalry Division. This is probably because several of the awards, such as the one given to Major General Shaimuratov, were conferred years after the war's end. Regardless of the precise number, consensus among the sources is that no other division had more Heroes of the Soviet Union than the 112th.

Chapter 4

Creating Operational Depth through Coalition Integration: Seventh Army and Operation Dragoon

Major Christopher J. Shepherd

> *Operational movement and maneuver requires enough operational reach to execute operations decisively without an operational pause. Success demands full integration of all available means in a multi-domain approach. Thus, successful operational movement and maneuver combines force projection with land maneuver to operational depth in an integrated, continuous operation.*[1]
>
> —Field Manual (FM) 3-0, *Operations*

Coalition warfare is fraught with both challenges and opportunities. Despite this, an August 2017 article coauthored by Generals Robert Brown and David Perkins discuss coalitional warfare as a constant in the paradigm for the Army's future operating concept of Multi-Domain Battle (MDB). "The future battlefield will be one where integration into joint and multinational forces is a prerequisite for victory."[2] The complications of coalition warfare manifested themselves continuously during Operation Dragoon, yet these actions also demonstrated the effective operational depth possible by leveraging the capabilities of a coalition.[3]

The second invasion of Western Europe two months after Normandy—along the Southern Riviera—is less known and sometimes subordinated in contributions toward the Allied victory in Europe. Yet this second invasion was just as critical to ultimate success in the liberation campaign. The rapid exploitation demonstrated both geographic and cognitive depth, forcing the collapse of German resistance in France and withdrawal to the Rhine.

Seventh Army integrated the ad hoc coalition from two different theaters spanning different operational agendas. Challenges included a reduced familiarity between the US and French forces, the late allocation of forces, language barriers, and competing interests. The difficulties in the Franco-American coalition's success provide a relevant case study for application toward challenges in future large-scale combat operations, and integration within a coalition framework to achieve operational depth.

Dragoon's objectives, which were the vital ports of Marseille and Toulon, formed the critical basing for logistical volume that enabled the Allies' endurance through France and into Germany. The operation's momentum through simultaneous pursuit isolated the German Army Group G in

southern France.[4] This endurance—combined with the momentum created by the coalition's exploitation following penetration of the southern defenses—projected combat power deep into Southern France simultaneous to fierce urban fighting in the port cities. Seventh Army's rapid coalition integration balancing national capabilities with national constraints created an operational reach which increased relative tempo for combat power projection, while enhancing geographic depth in exploitation and destroying German physical and cognitive will to resist in Southern France.

Shaping the Coalition's Attack

On the night of 14 to 15 August 1944, the partisans from the French Forces of the Interior (FFI) listening to a London broadcast heard the words, "Nancy has a stiff neck." From this confirmation of the impending invasion of Southern France, the partisans sprang into action. They cut critical cable networks, attacked German couriers and staff cars, placed obstacles across roads, and removed poles from drop zones and landing zones. Critically, partisans severed the cable linking the German Army Group G with forces in northern France, preventing coordination between the Nazi forces spread out across the country.

The Seventh Army's commander, General Alexander "Sandy" Patch, created an organization within his staff to better control the shaping effects of host nation partisan warfare in depth. The Provisional Number 4 Special Forces Group within Seventh Army's staff contained 66 French-speaking British and Americans who oversaw an estimated 15,000 to 20,000 trained and armed FFI operating in southern France, plus a further 30,000 to 40,000 more mobilized but unarmed. They directed priority target lists and delivery of advance supply drops between 5 and 15 August consisting of more than 100,000 containers of weapons, explosives, and ammunition to resistance forces. By Dragoon's D-Day (the day the operation commenced), the FFI already nominally controlled the area between the Aix-en-Provence and the Rhone River east of Grenoble in the high Alps.[5]

Seventh Army also integrated the French Armee B, the American VI Corps, the Anglo-Canadian-American First Special Service Force (1st SSF), a provisional airborne division, the Anglo-American First Airborne Task Force (FATF), and the French Group of Commandos and French Naval Assault Group. Only a month prior to the landings did the coalition operate under a unified army commander for the first time when the Allied Force Headquarters (AFHQ) officially assigned all French forces for Dragoon to Seventh Army on 7 July 1944. The French Army, consisting of I and II French Corps, was itself a coalition of Frenchmen from the main-

land and colonial troops from North Africa and sub-Saharan Africa. Even Armee B's commander, Marshal Jean de Lattre de Tassigny, called it "a melting pot . . . able to bring so rich an alloy to so high a degree of fusion."[6]

Between 28 April and 10 August 1944, the Mediterranean Allied Air Force dropped more than 12,500 tons of bombs on southern France. Although the Germans knew an assault was coming, the severed communications and successful deception operations by Seventh Army meant that the defenders were completely surprised by where it occurred. Deception operations included increased bombing attention west of Marseille, paratrooper dummies, electronic simulators creating ghost convoys, and heavy radio discussions regarding landings.[7]

In the first week of August 1944, Seventh Army embarked across five ports on two continents under the careful command of the respective Near Shore Control Parties. The 853 vessels of American, British, French, Greek, and merchant ships forming the naval task force converged from 10 convoy routes on an assembly area west of Corsica by 14 August 1944. Despite the massive effort required to coordinate the coalition dispersed across so many staging areas, the smooth execution relied on this dispersion.[8]

Just after midnight on 15 August, following the commencement of FFI sabotage operations in depth, the first man of Operation Dragoon touched French soil. By request and design, this belonged to a Frenchman. Commandant Marcel Rigaud landed alone on the beach at Rayol in his "rendezvous with France," establishing a guide light for the assault force.[9]

The French provided the overall preponderance of forces, with the United States limited in available manpower due to continuing operations in Normandy and Italy. US forces also lacked armor and mechanized forces for exploiting a penetration. While the American VI Corps under General Lucian Truscott formed the initial amphibious assault, the follow-on forces consisted mainly of the French Armee B under the command of de Lattre.

The assault objective of the American VI Corps penetrating the defenses was a beachhead east of Toulon, providing the base for follow-on operations. The French provided the main effort for the operation, seizing the ports of Toulon and Marseille for strategic logistical efforts. Dragoon forces then planned an exploitation of the penetration up the Rhone Valley to Lyon, linking up with forces advancing from Normandy.

Separate basing for follow-on supply provision increased the effectiveness of the army's logistics. While Near Shore Control at Naples maintained overall responsibility, French Armee B established their own supply bases in Africa and Italy, validating transportation and shipping into the

target area through their US counterparts. Liaison efforts at both French and US supply bases formed critical linkages for this effort. Following embarkation, Near Shore Control Headquarters in Naples, augmented with French personnel, continued administration and supply management based on reported consumption data.[10]

German Preparations

Desperately trying to determine where the main assault would land, Generalfeldmarschall Johannes Blaskowitz, commanding German Army Group G, worked feverishly with limited resources to stop the impending invasion. By July 1944, Army Group G owned the two-thirds of France below the Loire River, and many of the soldiers were an international conglomeration, or refitting after tough fighting on the Soviet front. Their motivation largely stemmed from an intense fear of capture by FFI showing little mercy, and of their own officers with orders to shoot those retreating.[11]

Blaskowitz's reserve contained one of the best remaining divisions in France, the 11th Panzer, consisting of 26 Mark IVs and 49 Mark Vs. It occupied Bordeaux for employment against a southern invasion, though Hitler owned the release criteria. Blaskowitz's additional reserve, the 157th Division, remained contained to the north fighting resistance fighters in the mountains. The Luftwaffe and the Kriegsmarine also provided support. The Luftwaffe had 186 aircraft for use in southern France. The 6th and 7th Kriegsmarine consisted of 28 torpedo boats, 9 submarines, 5 destroyers, and 15 patrol craft.[12]

At Avignon, General Friedrich Wiese commanded Nineteenth Army, tasked with defending southern France. A month earlier, three of his 11 divisions shifted to help stem the Normandy invasion, weakening his 250,000-man force. Wiese's three corps headquarters and eight remaining divisions positioned their best troops east of the Rhone, along the Cote de Azur, and precisely in the way of the impending coalition. These included the 244th Division defending Marseille with 88 coastal guns, and the 242nd Division defending Toulon with 106 coastal guns. The 148th Division defended the coast from Agay to the Maritime Alps.[13]

The extensive Mediterranean defenses spanned 100 miles of casemated positions and block houses. The defenders saturated the approaches to the beaches with mines, well-sighted barbed wire and machinegun positions, and flame thrower crews. Wiese additionally covered all potential landing zones for airborne and paragliders with poles and stakes, which the FFI largely cleared by the time the Seventh Army assault began.[14]

The Assault

Following Commandant Rigaud to the beach, the French Groupe de Commandos drifted westward due to currents and a low haze, landing a mile farther west than Rayol beach. Realizing they were in the wrong location, they surprised the German defenders and overran a pillbox and artillery emplacements before moving inland and establishing a road block on the coastal highway. A second group landed farther east, worked their way back and cleared Rayol Beach, then also established a roadblock on the coastal highway. A third group continued 3 miles inland, capitalizing on surprise and the FFI, seizing the town of La Mole and capturing an artillery battery there.

All three groups of French commandos were augmented with British Forward Observers Bombardment (FOB) and US Shore Fire Control Parties. They conducted hasty training with the commandos in the final month before D-Day at the North African Theater of Operations (NATO) Invasion Training Center (ITC). AFHQ placed the ITC under operational control of Seventh Army on 10 June 1944, for the final two months of training. These elements coordinated the combined-joint fires from the naval and air forces supporting the invasion. Although suffering increasing casualties during multiple German counterattacks of their roadblocks, the

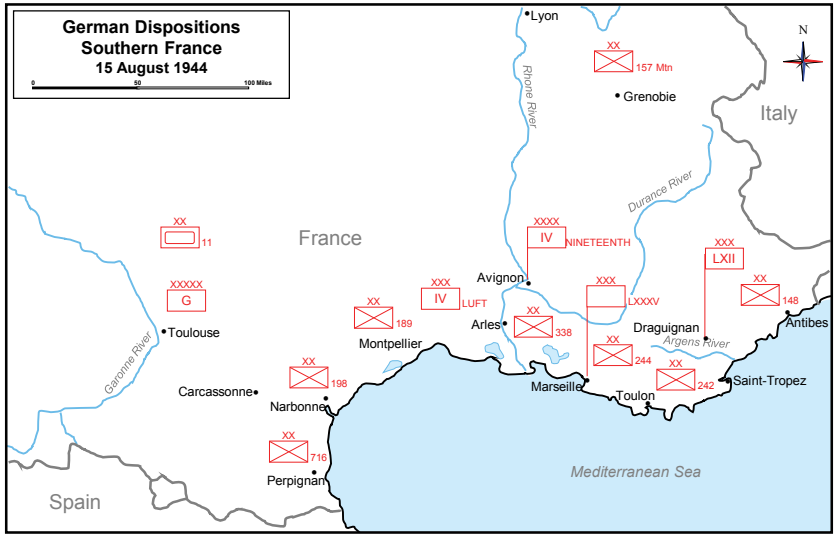

Figure 4.1. German Dispositions in Southern France. Map created by Army University Press.

initial French assault succeeded in preventing these counterattacks from affecting the US VI Corps landings on the left flank.[15]

Meanwhile, 1st Special Service Force, three battalion-sized regiments of US Rangers, landed on the offshore islands. One regiment attacked Port Cros, and two regiments attacked Levant. Their objectives included neutralizing the enemy defenses on these islands to protect the left flank of the invasion force. However, the coastal defense battery on the eastern end of Levant turned out to be a cleverly disguised dummy, and the small German garrison surrendered early on 15 August.[16]

The German garrison put up stiffer resistance against the one regiment assaulting Port Cros, falling back on prepared fortifications on the northwest corner of the island. This fort proved impenetrable even to coordinated air and naval fire and required a deliberate assault of the fortifications on the 17th to force surrender. This difficulty delayed installation of radar equipment, as well as relief by French army and navy base personnel following behind. However by D+2 (a designated number of days after the operation commenced), the remaining Rangers transferred to the mainland, and French personnel garrisoned both Levant and Port Cros.[17]

An hour after the assaults on Cape Negre and the offshore islands, the French Naval Assault Group of approximately 50 French commandos landed on the rocky shore of Deux Freres Point past the extreme right of the VI Corps assault. This became the lone failure on D-Day, but even this contributed to the ultimate success of the operation. The small group ran into barbed wire and a minefield, alerting the German defenders who destroyed a considerable number of commandos before the rest surrendered. Despite this setback, these actions furthered deception efforts regarding a main attack in the Genoa area.

The FATF took off from airfields around Rome early on D-Day. There is some controversy on how scattered the drops were, though official histories indicate most landed near their objectives. At least some landed away from their assigned objectives, but they formed small groups and seized alternate objectives, while sabotaging German defenders. One group of mis-dropped paratroopers landed near St. Tropez and—after weathering friendly bombardments—linked up with FFI and captured the town, German garrison, and their artillery. These actions accomplished one of the US 3rd Infantry Division's (3ID) objectives for later on D-Day, increasing their momentum.[18]

The airborne and glider troops established a network of screens inland from the assault beaches while repulsing counterattacks. Most im-

portantly, the airborne troops dispersed the German LXII Reserve Corps headquarters at Draguignan by the 17th—capturing the commander, Lieutenant General Neuling, and the principal German communication center. This last act isolated the Germans in southern France, degrading the cognitive will of the defenders as resistance outside of the port cities became a battle to escape the closing net.[19]

Two hours prior to H-Hour (the designated hour of the attack), the naval fire support group opened with a ferocious barrage across the 45-mile-long coast designated as Alpha, Delta, and Camel Beaches. They ceased one minute before H-Hour. Mine sweepers led the way for the assault craft, and the final 10 minutes consisted of a large barrage of rockets from supporting naval craft. In this effort, the US employed an innovation: drone boats laden with explosives to destroy mines closer to shore. Between 0800 and 0810, Truscott's US VI Corps assaulted the beaches on three divisional fronts. Facing a surprised German force and overcoming light resistance from mortars, snipers, and minefields, the American assault forces quickly cleared the beaches and began expanding inland. Only one temporary setback occurred, at Camel Red on the right flank in the 36th Infantry Division's area of operations.[20]

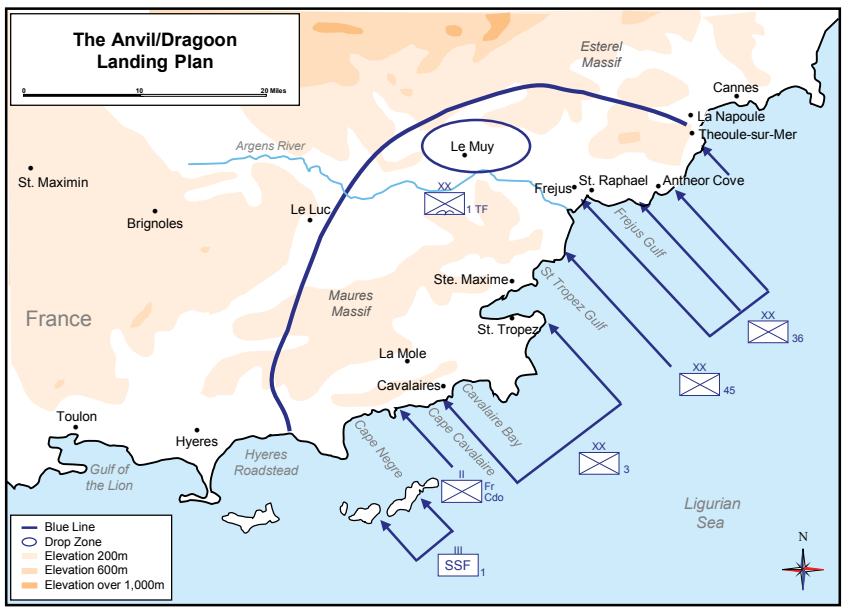

Figure 4.2. The Anvil/Dragoon Landing Plan. Map created by Army University Press.

Patch viewed the capture of the St. Raphael port, and the town of Frejus on the coastal highway, as critical for maintaining momentum in depth on D-Day. The location provided the best route inland, the only airfield in the area, and a crucial port basing area. VI Corps lacked an armored force for mobility and exploitation, negotiating attachment of the mechanized French Combat Command (CC) Sudre to VI Corps for the assault up the Rhone Valley from St. Raphael. While de Lattre accepted this compromise, international political concerns dictated its use. French concerns over the difficulties involved in seizing Toulon and Marseille—coupled with tense interactions between Truscott and de Lattre during the planning for operational control—created the basis for an ad hoc American force as a branch plan. This improvised US force became Task Force Butler, consisting of staff and communication teams from the VI Corps Headquarters, the Corps Cavalry Squadron, 117th Reconnaissance Squadron, one armored field artillery battalion, one tank battalion minus one armored company, one tank destroyer company, one motorized infantry battalion, an engineer battalion, and service troops necessary to support this force.[21]

The 3ID landed on the left flank, secured the St. Tropez peninsula, established the western Blue Line, and gained contact with the French Commandos. The Blue Line established the initial lodgment limit of advance for the assault penetration, enabling the initiation of the French II Corps' exploitation toward Toulon and Marseille. Upon 3ID's landing, the French commandos at the roadblocks transferred to US VI Corps' operational control. The commandos advanced along 3ID's southern flank, protecting from multiple German counterattacks and clearing the Cape Benat peninsula. The 3ID landed with 7th Infantry Regiment and 15th Infantry Regiment abreast at Alpha Red and Alpha Yellow on Cavailaire Bay, then passed 30th Infantry Regiment on 7th Infantry's right flank and continued advancing to the north and west. Audie Murphy earned one of his Distinguished Service Crosses during action clearing a German strongpoint on the St. Tropez peninsula. Each regiment task-organized with four amphibious tanks, Naval Fire Shore Control Parties, and French LNOs. The amphibious tanks launched from Landing Craft-Tanks (LCT) two thousand yards from the beach. Advancing rapidly, 3ID contacted the paratroopers in St. Tropez and with 45ID on the right flank.[22]

The 45ID landed along four narrow beaches in the center, with the 157th Infantry Regiment assaulting Delta Red and Green Beaches on the left, and 180th Infantry Regiment assaulting Yellow and Blue Beaches on the right. The fiercest resistance occurred during house to house fighting clearing Ste. Maxime. Truscott and his French liaison officer (LNO) came ashore here

midafternoon of D-Day. That night, 45ID contacted the paratroopers outside Le Muy, and established the central Blue Line by the 16th. FFI assisted VI Corps as they advanced, providing advanced warning of German defenses and in some cases joining the assaults. Truscott praised the high quality of their local knowledge, information, and fighting ability.[23]

The delay on the right flank stemmed from a controversial decision. The east two beaches consisted of poor exits. The plan called for the 141st Infantry Regiment landing at Camel Blue and Green at H-Hour, then passing 143rd Infantry Regiment through to attack St. Raphael—with the 142nd Infantry Regiment assaulting St. Raphael, Camel Red, from the front. The first regiment landed, passing the second to attack St. Raphael from the rear. The right flank in the Camel Beach area also contained the most fortified German positions from the 242nd Division in the sector. Both the US 142nd and 143rd met fierce German resistance while expanding out from the beaches to attack Frejus and St. Raphael. The third regiment planned an assault on St. Raphael from the front at H+6 (H-Hour plus a designated number of hours). When Admiral Spencer S. Lewis—commanding the amphibious assault force in this sector—decided to avoid the frontal assault on St. Raphael and shifted those forces to the eastern beaches, Truscott was livid. Although 45ID seized Frejus and St. Raphael from the rear on the 16th, this placed the follow-on forces a day behind schedule. This delay also forced Truscott to adjust Sudre's landing to the 45ID beaches, near his established VI Corps headquarters. Combat Command (CC) Sudre consolidated at Le Muy and attacked west through heavy resistance in the gap between 45ID and 3ID. That night, Camel beaches experienced the only effective attack against their beachhead by the Luftwaffe.[24]

An innovative organizational component adapted from previous amphibious invasion experience consisted of task-organized beach groups as principal integrating elements. These units consolidated functions—increasing endurance and momentum—while providing protection of forces during reception, staging, and onward movement over the beaches. These task forces organized under Patch's control through his G4, and now included the function for passage of French follow-on forces.[25]

Seventh Army organized a beach group for each assault division, with responsibility for operation of depots on the beach and movement of 3,000 tons of supplies per day from ships to these depots. Additional responsibilities included obstacle reduction, anti-aircraft protection, communications, prisoners of war, decontamination sites, medical, personnel administration, and traffic control. Each beach group planned potential passage missions for French forces, creating branch plans and options for Patch

and the coalition. Procedures established by the ITC created mutual understanding among all coalition forces.[26]

Due to the added complications inherent in the passage of a coalition force, beach groups established an agency within each unit for the rigid control of landing, assembling, and immediate movement from the beach areas for the French forces. The French II Corps provided personnel who accompanied the beach groups during the assault, organized from the French divisions passing over the planned beaches. Their purpose included selection and reconnaissance of routes for passing the French forces, selection of assembly areas, and posting guide signs in French for onward movement. The beach groups thus formed a centralized, integrating organization for reception, staging, and onward movement.[27]

Adaptation in Combat Power Projection—The French Attack

After the initial successes of D-Day, Patch expedited the landings. The beach groups adapted and reorganized—prioritizing supply depot establishment and unloading of troops and equipment, in addition to mine and lane-clearing operations. They also reversed the prioritization of ammo and gas in favor of the latter—establishing supply depots, opening roads, and controlling traffic. Protecting the force, they additionally managed prisoners of war, established smokescreens, conducted antiaircraft operations against the Luftwaffe, and assisted medical evacuation of casualties. The 40th Engineer Beach Group on the right flank developed and cleared the landing strip for artillery observation near Frejus, while the 36th Engineer Beach Group did the same on the St. Tropez peninsula in the center. The 40th also prepared the port of St. Raphael for operations by D+3 under the Seventh Army Beach Control Group. On the left flank, the beach group prepared to pass the French II Corps toward their objectives.[28]

The hasty reorganization of the beach group on the left flank expedited French landings as Patch ordered the acceleration from 16 to 19 August. By the evening of 16 August, Patch established his headquarters in a resort west of St. Tropez, providing quick access between the two corps. De Lattre shifted his assembly areas forward off the beaches—increasing momentum toward the ports, reducing beach congestion, and enabling easier passage. Four hours after receiving the order, de Lattre's ships arrived in the bays of Cavalaire and St. Tropez by 1900 on 16 August. Three divisions and de Lattre's headquarters landed on the left flank of the assault area. Assisted by the beach groups, de Lattre quickly maneuvered his forces into their assembly areas and began relief-in-place with the Americans, expediting the attack on Toulon by six days. De Lattre linked up with

Patch that night, establishing crucial shared situational understanding, German dispositions, the return of CC Sudre and the commandos, and updating coordination plans between the two Corps.[29]

Patch was convinced Toulon and Marseille "would be a tremendous morale factor for the French" and would destroy German hope in southern France.[30] They remained his priority, despite Truscott's contrary urgings. While Truscott felt de Lattre delayed too long, Patch restrained VI Corps' advance, also turning down Truscott's recommendations for 3ID to attack and seize Toulon. De Lattre insisted he needed forces still downloading for the attack. With Patch's urging and de Lattre's desire to remain abreast of US positions, the advanced French assembly areas enabled de Lattre's expedited movement toward Toulon.[31]

Prior to transferring back to French operational control, CC Sudre provided a crucial outflanking maneuver at Brignoles for 3ID, leveraging its speed and armor. As the French II Corps approached Toulon, de Lattre expedited plans for capturing Marseille—continuously focused on maintaining pace with the Americans and avoiding relegation to the Alps after capturing the ports. Patch accepted this risk based on surprise, belief in French training, and French morale in their homeland—despite two reinforced German divisions in fortified positions at the ports.[32]

The combined beach groups labored from 17 to 20 August, unloading the entire II Corps. Rapid landings enabled a quick turn to Corsica 48 hours ahead of schedule with the remaining II Corps forces. The 1st French Armored Division (1DB) —reinforced by CC Sudre on the 19th—maintained contact with VI Corps on the right, while continuing the attack west to Aix. The expedited landing and 1DB provided the additional forces de Lattre needed to begin operations against Marseille.[33]

As II Corps began encircling Toulon on 19 August, de Lattre requested additional munitions for his attack. This jeopardized Truscott's plan for three mutually supporting division maneuvers—protecting the French right flank while attacking north to isolate Weise's Nineteenth Army—due to lack of fuel. The Seventh Army staff initially disapproved de Lattre's request, but Patch overrode them. Patch assured Truscott that this approach would also expedite French relief of 3ID forces, freeing VI Corps for a limited attack up the Rhone.[34]

Following a breach of the Hyeres defenses east of Toulon by the French commandos—while equipment and forces continued arriving across the beaches in a "real gun race" —de Lattre initiated his 20 August attack with two divisions onto the outer perimeter of Toulon. De Lattre's close

collaboration with the FFI provided critical tactical intelligence on German positions and freed II Corps through FFI assistance with mop-up operations. With II Corps now controlling the area west of the Blue Line, de Lattre coordinated for air and naval bombardments of the St. Mandrier peninsula.[35]

Employing a division of Moroccan Gourmiers, II Corps meanwhile completed encirclement and control over all routes out of Toulon. Patch initially denied Gourmier participation in Dragoon due to atrocities the unit had committed in Italy. However, De Lattre valued their extensive experience maneuvering through mountainous terrain using pack mules for logistical supply. Patch relented only when the French found and provided their own ships to transport the unit. The Gourmier's quick maneuver through the high mountains north of the ports became critical to overall French momentum.[36]

The 1DB relieved 3ID forces at Aix, reaching the outer defenses of Marseille by the 20th while receiving reports of 11th Panzer operating in the area. Continuing reorganization for simultaneous assaults, de Lattre shifted his headquarters west from Toulon to Aux-en-Provence for command over both battles. De Lattre placed the complete assault on Toulon under the command of his now-full-strength 9th Colonial Division (9DIC), with the 2nd Combat Command (2CC) from 1DB in support.

The 3rd Algerian Division (3DIA), the Gourmiers, and the rest of 1 DB attacked to seize Marseille. De Lattre earlier forfeited an infantry regiment from the 3DIA to allow the required shipping for his second armored CC, which proved critical for rapid French movements encircling both ports simultaneously. As the French pressed the attack directly into the outer ring of Toulon's forts, the entrenched German artillery "punished all our movements," and the encircled Germans fought with fanaticism. Small-unit tactical actions broke out everywhere, and the Gourmiers and FFI seized multiple points by "gangs, and by groups of two or three . . . this very special kind of warfare was just their kind of business." The Gourmiers and 1DB also worked together closely fighting through hedges, mines, and broken walls on the outer defenses of Marseilles against a stiff defense while other elements unsuccessfully attempted outflanking to the northeast.[37]

Prior arrangements ensured superb coordination between the French forces and the US Air Force and Navy during the seizure of Toulon and Marseille. First in Toulon from 18 to 24 August—then shifting priorities to Marseille from 25 to 27 August—the Air Force bombarded the coastal batteries despite heavy flak. Simultaneously, the Navy reduced the German batteries harassing the French—screened by French artillery smoke

and directed by French observation posts with liaison shore fire control parties. The Navy began port opening mine clearance by the 26th.[38]

Final resistance in Toulon collapsed on the 27th, with surrender on the 28th enabled by French forces' local knowledge. On 26 August, the US 13th Artillery Brigade landed and moved into action at Marseille as a planned reserve provided by Patch. The 13th silenced the German 155-millimeter coastal batteries by the 28th. Seventh Army's history credits the entire coalition that the "seemingly brilliant tactics of the French were made possible only by the combined efforts of the entire Seventh Army."[39] The plan called for the capture of Toulon by D+20 and Marseille by D+60. Instead, the combined-joint efforts accomplished both objectives by D+14.

Figure 4.3. Operation "Dragoon," The Breakthrough. Map created by Army University Press.

Pursuit in Depth—Collapsing Resistance

During the pursuit over the ensuing three weeks, Seventh Army's campaign took on its most integrated character. The French I Corps landed on VI Corps' right, officially creating Armee B. The three corps attacked north in the direction of Lyon and, by 14 September, extended more than 750 kilometers north into France. Task Force Butler, reinforced by a regiment from 36ID, penetrated deep behind German lines to Montelimar on 23 to 24 August, and isolated the German forces in the ports from the rest of the German Nineteenth Army.

On 25 August, Patch ordered VI Corps' advancement on the east bank of the Rhone and a reconnaissance-in-force on the west bank from de Lattre, while fighting in Toulon and Marseille still raged. As the ports fell, Patch also directed the French move east to the Alps—relieving the FATF protecting the right flank. Patch wanted to shift French forces to the eastern flank in preparation for a US junction with forces from Normandy, supporting Eisenhower's intent for a continuous US frontage with the French on the far right.[40]

De Lattre exploited the reconnaissance opportunity—intending to not remain "behind our friends, but at least beside them." He established a garrison in both Toulon and Marseille then shifted additional forces across the river, joining the 1DB in pursuit. The French still retained the only armored division available. De Lattre's orders sending the reduced division northwest of Marseille helped increase their utility during the initial stage of the pursuit north. CC Sudre again maintained contact with VI Corps.[41]

A series of negotiations coordinating the pursuit occurred from 25 August to 1 September. The commanders agreed the French would seize Lyon; only then would II Corps transfer the remaining elements east, uniting Armee B's zone between the Swiss frontier and the Saone. A further agreement delayed Armee B's relief of the airborne forces closer to the sea, allowing their continued use against the Germans. Although splitting Armee B with VI Corps in the center created additional liaison, communication, and supply challenges for both nations, de Lattre argued that "the strictly military decisions of the French command of the army of liberation could not leave out of account the effect of our national pride."[42]

The Rhone River posed a significant obstacle to de Lattre's forces. French engineer units were only at half-strength this early in the campaign, and only one bridge escaped destruction. De Lattre's engineers improvised, floating the heavier equipment and tanks across by pontoons, while also using a system of ferries coordinated through local French

networks. Patch shifted a company of amphibious trucks to the French on the 28th and followed with eight US landing craft at Arles. With this assistance and their own ingenuity, the combined troops accomplished the impossible by the 29th. By the 31st, the French II Corps was abreast of the US VI Corps.[43]

As the French advanced, their ranks swelled with volunteers. The first FFI unit officially integrated into Armee B on 31 August. While the Americans remained east of Lyon, the French entered from the west on 2 September. FFI helped coordinate the maintenance of law and order. The 1DB and 45ID attacked retreating Germans north of Lyon, where the 11th Panzer defended the flank of the retreating Nazis whose resistance stiffened as their lines contracted.[44]

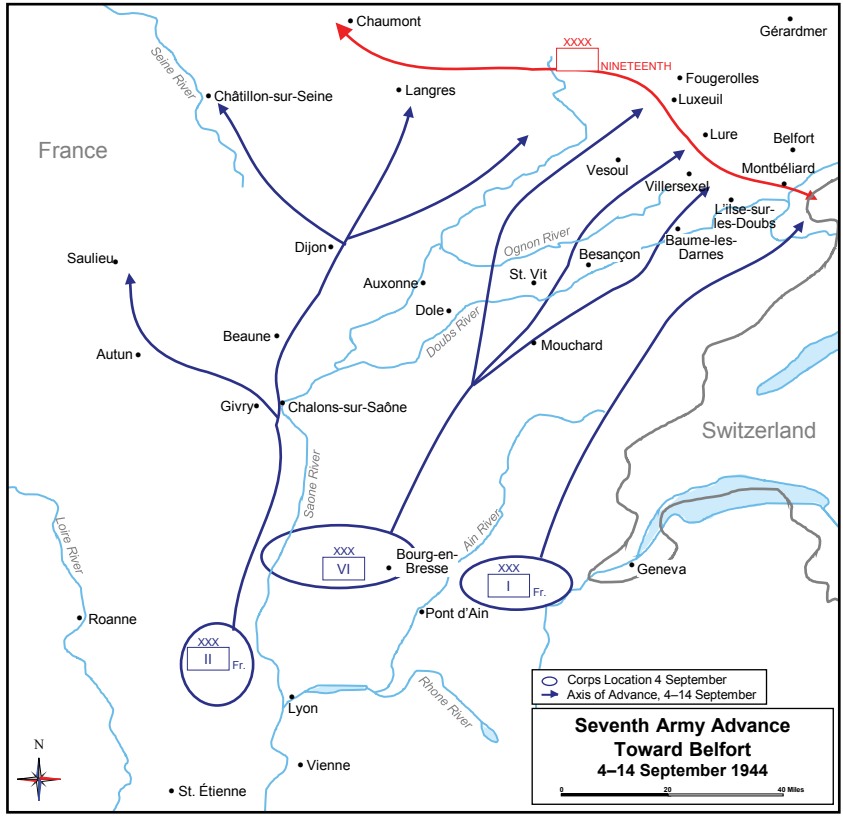

Figure 4.4. Seventh Army Advance Toward Belfort. Map created by Army University Press.

Patch again adjusted Seventh Army operations—focusing on pursuit and annihilation of the Germans within their two likely escape routes. He, therefore, delayed rearranging the commands or shifting the French to the eastern flank. VI Corps pursued toward the Belfort Gap, while Armee B attacked along the northwest bank of the Saone toward Dijon and Strasbourg.[45]

De Lattre believed this prevented his regrouping and 1DB from effectively pursuing the Germans west of the Saone. The French commander responded by adjusting his own command, formalizing I Corps, and making things more difficult by creating an army headquarters under Seventh Army. He advanced his two corps toward the Rhine on either side of VI Corps "whom I did not despair of beating to these two objectives."[46] De Lattre remained at Aix to "keep contact with Patch's command."[47]

Supply management and distribution remained a point of contention during the pursuit. The main issue was fuel. Supplies lines extended across a 600-mile turnaround from bases around the Mediterranean to the three corps. Armee B's technical bureau expertise from service units gained from the Expeditionary Corps helped, while the beach groups managed distribution based on Patch's priorities.[48]

The French I Corps became operational on 5 to 6 September—necessitating further agreement on a boundary with VI Corps. After conducting a combined attack with the FATF into the Maurienne Valley, I Corps advanced toward Bensacon-Belfort. German resistance stiffened, and they counterattacked across the front on 8 and 9 September. To the east, the 19th Army and elements of 11th Panzer temporarily halted I Corps' momentum, but both the II and VI Corps defeated these attempts. The French successfully liberated Dijon, while VI Corps captured Besancon on 10 September. Through September, the airborne troops and French I Corps eliminated the threat to Seventh Army's supply lines on the eastern flank. The II Corps meanwhile now officially sought linkup with General Patton's Third Army near Neufchateau. Eisenhower directed the French 2nd Armored Division south from Paris to conduct linkup with the French II Corps. By 14 September, the forces established firm contact, officially joining Dragoon and Overlord.[49]

Seventh Army now regrouped Armee B on VI Corps' right. Field Order Number 5 suspended further advance pending reorganization, although German counterattacks continued. The VI Corps established contact with the US Third Army to the west, and the rest of Armee B moved north to the junction of the French-Swiss-Italian frontier. The 6th Army

Group became operational 15 September—containing both Seventh Army and Armee B—and the Dragoon forces passed to the SHAEF.[50]

De Lattre reminisced that "too often [there was] a belief that it was obtained easily because of the weakness of a demoralized enemy yielding in advance." Despite ferocious fighting in Toulon, Marseille, St. Raphael, the St. Tropez peninsula, and withstanding continuous counterattacks from a desperate enemy, Dragoon was an enormous success. Within 30 days, Seventh Army cleared all southern France; killed, wounded, or captured nearly 100,000 German troops; and seized and destroyed thousands of German vehicles and pieces of equipment. This came at a cost to Seventh Army of approximately 4,200 killed, captured, or missing and 8,700 wounded. Toulon and Marseille doubled the supply chain availability for forces in France, while Marseille alone provided 14 divisions and an average daily distribution of 8,000 tons of supplies. On 15 September, the first Liberty ships arrived in Marseille.[51]

An Old Paradigm for Future Concepts

The Army's current operating concept "emphasizes the integration" of joint and multinational partners. It further states: "Joint combined arms operations allow the Army to respond quickly and conduct operations of significant scale and duration to accomplish the mission across the range of military operations." The multi-domain battle (MDB) concept for the US Army's view of the future war paradigm describes "how future ground combat forces working as part of joint, interorganizational and multinational teams will provide commanders the multiple options across all domains." Joint Publication (JP) 3-16, *Multinational Operations*, postulates that coalitions often occur ad hoc with different objectives between the participating nations. These ad hoc coalitions across multiple simultaneous domains increase freedom and depth of action while presenting multiple dilemmas simultaneously to an enemy force.[52]

The Franco-American coalition's rapid integration for Operation Dragoon enabled tremendous operational depth by balancing national capabilities and constraints. Seventh Army expanded their operational reach—projecting combat power while simultaneously exploiting the penetration to seize operational objectives and collapsing all German resistance in southern France. Their increased tempo overwhelmed the German Nineteenth Army physically while collapsing their cognitive will. The ability for commanders to understand coalition politics and conduct effective negotiations focused on the mission's objectives and intent created an environment which took advantage of both host nation and US capabilities.

Flexibility provided by French armored commands, US Task Force Butler, US and British forward observers and joint fires, French Commandos, US airborne forces, and the French I Corps as follow-on forces all provided momentum across time and space. Separate basing into the theater—coupled with centralized logistic efforts across the beaches to forward forces enabled by combined beach groups, along with negotiated priorities established by Patch—provided the endurance to prevent culmination at the ports, across the rivers, or during the pursuit. French understanding of the operational environment and US understanding of the administrative systems necessary for an army in combat worked in synergy throughout the operation, and sped integration of US and French forces. These balanced capabilities enabled by the integrated coalition projected the combined combat power until linkup with forces from Normandy, and collapsing German resistance in France.

The doctrine informing future multinational structures may not fit perfectly into ad hoc situations, so understanding adaptation as well as critical organizational tenets becomes key to managing rapid integration of a coalition. Integration in Dragoon occurred at staffs down to the regimental level—and in cases like the Beach Groups, down to the battalion level. Seventh Army achieved success in their command structure by focusing on capabilities, and integrating multinational structures and capabilities both to fill gaps and shared understanding while maintaining unity of command.[53]

Direction for the French partisan forces also enabled increased depth in combat power projection. Patch's Provisional Number 4 Special Forces Group within his staff provided operational control for the coordination of organized French resistance in support of Dragoon. VI Corps received direct support as they advanced up the Rhone Valley, and de Lattre used FFI not only to assist in capturing Toulon and Marseille but eventually to replace his personnel losses.

Additionally, planners leveraged partner capabilities to fill national gaps. The gap in US armor during the invasion was filled by CC Sudre and the 1DB, enabling outflanking German forces at Brignolles. Additionally, the French provided superior local knowledge when interacting with the FFI in Marseille and Lyon, while also enabling local resistance through pride in the French forces. Flexibility and coordination with the French Commandos protected 3ID's flank during the initial landings. Simultaneously, the Americans augmented the French in areas including employment of joint fires, communication, and technical supply specialists. The US Fire Shore Control Parties with the French enabled joint fires to reduce the batteries in Toulon and Marseille, and the French LNOs oper-

ating with the US artillery brigade supporting de Lattre outside Marseille proved critical to effective fires. The signal teams and equipment provided to de Lattre enabled continuous coordination between Seventh Army and Armee B throughout the operation. Finally, Seventh Army augmented personnel to assist with Near Shore Control Parties in loading—while leaving command details to French unit commanders at each port—along with expediting training for the administration sections of Armee B during the final month prior to the operation.

Frustrations over supply—both ammunition and later fuel—also absorbed coalition negotiations during the pursuit. To maintain momentum toward Dragoon's primary objectives, Patch held Truscott back from his initial desire to exploit north from the Blue Line and used the Beach Groups to reorganize supplies and facilitate provision of additional artillery munitions to the French for seizure of Toulon and Marseille. During the pursuit, Patch reallocated fuel to the French to ensure the continued armored advance on the west flank—taking advantage of an unexpected opportunity—and then maintaining the French on the flank for linkup with the French 2DB with Patton's Third Army from the north. Truscott also assisted with provision of fuel to 1DB in Lyon, after coordinating directly with du Vigier to maintain contact on the seam between VI Corps and II Corps. Throughout, Patch balanced the needs, focused on the capacity of each national armed force component's capability to project combat power based on requirements and politics. Arbitrarily diverting resources from one nation to another would have created conditions for culmination. Instead, Patch's calculated decisions extended his army's operational reach.[54]

The Beach Control Group proved critical to easing integration at the tactical level. A situationally dependent task force, this organization composed itself around a nucleus of engineer battalions then attached the additional capabilities. This included supply, medical, and prisoner of war interrogation, holding, and transport. The engineers not only continued reduction of obstacles and mines—freeing the assault forces—but created passage lanes and coordinated unloading and direction of follow-on forces. For Seventh Army, these forces were French. Therefore, Seventh Army and Armee B attached French liaison sections to this critical node. Organization of supply depots and dumps facilitated onward transportation to both French and US forces. Even as de Lattre shifted his assembly areas forward to expedite his attack, the Beach Groups adjusted while accounting for Patch's reprioritization of supply and unloading. This was only possible through the unique combined-joint task organization of these groups at the specific point of greatest confusion.

Coalition warfare was not new in World War II, nor will it disappear regardless of what future complexities manifest in the US Army's operating environment. Seventh Army employed a relatively new force in the French First Army—Armee B—created for operation in its homeland with a very short period from allocation to D-Day. This provided challenges in negotiating supply and equipment, along with understanding how to take advantage of differences in capabilities rather than viewing them as a detractor. It also challenged rapid integration absent a period of habitualization and norming.

The future operating environment envisioned by the US Army's multi-domain battle concept only increases the likelihood of coalition employment as the joint force combats anti-access technology. As the US Army cannot predict where this will occur, but with heightened tensions across both state and non-state actors, the chances of employment outside a common command structure provided by alliances like NATO increase. In describing the joint planning process during operational integration of multinational forces, Joint Publication (JP) 5-0, *Joint Planning*, points to a Multinational Force Standard Operating Procedures (MNF SOP) document drafted by military planners in the Indo-Pacific theater as an important example. Innovations like the MNF SOP as starting points for discussion become important to bridging the gaps across coalitions.[55]

Organization and doctrine establishing combined procedures are the most critical components to enabling rapid integration of forces. Continuing other paradigms like the operationalization of Theater Security Cooperation exercises like Pacific Pathways also further combined understanding of future partners. Understanding how to maximize capability gaps across nationalities and using multi-functional elements helps streamline functions across an otherwise unwieldy coalition. Together these considerations help leaders understand how to integrate a coalition force rapidly—absent a period of forming and normalization—and leverage the combined capabilities to expand operational depth.[56]

US doctrine on multinational operations did not exist prior to the late 1990s, with recognition of both the difficulties and the necessity for future combined operations. However, US large-scale formative experiences in World War II continued shaping approaches given the scale and scope of operational success. The Army Operating Concept's central idea acknowledges that "forces tailored rapidly to the mission exercise mission command and integrate joint, interorganizational, and multinational capabilities."[57]

While the current doctrine forms an important framework for US planning, explaining this doctrine within an ad hoc framework requires commanders and planners to have special negotiating skills. The more combined planning conducted in peace will inherently help reduce the integration timeline upon commencement of large-scale combat operations. The current operational problem frame shows the US Army requires the capability to plan, organize, and integrate coalition forces rapidly into a coherent structure for operations in physical and cognitive depth.[58]

Notes

1. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 6 October 2017), 1-108.

2. General Robert B. Brown and General David G. Perkins, "Multi-Domain Battle: Tonight, Tomorrow, and the Future Fight," War on the Rocks, 18 August 2017, accessed 18 April 2018, https://warontherocks.com/2017/08/multi-domain-battle-tonight-tomorrow-and-the-future-fight/.

3. The liberation of Southern France was known as Operation Anvil until early August 1945, when the name changed to Operation Dragoon over compromise concerns. This chapter follows the same timeline when referring to the name. Planning and discussion involving the campaign prior to the beginning of August 1945 will refer to Anvil, while those after this point, during, and post campaign refer to Dragoon.

4. Department of the Army, Army Doctrine Reference Publication (ADRP) 1-02, *Terms and Military Symbols* (Washington, DC: Government Printing Office, 2016), 1-91. Use of the term "endurance" throughout this paper relates to the Army's definition of the sustainment warfighting function which is the "related tasks and systems that provide support and services to ensure freedom of action, extend operational reach, and prolong endurance."

5. Harry Yeide and Mark Stout, *First to the Rhine: The 6th Army Group in World War II* (Saint Paul, MN: Zenith Press, 2007), 20; Arthur Layton Funk, *Hidden Ally: The French Resistance, Special Operations, and the Landings in Southern France, 1944* (New York: Greenwood Press, 1992), 74–79. The organizational arrangements are in Alexander M. Patch, *Report of Operations: The Seventh United States Army in France and Germany, 1944–1945* (Nashville: The Battery Press, Inc., 1988), 68–69.

6. The quote is from Marshal Jean de Lattre de Tassigny, *The History of the French First Army*, trans. Malcolm Barnes (London: George Allen and Unwin Ltd, 1952), 30. Information on the task organization and operational control in Letter from the Seventh Army G3, Colonel Richard T. Guthrie, to the French Mission, Collection of Seventh Army Planning Papers and Correspondence, 4 August 1944. Colonel Guthrie attempted to clarify the French naming conventions during the initial landings as II Corps versus Armee B in Patch, *Report of Operations*, 17–18. The Americans preferred II Corps until both French corps landed to revert to Armee B, but both names continued in use throughout the planning documents. The codification came only after General Charles de Gaulle and General Sir Henry Maitland Wilson, commanding the Mediterranean Theater of Operations at AFHQ, reached an agreement. Many of the documents were bundled in a collection declassified at one time and maintained at the Ike Skeleton Combined Arms Research Library in Fort Leavenworth, KS, Reference Number N-11685-B. These documents are referred to in these endnotes generally as "Collection of Seventh Army Planning Papers and Correspondence."

7. Patch, *Report of Operations*, 62–63.

8. Colonel A.O. Connor, Committee Lead, "Studies of Recent Operations, Report of Committee No. 2, Subject: Operation Anvil" (Fort Leavenworth, KS: Command and General Staff School, 1946), Supplement Number 4; William B. Breuer, *Operation Dragoon: The Allied Invasion of the South of France* (Novato, CA: Presidio Press, 1987), 80–81.

9. De Lattre, *History of the French First Army*, 64. Rigaud was captured in 1940, but escaped through Spain.

10. General Charles de Gaulle, "General Order: Presidency of the Privisional (sic) Government of the French Republic," translated, Collection of Seventh Army Planning Papers and Correspondence, General Staff of National Defense, No. 611/DN/3.TS, 4 July 1944; Patch, *Report of Operations*, 63–64; Headquarters, VI Corps, "Notes on the Conduct of VI Corps Operational Planning for Operation Anvil/Dragoon," 10 August 1944. By the time Toulon and Marseille became operational, close to 100 tons of supplies had moved across the three landing beaches.

11. The German composition and disposition are located in Patch, *Report of Operations*, 33–34. Soldiers in Army Group G represented Poles, Armenians, Ukrainians, Georgians, and Azerbaijanis in addition to Germans. Colonel Connor, "Studies of Recent Operations," Supplement Number 4. German General Major Bieringer, from the German Nineteenth Army, later stated that they shifted two divisions to Genoa to meet an attack there which never materialized.

12. Colonel Connor, "Studies of Recent Operations," Supplement Number 2, Algiers Phase; Breuer, *Operation Dragoon*, 21–23.

13. Headquarters, Seventh Army, "Seventh Army Operations in Europe, 15 August 1944 - 8 May 1945: G-2 History," 3 June 1945, 1–2, 8–9.

14. Patch, *Report of Operations*, 35–41; Breuer, *Operation Dragoon*, 25. French conscripts provided the majority of the manpower for construction of the extensive defense-works and fortifications.

15. Patch, 108–09; Memorandum from US Naval Forces Northwest African Waters to Captain (US Navy) R.A.J. English, Collection of Seventh Army Planning Papers and Correspondence, memo undated. The subject was the employment of British Forward Observers Bombardment (FOB) determined through the combined joint conference. The combined agreement attached the FOBs at the battalion level and used US Shore Fire Control Party equipment. Seventh Army attached 15 Shore Fire Control Parties to French Divisions, augmented by 10 FOB parties, and 2 FOBs each attached to the FATF and the French Commandos.

16. Patch, 106–08; Jeffrey J. Clarke and Robert Ross Smith, *Riviera to the Rhine* (Washington, DC: Center of Military History, 1993), 98–100.

17. Patch, 106–08; Clarke and Smith, *Riviera to the Rhine*, 98–100.

18. Additional details on the First Airborne Task Force operations on D-Day are referenced in Patch, 110–15; Clarke and Smith, 102–04.

19. Truscott recounts the capture of the LXII Corps Commander, Lieutenant General Neuling in Lucian K. Truscott, *Command Missions: A Personal Story* (New York: Dutton, 1954), 419–20.

20. Patch, *Report of Operations*, 117–18, 138–40.

21. Truscott gave command of this task force to his assistant Corps Commander, Brigadier General Fred W. Butler, from which the unit derived its name. Patch, 52–53; Truscott, *Command Missions*, 401–403, 407; Robert A. Miller, *August 1944: The Campaign for France* (Novato, CA: Presidio Press, 1988), 114–115. After an invited visit by Truscott to Sudre's headquarters in early July, Patch received a formal protest by de Lattre, demanding all future interactions and orders go through de Lattre for approval. Miller gives extensive treatment of this dispute between de Lattre and Truscott, and the decision and formation of Task Force Butler.

22. Patch, 119–27; Clarke and Smith, *Riviera to the Rhine*, 108–13.

23. Patch, 127–35; Truscott's praise is found in Truscott, *Command Missions*, 420; Information on Truscott's LNO is found in Truscott, 414.

24. See Patch, 138–43, 151; Truscott's response to the decision is found in Truscott, 414, 418. The 36th Division Commander previously approved the alternate landing plan Admiral Lewis committed to as a branch if the fortifications at St. Raphael were too strong, Admiral Lewis could not reach the division commander at the crucial point and fell back on previous understanding for the decision without fully grasping the ground force impact.

25. The idea for these formations originated from the Allied experience in Operation Torch. The functions included the arrangement and control for the movement of all personnel and vehicles from the landing craft to inland assembly areas, movement of stores from ships' holds and craft to dumps in the beach maintenance areas, organization of the beach maintenance areas, protection efforts, vehicle recovery, medical evacuation, communications, prisoner of war holding and transportation, supply depots, and assembly areas for arriving personnel and vehicles. A good overview of general beach group organization without the combined augmentation added by Seventh Army is found in Joseph and David Rogers, *D-Day Beach Force: The Men Who Turned Chaos into Order* (Stroud: The History Press, 2012), 14.

26. Alexander M. Patch, "Field Order #1 (Anvil)," (Headquarters, Seventh Army, AG 370-C, July 29, 1944), Ref No. X-1317. The order tasked the Alpha Beach Group with passage of two French divisions, Delta Beach Group with a be-prepared-to task passing one French division, and the Camel Beach Group for the landing and passage of CC Sudre, with a be-prepared-to mission for advancement toward Toulon upon capture for initial repairs while the French maintain the garrison.

27. For the recommendation and outline of the reception, staging, and onward movement augmentation to the Beach Groups, see Memorandum from Office of the Beach Control Group, through the Assistant Chief of Staff, G4, to the Assistant Chief of Staff, G3, "Landing of French Units," Collection of Seventh Army Planning Papers and Correspondence, Reference Number 59, July 17, 1944; for the requested French personnel accompanying VI Corps on D-Day, see Seventh Army Memorandum from Lieutenant Colonel John G. Berry to Colonel Edwin C. Eller with concurrence by the Seventh Army G3, Collection of Seventh Army Planning Papers and Correspondence, 28 July 1944.

28. Patch, *Report of Operations*, 145–9.

29. Patch, 146–47, 151–52; Truscott, *Command Missions*, 423; De Lattre, *History of the French First Army*, 72–73; Reuben E. Jenkins, "Operation 'Dragoon' - Planning and Landing Phase," *Military Review* 26, no. 5 (August 1946), 3–9.

30. Patch, 152.

31. Truscott credited Patch's political understanding of the French and his ability to convince de Lattre, as found in Truscott, *Command Missions*, 421–422; de Lattre writes that he decided on boldness and surprise despite the inferiority in men and material relative to the Nazi defenders in Toulon as the better course of action over adhering to the initial plan in De Lattre, *History of the French First Army*, 71.

32. CC Sudre operations are from De Lattre, *History of the French First Army*, 70; advancing planning for Marseille is from Jenkins, "Planning."

33. De Lattre, 71–73. While sending the Tabors north with 3 DIA, de Lattre committed the 9 DIC in the gap between the 1 DFL and the 3 DIA, and retained a task force with 9 DIC in reserve from CC2.

34. Clarke and Smith, *Riviera to the Rhine*, 126-128, 137; De Lattre wrote that Patch gave de Lattre "a free hand, the munitions and my C.C.1" in De Lattre, *History of the French First Army*, 75; additional details on the command discussions and decisions in Truscott, *Command Missions*, 421.

35. The quote is from De Lattre, 97; French coordination with the FFI is found in Patch, *Report of Operations*, 168. The FFI discovered their inability to match German forces at Marseille, where they attempted to seize control of the city before the II Corps arrived. This helped force de Lattre's hand in decided to attack Marseille simultaneously. Coordinated air and naval bombardment information is found in Patch, 160, and Jenkins, "Planning." The antiaircraft fire hit 28 aircraft, with 3 destroyed.

36. Memorandum from Colonel John S. Guthrie, Seventh Army G3, to Chief of French Mission, Collection of Seventh Army Planning Papers and Correspondence, July 23, 1944; De Lattre, 55–56.

37. Forfeiting of the infantry regiment is found in the Memorandum from Colonel John S. Guthrie, Collection of Seventh Army Planning Papers and Correspondence, July 23, 1944; the encirclement of Toulon and outskirts of Marseille are found in De Lattre, 97–98, 100–01, and Clarke and Smith, *Riviera to the Rhine*, 138–39; the quotes are found in De Lattre, 85, 87; additional information on the German defense is found in Jenkins, "Planning." Aix was actually in the French area of operations, but 3ID spilled across this boundary through confused fighting during initial integration of French forces as they advanced from the beaches. The report on 11th Panzer came from a combination of allied and FFI intelligence, relayed to de Lattre through Patch.

38. Patch, *Report of Operations*, 159, 166; Jacob L. Devers, "Operation Dragoon: The Invasion of Southern France." *Military Affairs* 10, no. 2, Summer 1946, 15, accessed 25 July 2017, http://www.jstor.org/stable/1983451; Jenkins, "Planning."

39. As the French attempted early efforts at parlaying with the German commander, a signal officer in the 9 DIC found and repaired a telephone cable because his house was just down the street from the severed communication node. This is found in De Lattre, *History of the French First Army*, 93. The quote crediting combined efforts is from Patch, *Report of Operations*, 170; many of the US-specific efforts aiding in the capture of Marseille are included in the footnotes in de Lattre, 110; additional information on the final collapse of German resistance is found in Patch, 166–69.

40. De Lattre, 121–22.

41. De Lattre, 118, 125–26.

42. De Lattre, 119; the proposal of changes is found in De Lattre, 123; the debates regarding Lyon are found in Truscott, *Command Missions*, 434. The FFI requested a general uprising of partisan forces in Lyon on 30 August, but Patch directed them to wait for further coordination with US and French regular forces.

43. Patch, *Report of Operations*, 169; Jenkins, "Planning;" De Lattre, 125. Seventh Army planners did not foresee a major river crossing for several more weeks, and the materials did not exist on shore at this point in the campaign. The river's swift current extended across 250 yards in most areas.

44. De Lattre, 127; Patch, 254–56; Jenkins, "Planning." The 1DB's attack north of Lyon killed another several hundred Germans and captured two thousand.

45. Patch, 258–59, 269.

46. De Lattre, *History of the French First Army*, 123, 134–35. De Lattre gave temporary command of elements on the right flank of Seventh Army to his Chief of Staff, along with part of his Army headquarters. Subsequently, General Antoine Bethouart arrived from Italy and took command of I Corps, while General Joseph de Goislard de Monsabert assumed command of II Corps. To the eastern flank, de Lattre dedicated the 2 Moroccan Infantry Division (2 DIM), which was still landing over the beaches, 3 DIA, and 9 DIC.

47. De Lattre, 123, 134–35. De Lattre gave temporary command of elements on the right flank of Seventh Army to his Chief of Staff, along with part of his Army headquarters. Subsequently, General Antoine Bethouart arrived from Italy and took command of I Corps, while General Joseph de Goislard de Monsabert assumed command of II Corps. To the eastern flank, de Lattre dedicated the 2 Moroccan Infantry Division (2 DIM), which was still landing over the beaches, 3 DIA, and 9 DIC.

48. De Lattre, 57, 126; further information on supply shortages is in Jenkins, "Planning."

49. Details on I Corps operations on the eastern flank are found in De Lattre, 135, and Patch, *Report of Operations*, 246–47; the agreement between VI Corps and I Corps is found in Truscott, *Command Missions*, 440; orders for II Corps counterattack and link up are found in Patch, 269–72, and Jenkins, "Planning." On the night of 10–11 September, a patrol from a French armored reconnaissance group west of Dijon met a patrol from the French 2 DB at Sombernon. On 12

September, reconnaissance forces from the French 1 DFL also linked up with a patrol from the 2 DB near Chatillon-sur-Seine. The linkage of Overlord with Dragoon resulted in the further German surrender of 18,000 troops, including 3 generals and an admiral.

50. Patch, 271–72; Jenkins, "Planning."

51. De Lattre, *History of the French First Army*, 95.

52. Department of the Army, TRADOC Pamphlet (Pam) 525-3-1, *The U.S. Army Operating Concept: Win in a Complex World, 2020–2040* (Washington, DC: 2014), 25; General David G. Perkins, "Multi Domain Battle: Joint Combined Arms Concept for the 21st Century," Association of the United States Army, 2016, accessed 2 December 2017, https://www.ausa.org/articles/multi-domain-battle-joint-combined-arms; Joint Staff, Joint Publication (JP) 3-16, *Multinational Operations* (Washington, DC: 2013), GL-5. JP 3-16 distinguishes the term "combined" as "identifying two or more forces or agencies of two or more allies operating together."

53. Joint Staff, JP 3-16, II-4–II-5.

54. General Jacob L. Devers, "Major Problems Confronting a Theater Commander in Combined Operations," *Military Review* 27, no. 7, October 1947, 3–15.

55. The MNF SOP was written by a large group of Pacific nations under an American effort to increase the speed of response, interoperability, mission effectiveness, and unity of effort in MNF operations . . . while reducing the "ad hoc nature" in crisis. See US Joint Staff, JP 5-0, II-19. The MNF SOP is available at http://community.apan.org/.

56. Pacific Pathways is an ongoing effort begun under Pacific Command (PACOM) in 2014, which combines multiple existing exercises into an operational deployment of forces. These joint forces provide advanced posturing in the PACOM Theater, while building readiness, advancing joint and interagency interoperability and access, and enhancing regional partner capability and collaboration.

57. Department of the Army, TRADOC Pam 525-3-1, 17.

58. General George A. Joulwan, "Doctrine for Combined Operations," *Joint Forces Quarterly*, Winter 1996–1997, accessed 6 May 2018, http://www.dtic.mil/dtic/tr/fulltext/u2/a529421.pdf. The author notes the doctrine then in development as of 1997 for JP 3-16 closing a critical gap. However, he also notes explaining this doctrine to partners would remain the principal challenge in future multinational operations. At the time, service doctrine published before joint, and the Army released Field Manual (FM) 100-8, *The Army in Multinational Operations*, in November 1997 as the US Army's first doctrinal publication specifically addressing Coalition operations.

Chapter 5
Command Decisions on Counterattack and Deep Envelopment in the Battle of the Bulge

Dean A. Nowowiejski

In December 1944, Hitler's Fifth and Sixth Panzer Armies attacked the US First Army in the Ardennes Forest of eastern Belgium, a surprise move that penetrated the army front and created a large salient in the Allied lines known as The Bulge. The Battle of the Bulge is renowned by its principal chroniclers as the greatest battle in the history of the US Army. It involved key decisions regarding reinforcements and counterattacks by General Dwight D. Eisenhower, Lieutenant General Omar N. Bradley, Lieutenant General George S. Patton Jr., Major General J. Lawton Collins, and British Field Marshal Sir Bernard L. Montgomery. In terms of casualties, troops committed, significance to the outcome of the war, leaders involved, and the impact on the popular imagination, the scope of the Battle of the Bulge is large. Lasting most of two months in December 1944 and January 1945, the Battle of the Bulge marked the last gasp of Hitler's armies on the western front and hastened the end of the war. Its outcome was by no means foreordained and the battle itself remains worthy of examination for lessons of leadership and doctrine. This chapter evaluates how the Allied armies used maneuver in their final counterattack to eliminate the German penetration.[1]

This chapter will not discuss in depth the defensive role of the US V and VIII Corps in the early days of the German offensive. That is a tale of how hard-pressed troops delayed the German offense and kept the German Sixth and Fifth Panzer Armies from reaching the Meuse river crossings. It also does not examine the destruction of the 106th Infantry Division, the retention of St. Vith and eventually Bastogne, or the critical defense of Elsenborn Ridge on the north shoulder of the Bulge. Those actions denied the German leadership, and Hitler principally, their operational objective of the Meuse and their strategic objective of Antwerp. Rather, this chapter will focus on decisions that the Allied generals made to counterattack the German salient in order to save Bastogne and, most importantly, the decisions they made in order to remove the Bulge itself. Analysis of those decisions broadens our understanding of enveloping counterattacks.

This chapter mentions "Allies" because the command structure involved in the counterattack decisions was combined, involving both American and British generals. The key British general was Field Marshal Bernard Law Montgomery, whom Eisenhower had given command

of the north shoulder of the Bulge in order to ensure that the actions of the US First Army and the British forces were coordinated. Montgomery, in return, committed the British 30 Corps to protect the critical Meuse crossings and actively engaged with three US corps commanders in their efforts to hold that north shoulder (VII Corps under Collins, XVIII Airborne Corps under Major General Matthew Ridgway, and V Corps under Major General Leonard Gerow). Aside from Montgomery's command over the forces on the northern shoulder, the Battle of the Bulge was an American fight: American in terms of divisions, casualties, and leadership. It is therefore worthy of examination in terms of American army doctrine.

In Field Manual (FM) 3-0, *Operations* (October 2017), the concept of *maneuver* is defined as "the employment of forces in the operational area through movement in combination with fires to achieve a position of advantage in respect to the enemy."[2] Maneuver is used to achieve a position of relative advantage over the enemy and is fundamental to the way that the US Army operates. The maneuver used by American forces in the Battle of the Bulge focused on achieving a position of advantage by counterattacking to eliminate the German army's massive penetration of the American lines, and to continue the offensive through the *Westwall* and into Germany. Eisenhower and Montgomery argued about how to best accomplish these goals. Eisenhower saw opportunity in the German counteroffensive in the Ardennes. After months of stalemate, the Germans had come out of their defenses in the *Westwall* and presented vulnerabilities which if exploited would allow the Allied march into Germany to resume. The Allied debate about how to carry out the counterattack to eliminate the German penetration took place with the goal of regaining the operational initiative through offensive maneuver.

For the purposes of doctrinal examination, the strict term for reexamination of important command decisions in the Battle of the Bulge is *counterattack*, which FM 3-0 defines as "an attack by part or all of a defending force against an enemy attacking for such specific purposes as regaining ground lost or cutting off or destroying enemy advance units, and with the general objective of denying to the enemy the attainment of the enemy's purpose in attacking."[3]

In the Battle of the Bulge, the counterattack debate occurred in two stages. The counterattack to eliminate the Bulge was not a local tactical action as defined by FM 3-0, though many local counterattacks occurred at the tactical level throughout the battle. At the theater level, Eisenhower and his generals employed major counterattacks first to defeat the ene-

my penetration and then to seize the overall initiative from the enemy through offensive action.

The first stage of the Allied response to the German attack was to limit the width of their breakthrough at the northern and southern shoulders of the initial penetration. The second stage was the American counterattack to remove the Bulge itself and resume the offensive into the heart of Germany. The employment of counterattacks in the Battle of the Bulge illustrates the doctrinal concepts of maneuver to regain a position of tactical advantage, and to achieve the larger purposes of major counterattacks at the theater level to stop the enemy and then to take the initiative from him through the employment of envelopment.

Command Decisions

There are several commonly analyzed decisions on the American side in the Battle of the Bulge. There were early decisions to release reserves to Major General Troy H. Middleton's VIII Corps. Eisenhower ordered Bradley to send the 7th and 10th Armored Divisions to reinforce Middleton almost immediately, on the first day of the German offensive. One of Eisenhower's best-known decisions was to release the theater reserve, the 82nd and 101st Airborne Divisions, early in the battle as well. The German attack began on 16 December 1944. By 17 December, on petition of the First Army HQ, SHAEF released the two airborne divisions to reinforce Hodges' threatened defense. The role of the 101st in winning the race to Bastogne and holding that town against all odds is well-known. These were not counterattack decisions and so won't receive analysis here. They instead released reserves and positioned them to staunch the flow of German panzer units toward deep objectives across the Meuse River.[4]

Another command decision—made by General Dwight Eisenhower at Verdun on 19 December 1944—was significant to the employment of maneuver in the counterattack. This was the decision to turn Patton's Third Army north to attack into the southern flank of the German penetration. It will receive some in-depth analysis regarding context, options, and consequences. Eisenhower decided to thin the defensive front of the 6th Army Group in the south and move its boundary north to release divisions of the Third Army for a counterattack to relieve besieged Bastogne and prepare for a final counterattack to destroy the German forces in the Bulge.[5]

The most notable counterattack decision was how to close the Bulge. After much anticipation and discussion, Eisenhower and Montgomery agreed on 27 December 1944 to attack the German salient from both the northern shoulder (with VII Corps and XVIII Corps) and the southern

(with VIII and III Corps). This two-pronged counterattack began on 3 January 1945 against determined German resistance in harsh winter conditions. It was not until mid-January that the First and Third Armies met near the town of Houffalize, Belgium. There were two options for this allied counterattack, and the debate between Ike and Montgomery reveals much about the personalities and national perspectives of these two leaders.[6]

The Influence of Command Personality on Maneuver Decisions

The command personalities of the leaders in this case study influenced their willingness to resume offensive maneuver in the face of uncertainty and to employ deep envelopment in the counterattack. An underlying premise of this analysis is that certain command personalities are more likely to take aggressive action.[7]

Deep envelopment in the counterattack exposes the flanks of the advance and puts the logistics of the counterattacking force at some risk. Such maneuver is made by commanders whose vision of the battlefield and belief in the power of the offensive allows them to take risks and overcome uncertainty. There is a certain force of personality involved, one which has the confidence of decisions and actions. And there are some educational or cultural aspects that affect a leader's willingness to be bold in offensive maneuver. During the interwar years, graduates of Fort Leavenworth were often accused of reaching predictable and unimaginative—even conservative—tactical decisions. Nevertheless, American generals as a group viewed the German Ardennes offensive as an opportunity to destroy the German forces by offensive action outside the German *Westwall* fortifications. Their British foil was Bernard Montgomery, whose consuming desire was to preserve dwindling British manpower and the Empire that it represented. Let's briefly assess Eisenhower's and Montgomery's personalities and backgrounds in order to understand their differing views of where to strike the Bulge.

Eisenhower's signal contribution to the war effort in general—and this episode in particular—was to balance the competing interests of the Western Allies and keep the team together. In the Battle of the Bulge he had to keep peace between Omar Bradley and Bernard Montgomery, and this occupied his greatest attention. The Battle of the Bulge is notorious, particularly among Omar Bradley supporters, for Eisenhower's decision to give the First Army to Montgomery. Ten days later Eisenhower came near to asking for Montgomery's relief because of the British general's continued tone-deafness to American sensibilities and his constant priggishness. Both decisions consumed Eisenhower's attention, yet he always tended to the conservative solution which would maintain the Anglo-American

alliance. This balance of interests was illustrated by his broad-front strategy, his resistance to selecting one commander over another to make the decisive thrust into Germany, and his resistance to Montgomery's constant petition to be selected as the one ground forces commander.

Eisenhower exemplified the interwar Army educational and professional development process, as he was first in his class at Fort Leavenworth, personally mentored by Pershing's operations officer (Fox Connor), and moved to command in North Africa directly from serving under George Marshall in the War Plans Division. He also may have suffered some negative effects of the process by having served so long as General Douglas MacArthur's aide in the Philippines. Following in the heritage of American offensive-mindedness, Eisenhower looked for aggressive counterattack solutions early in the Battle of the Bulge, casting for offensive options three days into the battle before the full extent of the German attack was even clear.[8]

Next, we will turn our attention to the Army Group Commanders: First, Omar Bradley, the 12th Army Group Commanding General. Bradley was a plodder. He rarely showed any operational imagination; opted for the conservative, textbook solution; and in the Battle of the Bulge was slow to understand the situation. He also was so tied to his forward headquarters in Luxembourg City and resistant to the idea of a general German offensive that he forced Eisenhower to give control of the U S First Army to Montgomery, who was in a better position to command it on the northern flank. Bradley seemed more concerned with his tug-of-war with Montgomery for First Army command than with aggressive or imaginative efforts to restore the front. Bradley threatened to resign when Eisenhower transferred the First Army to Montgomery's command, and he threatened to resign again when Montgomery continued his efforts to be named the overall ground force commander.

Though he was an advocate for resuming the general offensive and taking advantage of the German exposure, Bradley was more worried about having Montgomery as a boss than a concern for a deep offensive maneuver to restore the salient. He did serve as a counter at the army group level to Montgomery—most significantly when he wrote a private letter to General Hodges the day after a Christmas meeting with Montgomery, advocating privately to his old friend Hodges that Bradley did not agree with Montgomery on the inability of the First Army to resume the offensive quickly. Throughout the war, Bradley served as a restraining force on his most aggressive subordinate, George Patton, and in the case of the Bulge took direct steps to make sure that Patton's counterattack did not go off half-cocked.[9]

Bernard Montgomery, the British 21st Army Group Commander, was a constant thorn in the American generals' sides. He irritated Eisenhower, Bradley, and Patton. He had his own approach to ground combat in the European Theater of Operations (ETO), borne of his success at El Alamein. It was a conservative approach requiring ample logistics, firepower, and a tidy battlefield with regular front lines. His method of attack has been described as creating "Colossal Cracks" in enemy defenses. Throughout the Battle of the Bulge, Montgomery was consumed with the potential for one more German breakthrough and was all about protecting the Meuse River crossings against such an eventuality at the expense of any Allied counterattack. He had to be pressured from above and below—specifically Eisenhower and J. Lawton Collins, VII Corps commander—to commit the First Army to an offensive on the northern shoulder. Rather than counterattack as soon as Eisenhower wanted to, Montgomery focused on tidying the battlefield to fix defensive problems caused, he believed, by American mistakes. To do this, he withdrew American forces into stronger positions to protect his logistics base and the Meuse Crossings. These were prudent moves, but unfortunately he also brought attention to himself in the British Press—insinuating that he had single-handedly unsnarled an American-made mess. He was nearly relieved for his misplaced words. To his credit, he did relate well with the corps commanders who worked for Courtney Hodges, Collins, Ridgway, and Gerow, but Montgomery was a strong restraining force on offensive action, the main counterattack, or a deep envelopment of the German penetration.[10]

There were two strong advocates for immediate counterattack to disrupt the German advance and deeply envelop his penetration. George Patton, the Third Army Commander, as well as VII Corps Commander J. Lawton Collins advocated pincer attacks from the north and the south near the eastern shoulder of the Bulge. To a limited extent, they found a partner in advocating such an offensive action in Courtney Hodges. Eisenhower, Bradley, Hodges, Patton, and Collins believed that a counterattack was essential to take advantage of the German exposure in moving out of the *Westwall*. George Patton was the strongest advocate for this deeper offensive maneuver. He wanted to keep the enemy off-guard by constantly attacking. His preparedness for counterattack saved Bastogne. Patton was an advocate for deep counterattack as early as the December 19 Verdun meeting, and he was the principal proponent for cutting the penetration off at its shoulders by an attack toward Prum. In the summer of 1944, Patton had also been a strong advocate for closing the Argentan-Falaise Gap before the enemy escaped, and in December he fought to seal the German

penetration with deep envelopments. Pity that there were not more serious students of military history and the operational art—including the power of deep envelopment—like Patton in the American Army.[11]

VII Corps Commander Collins was a partner to Bradley, Patton, and Hodges in advocating closing the Bulge at an early opportunity. Perhaps First Army Commander Lieutenant General Courtney H. Hodges deserves a mention here, as he joined Collins in advocating for early counterattacks from the north flank of the Bulge. However, Hodges' unimaginative leadership during the battle has been noted by most historians. Collins, on the other hand, had the stature and aggressive nature required to prod Montgomery into action. He argued with Montgomery for an earlier and deeper counterattack than Montgomery wanted, but in the end he was Montgomery's choice as the American commander to lead the drive on the north shoulder to link up with the Third Army. Collins also had the advantage of having two aggressive armored division commanders, Ernest Harmon of the 2nd Armored and Maurice Rose of the 3rd Armored, under his command. They made an indomitable offensive combination. His counterattack against the 2nd Panzer Division at Celle blunted the German drive to the Meuse. As a corps commander, he stands out as an advocate of aggressive counterattack and deep envelopment. One wonders when Montgomery would have finally gotten around to being comfortable with counterattack absent Collins' strong advocacy.[12]

Considering these personalities, we will examine in more detail two of the most significant command decisions in the Battle of the Bulge on the Allied side, as introduced above: the decision to counterattack with Patton's Third Army into the southern flank of the German salient and the decision on how to close the Bulge.

The Counterattack to Relieve Bastogne Decision

Context. The first decision to employ American forces in a major counterattack was at Verdun on 19 December. Verdun was the location of the 12th Army Group's main Command Post, Eagle Main, located in a French Army barracks. It provided a rather dour setting for a meeting between Supreme Commander Eisenhower and his army group commanders: Bradley, Lieutenant General Jacob L. Devers, and Montgomery. This meeting was an immediate reaction to the deep German penetration of Hodges' army only three days earlier. The full extent of the German counteroffensive was only then beginning to be made plain, and the shock brought on by the size and success of the early German advances still gripped these leaders. Bradley brought along his Third Army commander Patton because of dis-

cussions he had had with Patton. Bradley knew Patton was ready to counterattack the penetration. Eisenhower set the general tenor for the meeting by not allowing gloomy faces at the conference table and in instructing his commanders to look on the German attack as an opportunity. Considering the depth of penetration of the American lines, this was a challenge. Eisenhower focused on developing options to address the depth of German penetration and on making forces available for major counterattack.[13]

Options. Eisenhower assessed the flow of forces from the United States, England, and available reserves on the continent. There weren't enough divisions to restore the front, so Eisenhower and his generals needed a maneuver solution. The Americans as a group looked for a major counterattack alternative and the forces required to make it possible. Eisenhower instructed the Sixth Army Group commander, Jacob Devers, to extend his line northward to make divisions available for a counterattack, and Patton thinned his defensive lines to make forces available as well.[14]

Famously, Patton promised a rapid counterattack based on his army's anticipatory planning. Historians have analyzed in some detail Third Army's staff planning ability and readiness to execute the missions. Patton was able to relieve Bastogne because he anticipated the need and started his army, corps, and division staffs toward creating plans to reposition forces and make a counterattack possible. He and his staff had been preparing counterattack alternatives even before the Germans attacked in the Ardennes, and in earnest for about three days thereafter. Patton and his planning group already had a three corps counterattack conceptualized before he departed for Verdun. The ability of the US Third Army to relieve Bastogne was attributable not only to the efforts of the attacking divisions in horrible conditions, but also to the competence and hard work of the staffs. Turning the Third Army took exhaustive road movement planning, adjustments to wired communications and logistics trains, repositioning of supply dumps, and generally a series of minor miracles in staff planning. Patton had in fact already ordered the 4th Armored as well as 26th and 80th Infantry Divisions north the previous day after a consultation with Bradley in Luxembourg.[15]

Patton's accomplished and stable staff knew how to act in concert with their commander. His operations officer, when asked where the counterattack should be directed, confidently stated that it should be directed into Germany toward the lines of communications of the German salient not just into the flank of the penetration. The staff clearly saw the opportunity: "If they will roll with the punch up North, we can pinwheel the enemy before he gets very far. In a week we could expose the whole German rear

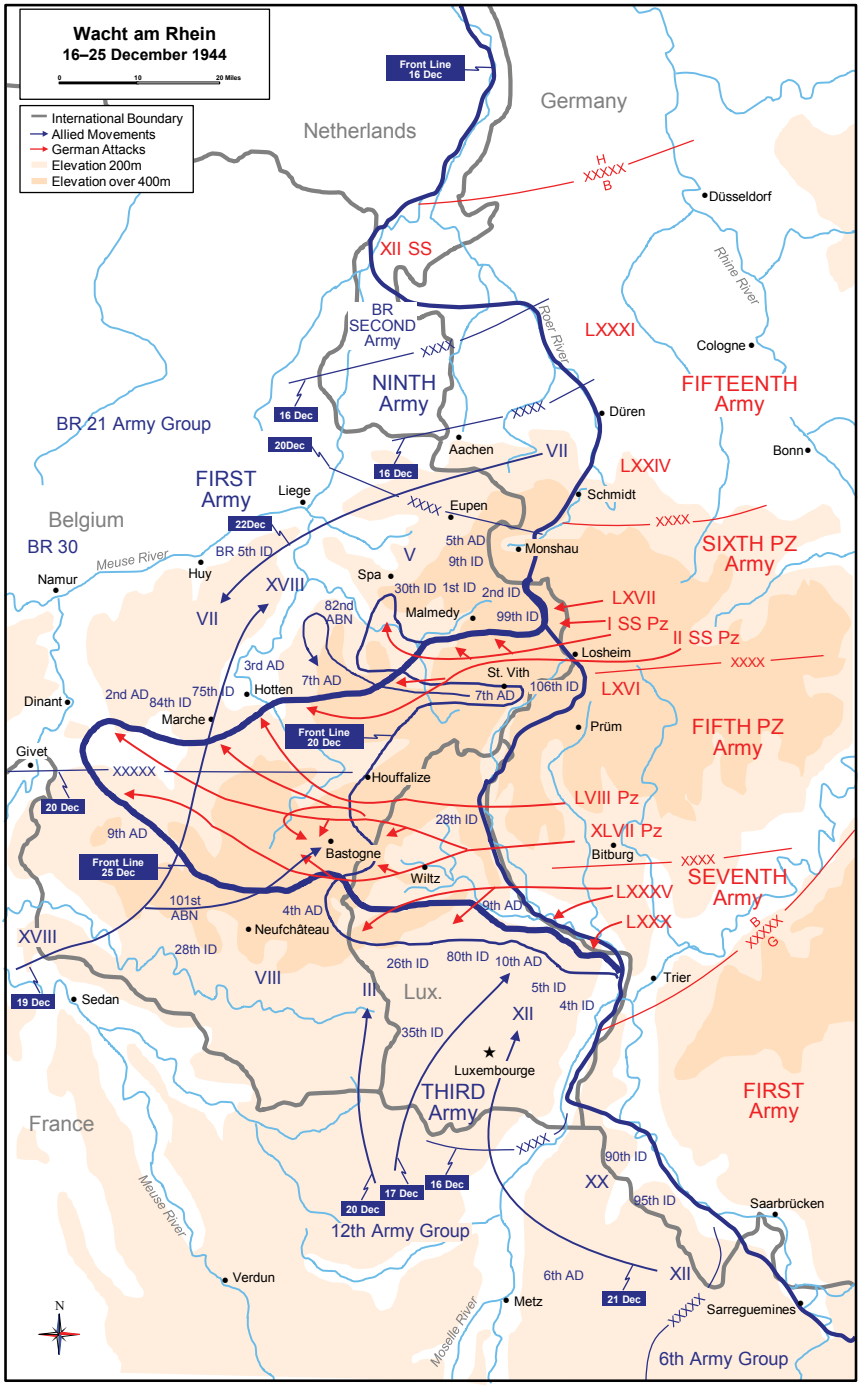

Figure 5.1. The Bulge. Courtesy of Center of Military History.

and trap their main forces west of the Rhine." Patton's staff enabled the aggressive actions of their commander.[16]

Eisenhower asked Patton if he could attack with six divisions within six days. Patton initially demurred, emphasizing his readiness to provide three US divisions in three days. Eisenhower was concerned about the strength of the attack, and so pressed Patton for six divisions because of his concern that the counterattack into the flank of the Germans not be too weak or go in piecemeal. Patton acceded to the demand. His III Corps would attack toward Bastogne, and the XII Corps would attack on its east—each corps with three divisions. He counterattacked into the southern flank of the German Fifth Panzer Army with the promised three Divisions of III Corps on the appointed date, 22 December 1944. As it developed, this counterattack with three divisions came to focus on the relief of the siege of Bastogne and did not presage a greater general counterattack. That would come later.[17]

Consequences. If Patton hadn't prepared these options, then even though 101st Airborne Division and the 10th Armored Division (-) won the race to Bastogne, they would likely not have been able to hold out against the strengthening German attacks without the relief that Patton's Army brought the day after Christmas. Patton's initial three-division attack took longer to reach Bastogne than he promised and encountered problems of poor execution, strong enemy resistance, and treacherous weather throughout its counterattack. His counterattack options depended on turning Third Army, as outlined above, and could not have been executed by an inexperienced or incompetent staff or untrained frontline forces. The relief of Bastogne was a shining moment for Patton and his aggressive army. The main consequence was one of confidence that the Americans could do something offensively to counteract the German penetration, and this involved a major counterattack in arduous conditions with some risk.[18]

Closing the Bulge Decision

> *Envelopment is a form of maneuver in which an attacking force seeks to avoid the principal enemy defenses by seizing objectives behind those defenses that allow the targeted enemy force to be destroyed in their current positions.*[19]
>
> —FM 3-0, *Operations*

Context. The Bulge was 40 miles wide and 60 miles deep at Christmas 1944. Everyone knew the German Panzer armies' penetration had to be closed in order to resume the Allied offensive into the heart of Germany. But a robust debate broke out on the depth and timing of envelopment

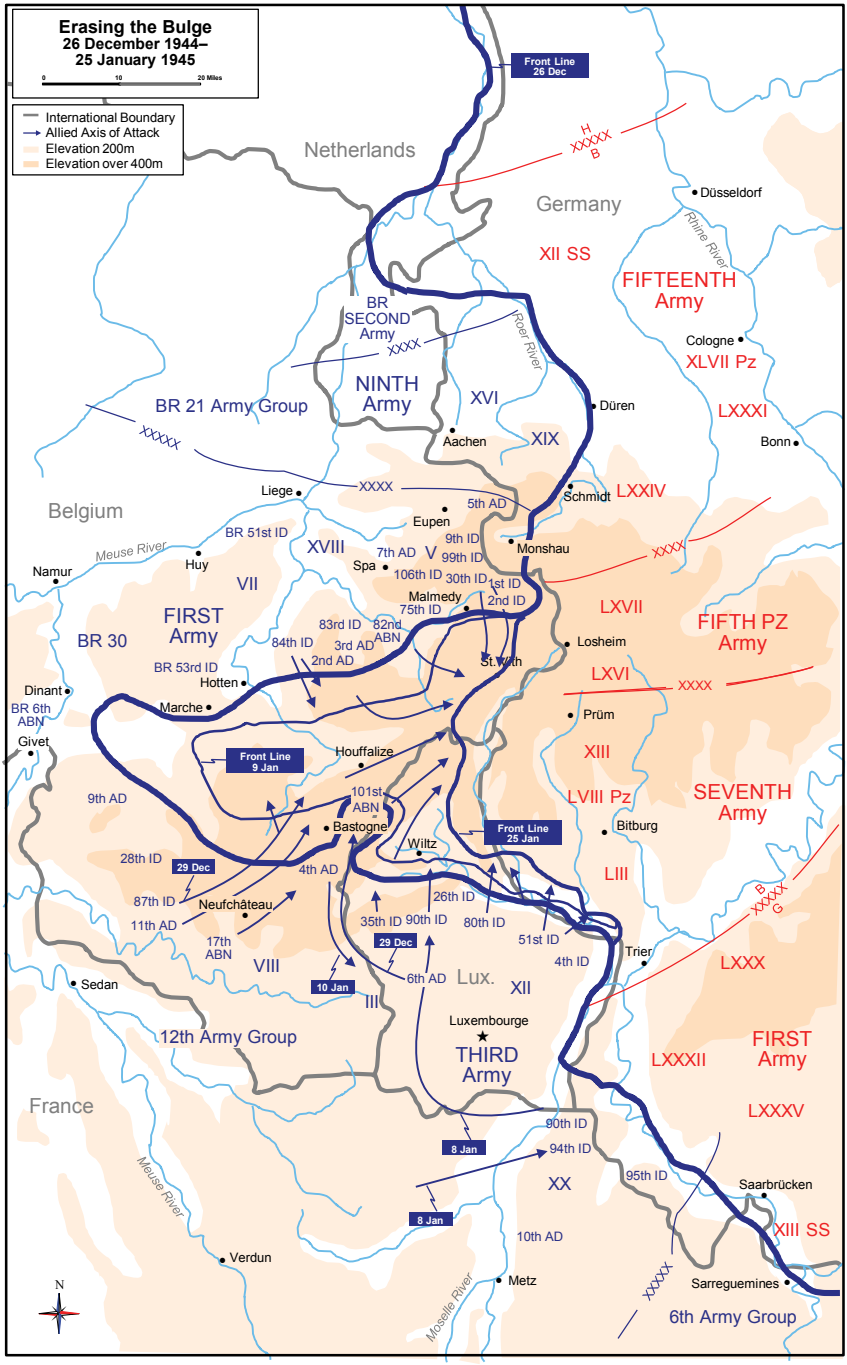

Figure 5.2. Erasing the Bulge. Courtesy of Center of Military History.

that the Allies would undertake to remove the bulge in their lines. There were those, namely Montgomery, who were concerned that the German offensive had not spent its force and that there were unaccounted-for divisions near the salient. American commanders like Eisenhower who had access to Ultra intercepts knew that it was more likely that the German momentum had been exhausted. As discussed above, some commanders were more aggressive in their conceptual work and command style, but the Americans as a group were more inclined to attack and close the Bulge for good. They differed on where the attack should fall.[20]

Options. The Allies could have closed the Bulge with a classic deep envelopment targeted at the depth of the German penetration, to cut it off at its shoulders. This is what interwar doctrine as taught in Army schools called for. This would have created a pocket akin to the one earlier in the European campaign at Argentan-Falaise. But the Allies instead went for the lesser option of reducing the Bulge at its waist. Instead of a classic deep maneuver to cut the German penetration through its lines of communication, they went for a more direct approach against the flanks of the penetration. This undoubtedly resulted in more casualties because it attacked into enemy positions rather than lines of communication, took more time to restore the penetration, and was substantially hampered by the extreme winter conditions of January 1945. Most significantly, it allowed the German forces in the salient to escape to the east and resume their defense in Germany.

Patton was the strongest advocate for cutting off the German penetration at the shoulders by attacks from the south toward Bitburg, and from the northwest toward Prum. But he could not find a significant partner among Montgomery or Bradley at the Army Group level to cooperate in ordering such a plan. Patton's roads from Luxembourg toward Bitburg would support rapid advance for armored forces in winter, but the advance southeast in the First Army sector would not support Patton's deep envelopment concept. The First Army staff, 12th Army Group staff, and SHAEF all estimated that the road network southeast from Elsenborn Ridge and St. Vith toward Prum was inadequate for such a maneuver. When you add the deteriorated state of the roads from the German attack west and the winter weather conditions delaying the American advance, this deep envelopment solution by the First Army was just not feasible.[21]

Instead, on 27 December, the Allied leaders decided to close the Bulge at its waist. J. Lawton Collins deserves credit for prodding this decision. Despite Montgomery's resistance to any suggestion of offensive action from Eisenhower through Christmas 1944, Collins arrived at the First

Army command post on 27 December with three distinct plans of attack to close the Bulge by meeting Patton's attack from the south. Collins' proposed lines of attack were at two levels of depth, one toward Bastogne, and one toward St Vith. His proposals echoed the general American desire for strong action to remove the German penetration. The solution to closing the Bulge seems to have thus developed from the bottom up to the army group commanders. Patton, Hodges, Collins, and Major General Leonard Gerow, V Corps Commander, all pushed for an immediate major counterattack.[22]

The decision to launch the attacks at the waist of the Bulge was a conservative option, counter to Patton's deeper envelopment concepts, so much so that Bradley in his recommendation of the option to Supreme Headquarters Allied Expeditionary Force (SHAEF) specifically mentioned that this was not the maneuver that Patton espoused. Montgomery finally relented on 31 December in the face of pressure from Hodges and Collins—giving permission for an attack on 3 January 1945. The VII Corps would attack south toward Houffalize and the Third Army north toward it with VIII Corps. XVIII Corps would attack southeast toward St. Vith, and III Corps north toward it. Charles MacDonald likened this maneuver to two automobile windshield wiper blades sweeping the enemy out of the way. The maneuver avoided the nose of the penetration and attacked at some depth, but not to the depth that would have closed the Bulge at its shoulders and made it into a pocket. It is an interesting side note that in the operations order which directed VIII Corps north toward Houffalize and III Corps north toward St. Vith, Patton inserted a paragraph stating that the XII Corps should be prepared to extend the advance into the Prum river valley and toward the Rhine, the area of his deeper counterattack objective. Patton retained the last word on the correct objective of these counterattacks within his Third Army.[23]

Consequences. The Allies spent the month of January executing their selected option to close the Bulge. The forces finally linked up at Houffalize on 16 January, and command of the First Army reverted to Bradley. This attack into the waist of the penetration under harsh conditions was hard combat for the ground forces—with limited air support and high casualties, many of them cold weather casualties. Gradually, the German armor and general unit strength was reduced and they were forced to withdraw, but not without producing significant casualties to the attacking Americans. The German armies again escaped encirclement as they had at Argentan-Falaise. St Vith would not be recaptured until 23 January, with the lines of the original American positions restored and the Bulge erased by 28 January. This was an American major counterattack to medium depth of

envelopment. Despite all his bluster, Montgomery committed precious few British troops to the counterattack. From the 28th of January, the general line was restored and the Allied armies continued their irresistible advance through the *Westwall*, around the Ruhr industrial complex and eventually across the Rhine. Eisenhower resumed his broad-front offensive.[24]

The Professional Lessons

> *The deep envelopment based on surprise, which severs the enemy's supply lines, is and always has been the most decisive maneuver of war. A short envelopment which fails to envelop and leave the enemy's supply system intact merely divides your own force and can lead to heavy loss and even jeopardy.*[25]
>
> —General Douglas MacArthur

There were several considerations at play in the counterattack decisions discussed here. First and foremost was the willingness of commanders to counterattack early and in depth. Patton counterattacked successfully to relieve the siege of Bastogne, but the force of his effort was diluted by internal Third Army problems and the absence of a supporting attack from the north flank. The American senior commanders wanted to conduct a major counterattack to close the Bulge sooner than Montgomery was willing to. The delay allowed the Germans to both set their defenses against the counterattack and begin to withdraw. One wonders about the effect if the counterattack to close the Bulge had occurred when the Americans first proposed it just after Christmas, rather than the first week in the new year.

When considering the depth of the envelopment in the proposed major counterattack, most of the Americans and Montgomery took the conservative solution and argued for counterattacks at the waist of the German salient. Bradley certainly did, Eisenhower was too busy balancing Montgomery and Bradley to override them both, and only Patton was the consistent advocate of deep envelopment toward the shoulders of the German penetration. This whole episode—particularly the debate about how to close the Bulge—reminds one of the missed opportunity represented by the failure to close the Argentan-Falaise Gap. The weather conditions and limited road network on the north shoulder were a bigger inhibitor, but the debate had eerie similarities. This was another failure to destroy a confined enemy force when the opportunity presented itself—with many of the same hesitant actors, Montgomery and Bradley in particular.

To be fair, the First Army and 12th Army Group staffs were most probably correct that the road network and winter conditions made an attack by First Army southeast toward Prum infeasible, so the depth of the envel-

oping counterattack chosen to close the Bulge was probably all that could have been done. Given the difficulties of balancing competing Allied command interests, respected historian Harold R. Winton concludes that the compromise counterattack only to the waist of the German penetration rather than to the depth of envelopment advocated by Patton was the best that could have been expected under the circumstances. The winter weather conditions that made the January counterattack so difficult would have affected a deeper envelopment, too, so the remaining question relates to the timing of the attack to close the Bulge. Would more Germans have been captured if the counterattack had gone earlier? The answer to that question is a matter of conjecture.[26]

What we do know is that education and command temperament affected the willingness to counterattack sooner and in-depth. The Americans by culture and education seem to have been much more willing to counterattack early. They were not consumed with the tidiness of the battlefield like Montgomery, nor were they consumed with his fear of casualties and efforts to preserve British manpower. There was also the matter of professional military education. The Americans were under the influence of the interwar school system which contributed to this offensive mentality. Among them, Patton was a serious student of military history throughout his professional life, and his personal boldness matched his historical education. He knew that the classic doctrinal solution was to envelop a penetrating enemy at the shoulders of the penetration, and he strongly sought that solution. He was the strongest advocate for maneuver among the senior American commanders. It is a good thing there were young, aggressive corps commanders like J. Lawton Collins in the Bulge who could partner with the old maneuver master when the time came. They were serious enough students of doctrine and military history—having also benefited from the interwar army school system—and were ready to take advantage of decisive, offensive opportunities. Collins persuaded Hodges and Montgomery of the importance of an early and deep counterattack from the north shoulder of the Bulge.

Officers today must remain serious students of this episode and be aware of the benefits of professional study of doctrine and military history, the importance of staff competence and anticipatory planning like Patton's Third Army demonstrated, the opportunity presented by bold maneuver, and the need to bring allies along in the thinking process. Similar circumstances are likely to occur again in the tumultuous conditions of large-scale combat operations.[27]

Notes

1. Charles B. MacDonald, *A Time for Trumpets: The Untold Story of the Battle of the Bulge* (New York: William Morrow, 1985), 11; Harold R. Winton, *Commanders of the Bulge: Six American Generals and the Victory in the Ardennes (*Lawrence, KS: University Press of Kansas, 2007), xv; Stephen R. Taaffe, *Marshall and His Generals: U.S. Army Commanders in World War II* (Lawrence, KS: University Press of Kansas, 2011), 274.

2. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 6 October 2017)*,* 1-80.

3. FM 3-0, 6-165; major counterattack is defined in 6-167.

4. MacDonald, *A Time for Trumpets*, 262; Russell F. Weigley, *Eisenhower's Lieutenants: The Campaign of France and Germany, 1944–1945 (*Bloomington, IN: Indiana University Press, 1981), 481. On release of the two armored divisions; Taaffe, 265 and; Colonel Robert S. Allen, *Lucky Forward: The History of Patton's Third Army* (New York: The Vanguard Press, 1947), 200–02. In Trevor N. Depuy, David L. Bongard and Richard C. Anderson Jr., *Hitler's Last Gamble: The Battle of the Bulge, December 1944–January 1945* (New York: Harper Collins, 1994), 361; Depuy argues that Bradley's decisions to chop the 7th and 10th Armored Divisions early probably kept the Germans from crossing the Meuse; Weigley, 458.

5. MacDonald, 419–21.

6. MacDonald, 599–600. Weigley, 546–47.

7. Command personality as used here refers to the way that a commander commands as a reflection of his personality, cultural and educational background, ability to make decisions and interact with a staff.

8. On Eisenhower's delicate balancing act between Montgomery and Bradley, see Winton, *Commanders of the Bulge*, 287–91.

9. Hugh M. Cole, *The Ardennes: Battle of the Bulge* (Washington, DC: Center of Military History, 1965), 610.

10. Winton, *Commanders of the Bulge*, 250.

11. Cole, *The Ardennes*, 611. On Patton's state of mind and his aggressive interaction with his staff, see Weigley, *Eisenhower's Lieutenants*, 496–501.

12. On why Hodges was an insignificant actor in the counterattack to close the Bulge, see John A. English, *Patton's Peers: The Forgotten Allied Field Army Commanders of the Western Front, 1944–45* (Mechanicsburg, PA: Stackpole Books, 2009), 128; on why Hodges should have been relieved, English, 129; on Collins aggressive subordinates, Taaffe, *Marshall and His Generals*, 273; on Collins prodding Montgomery, Rick Atkinson, *The Guns at Last Light: The War in Western Europe, 1944–1945* (New York: Henry Holt, 2013), 469.

13. Atkinson, 445; Weigley, *Eisenhower's Lieutenants*, 497–98.

14. English, *Patton's Peers*, 127.

15. Atkinson, *The Guns at Last Light*, 446; Weigley, *Eisenhower's Lieutenants*, 497.

16. Allen, *Lucky Forward*, 201; Weigley, 498–99.

17. Cole, *The Ardennes*, 509.

18. On the delays in Patton's attack, Atkinson, *The Guns at Last Light*, 466.

19. Department of the Army, FM 3-0, 7-96.

20. English, *Patton's Peers*, 126; Atkinson, *The Guns at Last Light*, 469.

21. English, 126; Trevor N. Dupuy, *Hitler's Last Gamble* (New York: HarperCollins, 1994), 326.

22. Cole, *The Ardennes*, 611.

23. Cole, 612; on Patton's order for the deeper objective, see Cole, 613; Atkinson, *The Guns at Last Light*, 470.

24. English, *Patton's Peers*, 128; MacDonald, *A Time for Trumpets*, 600.

25. Department of the Army, FM 3-0, 7-22.

26. Winton, *Commanders of the Bulge*, 208.

27. The author wishes to acknowledge the careful editorial review of Colonel James Scott Wheeler, author of the definitive biography of General Jacob L. Devers. Wheeler corrected for both facts in error and the author's prose. The author acknowledges Wheeler's efforts and effectiveness.

Chapter 6
From the Vistula to the Oder: Soviet Deep Maneuver in 1945[1]

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> *Commanders use maneuver for massing the effects of combat power to achieve surprise, shock, and momentum.*[2]
>
> —Field Manual (FM) 3-0, *Operations*

By January 1945, the Soviet Army had pushed German forces from their high-water mark on the outskirts of Moscow in 1941 back to the Vistula River in Poland, a distance of more than 1,100 kilometers. Soviet offensives in 1944 alone "destroyed or captured 96 divisions and 24 brigades and defeated 219 divisions and 22 brigades."[3] The German armed forces remained a potent foe to the Allies despite the enormous losses—amounting to approximately 1.6 million troops. Germany's defenses—compressed as the Red Army pushed east—gave them interior lines of communication and the added morale boost of fighting on its home territory.

Looking to end the war, the Soviet high command, the *Stavka*, planned a series of *front*-sized campaigns that would defeat the Germans and culminate with the seizure of Berlin. These campaigns had the objective of "breaking through . . . and splitting up of the front into parts, disrupting communications and disorganizing the coordination of the enemy groups of forces and, as early as the first stage, of destroying the main forces of the German-Fascist troops."[4] In October 1944, *Stavka* planners estimated these objectives would take "45 days of offensive activities to a depth of 600–700 kilometers, in the course of two consecutive efforts (stages), without operational pauses between them."[5] The Vistula-Oder strategic offensive was the main Soviet effort in these 1945 campaigns.

Soviet planners believed the Warsaw-Berlin axis was the crucial strategic axis and where German defenses would limit operations to a depth of approximately 150 kilometers.[6] As a result, initially, its planned objective was the Posen-Bromberg line. As the *fronts* advanced—despite the fact that the *Stavka* recognized the impossibility of predicting the future situation—the end goal became the Oder River, from which the Soviet forces could strike Berlin.[7] The application of mass and tempo, along with the necessary enablers, were fundamental to Soviet success when conducting large-scale maneuver in depth during the Vistula-Oder campaign.

Over the course of the Great Patriotic War, Soviet military art developed in response to the new realities of highly dynamic, mechanized ma-

neuver warfare. Zhukov remarked in February 1941, "[in] war, all that is obsolete and ill-adapted to modern warfare is replaced by new and more perfected forms."[8] The *Stavka* codified the offensive lessons of 1942 and 1943 in the 1944 Red Army Field Regulations (*Polevoy Ustav Krasnoy Armii 1944,* hereafter *Ustav*), which provided commanders a template and doctrinal foundation for operational planning. The doctrine of 1944 "emphasized reliance on the offense, an offense characterized by maneuver and judicious use of massed armor, artillery, and air power to effect success on the battlefield."[9]

The 1944 *Ustav* defined maneuver as "one of the most important conditions for achieving success."[10] Maneuver was described as "the organized movement of troops to create the most advantageous grouping and to place it in a favorable position for delivering a crushing blow on the enemy or for winning time and space."[11] During the Vistula-Oder campaign, the Red Army conducted large-scale maneuver in the operational depth using mass and tempo in order to decisively defeat the Germans in accordance with Soviet doctrine and practices.

Operational Picture

As Soviet commanders prepared for the operation, they matched the scale of their forces to the intended strategic objectives. Stalin released the entire Soviet strategic reserve for the Vistula-Oder campaign, a first in the war.[12] The Soviets, in two *fronts*, mustered approximately 2.2 million men; 4,500 tanks; 2,500 assault guns; more than 13,000 field artillery pieces; 2,200 multiple rocket launchers; and more than 5,000 aircraft.[13] In relative terms, the *fronts* had "almost one-third of all Soviet infantry formations and almost a half (43 percent) of all Soviet armour committed at that time on the Soviet-German front."[14] Each *front* consisted of 10 armies, an air army, and 4 to 5 corps-sized mobile groups—giving Zhukov and Konev the ability to echelon their forces for breakthrough and exploitation phases. These *fronts* were also supplemented by a long-range air army and *fronts* on their flanks conducting near-simultaneous operations in the Carpathians to the south and East Prussia in the north.

German Army Group A, initially commanded by Generaloberst Josef Harpe, stood opposite the bridgeheads and in depth throughout Poland.[15] Strategically, Harpe sought to "prevent the breakthrough of the main Vistula defensive line by Soviet forces and, in the event of the latter's success, to slow down [the Soviet] offensive along succeeding lines and through flank attacks by [German] forces to restore the situation."[16] Harpe assembled approximately 450,000 soldiers; 1,150 tanks; and 4,100 artillery piec-

es, including five panzer corps, many of which were overstrength in terms of armored vehicles.[17] Defending the Warsaw-Berlin axis, the Germans arrayed "35 divisions, including four panzer and two panzergrenadier [divisions], two combat groups, 10 independent regiments, more than 50 independent battalions, and one screening and six sapper brigades."[18] Army Group A's subordinate corps and armies were headquartered farther back but not significantly. Additionally, approximately 700 aircraft of the *Luftwaffe*'s Sixth Air Fleet supported German defenders, of which 300 were based on Polish soil.[19]

At the operational level, German defensive tactics "relied on the first-echelon forces, which in the case of necessity were to successively fall back and occupy defensive positions that had been prepared in depth."[20] Starting in 1944, the Germans constructed seven defensive lines stretching between the Vistula and Oder in an effort to shore up the defenses of the ever-shrinking Reich. These lines notionally gave the Germans prepared or partially prepared defenses the Red Army would have to maneuver. In the fall of 1944, similar defensive lines in Eastern Prussia may have helped German defenders stave off Soviet advances.[21] Constructed in haste under the supervision of Nazi party members and not military district commanders, many of the lines in Poland were poorly planned, situated, and prepared.[22] While the lines were of unequal strength and quality, they provided German forces the opportunity to conduct defensive operations from prepared positions instead of having to dig in while retreating. In Reichsgau Warthegau, the B1 defensive line contained more than 9,300 machine gun positions and 470 anti-tank positions over a length of 100 kilometers.[23] It was supposed to be manned by 14 combat divisions, but in the end less than 30 hastily assembled battalions occupied the line.[24] Supplementing retreating German units, these defensive lines were also to be manned by Volkssturm battalions. In spite of these plans, many of the main lines went unmanned during the Soviet drive.

Harpe's forces, due to a lack of fuel, were significantly less mobile than the Soviet forces. Its infantry units were understrength. The operational reserves were too close to the tactical defenses, which led to their destruction in the opening barrages and battles. Army Group A was spread thin and—despite its positioning on the main axis of approach to Berlin from the East—was not the priority for the *Wehrmacht* in early 1945. Instead, Hitler chose to leave a sizeable force in the Courland Pocket in Latvia and to reinforce units around Budapest. German units sent to Hungary included those pulled from the failed Ardennes offensive.[25] The anemic

force lacked an ability to counter Soviet assaults or the mobility to defend key terrain, let alone fight a large-scale organized withdrawal.

Stavka planned for sequenced attacks by the two *fronts* in order to confuse German defenders as to the main effort. Konev planned a massive, powerful assault from the Sandomierz Bridgehead in the direction of Breslau. His reserve armies were to advance toward Krakow and the Silesian industrial region near Katowice. Two days after Konev launched his assault, Zhukov would launch three attacks from his bridgeheads—the most powerful one coming from the Magnuszew bridgehead in the direction of Posen. One of his subsequent attacks came from Pulawy bridgehead and attacked toward Lodz, while another attack supported by the 1st Polish Army was to encircle and liberate Warsaw.[26]

The Campaign

On 12 January, Konev launched his attack from the Sandomierz bridgehead through a 40-kilometer breakthrough sector toward his distant objective of Breslau.[27] In order to rapidly break through the German tactical defenses, Konev deployed his combined arms armies. Once the defenses were breached, Konev committed his Guard's tank and tank armies in order to avoid a prolonged battle out of the bridgehead, which advanced 20 kilometers into German lines while widening the breakthrough gap to 60 kilometers. Within the day, the 1st Ukrainian *Front* broke through the strongest sector of the German defenses, allowing for the armored and mechanized lead forces to advance while leaving pockets of German forces in their rear to be defeated by follow-on formations, largely infantry. Within 36 hours, Konev's forces "had broken clean through . . . the strongest sector of the German line."[28]

On 13 January, Zhukov's forces went on the offensive from the Magnuszew and Pulawy bridgeheads toward Lodz. On its first day, the 1st Belorussian *Front* advanced almost 100 kilometers. Zhukov's decision to hold his tank armies in reserve "until day two or three of the offensive, when enemy defenses had already been breached" allowed for an "in-depth exploitation of the breakthrough."[29] In combination with Konev's armies, "within days, [the Red Army] had swept around and encircled German operational reserves."[30]

The 17th of January marked the fall of Warsaw and all but completed the breakout phase of the operation. With German tactical and operational reserves defeated, the *Stavka* issued new orders to the *fronts*, stating they were to "advance their forces to the Oder River, while overcoming the intermediate defense lines from the march."[31] Accordingly, "the mobile forc-

es were ordered to bypass powerful centers of resistance" and strove "to preempt the enemy in occupying rear defensive lines."[32] Zhukov's forces were then tasked with capturing Poznan—approximately 120 kilometers to the west—through a gap between Fourth Panzer Army and Ninth Army. Soviet planners envisioned taking Poznan would take until early February; Zhukov had the city surrounded within a week.[33]

By 19 January, Army Group A and Army Group Center (to the north in the Königsberg pocket) were out of contact with each other, creating an ever-increasing gap through which Soviet forces maneuvered. The two *fronts* continued "striking deep into the rear . . . [which] prevented the German troops from utilizing most of their deliberate defenses."[34] Throughout Poland, Soviet forces "were advancing twice as fast as had been envisaged."[35] By late January, the 1st Belorussian *Front* headquarters could not keep up with the progress of its subordinate units, "sometimes issuing orders for objectives which had already been seized."[36] General Heinz Guderian, then-Chief of the German Land Forces General Staff, later remarked that "the pressure of the Russian forces had reached such a pitch that we found ourselves on the threshold of a catastrophe."[37] The Soviet offensive ended on 2 February 1945 as a result of a combination of political strategy, logistical exhaustion, declining weather conditions, growing German resistance along the Oder River, and the threatening presence of

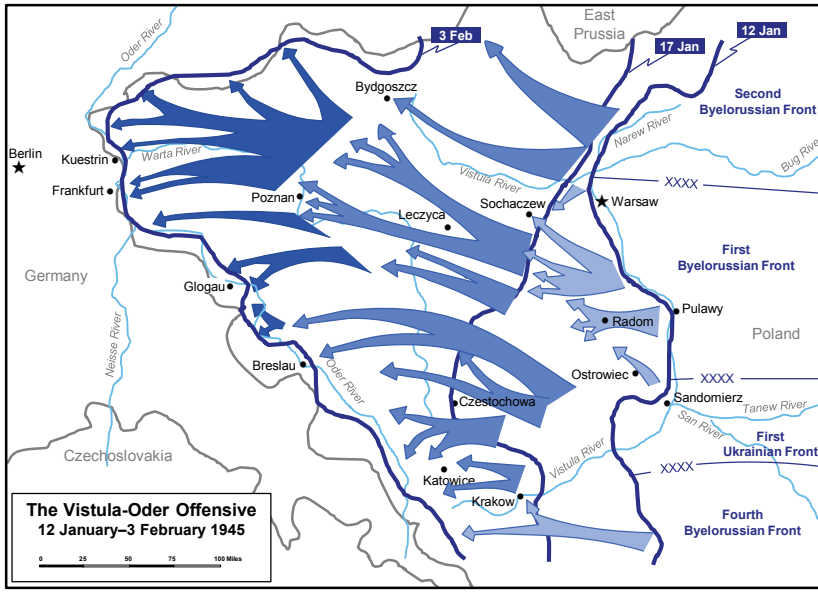

Figure 6.1. The Vistula-Oder Offensive. Map created by Army University Press.

sizeable German forces along Zhukov's northern flank in Pomerania.[38] In the span of three weeks, the Red Army had advanced nearly 600 kilometers to bridgeheads, within 60 kilometers of Berlin. "The operation was distinguished by a very swift advance of our troops . . . by extensive maneuvering not only of the tanks, but of the infantry as well, the troops boldly advancing not in a continuous front, but by strike groupings in important directions."[39] In the process, the Red Army destroyed 35 German divisions, routed another 25, entered German territory, and were poised to end the war.[40] The consecutive operations initially planned by the *Stavka* far exceeded their plans' expectations.

Mass

The sheer volume of Soviet troops committed to the operation might suggest the inevitability of a Soviet victory, but a closer study reveals Soviet mass went beyond overwhelming frontal assaults stereotyped in postwar German memoirs. Doctrinally, mass meant achieving overwhelming superiority in terms of combined arms forces and weapons in support of operational objectives. The 1944 *Ustav* describes "combat actions [as] characterized by the mass participation of artillery, mortars, tanks, aviation, and motorized infantry working together with rifle troops and cavalry."[41] Tactical force superiority was achieved by "resolute massing of troops and weapons on the main lines of advance."[42] Central to the operational use of combined arms was the "skillful concentrations of forces and weapons on the main lines of advance" during decisive phases of campaigns.[43] Overall, the massing of Soviet forces by 1944 to 45 was "3.5 times greater than the artillery densities and 1.5 times greater than the tank densities envisaged by prewar views."[44] By 1945, the Red Army massed in accordance with the combat requirements for large-scale maneuver operations.

Pure manpower ratios along the entire front reveal that the Soviets possessed a force superiority of 5:1.[45] For armor, the Soviet superiority overall was approximately 8:1.[46] Soviet commanders achieved the concentration of manpower that ranged from 6:1 to 16:1 against the seven German divisions holding the bridgeheads. The concentration of Soviet forces massed in the breakthrough area can be seen in the balance of forces charts. However, the armor ratio was more dire for Army Group A, with estimates placing Soviet advantages at the bridgeheads between 30:1 and 40:1.[47] Artillery "preponderances would be even higher than those involving manpower and armor."[48] Across multiple Soviet offensives in 1944 to 1945, aerial superiority was three to five times that of the Germans.[49]

But massing forces connoted more than merely having more soldiers and armor than the Germans did across the entire front. Soviet commanders massed decisively at the operational level based on their plans to break through German defenses and maneuver into the operational depth. As examples, the 1st Ukrainian *Front's* artillery in the bridgehead was deployed "hub-to-hub," giving it overwhelming fire superiority.[50] Furthermore, behind the bridgehead, Konev staged two additional armies, creating a second echelon of forces with which to exploit operational success.

	Armor	Infantry	Artillery	Engineer	Aviation	Note
1st Ukraine	–	–	–	–	–	
Sandomierz Bridgehead[1]	100%	77%	89%			Approx. 100 km
Breakthrough Sector[2]	90%	90%				16% of total frontage
1st Belorussian	–	–	–	–	–	
Magnuszew Bridgehead	–	–	–	51% Including 75% of pontoon bridge assets[3]	~80%[4]	

Chart developed by author from multiple sources.

[1] P.T. Kunitskiy, "Methods of Defeating the Enemy in Strategic Offensive Operations," *VIZh* vol. 10, October 1987, 17.
[2] United States Army Center for Land Warfare, 1986 Art of War Symposium: From the Vistula to the Oder: Soviet Offensive Operations-October 1944-March 1945: A Transcript of Proceedings (Carlisle, Pennsylvania: U.S. Army War College, 1986),, 511, 521.
[3] Ye. Kolibernov, "Characteristic Features of Engineering Support for Troops of the Fronts during the Vistula-Oder Operation," VIZh, January 1985, 37, 38.
[4] A. Yefimov. "Employment of Aviation in Conducting an Operation at a Rapid Pace and To a Great Depth (From the Experience of the VistulaOder Operation)," *VIZh*, vol. 1, January 1985, 22.

Figure 6.2. Distribution of *Front* Assets. Created by Army University Press based on details that author collected from multiple sources.

Cumulatively, Zhukov massed a division for every 800 meters of frontage in the breakthrough sector.[51]

Crucial to the breakthrough and subsequent deep-maneuver operations, both *fronts* were supplemented with additional engineer assets and troops. These troops largely came from the *Stavka*'s strategic reserve. The 1st Belorussian *Front* was reinforced with two assault brigades, one motorized engineer brigade, one combat engineer brigade, two pontoon bridge regiments, and six pontoon bridge battalions.[52] The 1st Ukrainian *Front* received a comparable but slightly smaller number of engineer units. As the offensive continued, the forward placement of the bridging assets proved essential in overcoming the river barriers encountered.

Both commanders also stockpiled significant amounts of ammunition and fuel. In the Magnuszew bridgehead, 1st Belorussian *Front* stockpiled 2.5 million artillery and mortar shells and at the Pulawy bridgehead 1.3 million. "By comparison, in the whole Stalingrad operation *Don Front* had fired less than a million artillery and mortar rounds," one account noted.[53] Fuel, essential to maneuver operations, was also stockpiled for the advance. In the depots of Eight Guards Army—part of 1st Belorussian *Front*—900 tons of fuel were stockpiled, with an average daily consumption of 105 tons.[54] Across the 1st Belorussian *Front*, more than three complete refuelings of diesel for the tanks were stored in anticipation of the operation, giving the tank armies the fuel needed for maneuver operations.[55]

Furthermore, Soviet commanders were able to mass forces along the main lines of advance by using fortified regions to achieve economy of force. North of the Magnuszew bridgehead, Zhukov held 20 kilometers of frontage with the 119th Fortified Region, allowing him to mass armies in the bridgehead for the assault.[56] Near Konev's Sandomierz bridgehead, the 77th Fortified Region held approximately 40 kilometers of frontage.[57] Fortified regions also held the boundaries of the *fronts*, putting stable and primarily defensive forces in place in order to fix German defenders as well as to maintain Soviet positions as the assault forces were massed and organized. The level of concentration in the Distribution of *Front* Assets chart (Figure 6.2) shows the high proportion of *front* forces committed to the breakthrough area. Similarly, the Soviet 6th Army—with two rifle corps of five divisions—held approximately 30 percent of the entire 1st Ukrainian *Front*'s sector.[58]

Both *fronts'* armies were massed in such a way as to exploit their materiel and manpower advantages over the Germans along main lines of advance.[59] Zhukov and Konev led *fronts* that were operationally organized

differently than their American or British counterparts. "The Russian spearhead was heavily weighted—in contrast with the Western armies—along its cutting edge."[60] The Soviet's cutting edge was built around the T34 tank, which was organized in brigade strength and supported by motorized infantry and engineer units. By massing their tank brigades, Konev and Zhukov maneuvered their tank armies with bold mobile thrusts after softening blows were delivered by accompanying artillery, which was brought to bear "at the slightest sign of determined resistance."[61]

On 15 January, the weather cleared and the 16th Air Army flew 3,400 sorties in two days in support of Zhukov. By comparison, the *Luftwaffe* flew a reported 42.[62] Complete tactical air superiority helped the Red Army force open the bridgeheads and extend into the exploitation phase. Through close coordination with ground forces, Soviet aviation "disorganized the withdrawal of enemy columns retreating to intermediate lines of defense," including helping destroy the main elements of 4th Panzer Army opposite the Sandomierz bridgehead.[63]

As the breakthrough transitioned into the exploitation phase, Soviet aviation "actively helped" assault crossings over the Nysa, Pilica, and Warta rivers.[64] Furthermore, frontal ground-attack aviation struck targets in the enemy's operational rear.[65] By centralizing aviation assets, Soviet

	Armor	Infantry	Artillery	Engineer[1]	Aviation[2]
1st Ukraine	–	–	–	13 companies	73 planes
1st Belorussian[3]	140 tanks/ self-propelled guns	1.2 divisions	250 guns/ mortars	17 companies	57 planes

Chart developed by author from multiple sources.

[1] Ye. Kolibernov, "Characteristic Features of Engineering Support for Troops of the Fronts during the Vistula-Oder Operation," VIZh, January 1985, 38.
[2] Martin van Creveld, Steven L. Canby and Kenneth S. Power, *Air Power and Maneuver Warfare*. (Maxwell Air Force Base: Air Power University, 1994), 141.
[3] For land forces excluding engineers, V. Matsulenko, "Massing of Forces," *Soviet Military Review*, February 1975, 55.

Figure 6.3. Density of *Front* Assets per Kilometer. Created by Army University Press based on details that author collected from multiple sources.

commanders were able to mass against decisive points and targets at the operational level, supporting ground maneuver. As the tactical defenses broke, Soviet ground-attack aviation attacked "rail and road traffic, supply and traffic installations of all types," disrupting German ability to assemble, move, and defend.[66]

Soviet ability to mass superior forces did not end with the breakout. By the end of the campaign—after three weeks of continuous deep operations on poor road networks with ever-growing lines of communication—both *fronts* outnumbered German forces "more than threefold in infantry and over fivefold in tanks and artillery."[67]

Tempo

Tempo was crucial to Soviet success, particularly after the breakout. Soviet application of tempo included rapid rates of advance, especially by the tank armies as well as continuous operations and the element of surprise. The 1944 *Ustav* used words like vigor, rapid, bold, and speed to convey the concept of tempo, specifically when looking at battles of maneuver and encirclement. Similarly, the application of tempo allowed the Red Army to defeat German defenders in time and space.

Creating and controlling tempo gave Soviet commanders three primary advantages over the Germans. First, tempo facilitated surprise. Second, tempo prevented defenders from shifting forces or occupying prepared positions. Third, tempo protected Soviet units from German counteractions through the use of speed.[68] Generally, Soviet application of tempo required a "rapid and bold move into the attack" by the main body in order to defeat the enemy.[69]

The *Stavka* planned for operations "out about 100 to 150 kilometers in the depths as they put together their force packages and assigned missions to the tank armies and the tank corps that led the offensive all the way to the Oder River."[70] Both *fronts* organized for tempo from the outset. Konev formed his mobile group with two tank armies—his first echelon with six combined-arms armies and three tank corps then two combined-arms armies in the second—and a mechanized and cavalry corps in reserve.[71] Konev used his combined-arms armies to break through the German tactical defenses and destroy the German operational reserves. Once complete, he deployed his tank armies to exploit the gaps, creating the momentum that helped propel his *front* toward their objectives. Similarly, Zhukov deployed his tank armies after tactical breakthrough was achieved. In both *fronts*, the tank armies "operating on main attack axes had subordinate to them one full tank or mechanized corps."[72] This allowed commanders

to better tailor their forces for operations in-depth, including creating the forward detachments and logistics elements needed in order to sustain maneuver operations in-depth.

After breaking through the tactical defenses, Soviet forward groups "developed the attack and carried out the pursuit . . . on separate axes, independently from the main forces of the fronts and armies."[73] At the vanguard of the advance, Soviet commanders placed significant emphasis on the forward groups built around the tank or mechanized corps which served as reconnaissance units and "combat-oriented forward detachments."[74] In the tank armies, the most effective forward groups were "often a reinforced brigade commanded by the most experienced, innovative, [and] aggressive officers."[75] These groups moved ahead of the main army at depths of 80 to 100 kilometers. In the combined-arms armies, the forward detachments were smaller—often reinforced battalion size—and operated 20 to 40 kilometers ahead.[76]

Forward detachments served multiple roles for their parent units. They identified defenders, seized river crossings, captured railroad junctions and lines, and guided follow-on units. Additionally, they "prevented German preparation of intermediate defense lines, . . . anticipated German movements, and negated the impact on combat of newly arrived operational reserves."[77] They were assisted by Soviet airpower, as commanders of forward detachments had the communications with aviation elements in order to identify "the most important targets for action and to obtain air help immediately."[78] By seizing key terrain and engaging enemy units in depth, the advanced detachments significantly improved the armies' ability to maneuver and maintain tempo. Furthermore, they added to enemy confusion by appearing unexpectedly deep in the enemy rear.

In addition to the forward detachments in all armies, significant Soviet planning effort went into bringing up combat service support elements from the rear, including aviation. Engineering support was largely focused on crossing water barriers and clearing minefields. In the forward detachment of the tank armies, a combat engineer company or battalion was included with bridging elements up to a pontoon bridge battalion in strength.[79] Minefield clearing elements were also included as Soviet units maneuvered against the *Ostwall* defensive lines. Additionally, the formations of 5th Shock, 8th Guards, 69th, and 1st and 2nd Guards Tank Armies included airfield maintenance battalions in the forward detachments.[80] These airfield maintenance battalions were assigned to rapidly repair airfields so they could begin receiving Soviet aircraft.[81] The embed-

ded combat service support allowed commanders to conduct and sustain deep maneuver.[82]

Tactics for Tempo

Soviet planners sought to overcome German defensive lines and defended positions from the march in order to retain the initiative.[83] The planners' tactics predominately took three forms: bypassing resistance and organized defenses, enveloping defenders, and outflanking enemy units.[84] Bypassing resistance and organized lines of defense, Soviet units were able to continue maneuvering in the operational depth, isolating German defenders to be overwhelmed by follow-on forces. Soviet commanders were told "there is no necessity to engage in minor combat of no significance everywhere the enemy resists. The main principle is to find the weak places, strike, bypass, and break out into the rear area."[85] Avoiding combat prevented tank units and advanced echelons from being fixed or bogged down. As the forward elements for 4th Tank Army, the 93rd Separate Tank Brigade operated 80 to 100 kilometers in front of the main body, where it actively sought to avoid combat through bypassing resistance. Its operational mantra was: "if the enemy has occupied the defense, do not assault it. It is better to bypass."[86] Even following units like 5th Shock Army attempted to bypass German resistance during the pursuit phase.[87]

When bypassing was not an option, German units were enveloped. German forces around Warsaw—including 9th Army—found themselves rapidly enveloped by Zhukov's 47th Army.[88] Within four days of the start of Zhukov's operation, Warsaw fell after being surrounded. As the operation continued, opportunities for envelopments were exploited by Soviet forces. Panzer Corps *Grossdeutschland* was rushed from East Prussia to stabilize the German front but instead found itself rapidly surrounded by 1st and 2nd Guards Tank Armies.[89] Once encircled, Panzer Corps *Grossdeutschland* was all but destroyed in a meeting engagement before it could successfully deploy.[90] Soviet forces conducting parallel pursuit frequently "wedged in between the retreating columns of the enemy, bypassed them, and—outstripping their speed—emerged in the way of their retreat."[91]

Nearing the Oder, the *fronts* were not always able to bypass or encircle strengthening German resistance. As a result, neighboring units of brigade or army strength were required to cross operational boundaries in order to keep Soviet flanks secure. In the 1st Ukrainian *Front*, the left flank started to significantly lag as a result of German resistance in Silesia. On 20 January, Konev turned General Rybalko's 3rd Guards Tank Army to the south in order to capture the Silesian industrial areas intact while destroying

the German defenders in the open. In response, 3rd Guards Tank Army rapidly doubled-back in a complicated and large-scale maneuver.[92] By 27 January, German defenders in Silesia were threatened with entrapment by Rybalko's forces, and most fled the collapsing pocket.[93] The maneuver outflanked German defenders and allowed the 1st Ukrainian *Front* to seize the area with little damage to industry. Rybalko's operation demonstrated Soviet agility when conducting decisive, large-scale maneuver.[94]

Rate of Advance

Soviet advance rates were significantly faster than *Stavka* plans and previous combat experience, specifically Operation Bagration in the summer of 1944. Across both *fronts*, the Soviets attained an average speed of 25 kilometers per day during the operation.[95] This average, however, belies the differences between the types of armies and phases of the operation. Initial rates of advance during the penetration phase were slower due to combat with German defenders as units fought out of the bridgeheads and entered the operational depth. Similarly, toward the end of the operation, German resistance stiffened along the Oder River, causing rates of advance to slow as the Red Army engaged in decisive combat.

In the operational depth, the tank armies advanced at rates of advance as high as 70 to 100 kilometers per day but averaged approximately 45 kilometers on most days.[96] Combined-arms armies averaged 21 to 37 kilometers per day during this period due to their relative lack of vehicles.[97] In the 171st Rifle Division, "the infantry moved on foot, all the regimental equipment was horse-drawn, and just the divisional artillery was provided vehicle transportation."[98] Some infantry divisions were fortunate enough to have vehicles.[99] Others improvised. In 8th Guards Army, the infantry "mobilized everything, up to and including phaetons, horses [and] any type of civilian transportation they could find."[100]

As the advance continued westward, Soviet forces were increasingly fragmented, potentially allowing the risk of encirclement by German counteraction. As a result, especially in the forward detachments, there was "patient care taken by the Soviets to make sure that the tank armies [did not] go too fast."[101] The follow-on forces of the combined-arms armies, however, were instructed "not to reduce the rates [of advance] forward to the Oder."[102]

In addition to speed and avoiding decisive combat, Soviet commanders maintained tempo through continuous operations by swapping lead units and engaging in night maneuver. Soviet commanders maintained pressure on the Germans by periodically interchanging their lead ele-

ments with those from the second echelons and reserves, especially important in the leading detachments of the tank armies.[103] In 2nd Guards Tank Army, the advance detachments of 1st Mechanized Corps changed six times from 18 to 30 January.[104] Similarly, the 7th Guards Tank Corps' forward detachment was replaced five times between 14 and 24 January.[105] Rarely did forward detachments engage in more than two or three days of continuous action.[106] Aviation assets rebased in order to provide continual close-air support and fighter coverage. During the course of the campaign, fighter units redeployed seven times and ground attack units redeployed six times.[107] The constant interchange precluded German defenders from getting any respite while allowing Soviet commanders to maintain operational tempo. As a result, Soviet forces were able to advance without the degradation in troop performance normally associated with continuous operations.

In addition to continuously changing forward elements, Soviet forces conducted night operations, something unexpected to German defenders. Soviet commanders "didn't postpone combat actions until the next day, until the day after that, or until some other day," which denied the Germans the opportunity to regroup and precluded rest.[108] In 4th Tank Army's 93rd Separate Tank Brigade, "special attention" was given to night operations prior to commencing the operation.[109] The Soviets cloaked their operational maneuvers in darkness, preserving the element of surprise. By operating at night, the Red Army was "able to carry out a maneuver or a movement or a blow against a target . . . at dawn, to appear suddenly."[110] The breaching of the Meseritz fortified area between Posen and Kustrin by 44th Brigade, 11th Tank Corps, was undertaken at night, which resulted in the breaching of a supposedly impenetrable defensive position.[111] Similar to continuous operations, Soviet exploitation of the night sustained high rates of advance while wearing down German defenders.

The Soviet tempo's impact on the Vistula-Oder Operation was multifold. First, it allowed for the seizure of objectives before effective defenses could be mounted. Second, it reduced Soviet casualties. Third, it increased German casualty rates in both men and materiel. The high tempo rate also reduced the amount of ammunition consumed, especially during the pursuit.[112] The Soviet's rates of advance put their leading elements well into the operational depths of the enemy before German reserves or reinforcements could be called upon. The destruction of Panzer Corps *Grossdeutschland* is a prime example of Soviet troops maneuvering more rapidly than the German defenders. The rapidity also "prevented the enemy from redeploying, reinforcing, or supplying on any but a very small

scale."[113] Furthermore, by arriving in key positions "before or, at worst, simultaneously with hurriedly redeployed German formations," the Red Army was able to seize objectives from the march.[114] In mid-January, the 61st Guards Tank Brigade—acting as a forward detachment for the 10th Guards Tank Corps—surprised a group of Germans defending a bridge on the Warthe River. The seizure of this span enabled the tank corps to continue crossing the river in column formation.[115] The intact bridge was then used by trailing combined-arms armies and logistics forces to sustain the offensive.

The high tempo also reduced Soviet casualties. Soviet analysis revealed that the rate of advance and losses had an inverse relationship.[116] In units across the Red Army during this phase of the war, manpower losses for units advancing up to 10 kilometers a day were five to six times higher than those of units operating at 20 to 30 kilometers or faster.[117] Similarly, equipment loss rates were reduced by four to four-and-a-half times.[118] By the conclusion of the operation, the 1st Belorussian *Front* suffered 1.7 percent in personnel casualties while the 1st Ukrainian *Front* suffered 2.4 percent.[119] These rates were significantly lower than previous operations.

In addition to reducing Soviet casualty rates, tempo increased German losses.[120] These losses were both quantitative—in terms of men and equipment—and qualitative in terms of capacity. Advanced detachments cut off German retreat routes and seized river crossings and rail junctions, further enabling Soviet logistics support. German defenders—rapidly cut off and isolated—were encircled or forced to make their way to the west as groups. The isolation of German defenders led to increased capture rates. The Soviet Fourth Tank Army broke into the operational depth and advanced at a daily tempo of 30 to 33 kilometers, taking twice the number of prisoners when compared to a tempo of 10 to 13 kilometers.[121] Additionally, both *fronts* found the number of seized automobiles, artillery pieces, and tanks rose with higher speeds—with each captured vehicle and soldier further reducing German capacity.[122] When the 1st Belorussian *Front* seized Lodz, 400 train cars loaded with military equipment were captured.[123] Furthermore, much of Panzer Corps *Grossdeutschland*'s equipment was captured or destroyed while still in rail cars.[124] By the end of the campaign, at least 300,000 German soldiers were killed, captured, wounded, or missing.[125]

Conclusion

Soviet operational application of mass and tempo during the Vistula-Oder campaign led to a strategic victory. Operationally, Soviet maneuver overwhelmed the German ability to occupy prepared defenses, employ mobile

forces, or conduct a fighting withdrawal. Red Army maneuver embodied 1944 *Ustav*'s dictum that "commanders at all levels . . . have the ability to make rapid regroupings before and during combat, to organize and conduct outflankings, to encircle, to capture, or to destroy enemy groupings."[126] German General Friederich von Mellenthin wrote "The Russian offensive was delivered with a weight and fury never yet seen in war. It was clear that their High Command had completely mastered the technique of maintaining the advance of huge mechanized armies."[127] The Red Army benefited from their tank armies' mobile striking power, "which enabled them to make deeper thrusts, maneuver extensively, [and] attack at high tempos."[128]

During the Soviet era, the Vistula-Oder campaign was a key model for studying large-scale combat operations, as evidenced by the volume of military literature published on the campaign—attention that continues in today's Russian army. As described in FM 3-0, *Operations*, American commanders and planners will need to mass combat power in order to replicate the shock, tempo, and surprise seen during the Vistula-Oder campaign. Improvements in lethality, command and control, and intelligence will serve as force multipliers to facilitate the application of mass and tempo.[129]

Notes

1. Many of the places in this chapter have had their names changed since 1945. Histories like Earl F. Ziemke's use place names interchangeably. I have attempted to be consistent and include endnotes for names that have changed.

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5. Shtemenko, 23.

6. Shtemenko, 19.

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8. John Erickson, *The Road to Berlin* (Boulder, CO: Westview Press, 1983), 563.

9. David M. Glantz, "Soviet Offensive Ground Doctrine Since 1945," *Air University Review* 34, no. 3 (March–April 1983), 26.

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19. Soviet General Staff, 42.

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21. Alastair Noble, "The Phantom Barrier: *Ostwallbau* 1944-1945," *War in History* 8, no. 4, 2001, 463.

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24. Noble, "Phantom Barrier," 465.

25. A. Zvenzlovsky, "Breakthrough to the Oder," *Soviet Military Review*, January 1975, 7.

26. Zhukov, *Memoirs*, 560.

27. Konev, "From the Vistula to the Oder," 45.

28. Clark, *Barbarossa,* 413.

29. Geoffrey Roberts, *Stalin's General: The Life of Georgy Zhukov* (New York: Random House, 2012), 216.

30. David M. Glantz, "The Vistula-Oder Operation," *Military Review* 75, no. 2 (March–April 1995), 95.

31. Soviet General Staff, "The Vistula-Oder Operation," 75.

32. Soviet General Staff, 75.

33. Poznan was declared a *Festung* city as part of an overall German defensive strategy and did not fall until 23 February 1945.

34. Zhukov, *Memoirs,* 579.

35. Zhukov, 580.

36. Antony Beevor, *The Fall of Berlin*, *1945* (New York: Viking, 2002), 44.

37. N. Kurov, "The Last Military Campaign in Europe" *Soviet Military Review,* August 1975, 57.

38. Zvenzlovsky, "Breakthrough," 9. Soviet authors focused on the military reasons for ending the operation. See David M. Glantz and Jonathan M. House, *When Titans Clashed: How the Red Army Stopped Hitler* (Lawrence: University Press of Kansas, 2015), 314–19, for political considerations.

39. Konev, "From the Vistula to the Oder," 47–48.

40. Kurov, "Campaign," 56.

41. Union of Soviet Socialist Republics, *Ustav*, 9.

42. A. Radzievsky, "Military Science and Armed Struggle," *Soviet Military Review*, July 1971, 36.

43. A.P. Beloborodov, "Triumph of Soviet Military Art," *Soviet Military Review*, July 1975, 5.

44. Radzievsky, "Military Science," 37.

45. US Army Center for Land Warfare, *Symposium*, 507.

46. *Symposium*, 514.

47. *Symposium*, 507.

48. *Symposium*, 514.

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51. Yu. P. Maksimov, "The Strategic Offensive of the Soviet Armed Forces in the Concluding Campaign of 1945," *Voyenno-Istoricheskiy Zhurnal (VIZh), Military Historical Journal*, October 1985, 69.

52. Ye. Kolibernov, "Characteristic Features of Engineering Support for Troops of the *Fronts* during the Vistula-Oder Operation," *VIZh*, January 1985, 37.

53. Earl M. Ziemke, *Stalingrad to Berlin: The German Defeat in the East.* (Washington: Center for Military History, 1968), 420. Cumulatively, by the end of the operation, both *fronts* expended more than 6 million artillery and anti-aircraft shells. First Belorussian *Front* fired 3.2 million shells on the first three days of the operation alone (13–16 January 1945); S.G. Peredelskiy and G. Khoroshilov, "Artillery in the Engagements from the Vistula to the Oder," *VIZh* 1, January 1985, 33.

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61. Beevor, *Fall*, 44.

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81. Yefimov, "Employment of Aviation," 26.

82. Glantz, "Soviet Conduct of Operational Maneuver," 210.

83. Soviet General Staff, "The Vistula-Oder Operation," 89.

84. Soviet General Staff, 91.

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88. Soviet General Staff, "The Vistula-Oder Operation," 91.

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97. Soviet General Staff, "The Vistula-Oder Operation," 80.

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99. Glantz*,* 20.

100. Glantz, 13.

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102. Glantz, *Red Army Officers Speak!*, 9.

103. Leites, *Soviet Style in War*, 63.

104. N. Kireyev and N. Dovbenk, "Wartime Experience in the Employment of Armored Corps." *VIZh* 9, September 1982, 34.

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107. Kozhevnikov, *Command and Staff,* 173.

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129. The author wishes to thank his wife, Heather, and their daughter for their support and encouragement. Also, without the support of Colonel (Retired) David Glantz, this chapter could not have been written. Colonel William Wyman, formerly at Joint Forces Staff College, encouraged my initial studies of the Vistula-Oder campaign while I was his student. Thanks to Rachel J. Daniels at the Russian Military Studies Archive at Cranfield University; Margaret Harrison and Jeff Turner at Joint Forces Staff College; H.G.W. Davie, Roberta Borky, Colonel John M. Borky (USAF, Retired), 1st Lieutenant (USMC) Walker Mills, Major Paul F. Tanghe, J. Overton, and Gregory Liedtke for providing critical source material and feedback.

Chapter 7

The Israeli Experience: The Apogee of Blitzkrieg[1]

Major Ronnie L. Coutts, British Army

> *Commanders seize the initiative by acting. Without action, seizing the initiative is impossible. Faced with an uncertain situation, there is a natural tendency to hesitate and gather more information to reduce uncertainty. Waiting and gathering information might reduce uncertainty, but does not eliminate it. Waiting may even increase uncertainty while providing an enemy with time to seize the initiative. It is far better to manage uncertainty by acting and developing the situation instead of waiting. Exploiting the initiative requires positive action.*[2]
>
> —Field Manual (FM) 3-0, *Operations*

> *Israel . . . should seek to reduce to the [greatest] extent possible the duration of the Fighting: and in every military confrontation would strive for a clear, decisive and visible military victory*.[3]
>
> —A.I.S. Nusbacher

In examining the Arab-Israeli wars of 1967 and 1973, one finds oneself battling between the extraordinarily successful military outcomes utilizing deep maneuver and the reality that Israeli success was often borne not by such decisive tactics, but from ruthless determination to succeed expressed as fighting spirit and high morale. That this ruthlessness was in part generated from a fear of annihilation by its Arab neighbors is a key motivation. In harnessing this motivation into tangible doctrine, there is an irony that Israeli armored doctrine builds upon *Blitzkrieg* and *Aufstragtaktik* derived from a nation that at one point in history dedicated its national resources to exterminating the Jewish people. A.I.S. Nusbacher's study of this evolution, whilst focused on the Golan Heights in 1973, explores this natural development. In his interviews, with Israeli commanders, grudging respect is given by them to Panzer leader Heinz Guderian and German General Erwin Rommel, but their statements reflect lessons more from J.F.C. Fuller and Basil Liddell-Hart as much to hide German influence as to also show the roots of German thinking. With Rommel and Guderian setting the scene in the German experiences from World War II, moving to the Israeli experience is therefore not only logical from a theoretical perspective but, as will also be shown, logical from an examination of tactics.

This study of Israeli operations draws upon both the 1967 Six-Day War and the 1973 Yom Kippur War. In doing so it seeks to draw upon the

best lessons for deep maneuver balanced with the failings and stark lessons learnt. There may appear to be the occasional historical schizophrenia as lessons jump from both conflicts, but by drawing the best lessons rather than attempting to mold a single operation or campaign to suit all ends, the greatest benefit for the deep maneuver commander should be derived.

Geo-Political Considerations

> *Germany's geographical position in Central Europe, surrounded by strongly armed neighbors, compelled the study of war on several fronts. Since the possibility of such a war invariably involved the prospect of Fighting against superior force, this problem, too, had to be carefully examined. . . . The strict limitations of our resources compelled the General Staff to study how a war could most quickly be conducted*.[4]
>
> —Heinz Guderian, Panzer Leader

As much as the fear of annihilation should be seen as a motivating factor, Israel's geo-political situation must be examined to set in context their view of an often-precarious existence in the Middle East. Guderian's view of Germany's situation in 1938, whilst stretching the reality of the time does, however, encapsulate an accurate view of Israeli Defense Forces (IDF) thinking in 1967 and 1973. These wars may have lessened this phobia, but not exorcised it. Israel has no strategic depth and although it emerged from the 1948–1949 War of Independence with more territory than that granted in the 1947 United Nations Security Council Resolution, it nevertheless has inherited troublesome borders. With a width of just a few miles in some places to at best a few score miles, any Arab neighbor can quickly and easily attack population centers and industrial assets. This reality gives rise to a desire "that fighting must be transferred to Arab territory to the greatest possible extent."[5] Demographically the population of Israel is insignificant when compared to the combined numbers of its Arab neighbors.[6] Even with the mass immigration evident since 1948, keeping a large standing army would inhibit economic growth. A nation-in-arms concept has therefore been sought once quipped as, "We are a nation of soldiers on leave for 11 months of the year."[7] Great power patronage to secure resources and to possibly fall back upon for political and military support, preferably in the guise of the United States, was initially articulated by its first Prime Minister, David Ben-Gurion. Ben-Gurion understood that a small state such as Israel could never be self-sufficient and should not consequently find itself isolated in time of war. Such patronage, whilst generating international leverage, also produces a "political stopwatch" inevitably bringing Israel and its adversaries to the negotiating table. The

correlation between ceasefire lines and ultimate political settlements is evident since 1949; hence the importance of the stopwatch. With a backdrop of constrained geography, limited manpower, and a political stopwatch, the aggressive and dynamic pursuit of deep maneuver by the IDF makes sense.

Breakthrough Battle

Finding an open flank or weak enemy area to permit deep maneuver and the subsequent space to allow forces to roam free is often simply not possible. A breakthrough battle may be needed to create the essential space requisite for deep maneuver. The subtlety between a direct attack to defeat an enemy force and an attack to permit the onward passage of a deep maneuver force is often lost in the mire of battle. The subtlety must not, however, be lost on the attacking commander. He must understand and more importantly convey to his subordinates that a swift, crushing, and decisive battle must be fought if the deep maneuver force is not to culminate.

General Israel Tal on 5 June 1967 knew he faced just such a breakthrough battle. He did not know that the 5th was day one of only a Six-Day War. The northernmost of three Israeli Ugdas (divisions), his task was to break through Egyptian and Palestinian forces defending the "Opening of Rafa," a narrow tract of land between the sand dunes on the coast and the sand sea to the south.[8] He knew that "the first day of the war would decide the war" and that his Ugda was to spearhead this first day.[9] Tal, a natural philosopher and the tank expert in the IDF, started his armored career as a

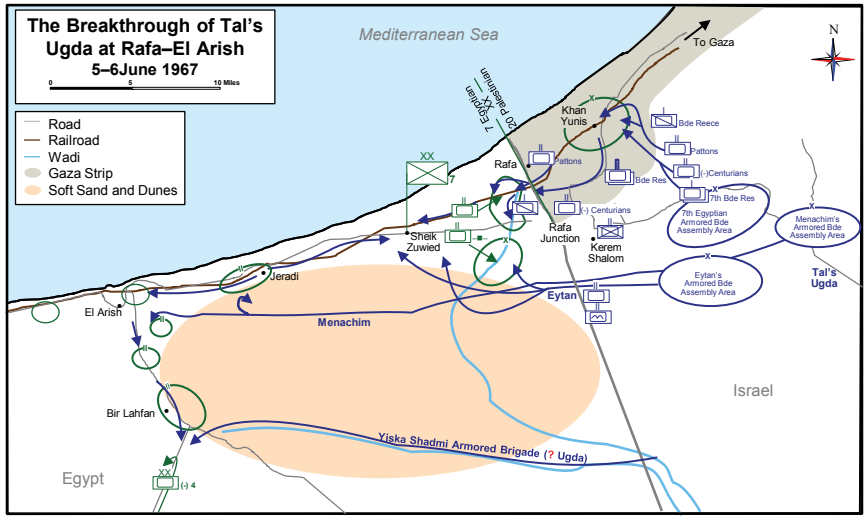

Figure 7.1. The Breakthrough of Tal's Ugda at Rafa El-Arish, 5–6 June 1967. Map created by Army University Press.

carrier platoon sergeant in the British Army in the Second World War. He went on to become a machine gun officer in the Haganah and only after the 1956 Sinai Campaign, when he saw the importance of the Armored Corps, did he transfer.[10] Tal brought coherence to Israeli doctrine based largely on the writings of Liddell-Hart and the experiences of Guderian, which he coupled to a strict disciplinary outlook. He was a consummate professional who understood that in a fundamentally technical Corps, only adherence to discipline and rules would succeed. In response to his critics who saw his style in direct contrast to "Kibbutz style," he cited the following example, "A Paratrooper with a deep inner discipline is capable of fighting bravely and tenaciously, even when he is hungry and his shirt is torn. But no tank will function, even given the most rousing Zionist orations, when there is no fuel in the tank or when it has thrown a track."[11]

Facing General Tal's Ugda was a brigade of 20th Palestinian Division in Khan Yunis and two brigades of 7th Egyptian Infantry Division at Rafa Junction covering the coast road. A further brigade was deployed in depth. In all, the position was 35 miles deep. Tal's aim was to break through this "crust" before the Egyptian 4th Armored Division could counterattack and stifle the Israeli deep attack across the Sinai. Tal was clear that he must succeed at the first attempt and that a time-consuming attritional battle was not an option. The Ugda had armored punch but lacked infantry and artillery balance.[12] Avoiding the obvious maneuver corridor and consequently well-defended area around the Opening of Rafal, Tal decided to attack along the coastal strip. He reasoned that the Egyptians would not have mined the coastal road and rail line nor registered their own camps in this area with artillery. Colonel Shmual Gonen, with 7 Brigade, would break through the light defenses in Khan Yunis to attack Rafal Junction from the north and drive on to El Arish. A scratch brigade commanded by Colonel Raphoul Eytan was to cross the border and attack Rafal from the south. Colonel Menachim Aviram was to navigate along a track in the sand sea and link up with a parachute drop on El Arish airfield.

At Khan Yunis, the Israelis discovered that a brigade now sat where they had anticipated a battalion. A breakdown in communication within the lead Patton armored battalion caused a delay, but the battalion was able to rally at Khan Yunis station in accordance with their preliminary orders. The sudden arrival of 60 tanks caused the Palestinians to surrender en masse. With no infantry in support, the armor could do little to capitalize on this breakdown in cohesion. The Palestinians made up for their initial shock by holding up a subsequent mechanized brigade for three days. As the lead tanks of 7 Armored Brigade pushed on to Rafal Junction, the

Egyptians waited until they were within 100 meters of their positions before unleashing their ambush. Gonen then attacked in a pincer movement, with the Centurion battalion continuing to advance along the road whilst the Patton battalion moved west.

Simultaneously the Egyptians launched a counterattack with T54 tanks. These ran straight into the pincer movement and were defeated with the loss of nine tanks. On seeing this, the Egyptian infantry went quiet and the Pattons moved into the Egyptian divisional rear area— overrunning gun positions as well as the divisional headquarters and killing the divisional commander. Gonen then committed his reserve of two Centurion companies and a jeep reconnaissance company to maintain momentum. At the Jeradi defile, the Centurions passed a sleeping Egyptian battle group.[13] The reconnaissance company was not so lucky and after two vehicles were destroyed, the defile was closed by a now-alert Egyptian position. Eytan's brigade fared worse. Lack of all arms training separated the tanks from the paratroopers who were then counterattacked by an Egyptian tank battalion. Tal diverted Gonen's Patton battalion south to deal with this threat. In the interim, Israeli Fouga Magisters destroyed this Egyptian counterattack. Tal now reoriented his advance centered on Rafa Junction. The Menachim brigade's slow advance was curtailed when the parachute battalion he was to link up with diverted to Jerusalem. Jordan had entered the war. To clear the Jeradi defile, Gonen ordered a frontal attack down the road combined with a flank attack over sand in the south. The attack was repulsed with the killing of the commanding officer (CO) and wounding of three company commanders. The second-in-command rallied the battalion and rushed the position, taking it with the loss of one tank. The Egyptians recovered from this shock and held up follow-on elements. By now, darkness had fallen and the Ugda was now spread over 30 miles centered on the obstinate block at the Jeradi defile.

Tal realized that his attack was faltering and with it any hope of breaking through the "crust." He now reinvigorated the advance. Releasing a mechanized battalion from mopping up operations at Rafal Junction and a Patton company, he augmented Gonen's brigade and placed at the mechanized battalion CO's disposal the entire Ugda's artillery, including an illumination shoot. The battalion CO urged his drivers forward to reach the defile, forcing waiting administrative vehicles off the road to allow his passage. Pausing to regroup prior to the defile, he then called for the illumination shoot to enable the centurions to give covering fire and attacked. After breaking through the defile, the battalion then spent the next four hours clearing a mile of trenches backward to the start of the defile.

The following morning, Tal's Ugda attacked south from El Arish to link up with Yiska Shadmi's armored brigade moving up from the south. The crust had been broken, and Israeli armor was free to strike deep toward the Suez Canal.

Israel Tal created the conditions for the subsequent Israeli rout of the Egyptians in the Six-Day War. In modern American doctrinal parlance, his was a shaping operation, but it should additionally be viewed as *the* decisive operation for, without this breakthrough, the overall Israeli plan would have stalled. His determination and singlemindedness, particularly during the confused night at the Jeradi defile, translated into a determined attack that maintained the objective.[14] The mistakes over combined arms cooperation within his formation are evident, and arguably throughout this battle he also accepted risk by being off balance at various periods. His feel for the battle was, however, faultless as he constantly sought to bring about a decision and focused efforts toward this point. As an example of a breakthrough battle to enable deep maneuver, the 5–6 June 1967 at Rafal-El Arish is first class. Tal was also conscious of the chaos many might have perceived in his Ugda as they fought west and resisted against a natural tendency in many military minds to tidy the battlefield in order to stop and consolidate. He knew that to do so would cost him time and momentum, allowing the Egyptians, similarly working in this chaos, to gain composure.

Chaos and Balagan[15]

> *How better to exemplify the natives' improvisational capacities than in descriptive analysis of how Israelis park their vehicles in a lot. Even when there is plenty of space, the painted lines are perceived not as fixed limits but merely as suggestive points of departure.*[16]
>
> —A.I.S. Nusbacher

In a recent *British Army Review* article on "The Management of Chaos," the author used a series of complex graphs and diagrams to espouse how the modern commander must be adept at managing chaos in all its guises on the battlefield.[17] A study of the Israeli military character and their "grip" of chaos more vividly proves that in deep operations, commanders must expect, understand, and then capitalize upon chaos. Managing chaos is in short unachievable, but working within chaos and using it to one's advantage is not. Consider the following experience from 1967:

> Brigadier Ben-Ari relates an episode, which illustrates Israeli acceptance of chaos not in action against the enemy, but in using internal lines of communication. On the last day of the war, his 10th Mechanized Brigade was ordered to move from the Central

> Front near Jericho to the Golan Heights. He was given 24 hours from the warning order to have his brigade in its new position, some 180 kilometers away. He called all the brigade drivers (some 1,000 men) together and briefed them on the timing. He told them that between them and their goal there were only two roads. There were military police checkpoints, other units, and fuel dumps where logistics officers would expect signatures in return for supplies. He did not care how they made it to the Golan, he said, just so long as they were there by the next morning at 0400. Every vehicle in the brigade was at the rendezvous by 0400.[18]

Ben-Ari's view is Clausewitzian in nature but reflects an understanding of the dynamics of movement on the battlefield, in his case even without the added complication of enemy interference. War to the Israelis was seen as a complex and at times inexplicable phenomenon that would place commanders and soldiers alike in situations unplanned for and diverse. Failure to do *something* in such a situation is tantamount to surrendering one's destiny to the gods, in this case Mars and he is now on the other side. This "fog of war" is acting on both sides and only those comfortable with chaos are likely to endure, for attempting to manage it is not possible. The contra-argument that chaos is not solely peculiar to the deep battle is true, but consider the dynamics of a commander during deep maneuver. He is operating at the limits of surveillance and communications; his logistics will at best be extended and at worst cut for periods of time. Reconnaissance and familiarity with the ground will not be complete despite any advances in technology. As far as is humanly possible, Israeli commanders such as Ben-Aris and Tal have been able to operate and succeed in such conditions. Tal's outlook on chaos was remembered by his 7 Armored Brigade commander already on his third war by 1967, "In war nothing goes according to plan, but there is one thing you must stick to: the major designation of the plan. Drum this into your men."[19]

Major General Ariel Sharon 1973

Ask a group of staff college students for the name of a successful deep maneuver commander and United States General George S. Patton with his flamboyant dress, language, and style will almost inevitably emerge as an archetypal deep maneuver commander and consequently he too often clouds discussion on command attributes in such a situation.[20] More often the reality is that successful deep maneuver commanders have been studious technicians such as Guderian and Von Runstedt who have understood the need to, "in the midst of emotional pressures, to juggle considerations

such as the speed of tanks over various terrains, the availability of fuel, or the likelihood of the rendezvous coming off."[21] Major General Ariel Sharon sits as a complex character who combined an "almost implausible mixture of physical machismo and intellectual brilliance."[22] More Patton than Von Runstedt in terms of persona, his "physical machismo" and with it a proven willingness for ferocity in combat, emerged in the early years of the Israeli State. A fighter with the Haganah during the War of Independence, he continued combat against Egyptian troops and in one 1955 Gaza Strip operation killed 38 Egyptians. In June 1967, during the Six-Day Way, as a divisional commander, his success against the Egyptian Army played a key part in Israel's capture of the entire peninsula.[23] Intellectually, with a degree in oriental history, he chose to bring a professor in ancient history onto his Southern Command staff and remained scornful of his contemporaries whom he derided as, "suburbanites with degrees in economics."[24]

Sharon was to spearhead the IDF's offensive deep into Egypt with the aim of reversing Israeli fortunes in the 1973 Yom Kippur War. Split between the Golan and the Sinai, the IDF on 11 October 1973 faced the unnerving reality that it was being drained at a rate, in terms of men and materiel, that it could not sustain, even with American re-supply. The double specter of a Russian resupply of SAM-6 missiles to its Arab dependents also threatened to shift the air war balance between the Egyptian and Syrian air defenders and the Israeli Mirage and Sky Hawk pilots. The *normal* default setting for Israeli commanders faced with such a military conundrum would be an unexpected and devastating deep maneuver, an option Sharon vociferously advocated. The IDF, however, did not simply have the combat power at this stage. By nightfall, a fierce battle to clear the last remaining Syrian positions at Khusniye and Kuneitra on the Golan was won not by guile, but by a costly frontal charge.[25] The fortified piles of rubble were secured, and initial Syrian successes began to wane as they withdrew in disarray. With the Syrians now withdrawing and the Golan effectively secured, Sharon now had the conditions to cross the Suez Canal and decisively defeat the Egyptians. Operation Gazelle was authorized.[26]

Sharon's crossing of the Suez Canal in Operation Gazelle and the ultimate defeat of the Egyptian Third Army has often been cited as an exemplary example of deep maneuver and its ability to shatter an enemy's cohesion. One commentator hinted at "military genius."[27] The reality behind this myth is one of vicious combat and confusion, both self-induced and from the chaos of war. The Israeli plan, hopelessly optimistic, called for three divisions to cross at the tip of the Bitter Lakes and to decisively en-

circle the Egyptian Second and Third Armies in 48 hours. "Hopelessly optimistic," for the Israelis wrongly assumed that the Egyptians had reverted to their 1967 competencies. Movement to the crossing site was initially held up in vicious fighting at Chinese Farm on the two roads leading to the site. Sharon later described this battle as, "it was as if a hand-to-hand battle of armor had taken place. . . . Coming close you could see Egyptian and Jewish dead lying side by side, soldiers who jumped from their burning tanks and had died side by side. No picture could capture the horror of the scene, none could encompass what had happened there."[28]

The crossing itself proceeded with minimal opposition, but poor planning had the Ugda crossing in rafts in painfully slow fashion. Lack of Egyptian response, however, enabled a small foothold to be established, but no great armor reserve to break out. The initial foothold consisted of no more than 200 men, including Sharon. Meanwhile armored battles raged to the north and south of the crossing as the Ugda attempted to clear the route for heavy engineering plant. By daylight, the engineers began to establish the crossing site. The navigator of the lead barge, Sergeant Zvi, recounted, "there was a tank battle on both sides of the road and we were

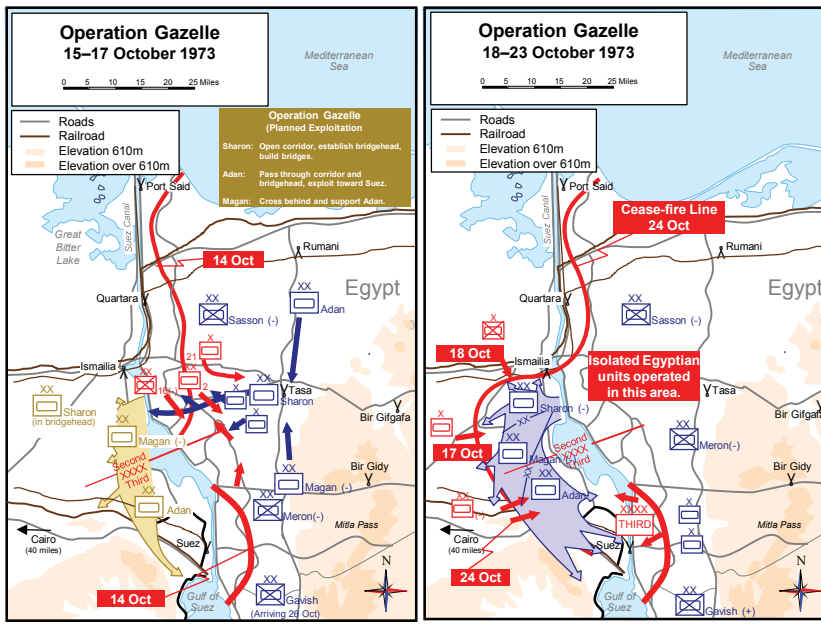

Figure 7.2. Operation Gazelle, 15–23 October 1973. Maps created by Army University Press.

going down the middle. It was a battle for the junction and the junction was in their sights and they hit every vehicle that went through there. We were a slow convoy, very easy to hit. . . . There were a few hits . . . a few holes. With dawn, we got to the crossing area."[29]

By 0800, 30 tanks had made it across on rafts. The Egyptian Second Army in the northern area of the crossing responded by launching a battalion counterattack, which was defeated by the small bridgehead force. This piecemeal attack was to characterize Egyptian operations over the next few days, with a succession of uncoordinated attacks lacking mass and the necessary combat power to destroy the Israeli forces. They did, however, succeed in negating an Israeli move north to interdict Second Army's supply lines. Focus for the Israeli advance switched consequently south toward Suez. From 19 to 23 October, General Adnan passed through Sharon's bridgehead and exploited south to Suez, not at the 200-kilometer-per-day rate of the 1967 war, but at a more pedestrian 20 kilometers per day.[30] The constriction of Third Army in the south was only complete by 24 October after heavy fighting and a breaking by both sides of a ceasefire initiated on the 22nd.

Whatever the reality of Sharon's operation, the effect must be remembered. The crossing and deep penetration to isolate the Egyptian Third Army effectively ended the war for Egypt, and the annihilation of this Army was only prevented by the timely second ceasefire on the 24th. Sharon, true to his character, had from the outset pushed for a rapid penetration across the canal into "Africa." Cooler heads in the shape of General Gonen, the Southern Front Commander, resisted Sharon's protestations. Their viewpoints were never reconciled and at one point in a volcanic radio conversation Sharon shouted at Gonen, "if you had any balls, I'd tell you to cut them off and eat them."[31] Sharon's perspective on the strategic dilemma facing Israel was that conserving resources in the Sinai until the Golan had been recaptured only gave time and space for the Egyptians to consolidate, making it more difficult for them to be destroyed later. A decisive early move would stifle Egyptian initiative, albeit the carefully choreographed Egyptian initiative.

When one looks at Sharon's character, it is easy to see the attributes of dash, vigor, and decisiveness married to a willingness to take risks. However, as a man of clear intellectual capability, his concept and execution for the Operation Gazelle crossings were remarkably flawed in their lack of coordination and detail. Here is the dichotomy for the deep maneuver commander when honing his command and leadership skills. In many ways he must have the confidence and imagination coupled to a

ruthless determination to prosecute a bold plan, taking risks when his staff and subordinates may openly disagree with his methods. Ideally this drive must be harnessed to an acute understanding of the details of their trade if the confusion at Chinese Farm and on the Suez crossing are to be avoided. Risk is applicable to all military operations, not solely deep maneuver, but commanders must identify these risks and through forethought and planning ensure they remain understood risks and not gambles. General Ariel Sharon was guilty of gambling, not risk management, but remained lucky enough to win his gamble in October 1973.

Israeli Deep Maneuver

Unique geopolitical circumstances make the Israelis' adoption of deep maneuver understandable. A narrow country with a small population means only quick victory on its adversaries' soil could negate the disastrous effect any war would have on the people and economy of the country. When additionally coupled to their ebullient character against that of their neighbors, it reveals why they chose not to develop a "fortress Israel" mentality and became masters of deep maneuver. As a "textbook" example of a breakthrough battle, General Tal's actions with his Ugda on the night of 5 and 6 June 1967 are exemplary. His ruthless pursuit of his aim, or objective in US doctrine, enabled a massive deep penetration by the balance of Israeli forces. By not allowing himself to become embroiled in a deliberate battle of destruction, he effectively "drove through" the Egyptian positions and ensured his subordinates continued to move west instead of dwelling on the destruction of the enemy.[32]

For the deep maneuver commander, an understanding of the dynamics and pitfalls of such a battle are crucial and Tal's lessons are self-evident. Keep focused on the end state, ensure your subordinates are of the same mind, and maintain momentum at all costs to prevent your enemy consolidating and thereby stifling your breakthrough. That the night of 5 and 6 June 1967 was chaotic would be to naively understate the ferocity of the fighting, but such a situation suited not only the character of the Israelis, but also their spirit. The willingness of commanders, at all levels, to endure this chaos and to capitalize upon its effect is a crucial style for a deep maneuver commander to adopt. By its very nature he will find himself in a part of the battlespace that in terms of his understanding is not complete and will be chaotic. Knowing and understanding the dynamics of chaos on the battlefield, and most importantly, not being overawed by such effects is a facet of command the Israelis understood and is critical for a deep maneuver commander.

General Ariel Sharon offers a complex character for study, and many writers have drawn differing conclusions from his actions as a divisional commander in October 1973. These conclusions range from genius to "military dementia."[33] By combining his clear drive and tenacity with a willingness to take risks, one sees a style that espoused, "To hell with the bridgehead, the important thing is to get behind the Egyptian lines."[34] His contempt for detail and planning nearly derailed Operation Gazelle and without the "help" of Egyptian ineptitude, he almost certainly would have failed, with disastrous results for the Israeli state. The characteristics of a deep maneuver commander if one draws from good and bad Israeli lessons should ideally be one of risk-taking and drive balanced with a keen eye for detail and the realities of the situation. General Ariel Sharon had more than enough of the former, but often scant regard for the latter.

If the Israeli lessons of 1967 and 1973 epitomized the "Apogee of Blitzkrieg," they also served as a model for the development of US Air-Land Battle doctrine. The fall of the Berlin Wall in 1989 saw that this doctrine was never to be tested in the theatre intended, but was to be used during the 1990 and 1991 Gulf War.

Conclusion

In a central irony, the Israeli Defense Force in their wars of 1967 and 1973 demonstrated their adaptation and mastery of *Blitzkrieg* resulting in deep maneuver with the aim of winning quickly, while transferring the fight onto Arab territory—two aims that reflect Israel's precarious geo-political situation.

Savage armored fighting by General Israel Tal's Ugda on the night of 5–6 June 1967 created the conditions for the rapid deep maneuver across the Sinai so devastating in the Six-Day War. His battle is exemplary in showing that in executing deep maneuver, an assailable flank may not be available and commanders may have to fight to create the conditions to unleash deep maneuver. His, and his subordinates', maintenance of their aim ensured that in a chaotic night battle, they persevered. Comfort with chaos is a character trait that emerged from study of Israeli command style. Deep maneuver commanders, above all others, must be comfortable with operating in a confused and changing environment as they fight to the limit of communications and surveillance assets, no matter their modernity.

General Ariel Sharon offered an interesting study on the ideal command style for the deep maneuver commander. Bold, aggressive, and fearsomely intelligent, he nonetheless displayed rashness and lack of attention to detail that could so easily have ended in failure as he crossed the

Suez Canal into Egyptian rear areas on 15 October 1973. Only piecemeal Egyptian attacks prevented his weak bridgehead, designed to enable deep maneuver, from being destroyed. His actions and decisions—along with consideration of other commanders in the guise of Guderian, Rommel, and Napoleon—demonstrated an ideal command style that encompassed not only aggression and audacity, but also deep analytical thought. It is only through such thought an initial gamble can turn into a viable plan through the identification and mitigation of risk. Sharon continued to press a gamble in October 1973 and never mitigated the risks presented.

Notes

1. This chapter is an excerpt from "Deep Maneuver: Past Lessons Identified for Future Bold Commanders," a Military Art and Science thesis, US Army Command and General Staff College, Fort Leavenworth, KS, 2003. Martin Van Creveld, *The Sword and the Olive* (New York: Public Affairs, 1988), 179.

2. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 6 October 2017), 1-76.

3. A.I.S. Nusbacher, *Sweet Irony: German Origins of Israeli Defence Forces' Manoeuvre warfare Doctrine with Particular Reference to Israeli Land operations on the Golan Heights*, 1973 (Ontario: War Studies Program Royal Military College of Canada, 1983), 43.

4. Heinz Guderian, *Panzer Leader* (New York: Ballantine Books, 1957), 385.

5. David Rodman, "Israel's National Security Doctrine: an Introductory Overview," Middle East Review of International Affairs, September 2001, 2.

6. Combined totals for Egypt, Jordan, Iraq and Syria are 116 million against 6 million Israelis. Source: *CIA Fact Book 2002*, accessed 6 May 2018, https://www.cia.gov/library/publications/download/download-2002/index.html.

7. Rodman, "Israel's National Security Doctrine," 4.

8. Ugda is an Israeli Division. In reality there are no standing Israeli divisions so an Ugda is best described as a formation bigger than a brigade.

9. Shabtai Teveth, *The Tanks of Tammuz* (New York: Viking Press, 1969), 155.

10. From its initial foundations as a Jewish underground terrorist and civil defense organization, The Haganah evolved into the IDF in 1948 at the direction of David Ben-Gurion, http://www.us-israel.org/jsource/History/haganah.html.

11. Teveth, *The Tanks of Tammuz*, 69.

12. General Tal's Ugda consisted of the 7 Romani Armored Brigade. The unit was probably the best armored brigade in the IDF and commanded by a disciplinarian, Colonel Shmual Gonen. The 7 Brigade was a conventional armored brigade of two armored battalions, a mechanized infantry battalion, and a reconnaissance company. One further armored brigade commanded by Colonel Menachim Aviram (composition as for 7 Brigade) and a scratch brigade commanded by Colonel Raphoul Eytan (consisting of an armored battalion and a parachute battalion) hurriedly issued armored personnel carriers in the week preceding the war.

13. A battle group is a task-organized battalion normally based upon either an armored or infantry battalion. Equates to a task force in the US Army.

14. Objective. The first US principle of war, Department of the Army, Field Manual 3-0, *Operations* (Washington DC, July 2001), 2-3.

15. Russian for complete mess.

16. Nusbacher, *Sweet Irony*, 41.

17. *British Army Review* (BAR) published every Autumn models itself as the "magazine of British military thought." Whilst paid for by the United Kingdom Ministry of Defense, the editor enjoys considerable latitude.

18. Nusbacher, *Sweet Irony*, 39.

19. Teveth, *The Tanks of Tammuz*, 126.

20. Test was conducted by the author on the 14 people in his December 2002 US Command and General Staff College Staff group. Whilst not exhaustive, it was nonetheless illuminating. Napoleon also emerged high on every student's list.

21. Insight Team of *The London Sunday Times*, *The Yom Kippur War* (New York: Doubleday and Company, 1974), 324.

22. Insight Team, 324.

23. BBC News Profile on Ariel Sharon, 1 January 2014, accessed 6 May 2018, http://www.bbc.com/news/world-middle-east-11746593.

24. Insight Team, *The Yom Kippur War*, 326.

25. Insight Team, 239.

26. Speculation has been made that in concert with tactical victories such as Khusniye and Kuneitra, the Israelis may have rattled their nuclear saber to precipitate a Syrian withdrawal from the Sinai. Van Creveld, *The Sword and the Olive*, 280.

27. Van Creveld, 337.

28. Dr. George W. Gawrych, *The 1973 Arab-Israeli War: The Albatross of Decisive Victory* (Leavenworth Papers No 21, US Army Center of Military History, 1996), 62.

29. Insight Team, *The Yom Kippur War*, 334.

30. Gawrych, *The 1973 Arab-Israeli War*, 68.

31. Insight Team, *The Yom Kippur War*, 337.

32. Van Creveld, *The Sword and the Olive*, 187.

33. Insight Team, *The Yom Kippur War*, 337.

34. Insight Team, 337.

Chapter 8

Task Force Normandy: The Deep Operation that Started Operation Desert Storm

Colonel Paul E. Berg and Kenneth E. Tilley

Operations in the deep area involve efforts to prevent uncommitted or out of contact enemy maneuver forces from being committed in a coherent manner or preventing enemy enabling capabilities, such as fires and air defense, from creating effects in the close area.[1]

—Field Manual (FM) 3-0, *Operations*

"One of the smallest yet most successful and important Joint-Army-Air Force operations in the initial strikes in Operation Desert Storm was Task Force Normandy."[2] During the opening hours in the Iraqi desert on 17 January 1991, Task Force Normandy consisted of eight Army AH-64 Apache helicopters working with four Air Force MH-53J Pave Low helicopters were on a mission to destroy two Iraqi early warning (EW) radar sites with the purpose to blind Iraqi air defense and open a 20-mile wide air corridor in the opening minutes of the air campaign.[3] The task force operation was named Normandy after the site of the 101st Airborne Division's famous airborne insertion on D-Day during World War II.[4] This operation created an unobstructed pathway for a plethora of fast moving Navy and Air Force bombers to fly deep into Iraq and destroy key targets to start Operation Desert Storm. Operation Desert Shield/Desert Shield were the largest combat operations in US military history since the Vietnam War.[5]

Iraqi leader Saddam Hussein ordered his Army to invade and occupy their neighbor border country of Kuwait in early August 1990 with approximately 300,000 troops, because he accused Kuwait of "siphoning crude oil from common border oil fields and accused them of keeping oil prices low to assist Western oil-buying nations" in addition claimed "Kuwait was an artificial state carved out of Iraqi coast by Western colonies."[6] General Norman Schwarzkopf was Commander-in-Chief of United States Central Command (CENTCOM) and led the United Nations and US first phase response to Iraq's invasion of Kuwait by establishing a deterrent defensive force to prevent the Iraqi Army from continuing into Saudi Arabia. This defensive posture also established valuable time for the UN and US militaries to build up more forces to mount a major offensive to forcefully remove Saddam's forces if he did not withdraw his forces from Kuwait. The name given to the initial defensive operation was Operation Desert

Shield.[7] Hussein defied United Nations Security Council demands to withdraw from Kuwait by mid-January 1991.

Mission Analysis

As UN and US forces were establishing Operation Desert Shield, the Iraqi Army's immediate threat into Saudi Arabia declined. This opportunity allowed an initial planning cell from the US Air Force's 20th Special Operations Squadron (20 SOS) to start planning an air campaign, with a an essential task of penetrating Iraq's air defenses and allow freedom of maneuver for UN and US aircraft to conduct deep operations into Iraq to reduce risk management to crews.[8] The 20 SOS was commanded by Lieutenant Colonel (USAF) Rich Comer from 1st Special Operations Wing (SOW) at Hurlbert Field, Florida, and consisted of multiple MH-53J Pave Lows helicopters in Saudi Arabia to provide area coverage—their primary mission for search and rescue operations.[9]

The Iraqi defense system consisted of French and Soviet air defense equipment. The Iraqis had built an integrated air defense system that included medium- and long-range surface-to-air missiles (SAMs) and short-range anti-aircraft artillery pieces. The multi-layered defense system established overlapping coverage against high fixed-wing aircraft and low rotary wing aircraft. The Iraqis were only able to establish this defense system through powerful EW radars that provided essential enemy air threat critical information regarding size, direction of attack, and speed axis of any enemy force.[10] The Iraqi security operations centers (SOC) would receive the early warning information and determine what air defense asset to use to maximize effects. If a task force could destroy several EW sites, that effort could cripple SOC's capability to integrate air defense system against enemy air. The tactical challenge was that the SOC's were usually deep inside Iraq and well defended, and to minimize causalities during any future air campaign, a military operation must take out the eyes and ears of the Iraqi air defense system.[11]

The new arrival of global positioning system (GPS) technology played a pivotal role in the mission analysis. GPS technology started in 1980s with a global network of GPS satellites launched into space orbit.[12] The new network of GPS technology allowed accuracy up to 100 meters in Southwest Asia 24 hours a day with the aircraft that were GPS-enabled. This technological navigational advantage gave certain aircraft (mainly special operations aircraft like the MH-53J Pave Lows) an unparalleled precision of navigation during day, night, and instrument weather conditions.[13]

Colonel Jessie Johnson, Commander of US Special Operations Command Central (SOCCENT), initially had Colonel (USAF) George Gray, Commander of the 1st Special Operations Wing (SOW), and his staff planners target on two Iraqi EW radar sites that were positioned in the proposed air attack corridor, but total simultaneous destruction of these sites was critical to mission success. These EW sites had to be destroyed at the same time to prevent any warning or alert to the larger Iraqi air defense systems. Due to the overlapping of EW coverage, destroying only one EW

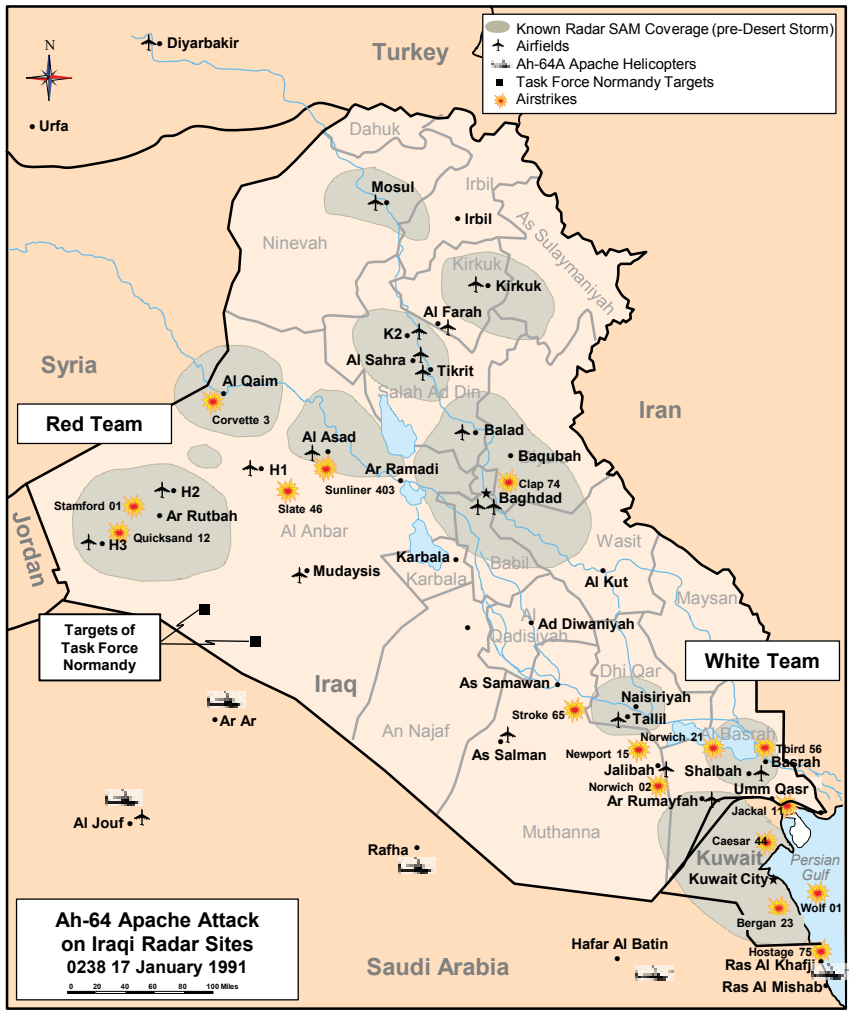

Figure 8.1. 17 January 1991 AH-64 Apache Attack on Radar Sites inside the Iraqi border. This opening Deep Attack kicked off Operation Desert Storm. Map created by Army University Press.

site would still leave enough capability to threaten future attacking air forces.[14] During this timeframe of planning, intelligence assets had identified that the Iraqis tactically moved the three radar sites 20, 27, and 40 miles, respectively, further back into Iraq and hardened the sites.[15]

During initial mission planning using only the MH-53Js because of their enabled GPS navigation, the helicopters could attack the two EW sites with their 50-caliber machine guns. Colonel Johnson briefed this initial plan to General Schwarzkopf, who only approved the concept for further planning. However, Lieutenant Colonel Comer was not convinced of success of this initial plan, because he believed "that the 50-caliber machine guns would not be powerful enough to satisfactorily destroy the sites."[16] In addition, the 3d Battalion, 160th Special Operation Aviation Regiment (SOAR) contacted Colonel George Gray and recommended Army MH-60s armed with 2.75-inch rockets and 7.62-mm mini-guns would be better for the mission accomplishment than then the Pave Lows. Colonel Gray and Lieutenant Colonel Comer "rejected that proposal believing that, in reality, the Army special operations aviators were just looking for a way to block the Pave Low guys from being in the mission."[17]

The initial planners recommended three course of actions (COA) to achieve the objective: COA #1 was to insert special operation forces on the ground; COA #2 was to have Air Force Pave Low helicopters attack and destroy the EW sites only using their .50-caliber machine guns; and COA #3 used cruise missiles.[18] Each of the COAs involved a certain high risk and mission failure that something might survive or be missed. The planners all agreed that the use of helicopters was the best option "because their pilots could loiter on station, assess damage, and reengage targets until they were sure nothing was left."[19] The helicopter was the best answer to destroy the objective, assess damage, re-engage, and provide a rescue option for any downed aircraft scenarios; however, which ones, what type, and how many was the next step.

The best aircraft for navigation would be the Pave Lows, but the most accurate helicopter to destroy the EW sites was determined to be the AH-64 Apache helicopter. The AH-64 Apache helicopter was a new attack platform that was the replacement for the US Army's Vietnam era AH-1 Cobra helicopter. Lieutenant Colonel Comer further discussed the mission and also highly recommended the mission include Army AH-64s with Hellfire missiles, Hydra-70 rockets, and 30-mm machine guns to do the job. The AH-64 Apache could carry a mix of weapons that could assure destruction of both hard and soft targets. The Apaches did not have GPS navigation capability like the Pave Lows, and flying nap-of-the-earth (NOE) in the

desert and night was high-risk. The key for mission success was destroying two Iraqi EW sites simultaneously attacking both sites at the same determined time. This scenario required two aircraft teams to maintain arrival at night at the objective on time, which the Apaches were unable to do alone with its navigational capabilities. The Apaches needed assistance in precision navigation to get to the objective on time where they would have the ability to do what they did best by destroying the objective.[20]

As the plan was maturing to a Pave Low and Apache mix, CENTCOM intelligence reported three Iraqi EW sites had consolidated into two sites and moved 10 miles closer to the border.[21] The result was a hybrid option using Pave Lows with Apaches; the Pave Lows' onboard GPS assured precise navigation, while their terrain-following radar could provide the safety for the Apaches to maintain precise speed along the route. The planners took their modified plan of Pave Low and Apache mix to Colonel Johnson at SOCCENT. Colonel Johnson updated General Schwarzkopf, who then approved the use of Apaches from the 101st Airborne Division and cleared them collectively to start training.[22]

On 25 September 1990, Colonel Johnson called in Lieutenant Colonel Richard A. Cody, Commander of the 1st Battalion, 101st Aviation Brigade, to discuss the mission capability and assurance of success and who were also co-located at King Fahd Airport.[23] After the meeting, Lieutenant Colonel Comer met with Lieutenant Colonel Cody, and they began planning the mission in detail not knowing when the D-Day (day of the operation) or H-hour (designated hour of the attack) was expected to be. The Task Force was officially called Task Force Normandy.[24]

The mission concept was that the Pave Low helicopters were going to lead and navigate using their GPS technology and terrain-following radar and the Apaches would follow to the release point then move on to the objectives. The Pave Lows would also be available to search and rescue any Apache crewmen should any aircraft get shot down.[25]

The identified immediate challenges of this package of Joint aircraft were the Apaches' fuel load constraint. With a full weapons load (Hellfires, rockets, and 30-mm), the Apaches could barely fly the mission with internal fuel and would have no margin for error if needed to avoid unexpected threats or bad weather. A crewmember flight engineer Tech Sergeant (USAF) Jeff Morrison recommended one option that "a Pave Low could ground transfer fuel from its tanks to the affected Apache and also could assure the necessary equipment was aboard each Pave Low."[26] An additional option was to establish a forward arming and refueling point

(FARP) inside Iraq; this was quickly abandoned because of its complexities and fears from Desert One (a failed 1980 Joint aviation mission in Iran that resulted in two destroyed aircraft and killed eight crewmen). The approved recommendation was to use an external fuel tank that replaced one 2.75" rocket pod.[27]

Another challenge was how to identify the release point; some of the best solutions came from enlisted crewmembers. One of the Pave Low gunners recommended that "they lead the Apaches to a pre-designated position (release point) and then mark it with chemical night lights."[28] The Apache pilots could identify the chemical sticks position and update their Doppler systems for the final run into their targets.

There would be two flights of aircraft to destroy the EW sites. Each flight (Red Team and White Team) would consist of two MH-53s that would lead and navigate four Apaches each to the site and also provide combat recovery support. Lieutenant Colonel Cody selected his aircrews in December to conduct the mission into two teams of four Apaches.[29] Lieutenant Colonel Cody had 24 Apache crews and picked only eight but commented any of the 24 could have completed the mission; crews averaged 26-years-old and include three warrant officers out of flight school. Lieutenant Colonel Comer would lead the Red Team to the western radar site and Lieutenant Colonel Cody would lead the White Team to the other radar site.[30]

Through the next three months in the fall of 1990, they would train in the Saudi Arabian desert for the mission. The Apaches received permission to only six Hellfire live-fire ranges in the Saudi desert. The crews on the mission were not briefed on specific targets or locations until two days before execution; also there would be one trained spare AH-64 and one UH-60 with four mechanics trained available on standby if needed.[31]

The White Team consisted of 20th Pave Low crews of Captain Michael Kingsley and Major Robert Leonik and Apache crews of Lieutenant Colonel Dick Cody, Chief Warrant Officer 2 William Stewmom, Lieutenant Tom Drew, Chief Warrant Officer 2 Tim Zarnowski, Chief Warrant Officer 3 Ronald Rodriguez, Chief Warrant Officer 2 David Miller, Chief Warrant Officer 3 David Jones, and Chief Warrant Officer 2 Thomas O'Neill.[32]

The Red Team consisted of 20th Pave Low crews of Captain Corby Martin and Major Ben Pulsifer, and the Apache crews consisted of Captain Newman Shufflebarger, Chief Warrant Officer 3 Tom Roderick, Warrant Officer 1 Tim Vincent, Chief Warrant Officer 2 Shawn Hoban, Chief Warrant Officer 4 Lewis Hall, and Warrant Officer 1 Jerry Orsburn.

The spare Apache consisted of Lieutenant Tim Devito and Chief Warrant Officer 2 Mark Ivey. [33]

The maintenance crew aircraft selected in a UH-60 Blackhawk helicopter were Chief Warrant Officer 3 Terry Seanor and Captain David Parker, along with intelligence officer Lieutenant Russ Stinger, mechanics Staff Sergeant Robert Sparks and Staff Sergeant John Frady.[34] Their mission would be to conduct downed aircraft recovery duties if an aircraft crashed or was shot down.

Challenges of Joint Operations

Joint operations always come with longstanding challenges in bringing multi-service agencies together to work as a team. The Apache and Pave Low crews had never worked with each other before this mission, and each aircraft had different service troop, training, and procedures (TTPs). In addition, between inter-service aircrews there was a natural and mutual mistrust within the aviation community. Additional differences in equipment were that the Apaches operated at night using infrared and needed no ambient light while Pave Lows used night vision goggles (NVG), which required some ambient light; each aircraft had to find ways to accommodate the equipment differences.[35]

Operational security (OPSEC) of the future Task Force Normandy mission was of critical concern to assure covert training specifics and avoid any suspicion. The Army and Air Force crews were not informed of the details or the exact target until hours before the mission. Both Lieutenant Colonel Cody and Lieutenant Colonel Comer conducted all training almost 700 miles away from the actual objective; the crews never practiced the actual route; the movements to the actual operational base was classified; the Air Force and army crews planned to fly separately to the staging base at King Khalid Military City.[36]

As each aircraft type were conducting successful training flights in the fall independently, the pressure from Joint Special Operations Command (JSOC) and CENTCOM on the decision of the Apache to complete the mission over other aircraft had to overcome doubt by the staff, because this was the first time the AH-64 Apache were in combat and had not been fully tested. One of the final training scenarios from higher to confirm the choice of the Apache was tasked to fly a 1,000-mile specified route at night, arrive at a gunnery range undetected and blow up some targets at a precise time down to the exact second. Lieutenant Colonel Cody and his selected crews performed, unaware CENTCOM staff was present. The 1-101st battalion operations officer (S3) was in the range tower with the

CENTCOM staff and with 15 seconds to go, no one in the tower could see or hear the Apaches in the darkness as they were passing the tower; a CENTCOM staff officer asked the S3 where the Apaches were; within three seconds to go the S3 said, "I guess they are not going to make it?" and instantly the area around the tower lit up as all four Apaches fired at the exact designated time.[37] That demonstration clinched the decision: if the Apaches could sneak that close to the people who knew they were coming and were looking for them, then they had the stealth for the real mission. All doubts were erased that the Apache could do the mission.

After three months of training, Colonel Johnson personally briefed General Schwarzkopf in late October "that Task Force Normandy was ready to execute its mission to destroy two Iraqi EW sites . . . and Colonel Johnson assured him that the mission would be 100 percent successful;" then Schwarzkopf replied, "Okay, Colonel, then you get to start the war."[38] The date of the mission was still undetermined and would be decided by President George H.W. Bush.

The week before Christmas 1990, the Chairman of the Joint Chiefs of Staff, General Colin Powell, and the Secretary of Defense (SECDEF), Honorable Dick Cheney, flew to Riyadh to review the CENTCOM war plans personally. As General Schwarzkopf was briefing the Task Force Normandy mission to the SECDEF, he brought in Colonel Johnson and Colonel Gray and pointedly asked if they could guarantee 100-percent success; both answered yes.[39]

Task Force Normandy held a final rehearsal on 10 January 1991 and it went as planned and flawless which involved actual timing and distances to identify any errors. Lieutenant Colonel Comer said "We were eager for the mission to fly . . . not since Desert One in Iran had special operations helicopters been given a better chance for a good mission."[40] On 14 January, the Apaches and Pave Lows departed separately to Al Jouf, which was a Joint airfield about 130 miles south of the Iraqi border.

During the final exercise, Lieutenant Colonel Comer spoke with Joint Special Operations Command's (JSOC) air component commander and noticed that Lieutenant Colonel Doug Brown, the commander of the 1st Battalion of the 160th Special Operations Aviation Regiment (SOAR) did his best to insure that the aviation unit of choice for the upcoming mission was his unit and not the 20th SOS. Lieutenant Colonel Comer identified the differences in capabilities between the aircraft types to JSOC and almost lost the mission due to preference to Brown's unit, but in the end, Comer kept the mission.[41]

On the afternoon of 16 January 1991, all last-minute diplomatic UN and Allies' efforts to avert any future combat failed as the United Nation's January deadline to Saddam Hussein came and went. President Bush secretly declared D-Day, the start of the air war against Iraq, as 17 January 1991, and the entire world held its breath in anticipation of the war.[42] To set the conditions for the war and open an air corridor for bombers and fighters, General Schwarzkopf approved the Task Force Normandy mission to destroy two early-warning radar stations on early morning of 17 January 1991. CENTCOM notified all of its forces that the war would start the next morning at 0300.[43]

At 2130, Lieutenant Colonel Comer and Cody held a final mission update brief for all the Apache and Pave Low crews. The crews were highly professional and had been well trained and knew the significance of their mission to the future large-scale combat operations that were going to happen next. At 2330, crews began pre-flight checklists and at midnight they started engines.[44]

Mission Execution

Because their flight times required different departures, the "White Team" Apaches left first from Al Jouf Airfield at 0100; the first "White" Pave Low lifted at 0113. The "White Team" Pave Lows linked with their Apaches to fly the eastern target now designated "California." The Red team led seven minutes later and crews joined their four Apaches en route for the western target designated "Nevada."[45] Lieutenant Colonel Comer flew as a copilot in Red Team in a Pave Low and maintained communications with Colonel Gray and Colonel Johnson at SOCCENT command center. Lieutenant Colonel Dick Cody was a copilot with White Team in an Apache. There were also two MH-60's for combat rescue support (55th SOS), one UH-60 with Apache mechanics, and one spare Apache if needed up in orbit north of Arar.[46]

The Red and White Teams avoided any ground lighting to preserve operational security. The Red Team encountered an unexpected observation post that was extremely brightly lit, which required them to divert the route slightly and noticed small arms fire that had no effect. When the White Team neared the border, they drew a missile fired by an Iraqi assumed by the response to the sounds of the helicopters.[47] At 0212, Task Force Normandy crossed into Iraq, varying their flight paths to avoid known or suspected enemy observation posts or Bedouin locations. The western target was 13 miles farther; the eastern target, 23 miles.[48]

Both teams flew in radio silence and crossed the border at 120 knots at an altitude of 75 feet and from 40 kilometers out, crews could make out lights near the objective.[49] The Iraqis had left the lights on at the objective. The flight slowed to 80 knots and descended to 50 feet as they approached the release point. Two minutes later, the Pave Lows slowed to a hover and dropped green chemical stick to the ground to mark release point and then turned south. As the Pave Lows departed south and went into a holding pattern—ready to provide combat search and rescue (CSAR) or extra firing power if needed—the Apaches slowly passed over the chemical lights and updated their Doppler navigational systems for the final 10-mile run to their individual targets. Task Force Normandy arrived into firing position exactly 90 seconds early.[50] Lieutenant Colonel Cody commented that, "the waiting after they were already in Iraq made him old before his time."[51]

The Apaches achieved complete surprise on the Iraqi EW sites. The Apache crews also saw enemy troops around the structures. Suddenly, the lights began to go off and one of the pilots commented, "I think they know we are here" as the Apache crews turned on their ranging lasers.[52] The radars were turned up looking for fixed winged aircraft, not expecting slow moving helicopters. At exactly 0237:50, White Team Apache pilot 2nd Lieutenant Tom Drew keyed his radio and broadcast, "Party in 10" and Red Team broadcast "Joy."[53] Precisely 10 seconds later, all crews began firing their Hellfire missiles. Twenty seconds later, the deadly weapons began to detonate against the structures. The generators were first, then the command bunkers, and finally, the radar dishes themselves. By hitting power sources first, the pilots would silence the radar site before it could alert the Iraqi central control headquarters in Baghdad.[54] The enemy soldiers died in the melee. The intelligence-gathering aircraft high above monitored the sites and noted that all radar signals immediately ceased. Each of the Apaches had a primary target, along with another Apache's primary as a secondary target. Cody arranged primary and secondary targets to assure every piece of the EW site had redundant hits.[55] The intent was to assure that nothing could be easily repaired. After all Hellfires were expended, the Apaches moved to 4 kilometers and started firing Multipurpose Sub-Munitions (MPSM) rockets and at 2 kilometers from the sites, they opened up with their 30-mm chain guns and riddled what remained of the compounds with every bullet they had.[56] In addition some of the rockets fired were flechettes to tear up wires and cables connecting parts of the site; nothing would be repairable, the whole attack, from first to last shot took only a few minutes. Within four minutes, the radar sites and their bunkers were completely destroyed with full mission accomplish-

ment, then Task Force Normandy turned for home. Cody transmitted "California A-A-A" to Comer, who then relayed the message to CENTCOM that the White Team target had been 100-percent destroyed and with no casualities.[57] Comer reported "Nebraska A-A-A" to CENTCOM to signal the Red Team had 100-percent destruction of their site and no casualties.[58] Task Force Normandy created a 40-kilometer corridor for Allied aircraft to begin Desert Storm's air operations. The sites were completely destroyed and would not reactivate during the war.[59]

The radar facilities were destroyed 22 minutes before H-Hour (termed H-22), a timing that was based on the estimated time that the Iraqis' radar network could detect the "strike force" as it moved toward the border. The hole in the Iraqis' defense system reduced their ability to detect, identify, and respond to the Coalition attack.[60]

The Apaches had expended 27 Hellfire missiles, 100 Hydra-70 rockets, and 4,000 rounds of 30-mm cannon fire. They turned south, rejoined with the Pave Lows, and headed home. En route, crews observed what appeared to be the launch of two SA-7 missiles. Utilizing onboard defensive systems and some aggressive maneuvering, the crews managed to escape them. Outbound, Lieutenant Colonel Comer radioed a code-word message to SOCCENT headquarters reporting their complete success: "SOF targets destroyed."[61] Colonel Johnson personally reported the results to General Schwarzkopf's command center. "Thank God!" the general responded.[62]

As the Task Force Normandy helicopters flew out of Iraq, strike aircraft roared toward Baghdad; at the Saudi border. The last danger for the aircraft was the need to stay low to the ground and not rise above 100 feet as the largest air armada since Vietnam raced toward Baghdad. A coalition of US and Allied aircraft began crossing Iraqi airspace which included the F-117 stealth fighter's first mission in combat and joined the attack along with dozens of F-15s and F-111s. British Toronado fighters along with Saudi and Kuwaiti F-15s also joined in the attack on Iraqi targets. The lights were so numerous in the total blackness that Lieutenant Colonel Comer called the formation aluminum overcast. After crossing the border, the Pave Lows disappeared to resume CSAR duties, the Apaches returned to their original base. The Apaches from the 1-101st had rejoined the 101st Airborne Division at Camp Eagle and landed at 1600.[63]

The Pave Low and Apache combination worked as planned and the training had fully paid off. The returning aircraft could see in the clear night air above the multiple formations of US and Allied fixed-winged aircraft heading for the radar gap. The pilots remembered how "you could look off

to the south, and there were blinkers lined up . . . you could see a long way on goggles . . . there were anti-collision lights lined up; it looked like an LA freeway . . . then, all of a sudden, there were no more lights as each aircraft turned off their lights to enter Iraqi airspace."[64] One F-15E fighter pilot wrote a thank-you letter to the crews of Task Force Normandy that said, "During our [flight intelligence] brief, we noticed our route of flight took us right over an active [radar] site. . . . We were told not to worry about it . . . We saw the explosions and your helicopters in our FLIR [forward-looking infrared radiometer] as we flew over you; there was immense relief."[65]

Operation Desert Storm in Effect

The shift noncommissioned officer on duty at the 101st Airborne Division main command post at Camp Eagle, King Fahd International Airport, Saudi Arabia, received a phone call just before 0200 on the 17th of January from the XVIII Airborne Corps G-3 staff informing him that the US Navy had launched 100 Tomahawk cruise missiles toward Iraqi targets at 0152 and passed a verbal order from ARCENT that stated "Operation Desert Storm is in effect."[66] With this order, more than five months of training in the Saudi desert had come to a conclusion. The defense of Saudi Arabia from Iraqi aggression, Operation Desert Shield, had been mission accomplished, and the 101st Airborne Division immediately began implementing its role in the Liberation of Kuwait and the start of Operation Desert Storm.[67]

At 0635 on 16 January, seven B-52 bombers launched from Barksdale Air Force Base, Louisiana, to be a participant in the first wave of aircraft bombers in Operation Desert Storm. These B-52's and others from the continental US had flown a 35-hour, 14,000-mile combat mission—which would be the longest air combat mission in history.[68] The strategic air campaign was now in full swing as allied aircraft swarmed over Iraq and Kuwait. On 17 January, the Turkish government finally gave its approval to begin combat operations and Colonel Gray was relieved that he now had a personal recovery force for the northern part of the country for the rest of his Pave Lowes.[69]

As Task Force Normandy opened up the Iraqis' western flank to allow Coalition air to start precision bombing, Saddam Hussein continued to improve his defenses in Kuwait and had 41 Iraqi divisional headquarters postured in defense.[70] Saddam had increased five divisions since November, which were infantry divisions that joined the coastal and forward defenses and added an additional three regular army armored divisions to complete the formation of two regular army corps, which would serve as operational reserve.[71]

Military analysts assessed the defense strategy and assumed Saddam had decided to accept risk in the west due to terrain that a western attack would be too difficult and the route too long for the Coalition to consider an option. Saddam had residual forces of 24 divisions in Iraq, largely recently mobilized infantry units that possessed little military tactical value and further reinforcements were unlikely. In retrospect, Saddam had left the back door open, and from all appearances he had neither the capability nor the inclination to close it.[72]

By the end of operations on 26 February 1991, 24 Iraqi Divisions were destroyed; Iraqi Soldiers surrendered faster than CENTCOM could count them, but military police estimated POWs exceeding 30,000 soldiers; the 24th Infantry Division had outrun its fuel trucks; and President Bush ordered a ceasefire, which went into effect at 0800 on 28 February. By the ceasefire, the UN and US forces nearly destroyed the entire Iraqi ground force—3,847 of their 4,280 tanks (90 percent) destroyed, more than half of the 2,880 armored personnel carriers and nearly 3,100 artillery pieces destroyed; only 5 to 7 of 43 combat divisions remained capable for any offensive operations, and there were about 60,000 Iraqi POWs being held. The US forces had lost 147 killed in action; Operation Desert Storm had been the fastest and most complete victory in American military history.[73]

Conclusion

Task Force Normandy succeeded beyond all expectations and set the conditions for the future fight with both radar sites completely destroyed and two days later an AC-130 gunship went to the radar sites to destroy anything left and found nothing left to shoot at. The casualty results of the first night of the air campaign were the real measures of success; in which planners expected high losses among aircraft deep in the heart of Iraq on the first night, but the losses did not occur.[74]

Task Force Normandy represented several successful lines of effort to the Army from lessons learned from the Vietnam War; the success was a testimonial to the Aviation branch's ability to attract and retain extremely high-quality aviators, train them to perfection, and let them be critical thinkers in highly stressful combat environments.[75] The most important keys to their success were gains of key technology since the end of the Vietnam War; most important was the technological leap in capability that came with the AH-64 Apache helicopter, the laser-guided Hellfire missile, and night vision devices. After this initial combat mission of the Apache, those who doubted the performance of the Apache were silenced by the aircraft's ability to prepare and execute the missions at high levels of read-

iness for long periods under horrible environmental conditions. The most significant technological advantage over peer threats was precision navigation that came with the GPS; only a year or two earlier this mission would have seen impossible.[76]

Finally, Task Force Normandy showed the effects of dramatic changes in thinking about the dimensional multi-domain battlefield and how to organize and fight in it. Task Force Normandy proved the doctrinal ideas about deep attack operations in large-scale combat operations and aviation (in 1990s). This deep maneuver mission also proved the importance of moving toward joint integrated operations that was fundamentally in the thinking of future Army doctrine and the current continued concepts of large-scale combat operations.[77] Task Force Normandy prevented the Iraqi Army from employing air defense fires by destroying the EW sites that disrupted enemy command and control (C2) and enabled Allied air forces to mass effects against key Iraqi capabilities to enable the rapid movement into Iraq, which provided an excellent example that defines large-scale combat operations of today.

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Chapter 9

Army Attack Aviation: The 11th Attack Helicopter Regiment's Deep Strike in Karbala*

Gregory Fontenot, E.J. Degen, and David W. Tohn

> *How the many entities behave and interact with each other within an operational environment is difficult to discern and always results in differing circumstances. No two operational environments are the same. In addition, an operational environment is not static; it continually evolves. This evolution results from opposing forces and actors interacting and their abilities to learn and adapt.*[1]
>
> —Field Manual (FM) 3-0, *Operations*

The 11th Attack Helicopter Regiment's deep strike of 23 March 2003 remains one of the key components of the "darkest day." On the night of 23 to 24 March, the Army sent its most powerful deep-attack system, the AH-64D *Apache* attack helicopter, to destroy *Medina* Division armor and artillery before they could affect the maneuvering ground forces. However, the regiment returned with 31 of 32 aircraft damaged, one downed in enemy territory, and two pilots captured, without decisively engaging the *Medina*. While Marines eventually rescued the pilots, and the aviators repaired many of the damaged aircraft rapidly, it took 30 days to restore the regiment to full capability. The mission cast a shadow over deep-attack operations throughout the duration of major combat operations. In fact the Army only attempted one other deep attack. Moreover, the incident placed in question the efficacy and utility of attack helicopters in Army doctrine. Soon after the sandstorm cleared, the 101st Airborne Division successfully executed a deep attack. On that mission, two aircraft crashed in brownout conditions on takeoff, marring even this achievement.

But the mission is significant and important for other reasons, chief among which is that 11th AHR quickly assessed what went wrong and shared their assessment with the 101st and others. More important, all of the attack aviation units in theater learned lessons from the unsuccessful mission and applied them to great effect. A close review of the attack suggests the failed mission suffered from a classic "first-battle" dynamic. Specifically, *Apaches* ravaged Iraq formations during Desert Storm. As a consequence, the Iraqis adjusted and prepared a defense specifically against attack helicopters going deep. No one detected their dispositions, with the result they achieved surprise and defeated one of the best-trained attack aviation units in the world. The aviators flew against these defenses using tactics, techniques, and pro-

cedures inappropriate to the combat environment. It took the hard lessons of the night of 23 March to change these tactics.

To be sure, the 11th Attack Helicopter Regiment (AHR) did not fail solely because of inappropriate tactics. As with most failures, there was a chain of events—a "failure chain"—that led to the ultimate outcome. In this case, the failure chain links the inevitable fog and friction of combat with a series of individual and collective decisions and the human ego in war. From delayed convoys to confusing terrain management to an indomitable warrior spirit to get into the fight, a variety of dynamics contributed to the unsuccessful mission. Yet even with the loss and damage of equipment, the capture of two aviators, and an unmolested enemy, the mission triggered an amazing revision of tactics and procedures that is a testimony to the integrity, flexibility, and perhaps most important, persistence of Army aviators.

The 11th AHR, commanded by Colonel Bill Wolf and composed of two attack helicopter squadrons—2-6th Cavalry (CAV) and 6-6th CAV—began planning for OIF in October 2002. At that time, 2-6th CAV was already in Kuwait supporting Operation Desert Spring, and the aircrews and planners were comfortable with conducting operations in the desert environment. By the time the rest of the regiment arrived in Kuwait, 2-6th CAV had flown some 4,000 hours training in the Kuwaiti desert. In January 2003, the rest of the regiment alerted to deploy to Kuwait and learned that it would receive attachment of the 1-227th Attack Helicopter Battalion (AHB). The 1-227th AHB, commanded by Lieutenant Colonel Dan Ball, an AH-64D *Longbow*-equipped attack helicopter squadron joined from Fort Hood, Texas.[2] Thus, the regiment would consist of three attack squadrons fitted with the most advanced attack helicopters in the world.

The AHR aborted its first planned deep-attack mission against the Iraqi 11th Infantry Division (ID) in the vicinity of Tallil Air Base due to haze, dust, and poor visibility. The mission would have been a "JV [junior varsity] fight," preparing the 11th AHR for the "varsity fight" with the *Medina* Division.[3] Frustration over aborting their first mission was palpable within the staff and aircrews. In particular, the 2-6th CAV aviators felt tremendous frustration. Not assigned to fly that night, they harbored the idea, with their longer experience in the desert that they might have been able to execute the mission had they flown. Second, the running start option reduced the number of ground combat units available to V Corps so the regiment, as Major John Lindsay the operations officer put it, "felt significant obligation to alleviate as much pressure as we could on the 3rd ID."[4] But, when the regiment received the mission to destroy the Republi-

can Guard *Medina* Division's artillery and armored maneuver units, it was determined to succeed.[5]

The 11th AHR Attack: The Plan

The 11th AHR planned to move forward to Objective RAMS immediately after 2nd BCT had cleared it. The initial quartering party and command post would fly into the assembly area, followed by the regiment's support units bringing fuel and ammunition forward. The attack helicopters would arrive last. Moving would position the corps's deep-attack capability well forward, extending their reach ahead of the rapidly

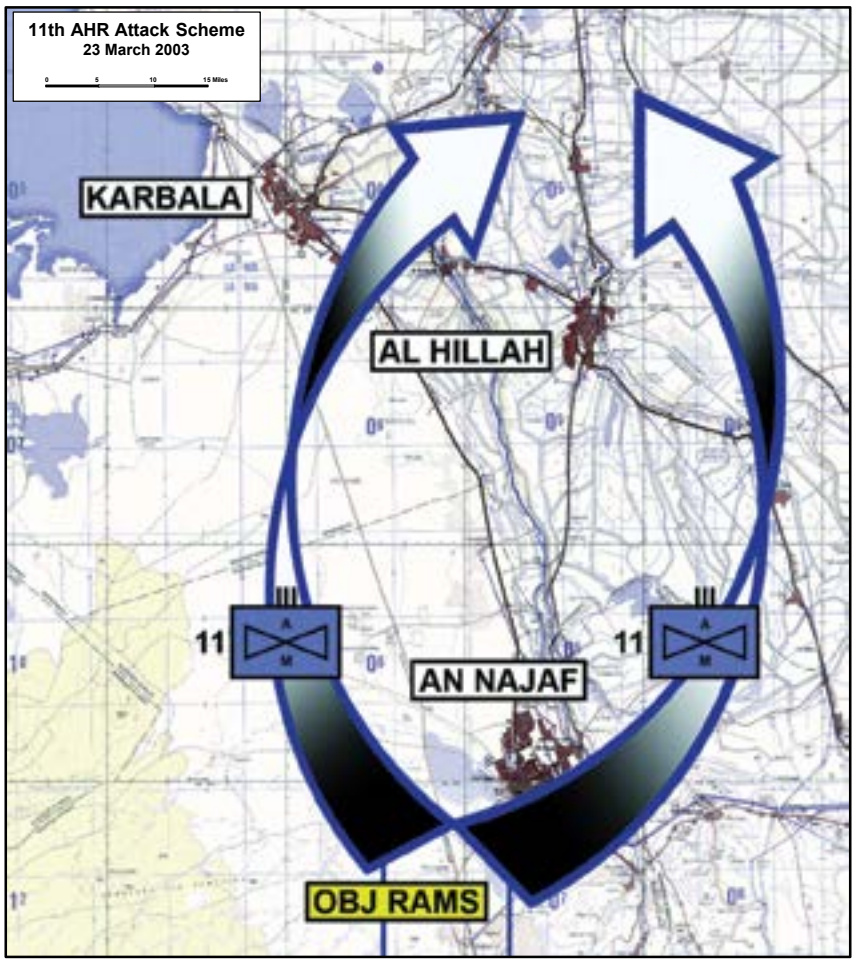

Figure 9.1. 11th AHR Attack Scheme for 23 March 2003. Map created by Army University Press.

advancing ground forces. Moreover, it would enable the corps to continue combat operations unabated while the ground forces refitted from their 200-kilometer dash north from the border.

Intelligence on how the *Medina*'s three maneuver brigades and its artillery were arrayed for battle was incomplete and led to debate between corps and the regimental staff officers. Intelligence estimates reported the *Medina* brigades in the vicinity of their home garrisons but their actual disposition for battle was unclear.[6] Although corps intelligence painted a fairly clear picture for the 10th Armor Brigade of the *Medina,* the corps directed the regiment to attack the *Medina's* 2nd AR Brigade because it appeared to be astride the avenue of approach north of Karbala that 3rd ID planned to use.[7] Unfortunately, the corps could not accurately locate the units assigned to the 2nd AR Brigade. The original mission, purpose, and end state were:

> On order, 11th AHR attacks to destroy the artillery and armor of the Medina Division to facilitate 3rd ID freedom of maneuver through the Karbala Gap and seizure of Objective SAINTS. The purpose is to shape the Corps's battlespace and thereby provide the 3rd ID freedom to maneuver in the Karbala area by destroying the artillery and armor forces of the 14th, 2nd, and 10th Brigades of the *Medina* Division. The end state is the destruction of the Artillery and Armor of the 14th, 2nd, and 10th Brigades, 3rd ID freedom of maneuver maintained, and 11th AHR postured to conduct shaping attacks against the Republican Guard's *Hammurabi* Division in support of V Corps establishment of the inner cordon [around Baghdad].[8]

The 11th AHR estimated that the destruction of the *Medina* would take two nights of deep attacks, employing three battalions each night.[9] Planning, already contentious because of inexact intelligence, became more contentious on the matter of routes. Regimental planners repeatedly requested to attack into their objectives from the west, avoiding the urban areas to the north and east of RAMS.

The western avenue of approach crossed Milh Lake north of Karbala, followed by a sparsely populated Iraqi army maneuver training area. Because the 101st's division boundary was to the west, the 11th AHR had to request these routes through the corps. V Corps denied the western avenues because to use them would have required establishing a forward arming and refueling point (FARP) near Milh Lake to refuel the attack helicopters. This FARP would have been well forward of the advancing 3rd ID's forward line of troops and thus vulnerable. The corps had already

received multiple reports of Iraqi forces maneuvering in the area where the FARP would have to go and did not believe the risk was acceptable. Even if the corps had approved the western approach and the forward FARP, it is clear that 11th AHR could not have executed such a plan. As it turned out, the regiment only got enough fuel to RAMS to refuel part of two battalions. On 23 March, they had no means to establish a FARP north of

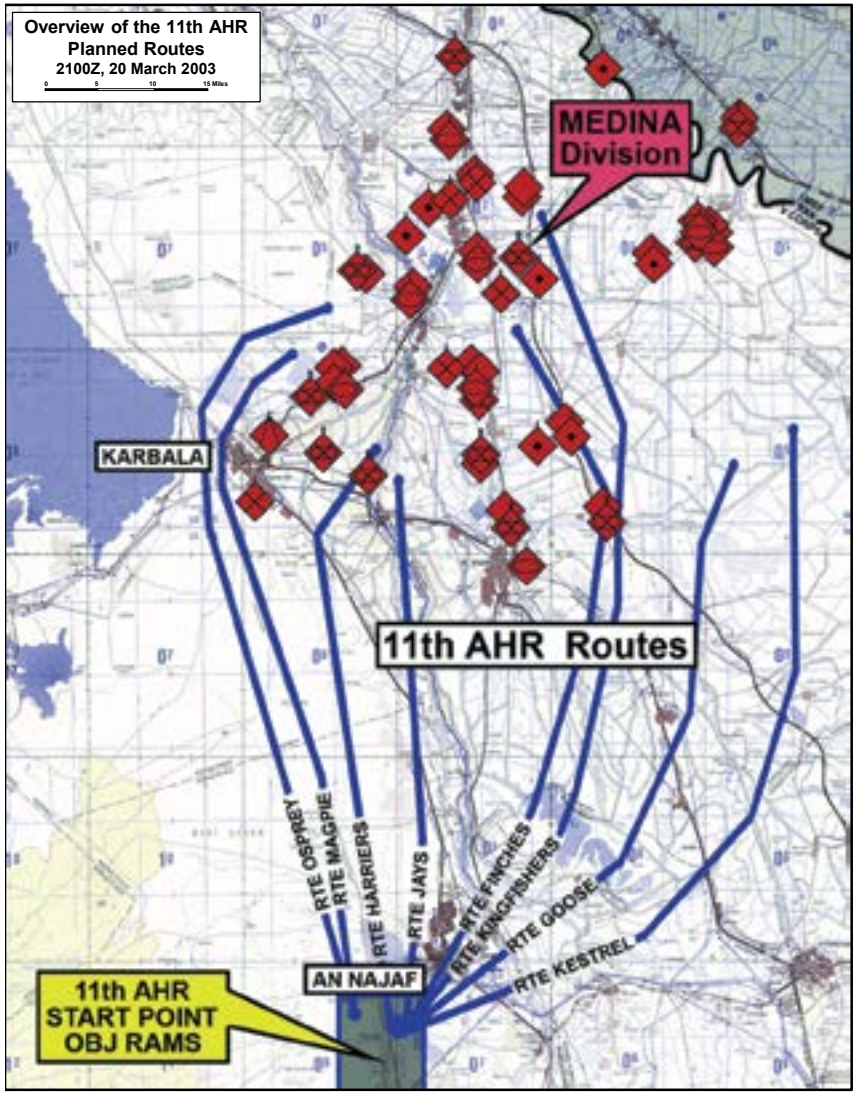

Figure 9.2. Overview of 11th AHR Planned Routes. Map created by Army University Press.

RAMS, let alone as far north as they imagined prior to departing Kuwait. As it was, attacking the Iraqi 2nd Armored Brigade required a south-to-north approach, directly over the Iraqi equivalent of urban sprawl.[10]

In any case, a route near the lake may not have solved the problem. Chief Warrant Officer 3 Troy Templeton recalled that "we templated all this ADA [Air Defense Artillery] expecting us to come up the lakes."[11] Templeton believed that the 1-227th AHB routes reflected concern about possible ADA that could engage units attempting to use the lake to reach targets. In short, the enemy may well have anticipated that attack helicopter units would use the lake as a means to avoid ADA and so placed ADA where they thought the aviators would have to come to use the lake on their approach to the *Medina*. Templeton liked the idea of avoiding the ADA at the lake. As he put it, "They (the routes) were fine with me. We didn't start getting shot until we were right over the city—and what is a good way to enter a city?"[12]

Still, the regiment planned routes that avoided the towns and villages along the way to the target. To do this they used *FalconView,* which enables route planning and rehearsal using high-resolution imagery. *FalconView* is first-class software that essentially supports a "magic carpet ride" over the terrain. Of course the utility of the tools is entirely dependent on the imagery. The relatively open areas the regiment planned to fly were not devoid of habitation. As Wolf put it, "We avoided any idea of a village at all. I will tell you once you cross the Euphrates everything is lit up. Every farm has a light and every farmhouse has a brick wall around it. Everything became a hiding place for whoever wanted to be there."[13]

Captain Karen Hobart, the regimental intelligence officer, understood the threat urban terrain posed to the aircraft. In her intelligence estimate for operation plan (OPLAN) 1003, she explicitly described the threat to rotary-wing aircraft operating over the Iraqi urban terrain. Her intelligence summary described how Iraq's air defense systems enjoyed advantage in urban areas. Iraqi guns had the advantages of high rates of fire and high gun elevations, and they were light and easy to deploy and move on civilian vehicles.

In general terms, the regimental intelligence summary also addressed how smaller-caliber weapon systems, such as antiaircraft artillery, could be placed on rooftops and on mobile trucks for hit-and-run operations. Moreover, the summary assessed that the air defense assets could be placed around schools, mosques, and hospitals, indicating Iraq's awareness of coalition attempts to avoid collateral damage. Finally, Hobart

described Iraq's air defense ambush techniques along friendly routes, to include massing small-arms fires on low-flying and hovering aircraft. At the final rehearsal for the mission, Wolf highlighted the small-arms threat, noting that he told his aviators that small arms "would ruin their day." But after the fact he recalled, "nobody in their right mind would have envisioned what we ended up facing."[14] In fact, the Iraqis had perhaps as many as a dozen air defense teams deployed along possible routes. The teams included light air defense artillery cannon and shoulder-launched surface-to-air missiles.[15]

The coalition intent to avoid destroying the Iraqi power grids also concerned Hobart. City lights could silhouette aircraft against the night sky and hinder the pilots' use of their night vision goggles. Thus placing their air defense artillery in the well-lit population centers reduced one of the Iraqi's major weaknesses—the lack of night-capable air defense artillery. What Captain Hobart and others did not know was that the Iraqis planned to use city lights as an early-warning system, turning an entire town's lights off and on to signal the approach of helicopters.[16]

All aviators and intelligence personnel "knew" of the *theoretical* risk of small arms in an air defense role. But with the exception of Somalia in 1993, the Army had no contemporary experiences to weigh the *actual* risk, and very few of the aviators who flew that night had flown in Vietnam, where ground fire took an awful toll on helicopters. So the 11th AHR—and its supporting intelligence soldiers—seriously underestimated the small-arms and light ADA cannon threat to attack aviation operations. The commanders, pilots, and planners generally tried to avoid flying over urban terrain where possible, but after years of training on benign live-fire ranges and in computer simulations that did not adequately represent the small-arms threat, no one really understood that small-arms and light ADA cannon could be showstoppers.

Coordinating deep artillery fire for suppression of enemy air defenses (SEAD) along the routes is a critical element of any deep strike. SEAD missions are historically among the most complex and challenging to execute, as ideally the artillery hits suspected air defense sites along the planned route only minutes before the aircraft traverse the area. Timing and accuracy are critical, made all the more difficult by typically imperfect knowledge of exactly where the air defense systems are. For this mission, the corps planned to fire 32 Army Tactical Missile System (ATACMS) missiles.[17] The corps also planned joint SEAD, primarily coming from electronic warfare aircraft and air strikes on suspected air defenses.[18]

The 11th AHR Attack: The Preparation

Based on the pace of 3rd ID's advance, the corps ordered the regiment to attack the *Medina* a day earlier than originally planned. Adding to the sense of urgency, a severe sandstorm was bearing down on the region, expected to hit on the 24th. Many in the regiment felt that if the attack didn't occur on the 23rd, the 11th AHR might not get into the war in a meaningful way.[19]

The regiment failed to meet several of the doctrinal conditions for the attack. First, it operated from an unsecured assembly area on Objective RAMS. Some Iraqis appear to have driven around the flight line during mission preparation.[20] Second, the MSE Small Extension Node (SEN) that would have provided high-bandwidth digital communications for the tactical command post (TAC) could not be sling-loaded forward due to weight and atmospheric conditions. Finally, less than half of the regiment's refueling and rearming capability made it to RAMS in time for the mission preparation. The rest of the fuel and ammunition handlers crossed the berm on 21 March and were still making their way north.[21] Nonetheless, against the pressure of the looming sandstorm and despite a shortage of fuel, communications, and security, the regiment prepared to execute.

Aircraft started landing at 1400. As the regiment assembled into a mile-long line of aircraft, the implications of the lack of security were quickly apparent. Pilots watched as one group of Iraqi civilians traveled throughout the area in a pickup truck. This scene repeated itself several times as Iraqi civilians moved about unimpeded and in plain view of the assembled attack helicopters. This raised concerns that the regiment's impending attack would be reported to Iraqi combatants in the surrounding villages and along the attack routes.[22]

Moreover, with less than half of the planned fuel trucks on hand, the regiment could not refuel all of the attack helicopters, the command and control aircraft, or for that matter the CH-47s that needed fuel for their return trip south.[23] Although only two battalions were scheduled to go, getting the right amount of fuel in the right place proved difficult. The regiment had enough fuel to refuel fully 1-227th AHB, but could only partially refuel 6-6th CAV. With 31 aircraft refueled the regiment leadership believed they had adequate resources to attack the Iraqi 2nd Armored Brigade.

The 11th AHR Attack: The Go/No Go Decision

Doctrinally the first step in the decision to launch is to confirm that there is a target to strike. Forward at RAMS and without the mobile sub-

scriber digital communications, Captain Hobart could not contact her staff at the main regimental command post in Kuwait. She used her only communications means, a satellite telephone, to contact Captain Bret Woolcock, her liaison officer, whom she had embedded with the V Corps Fires and Effects Coordination Cell. Once in contact, Hobart, Colonel Wolf, the operations officer, and a few others stood around the satellite telephone out in the open, intently listening to receive the latest intelligence verbally. Woolcock could only provide 1,000-square-meter estimates of the center of mass of company-size units. Exacerbating the problem, the *Hunter* UAV—the V Corps's only dedicated UAV—was not available. It was being moved by air and ground convoy up to Objective RAMS and would not support the deep attack. The theater's *Predator* UAV was also unavailable, as it was still busy flying for the Air Force.[24] Taking Woolcock's report, Hobart reported to Colonel Wolf that she had a 75-percent picture on the enemy disposition.[25]

Surprisingly, Woolcock also passed three Iraqi communications intercepts. Until that point, the Iraqis had made infrequent use of their communications to avoid detection. Subsequent to the attack, Hobart thought that the increased communications might have been related to the regiment's pending attack, which she believed the Iraqis were expecting. While the Iraqis did not know the timing or the targets, they did know American tactics. The US Air Force had been attacking Iraqi forces for days, and 3rd ID was pressing the Iraqi army and paramilitary forces hard in the west. The enemy knew that the US almost always led ground forces with the Air Force, followed by attack aviation.[26]

At this point, Wolf and the 11th AHR had a partial intelligence picture as well as some fuel and were postured at Objective RAMS, secure or not. At 2200, Wolf assembled his battalion commanders to present the final GO/NO GO analysis to the V Corps chief of staff via the tactical satellite radio.[27] Wolf, with grids to "20 or 25" targets generated from signals intelligence and updated imagery, believed he had enough to find and attack the 2nd Armored Brigade, but only by "search and attack techniques."[28] The go-no go briefing included Wolf, Brigadier General Dan Hahn, the corps chief of staff, G3, G2, effects, and air support representatives. Despite fuel problems, delayed liftoff, and uncertainty about the precise location of the enemy, there was no dissent.[29]

The 11th AHR Attack: The Execution

Delayed 2 hours and 15 minutes as the troops sorted out who got fuel, helicopters began lifting off at 0115 on 24 March.[30] From the start,

things did not go well. Colonel Wolf returned to his command and control aircraft to find that he lacked the fuel to make the mission. He waited an additional 45 minutes to get more fuel. He was not the only one having problems. Some crews swapped aircraft to assure that key leaders boarded aircraft that had fuel. In the end, only 30 of the 31 *Apaches* left the assembly area, as one crashed on takeoff due to severe brownout conditions caused by the "moon dust."[31]

Poor communications plagued the regiment throughout the mission with obvious effects on execution. When Colonel Wolf delayed the launch by 2 hours and 15 minutes, the regiment could not alert supporting fixed-wing units. The ground SEAD fired at the adjusted time and in accordance with the corps standard of 30 minutes before the helicopters' time on target. Even this success proved a mixed blessing since many of the pilots considered 30 minutes too early and wondered if it acted more as a warning to the Iraqis than a suppression. Worse still, the fighters assigned to support the mission never received the adjusted mission time and departed as originally scheduled, which meant they were not on station during the actual attack. The corps Fire Effects Coordination Cell and air liaison officer did obtain some help. For example, B-52s dropped 26 Joint Direct Attack Munition (JDAM) bombs in support of the effort to rescue the pilots of the lone downed aircraft. Reportedly, some ground-attack aircraft engaged targets in a supporting kill box, but there are no specifics available.[32] Whatever problems the regiment experienced with the SEAD and close air support (CAS) execution, the Iraqi air defense "system" was arguably not vulnerable to traditional SEAD operations—26 Army Tactical Missile System (ATACMS) and 26 JDAMS could not realistically *suppress* several hundred Iraqis distributed throughout a densely populated urban area firing small arms and light air defense artillery.[33] Fundamentally, the attack helicopters attacked alone and effectively unsupported.

As they traveled up the route, the lead troop of 6-6th CAV had no contact but 1-227th AHB was already reporting enemy fire. En route to the target, when B/6-6th CAV oriented west at approximately 0100, all of the lights in the area—to include the cities of Al Haswah and Al Iskandariyah—blinked out for approximately two seconds.[34] Immediately thereafter, the sky erupted with all manner of ground fire, which was apparent by the red, yellow, and white tracers. Initially unaimed, the fusillade of fire created a "wall" between the aircraft and their objectives. Although the *Apaches* were running with lights out, the lights from farms and town silhouetted the attack helicopters against the night sky. Crews

reported damage to their aircraft and difficulty maneuvering due to the volume of enemy fire.[35]

In the *Apache,* one of the two crewmen wore helmet-mounted night vision goggles to see things thermals could not, including, for example, wires and tracers. The second crewman flew with thermals and the 30-mm chain gun slaved to his head-up display. When the sky "lit" up with tracers, the aviator with goggles could see them but the aviator who had immediate control of the gun could not. Therefore, to add to their problems, one crewman had to verbally describe the source of fire so the other could suppress it.

The following account drawn from the battle summary of 6-6th CAV details how difficult this mission became and conveys a sense of what flying that mission was like for one crew:

> Chief Warrant Officer 2 John Tomblin and First Lieutenant Jason King were in the second aircraft to depart and when they finally took off to the north, the aircraft shuddered from the weight of the ammunition. The crew monitored radio traffic that an A Troop aircraft had crashed on takeoff. Along the 53-nautical mile route, *Palerider 16* received very little small-arms fire. As they began to turn into the objective area, they noticed how bright the lights were in the nearby town; it seemed odd considering it was midnight [unit reports suggest time was 0100]. As they climbed to clear a set of 200-foot wires, the lights went out for two seconds. When the lights came back on, they started receiving AAA [anti-aircraft artillery] fire. It had been a coordinated ambush directed at taking out the aircraft. *Palerider 16* conducted evasive maneuvers and returned fire. The aircraft had been hit when he smelled electrical equipment burning. Tomblin saw a man on ground with a rifle shooting at the aircraft so he engaged with the 30-mm, killing the man and hitting a nearby fuel tanker which resulted in a tremendous explosion that lit up the sky. As Tomblin maneuvered the aircraft, King was calling in a report that they had taken fire. In the middle of his report, a bullet entered the cockpit and went through his throat. His transmission stopped and Tomblin asked, "Sir, are you ok?" There was no response. King's throat had filled with blood, and although he could hear everything that was going on, he was unable to answer. Tomblin turned the aircraft to the south and reported that his front-seater had been hit, condition unknown. Tomblin continued to ask King if he was OK—still no answer, although he could hear him breathing. Chief Warrant Officer

4 Robert Duffney and Chief Warrant Officer 3 Neal served as their wingman. Tomblin pulled in behind them and noticed a tremendous amount of smoke coming from one of Duffney's engines. A hydraulic line on Duffney's aircraft had been severed and fluid was flowing into the engine. This same hydraulic system controlled the weapons on his aircraft; Duffney was unable to return fire. Tomblin pulled back and, as Duffney's aircraft received fire, he laid down suppressive fire in the enemy's direction. Earlier, before the flight, King had taken his pressure bandage out of his load-bearing equipment and placed it on the dash of the aircraft. Usually this would be placed in the rear storage bay of the aircraft, unreachable by its owner. Then he was applying pressure to the wound and was finally able to speak. "I am ok, I am ok; you're taking fire from the right." King could see tracer fire through his night vision goggles and continued to direct fire for his back-seater and other aircraft. Together the two aircraft continued down the route, receiving heavy fire. They would fly back to the assembly area and load King into a waiting vehicle that would take him to a MEDEVAC aircraft. As they approached the assembly area, the small-arms fire stopped. Now they had to land the crippled aircraft at an assembly area that had several other damaged aircraft attempting to land. Both aircraft flew past the assembly area and allowed landing aircraft to touch down while locating the awaiting transport vehicle. While they were waiting, numerous reports from other aircraft could be heard on the radio. One from their sister battalion was transmitting on the emergency guard frequency; this aircraft was badly damaged and lost all navigation and night vision equipment. [Airborne Warning and Control System] was vectoring the aircraft to the south; the crew was noticeably shaken up. Once on the ground, King was loaded into the waiting vehicle and was moved to the MEDEVAC aircraft. The bullet had just missed his windpipe and trachea, and he very easily could have permanently lost his voice or bled to death. King's wife was notified that her husband had been shot and was in critical condition. As King's condition improved, he was to be transported to Germany, where his wife would meet him. Instead of flying home, he convinced a sergeant major to coordinate a ride for him back to his unit. When he rejoined the unit, the Soldiers could not believe their eyes. King continued to fly security missions in support of Operation Iraqi Freedom north of Baghdad.[36]

The 6-6th CAV reached its objective but had to abort before engaging any ground targets due to the heavy fires. The 1-227th AHB made it to its objective and engaged some targets but eventually had to break off and return for fuel. They never found the 30 T-72 tanks they hoped to find. One of 1-227th AHB's helicopters made an emergency landing after taking serious damage. Lieutenant Colonel Dan Ball attempted to provide support to the crew as it sought to evade capture, but he took heavy fire that set a weapons pod alight. Ball finally had to jettison the pod and return home, unable to rescue his crew.[37]

Returning shot up and in some cases with wounded aboard, the *Apaches* had to land on the same plowed ground that had dried to dust, which the pilots found vexing even during daylight the afternoon before. Having positioned himself at the center of the flight line, the operations officer, Major John Lindsay had a ringside seat as aircraft returned alone or in small groups, turned into the wind and did their best to avoid mid-air collisions and wrecking their aircraft as they sought the ground in a haze of blinding dust. The pilots executed running landings to give themselves some hope of staying just ahead of the dust cloud they generated. Lindsay recalled that it was terrifying to watch as aircraft rolled "100, 200, 300 feet right toward us," attracted to light and heat sources generated by Lindsay's little command post group.[38]

Of the 30 aircraft that departed Objective RAMS for the mission, 29 returned with small-arms and some antiaircraft artillery damage. One aircraft force-landed due to ground fire and was subsequently destroyed to prevent compromise. The Iraqis captured both pilots. On average, 1-227th AHB aircraft returned sporting 15 to 20 bullet holes each, and one had a total of 29 holes. The unit performed an average of 70 small-arms damage repairs per day until all damaged areas were repaired in accordance with applicable aircraft technical manuals. If nothing else, the *Apache* demonstrated how tough an aircraft it was. As one pilot put it, "that airplane is resilient. It is amazing! We got back and looked at all the airplanes and it is incredible that we were able to fly those things home. It is an amazing aircraft."[39] On the other hand, no one was claiming a victory that night.

The 11th AHR Attack: Battle Damage

Assessing battle damage is always difficult, but fundamentally aside from killing some air defense systems, a few gun trucks, and a number of enemy firing small arms, the regiment achieved very little.

That all but one of the US *Apaches* returned to RAMS is a testimony to the aircraft's durability and survivability. The pilots owed their lives to engineers who designed the *Apache* and to those who built and maintained them.

Despite significant damage, all of the aircraft were repaired well forward in the field and returned to service. On 24 March three CH 47s came forward, bringing the regiment's executive officer, maintenance officer, and others. The aircraft also brought spare parts carried as sling loads. En route Iraqis engaged the CH 47s. Two of the helicopters jettisoned their loads, including all of 1-227th's spare parts.[40] Despite that latest bit of bad news, mechanics returned two aircraft to service within 24 hours, 12 of 17 within 96 hours, 15 of 17 within a week, and the remaining two within 30 days.[41] The 2-6th CAV, which had not flown the mission due to the fuel shortage, remained fully mission capable. The corps assigned 2-6th to support 3rd ID.[42] The 11th AHR flew its first battalion-size mission only nine days after the ill-fated attack.

The 11th AHR Attack: Adaptations

Following the attack, Army aviators took a collective step back to assess what had happened and to determine the causes and develop solutions. To be sure, the Iraqi air defense technique clearly proved effective in countering the helicopters as they were employed. After 12 years of experience with the Americans targeting their air defense systems, Iraqis had adapted. They developed a simple yet sophisticated air defense "system" virtually impossible to detect and suppress.

Because US forces are very effective at destroying air defense radars that radiate and missile/gun systems, the Iraqis avoided using these as cornerstones in their network. Rather than using radar, the Iraqis appear to have relied on ground observers who reported on cellular phones and low-power radios. Finally, flickering the city lights warned the shooters to be prepared to engage. Rather than relying on easily targetable missile or gun systems, the Iraqis' main weapon systems were the small arms widely distributed among the general population.

At the time of the 11th AHR's attack, the Iraqis in the area had not been subjected to any coalition ground or air actions. As a result, shooting up into the sky at the American helicopters could be viewed as a no-risk proposition, even for the most reluctant armed Iraqi civilian. With rudimentary training on where to shoot (at the apex over power lines), even paramilitary troops could contribute to an air defense engagement area. Moreover, with no visible concentration of air defense equipment prior to mission, SEAD was ineffective. Once the fight started, the fires were so dispersed and dis-

tributed among populated areas that they were virtually impossible to suppress. The American pilots' restraint in returning fire into the urban areas to avoid civilian casualties also hampered their response. For Colonel Wolf, this point loomed as particularly important. His crews needed to identify a target before returning fire, "because there were people out there we did not want to kill."[43] They could not, as he put it, "spray indiscriminately."[44]

Consequently, the Iraqis executed an air defense operation in which the early warning and tracking systems operated below the US ability to detect and destroy; equally important, the Iraqis distributed their air defense weapons so widely that they could not be tracked or suppressed; and they decentralized their command and control so that it could not be effectively disrupted. The Iraqis, in this instance at least, used the decade between the wars to develop tactics that produced a highly survivable and effective air defense capability that, in turn, forced adaptation in Army aviation tactics.

In addition to reviewing the enemy's actions, Army aviators reviewed mission planning, tactics, techniques, and procedures to determine what they could learn from this. The next day while maintenance crews repaired the aircraft, the command group conducted a conference call with the 101st Airborne Division aviators to share lessons learned and discuss countermeasures. 11th AHR presented its assessment in 11 major areas ranging from internal security while airborne to the rules of engagement (ROE). The ROE in effect prevented the aviators from using rockets to suppress targets given the possible proximity of civilians. On another topic, the 11th advised its colleagues that go/no go briefings focused on target fidelity inadequately accounted for en route air defenses—doctrine requires an assessment of en route air defense, and the 11th attempted to do that, but the defenses it faced were outside the model they anticipated.

Conclusion

This deliberate effort to learn from the first deep attack of the war paid off, as evidenced by the successful 101st Aviation Brigade, deep attack on 28 March, after the sandstorm cleared. The 101st Aviation Brigade had done its homework on the 11th AHR's experience.[45] That experience suggested that the enemy was using observers linked by cell phones to provide early warning to a dispersed air defense. Pilots, planners, and commanders had a frank and detailed exchange to share insights, observations, and recommended changes in tactics and procedures.[46] Whatever else the aviators learned, they were reminded that small arms and light cannon were effective against attack helicopters. After the fact, the decision to go

seems incomprehensible on the basis of inadequate fidelity in target locations. On the other hand, even with absolute accuracy on the 2nd Armored Brigade, it is hard to see how the regiment could have overcome the fierce resistance it encountered.

The deep attack that occurred on 28 April was very successful. In this attack, Army, Air Force, and Navy pilots destroyed six armored personnel carriers, four tanks, five trucks, and a fiber-optic facility. They also killed approximately 20 troops. Although not a high count by "exercise standards," the attack marked an effective use of deep-strike Army attack aviation against a highly adaptive enemy. Moreover, it illustrates how quickly Army and fixed-wing aviators adapted to an enemy that had caused significant damage to the previous deep strike. Applying the hard lessons learned from the 11th Attack Helicopter Regiment's unsuccessful operation demonstrated the importance of building "confident and cohesive units able to adapt to their environment and defeat the enemy."[47]

Notes

* This chapter is an excerpt from Gregory Fontenot, E.J. Degen, and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), 179–95.

1. Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 2017) 1–17.

2. Colonel Bill Wolf, Commander, 11th AHR, interview by Colonel (Retired) Gregory Fontenot, 13 November 2003.

3. Captain Gary Morea, S3 planner, 11th AHR, interview by Major Jonathan Gass, 13 May 2003.

4. Major John Lindsay, S3, 11th AHR, interview by Colonel (Retired) Gregory Fontenot, 11 December 2003; Lieutenant Colonel Jerry Pearman, executive officer, 11th AHR, telephonic interview by Colonel (Retired) Gregory Fontenot, 17 December 2003.

5. "Battle summary, 6th Squadron, 6th Cavalry, Operation Iraqi Freedom," 9 June 2003.

6. Captain Karen E. Hobart, S2, 11th AHR, interview by Major Daniel Corey, 31 May 2003.

7. Lindsay, interview by Fontenot.

8. Battle summary, 6th Squadron, 6th Cavalry.

9. This estimate was in the original plan and confirmed by telephone conversation between Major John Lindsay and Colonel (Retired) Gregory Fontenot, 10 February 2004.

10. Major John Lindsay, S3, 11th AHR, interview by Major Jonathan Gass, 11 May 2003; "Battle Summary, 6th Squadron, 6th Cavalry, Operation Iraqi Freedom," 9 June 2003, 13; Captain Gary Morea, S3 Planner, 11th AHR, interview by Major Jonathan Gass, 13 May 2003; Major Kevin Christensen, S3, 6-6 CAV, interview by Major Jonathan Gass, 15 May 2003; Lieutenant Colonel Trent Cuthbert, effects coordinator, Fires and Effects Cell, V Corps, email to Lieutenant Colonel E.J. Degen, 13 September 2003.

11. 1-227th AHB, 11th AHR, pilot interviews by Major Jonathan Gass, 22 May 2003.

12. 1-227th AHB pilot interviews by Gass.

13. Wolf, interview by Fontenot.

14. Wolf. See also 11th AHR OPLAN 1003(V), Annex B (Intelligence), Appendix L (Intelligence Estimate).

15. Some prisoners of war have reported defenses of this kind as present and designed to take on Apaches. The Joint Center for Operational Analysis, Joint Forces Command is doing some of this work and analyzing other reports, but their work is neither complete nor declassified, so it will be some time before anecdotal reports from tactical units can be collaborated. The resistance the 11th AHR fought through cannot be explained solely as a consequence of dispersed air defense teams. It is likely that the defenses included "less formal" air defenses raised by troops in the area and perhaps paramilitary forces as well.

16. Hobart, interview by Major Daniel Corey.

17. The ATACMS is a precision engagement weapon that integrates stand-off delivery accuracy with a submunition that can kill moving armor columns.

18. Wolf, interview by Fontenot.

19.. Battle summary, 6th Squadron, 6th Cavalry.

20. B/2-6th CAV group interview by Major Ike Wilson, 2 May 2003; pilots reported the area was not secure. See also Lieutenant Colonel Mike Barbee, Commander, 6th Squadron, 6th Cavalry, 11thAHR, interview by Major Ike Wilson, 2 May 2003. Barbee asserted that his crews observed a white pickup truck. Major John Lindsay, on the other hand, saw only a single van departing the area. Lindsay believed the reports of Iraqis around the flight line to be exaggerated. There is no way to verify whether Iraqis on and around the flight line compromised the mission.

21. To prevent total loss or delay, the regiment sent its fuel trucks on two different routes. The movement, scheduled to take 48 hours, eventually took 72 hours due to congestion and enemy contact on the roads. As it was, only half of the fuel made it to Objective RAMS in time to support the attack. See Lindsay, who discussed the fuel situation at length.

22. B/2-6th CAV, group interview by Major Ike Wilson, 2 May 2003. See also Barbee, interview by Wilson.

23. Lindsay, interview by Fontenot.

24. Major Mathew R. Littlejohn, Collection Manager, V Corps, interview by Major David Tohn, 9 May 2003.

25. Hobart, interview by Corey.

26. Hobart.

27. Lindsay, interview by Fontenot.

28. Wolf, interview by Fontenot.

29. Hobart, interview by Corey. See also Wolf, interview by Fontenot.

30. Barbee, interview by Wilson.

31. Wolf and Lindsay interviews. See also Barbee, who returned to find his aircraft also had no fuel. Like Wolf, he missed takeoff time while waiting to get fuel.

32. Major Michael Gabel, fire support officer, 11th AHR, email to Major Jonathan Gass, 9 August 2003.

33. Major Michael Gabel, email to Major Jonathan Gass. See also interviews with Wolf, Lindsay, and Hobart.

34. Battle summary, 6-6th CAV.

35. Battle summary.

36. First Lieutenant Jason King and Chief Warrant Officer 2 John Tomblin, crew of Palerider 16, interview by Major John Gass, 16 May 2003.

37. Major John Lindsay, S3, 11th AHR, interview by Colonel (Retired) Gregory Fontenot, 11 December 2003. Colonel Wolf and Major Lindsay indicated that Lieutenant Colonel Ball showed great courage that night as he sought to find a way to rescue the downed aircraft's crew.

38. Major John Lindsay, S3, 11th AHR, interview by Colonel (Retired) Gregory Fontenot, 11 December 2003.

39. 1-227th AHB, 11th AHR, pilot interviews by Major Jonathan Gass, 22 May 2003.

40. Lieutenant Colonel Jerry Pearman. See also interviews with Wolf and Lindsay. Unit AARs detail the effort. Pilot interviews for 1-227 noted they were ready and back in the fray in six days.

41. Lieutenant Colonel Dan Ball, Commander, 1-227th AHB, interview by Major Jonathan Gass, 22 May 2003. Pilot interviews for 1-227th noted they were ready and back in the fray in six days. Obviously they flew shorthanded until the all of the aircraft were repaired and the one they lost was replaced.

42. Captain john Cochran, battle captain, 11th Attack Helicopter Regiment, interview by Major Brashear, undated.

43. Wolf, interview by Fontenot.

44. Wolf, interview by Fontenot.

45. Many innovative tactics, techniques, and procedures (TTPs) were employed that resulted in a successful mission. These TTPs were adopted from prior experience in Afghanistan and AAR discussions with the 11th Regiment. Areas addressed included route planning, use of Eagle I, FalconView, BFT, and Topscene, actions on contact, movement techniques, use of deception, and integration of CAS and artillery.

46. 101st Airborne Division After Action Report, 30 April 2003.

47. Department of the Army, FM 3-0, 2-272.

Chapter 10

Task Force Viking: Conventional Forces-Special Operations Forces Synergy in Large-Scale Ground Combat Operations

Daniel E. Stoltz, Stephen E. Ryan, and Joseph A. Royo

> *The Joint Force Commander, using special operations forces (SOF) independently or integrated with conventional forces, gains an additional and specialized capability to achieve objectives that might not otherwise be attainable. Integration enables the Joint Force Commander to take fullest advantage of conventional and SOF core competencies.*[1]
>
> —Field Manual (FM) 3-0, *Operations*

Coalition operations in northern Iraq during Operation Iraqi Freedom (OIF) provide relevant insights for today and implications for future warfare. Of note, the relevant insights for today reflect synergy between Conventional Forces (CF), Special Operations Forces (SOF), and indigenous forces at the tactical, operational, and strategic levels through the combination of their respective capabilities. The study of operations conducted in northern Iraq in early 2003 provides an opportunity to learn from the past to prepare for tomorrow.

Geo-Strategic Context

As the world entered the new millennium, a renewed form of threat metastasized in full force, surprising the continental US homeland on 11 September 2001. Non-state terrorism tilted the balance of national security from an uncertain future to one that would certainly confront global terror.[2] That shift was noticeable. The 2002 *National Security Strategy* specifically oriented the United States toward "a war against terrorists of global reach."[3] It also identified the country's primary geopolitical objective: "The enemy is not a single political regime or person or religion or ideology. The enemy is terrorism—premeditated, politically motivated violence perpetrated against innocents."[4]

At the intersection of Europe, the Middle East, and Asia the force of US hard power confronted Al Qaeda and a rogue government in Afghanistan controlled by the Taliban. The United States raised an international coalition of NATO partners to enter Afghanistan shortly after Al Qaeda's attack and partner with indigenous Afghan forces. US Central Command (USCENTCOM) initiated a campaign to forcefully stop the threat of non-state terrorism. USCENTCOM's theater responsibilities grew as threats

from nearby Iraq added to an already complex mixture of volatile political forces in the region. By 2003, pressure was building to prevent the threat of terrorism from metastasizing to a point that rogue groups could acquire weapons of mass destruction (WMDs). A sense of urgency compelled the US to adapt concepts of deterrence and imminence in a way that demanded action against potential rogue states and terrorists.[5] Thus, the US expanded its regional campaign consisting of Operation Enduring Freedom in Afghanistan to include a new front—Operation Iraqi Freedom.

Theater Context

Preparing for possible operations against Iraq continued in the years following Operation Desert Storm and accelerated following the attacks of 9/11. USCENTCOM planning, theater infrastructure improvement, training, exercises, logistics pre-positioning, and buildup of forces set conditions for future options.[6] Ongoing Operations Northern Watch and Southern Watch preserved control of the air.[7] The final Coalition Forces Land Component Command (CFLCC) plan called for an attack from Kuwait on Baghdad with the V Corps along the west bank of the Euphrates River and the I Marine Expeditionary Force up the Tigris-Euphrates river valley.[8] Special operations task forces in the north and west would conduct operations to provide threats from multiple directions. In late 2002, the U.N. passed Resolution 1441 which stated: "the Council has repeatedly warned Iraq that it will face serious consequences as a result of its continued violations of its obligations."[9] Four months later, the president of the United States issued an ultimatum to Saddam Hussein, and the deadline passed. OIF commenced on 19 March 2003.

The theater-level operational design included creating a northern front by establishing a coalition task force north of the "Green Line," that separated the Kurdish autonomous zone from the rest of Iraq. Forcing the Iraqis to address this threat from the north would support the CFLCC main effort in the south by preventing Iraqi reinforcement toward Baghdad.

However, in the first months of 2003, the plan for OIF in the north changed due to Turkey not authorizing the use of its land or air space to support the invasion. Therefore, the 4th Infantry Division, originally slated to lead operations in the north would no longer attack from Turkey as originally planned, and now necessitated an alternate lead force for the northern mission. The 10th Special Forces Group (Airborne) (10th SFG(A)) was ordered to assume this role for all operations in the north. The 10th SFG(A) would form the nucleus of the Combined Joint Special Operations Task Force—North (CJSOTF-North) known as Task Force (TF)

Viking. The SOF-led task force would conduct operations to fix and disrupt significant numbers of enemy units to support the CFLCC main effort.

TF Viking successfully accomplished its mission. From March to May 2003, TF Viking engaged in numerous battles and three distinctly different operations, each incorporating the capabilities of conventional forces, indigenous forces, and Special Operations Forces. They include the defeat of conventional Iraqi armor, mechanized forces, and infantry at the battle at Debecka crossroads; the destruction of the terrorist organization Ansar al-Islam; and the liberation of two major cities, Kirkuk and Mosul. TF Viking's success required CF-SOF operational synergy and integrating the combat power of indigenous forces. The synergistic effects spanned from

Figure 10.1. Iraqi Military and Militia Positions in March 2003. Map created by Army University Press.

the tactical to strategic levels and highlight how CF and SOF can produce exponential results when their capabilities are effectively combined.

Order of Battle: Enemy Forces

The Iraqi I, II, and V Corps were deployed along the Green Line to defend Iraq against the Kurdish Peshmerga and any US forces that may attack from Turkey (see Figure 10.1). The Iraqi III and IV Corps were deployed south in the Al Basrah province and along the Iranian frontier—with the exception of the 11th Infantry Division, which was deployed in the An Nasiriyah area. The Republican Guard divisions were deployed around Baghdad, except for the Ad Adnam and Nebuchadnezzar Divisions, who were deployed in the north along the Green Line.

The enemy in the north consisted of 13 Iraqi Army Divisions with over 150,000 enemy soldiers. It included two Iraqi Republican Guard divisions, two mechanized infantry divisions, one armor division, and eight infantry divisions. The Iraqi II Corps included the anti-Iranian regime group, the Mujahedin-E-Khalq's (MEK).[10] Other threats in the north included the Fedayeen Saddam militia and the terrorist group Ansar al Islam.[11]

Order of Battle: Friendly Forces

The CFLCC ground forces included the 3rd Infantry Division (Mechanized), Task Force Tarawa, a 7,200-man force of Marines and sailors from the 2nd Marine Expeditionary Brigade, and the 1st Marine Division. They would attack from the Iraq-Kuwait border and advance into Iraq.[12] These units comprised the CFLCC main effort, which would attack toward Baghdad while Task Force Viking disrupted and fixed enemy forces to the north.

TF Viking consisted of variety of SOF, conventional, joint, combined, and indigenous forces. At its core was the 10th SFG(A) Headquarters and its 2nd and 3rd Battalions as well as the 3rd Battalion of the 3rd SFG(A), (3-3 SFG(A)). The task force also consisted of other joint and coalition special operations units: 404th Civil Affairs Battalion; D Company, 96th Civil Affairs Battalion; A Company, 9th Psychological Operations (PYSOP) Battalion; the 352nd Special Operations Group (Air Force Special Operations Command); and Task Force 7 Special Boat Service from the United Kingdom. Conventional Army and joint forces that also contributed to TF Viking were the 2nd Battalion, 14th Infantry, 10th Mountain Division; elements of the 26th Marine Expeditionary Unit (MEU); and the 173rd Airborne Brigade. At its peak, Task Force Viking consisted of approximately 5,200 personnel and over 52,000 Kurdish Peshmerga forces.[13]

Together, these forces prevented three Iraqi Corps from moving south to reinforce Baghdad, which supported conventional forces in their movement north toward Baghdad.

Task Force Viking—Operations in Northern Iraq

On 20 March 2003, the 10th SFG(A) infiltrated via special operations aircraft to partner with indigenous forces and lead them in combat. Due to the regional dynamics, US SOF had to be rapidly inserted via air circumventing Turkish airspace. Having established the lodgment, SOF then enabled the introduction and buildup of conventional elements. Over a brief period of time, SOF created the foothold and enabled the operational-level maneuver of CF to build the coalition combat power in northern Iraq. CF-SOF operational synergy maximized the various and complementary capabilities to achieve decisive operational results.

Figure 10.2. Kurdistan Democratic Party and Patriotic Union of Kurdistan Boundaries. Map created by Army University Press.

Once on the ground, TF Viking created a combined force with the 52,000-man strong Kurdish Peshmerga that comprised two factions; the Patriotic Union of Kurdistan (PUK) and the Kurdistan Democratic Party (KDP). Although historical antagonists of one another, the PUK and KDP would work toward a combined goal with the US Special Forces to fight a common enemy. The 10th SFG(A) success was due in part to many senior officers and NCOs of TF Viking having built trust and rapport more than a decade prior when the 10th SFG(A) helped save the lives of thousands of Kurds during Operation Provide Comfort following Operation Desert Storm.[14] It was the long-term persistent partner engagement that helped the Task Force understand the cultural and political nuances of this particular mission.

The Joint Special Operations Area (JSOA) that TF Viking established in northern Iraq encompassed over 173,000 square kilometers and was bordered by Turkey to the north, Iran to the East, and to the south by the Green Line, which separated Iraq proper from the Kurdish autonomous zone (see Figure 10.2).

The JSOA was subdivided in half with two Special Operations Areas (SOA): East and West. The 3rd Battalion, 10th Special Forces Group (Airborne) (3-10 SFG(A)) and the PUK Peshmerga operated in SOA East while 2nd Battalion, 10th Special Forces Group (Airborne) (2-10 SFG(A)) and the KDP Peshmerga operated in SOA West.

The TF Viking commander understood the Peshmerga were fighting on their "home field" and although the Peshmerga approached warfighting very differently than US forces, they were nonetheless effective. The SF Teams built rapport, trust, and confidence by not trying to change how the Peshmerga fought but rather by allowing them to fight their way and to support their approach with US technology, airpower and planning.[15] This dynamic synergy produced decisive results.

Battle of Debecka Crossroads

In late March 2003, 2-10 SFG(A), occupied the western half of TF Viking's area of responsibility. Situated along the Green Line, 2nd Battalion faced four dug-in and well-equipped divisions of the Iraqi V Corps. Covering a 200-kilometer front with little more than light antitank weapons, limited close air support (CAS), and assistance from their Peshmerga allies, 2-10 SFG(A) dual mission was to defend the north, and to keep as many Iraqi troops as possible focused on them and not on Baghdad.[16]

During the first few days of April 2003, 2-10 SFG(A) and their Peshmerga counterparts took the offensive and steadily drove the enemy to-

ward the urban centers of Kirkuk and Mosul. Perhaps the most intense resistance faced by the 2nd Battalion was in Debecka on 6 April 2003.[17] The town of Debecka is located 40 kilometers southwest of Irbil, and further to the northeast is Zurqah Ziraw Dagh Ridge, referred to by Americans as "Dog Ridge." On the side of the ridge is a small village named Pir Da'ud, where Operational Detachment Alpha (ODA) 044 established an observation post (OP) during the initial stages of OIF.[18] From their OP, ODA 044 could see Iraqi soldiers manning mortar, heavy machine gun, and antiaircraft artillery positions.

In preparation for the offensive, ODAs 044 and 043 from 10th SFG(A) were joined by ODAs 391, 392, 393, and 395 from 3rd SFG(A) (see Figure 10.3) who brought Ground Mobility Vehicles (GMVs) with M2 .50 caliber machine guns and MK19 40mm automatic grenade launchers. The plan was to soften the ridgeline with close air support during the evening, and at sunrise launch four simultaneous assaults against the ridgeline and

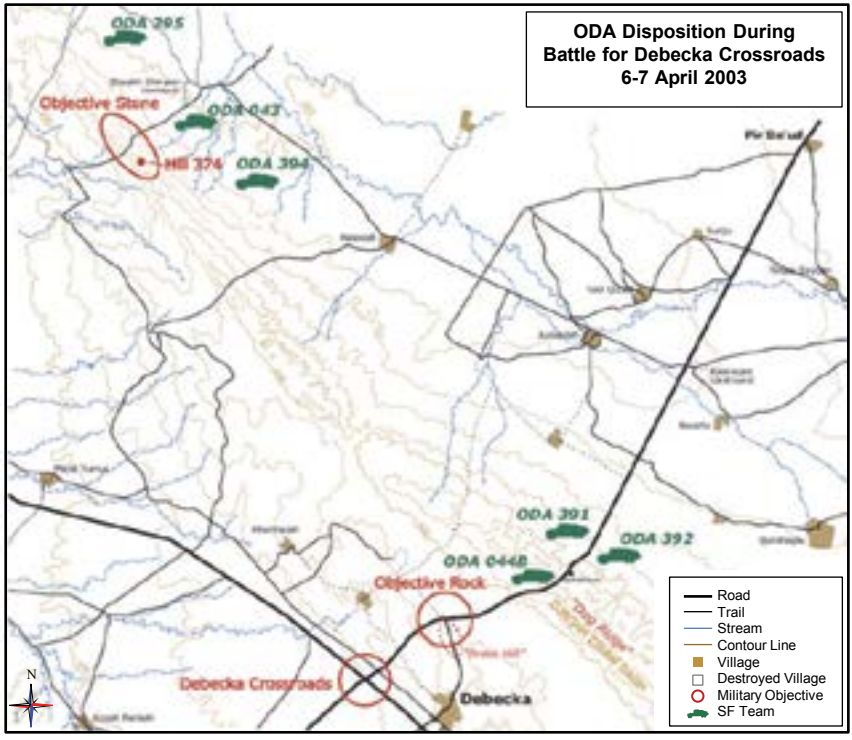

Figure 10.3. ODA Disposition during Battle for Debecka Crossroads. Map created by Army University Press.

two separate objectives. Prior contact with brigades of the Iraqi 1st Mechanized Infantry Division made the outcome of the attack far from certain.[19]

The morning of the attack, the assault forces quickly reached the base of the ridge. The two independent Peshmerga columns met only limited opposition, and reaching their objective first, swarmed across the central portion of the ridgeline. However, the two flank columns faced much greater resistance and the assault became a battle.[20] The ODAs then closed to within 1,700 meters and began to engage the enemy with MK19 40mm automatic grenade launchers and M2 .50 caliber machine guns.

Before long, the Iraqis responded with their own heavy machine guns and mortars. ODA 043 was able to employ both US Air Force B-52s and US Navy F-18s, and the assault force quickly seized the objective. The Peshmerga captured several prisoners, mortars, and heavy machine guns.[21] The ODAs maneuvered operating in two-vehicle sections each of which possessed its own forward air controller. Once the assault force reached the reverse slope on the southeast side of the road, it encountered dug-in troops supported by heavy weapons. During a brief skirmish, Special Forces (SF) and Peshmerga soldiers captured approximately 30 enemy prisoners, including several officers and two Republican Guardsmen. One Iraqi lieutenant colonel confirmed that the aerial bombardments had demoralized his soldiers. In the end, the Iraqis on the ridge welcomed the opportunity to surrender.[22]

After the ridge was secure, the Peshmerga continued to advance, and the SF teams quickly established control over the area. The teams maintained dominance for approximately 45 minutes until the situation quickly deteriorated. The ODAs began to receive direct fire from the tanks and quickly withdrew to an intermediate ridgeline. ODAs 391, 392, and 044B established a hasty linear defense at the intermittent ridge. As they continued to receive tank, mortar, and heavy machine gun fire, at least five Iraqi tanks, four armored personnel carriers, two troop trucks, several command vehicles, and a company of infantry approached the intersection. The ODAs decided to defend the ridge and returned fire with Javelin missiles and heavy machine guns, forcing the enemy tanks to halt behind an embankment. Dismounted infantry from the armored personnel carriers sought cover in an abandoned hamlet.[23]

However, as the Iraqis began to hit the ridge with smoke, the ODAs realized that the enemy had ranged their positions, and the teams decided to pull back. But by now, the Iraqis were reeling from the combined air-ground onslaught, and their second counterattack faltered badly. By

the end of the first day, the ODAs and Peshmerga had driven the enemy from Zurqah Ziraw Dagh Ridge, repelled three successive armored counter-attacks, and broken the enemy critical line of communication at Debecka. The intense battle for the crossroads had itself lasted for two and a half hours, and when it was over, the small force of SF and Peshmerga fighters had destroyed five T- 55 tanks, three armored personnel carriers, eight cargo vehicles, and had neutralized 90 enemy troops.[24] The battle for Debecka crossroads was a tactical victory in every sense to include the CF-SOF operational synergy between the ground forces and the close air support provided by the US Air Force and Navy. But it also served a larger operational purpose. Besides dealing a significant blow against conventional Iraqi forces, the victory facilitated future SF and Peshmerga advances toward Mahkmur and Al Qayyarah as well as buying time for a larger US force buildup in the north and the advance of the coalition main effort from the south.

Operation Viking Hammer

Meanwhile, in the eastern SOA, 3-10 SFG(A) needed to gain the full trust and cooperation of the PUK Peshmerga in order to persuade them to fully commit men and equipment against the Iraqi divisions along the Green Line.

In preparing his campaign plan for Northern Iraq, the Commander of the 10th SFG(A) faced a two-pronged dilemma. His primary opposition in the region came in the form of three Iraqi Corps massed along the Green Line. To confront this force, his 300 Special Forces Soldiers joined with more than 52,000 Kurdish fighters arrayed against Iraqi forces. Yet, prior to engaging the Iraqi frontline forces, he determined he needed to eliminate the threat to the Kurdish rear area (see Figure 10.4) posed by the Ansar al-Islam (AaI) terrorist organization.[25]

AaI routinely skirmished with the Kurdish troops from its stronghold above the town of Halabjah near the Iranian border. With well-developed defensive positions on the high ground, the 700-man strong AaI was a formidable threat to any Kurdish operations. An additional threat was a suspected Weapons of Mass Destruction (WMD) site located in the village of Sargat at the foot of the Shandahari Ridge. The mission to defeat Ansar al-Islam was assigned to 3-10 SFG(A) and the mission was named Operation Viking Hammer. While 3-10 SFG(A) was already engaged along the Green Line, Viking Hammer was assigned to a reinforced Charlie Company, 3-10 SFG(A) to counter the AaI threat in the east.

The principal allies in the fight against AaI were the 6,500 Peshmerga fighters of the Patriotic Union of Kurdistan (PUK). The PUK leadership looked to the American Special Forces to provide the firepower and close air support for an attack against AaI. The PUK also realized that having US forces by their side would deter Iran from openly backing AaI. The Commanders of 3rd Battalion, and the PUK Peshmerga formulated a six-pronged attack to drive AaI out of the valley and seize the suspected WMD site at Sargat. Before the attack commenced, however, a demonstration of US firepower and resolve was in order.[26]

ODA 081 occupied a small house in Halabjah, looking down the valley toward the AaI stronghold. On the evening of 21 March, the 3-10 SFG(A) Commander and the Peshmerga Commander stood on the roof of the house watching in anticipation of the first missile attack on the AaI forces. An anxious 25 minutes after the scheduled strike time, the first Tomahawk Land Attack Missile (TLAM) impacted on the AaI positions. Every few minutes for the next three hours, another TLAM struck the target. By the end of the bombardment, 64 TLAMs had impacted in the region of the AaI base of operations, though with minimum effectiveness, since the enemy took shelter in their caves. Missiles detonated around the WMD facility at Sargat, and throughout the targeted sector, but did not significantly degrade Aal's defensive positions.[27] Defeating AAI would require a well-coordinated ground assault.

At 0600 on 28 March, the ground assault commenced. Operation Viking Hammer began with the six-pronged attack up the valley. Each of the assault forces consisted of 900-1500 Peshmerga fighters, accompanied by members of an SF ODA. In order to command the fight, the 3-10 SFG(A) headquarters co-located with Advanced Operating Base (AOB) 090 on Hill 654 where they could see almost the entire valley.

The combined force made considerable progress along all the assault routes. As they swept through the valley, SF and Peshmerga soldiers observed the AaI fighters fleeing higher up the valley from the Biyara area to more heavily fortified positions on the slopes of Shram Mountain. The northern element of ODA and Peshmerga headed to Sargat, which was secured at approximately 1000 hours.

Once darkness fell, the PUK troops regrouped and consolidated their positions. Four AC-130 gunships maintained pressure on the scattered AaI fighters and prevented them from regrouping. The attack continued on 29 March with the forces advancing northeast and seizing the high ground. Other forces pushed out from Sargat and expanded their perimeter to in-

clude the villages of Hanidind and Daramar. Throughout the rest of the day and into the next, the PUK chased AaI towards the Iranian border, where many crossed without difficulty, while others were met with fire from the Iranians and forced back toward the Peshmerga.[28] By 30 March, the PUK was in control of the formerly AaI-dominated valley and held the high ground. Operation Viking Hammer had eliminated AaI as an effective fighting force, and removed the threat to the PUK rear area. With this accomplished, the mission transitioned to supporting the rest of the PUK forces on the Green Line. The presence of the SF teams helped the Peshmerga in numerous ways, from providing close air support and indirect

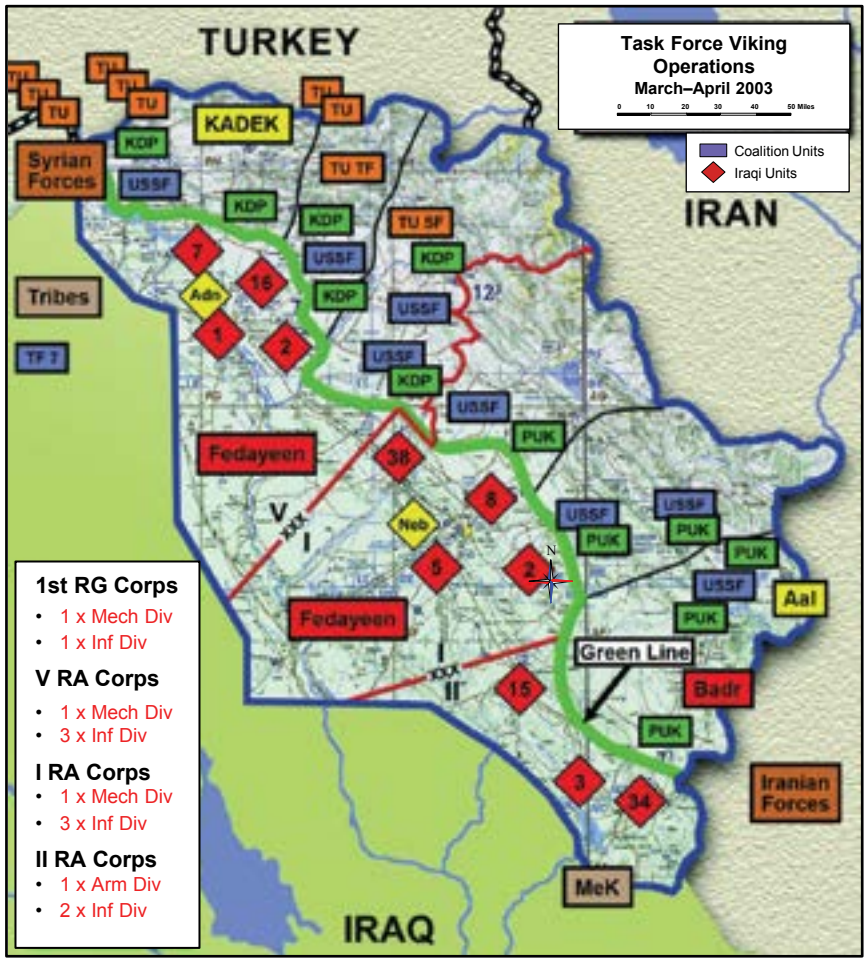

Figure 10.4. Task Force Viking Operations in March–April 2003. Map created by Army University Press.

fire, to assisting with command and control and combined planning before the attack. The SF presence was important in less quantifiable ways, as well. As the 3-10 SFG(A) Commander remarked, "the morale boost for the PUK of seeing US SF in their ranks cannot be understated. The ODA members attacking with them were tangible proof that the US was committed to providing them assistance."[29] With the Aal threat gone, C/3-10 SFG(A) and the PUK were free to join the rest of the Kurdish and TF Viking forces in attacking the Iraqis on the Green Line and opening the way for coalition control of the north.

Liberation of Kirkuk and Mosul

After the defeat of Ansar al-Islam to the east, the 3-10 SFG(A) consolidated with their PUK Peshmerga and continued operations in the eastern SOA along the Green Line. As they seized the town of Chamchamal, they forced the Iraqis to withdraw to the outskirts of Kirkuk. With the attached forces of ODAs from the 3-3 SFG(A) who were supported by 2-14 Infantry from the 10th Mountain Division, they could secure the oil fields around Kirkuk. As the TF Viking units advanced, Iraqi positions along the Green Line were weakened by air strikes from coalition aircraft. Wave after wave of US airpower destroyed enemy formations and supported the ground attacks. The aerial bombardment coupled with indigenous networks deep in denied areas within the city facilitated the relatively quick defeat of the Iraqi forces and facilitators in and around the city. Kurdish networks and covert manpower working with the PUK Peshmerga enabled effective targeting thus hastening the Iraqi withdrawal. [30]

Following the seizure of Kirkuk by the Special Forces and Peshmerga and the withdrawal of the Iraqi forces on 10 April 2003, troops and tanks from the 173rd Airborne Brigade were brought forward from Bashur airfield 150 kilometers to the north to occupy the city and surrounding oil fields, allowing the ODAs and PUK Peshmerga to move back north of the Green Line. It was critical to regional strategic partnerships that the PUK Peshmerga be kept out of Kirkuk after they helped liberate it.

The Commander of 3-10 SFG(A) and his staff were keenly aware of the strategic impacts and they required the 173rd to take over occupation of the city.[31] The battle to seize Kirkuk was significant in that it kept the Iraqi Army divisions engaged in battle so as to not retreat south in defense of Baghdad (see Figure 10.5). The CF-SOF operational synergy proved effective as the elements of the 10th Mountain Division worked seamlessly with the 3rd SFG(A) ODAs and the 173rd Airborne Brigade being brought forward to occupy the city and the surrounding oil fields.

The day after Kirkuk was liberated, ODAs from 2-10 SFG(A) with their KDP Peshmerga moved towards the city of Mosul in the western SOA. As they advanced toward Mosul, they seized and relinquished ground in a series of hard fought skirmishes with Iraqi forces. Whereas Kirkuk had a predominantly Kurdish population, Mosul was mostly Arab and strongly supported the Iraqi army. Resistance in the city was much more significant and the arrival of Kurdish Peshmerga only served to aggravate the situation. However, there was also a Kurdish population in the city and the Peshmerga had a strong interest in reuniting. The 2-10 SFG(A) Commander was in an awkward situation. While he needed the Kurds to fight the Iraqi forces, he could not allow them to advance into Mosul, due to the regional strategic alliances with Turkey. After the Special Forces and Peshmerga seized Mosul, the battalion would struggle to

Figure 10.5. Liberation of Kirkuk and Mosul 10–11 April 2003. Map created by Army University Press.

keep all of the Peshmerga out of the city. A city of two million people is difficult for an SF battalion to secure alone. Task Force Viking developed a plan to introduce the 26th MEU to occupy the city and satisfy US, Kurdish, and strategic interests. As the 26th MEU occupied Mosul on 11 April 2003, the SFODAs moved their Peshmerga forces back north of the Green Line.[32] Without the CF-SOF synergy between the Marines and the ODAs, Mosul would have been challenging to secure and maintain order.

Key Findings of TF Viking Operations

An ad hoc CF-SOF Task Force came together in a place and time that larger, less flexible units could not infiltrate due to regional politics. Through years of persistent partner engagement, the 10th Special Forces Group (Airborne) was able to partner with a 52,000-man indigenous force and fixed, disrupted and in some cases, defeated an overwhelming 150,000-man strong enemy comprising 13 Iraqi divisions including Armor, Mechanized Infantry, and Republican Guard as well as the Fedayeen Saddam, the MEK, and Ansar al Islam.

At the tactical level, CF-SOF achieved results that could only have been produced by combining their respective capabilities. To destroy enemy formations, Task Force Viking relied heavily on US Air Force and Navy airpower. Airpower provided the overmatching capabilities against armor, mechanized formations, and reinforced positions. When combined with the amassed Peshmerga dismounted forces, Task Force Viking achieved decisive tactical results in eliminating Iraqi threats and supporting the offensive to the south. The tactical integration of airpower, indigenous forces, CF and SOF reveal the synergistic effects of CF and SOF when their capabilities combine.

Fixing and disrupting 13 Iraqi divisions, and defeating the MEK and AaI enabled the CFLCC main effort to achieve its end state. The combined CF, SOF, and indigenous efforts provided an effective, alternative solution to build combat power in the north and create multiple dilemmas for the enemy high command. By infiltrating into northern Iraq, SOF turned denied areas into contested space. From that contested space SOF harnessed the power of indigenous forces to support strategic outcomes. Furthermore, SOF clearing and securing key cities and CF occupation facilitated post-conflict transition. In both Kirkuk and Mosul, the transition from Phase III combat operations to Phase IV stability operations occurred quickly and in Kirkuk occurred nearly overnight. This was due in large part to linkages between SOF, the Peshmerga forces, and the Kurdish elements in the cities. Illustrating the power of the Indigenous Approach, the

SOF teams and the Peshmerga quickly activated the local populace who immediately came back to their jobs helping establish local governance and establishing basic services such as power, water, and trash removal.[33] TF Viking adroitly employed both indigenous combat power and indigenous civil capacity during the conduct of their operations.

The battles TF Viking waged across the extended Green Line were highly decentralized. Key to victory was the aggregated effort of the ODAs working with the Peshmerga. The ODAs were operating on commander's intent and broad guidelines. Subordinates, down to the Team Leaders executed the plans, exploited success, and kept the Kurds at the forefront of the effort.[34] When combined with US air power and technology, decentralized mission command enabled the Peshmerga's indigenous way of fighting to achieve success.

Subordinating the 173rd Airborne Brigade to Task Force Viking, while unique in the integration of special operations forces and conventional forces during OIF, proved essential. The conventional forces provided the TF Viking commander the increased ability to retain more ground than would have otherwise been possible with Special Forces battalions alone. Further, the 173rd served as a highly visible indicator of US presence and resolve—reassuring to both the Turks and Kurds. This was crucial after SOF and Peshmerga forces liberated the cities of Kirkuk and Mosul. The 173rd provided the TF Viking commander the ability to occupy the key oil production facilities, a specified strategic goal.[35] The command relationship between CF and SOF facilitated achieving the operational goals. The success of Task Force Viking is a testament to CF-SOF operational synergy and should be incorporated into joint and combined training to preserve these valuable gains from the past two decades.[36]

Multi-Domain Operations and Army Special Operations Forces (ARSOF) Implications

The maturing Multi-Domain Battle concept reflects a deeper internalization by the Joint Force of how different forms of maneuver can exploit various types of terrain and gain positional advantage. It also creates an opportunity to advance principles of unified land operations, specifically combined arms, through a greater appreciation of multi-domain operational synchronization and CF-SOF operational synergy.

The Multi-Domain Battle concept posits several multi-domain battle challenges. To contribute to the Joint Force response to address these challenges, ARSOF has four pillars of capabilities. ARSOF provides strategic

value through indigenous approaches, precision targeting operations, developing understanding and wielding influence, and crisis response.

The first multi-domain battle challenge asks: how do US forces deter the escalation of violence; defeat threat operations to destabilize the region; and turn denied spaces into contested spaces should violence escalate? The ARSOF indigenous approach develops resilient and resistant partners to prevail against adversary threats short of armed conflict and maintains cohesive networks of people and organizations that condition the environment against sudden shocks. ARSOF persistent global presence and expeditionary capabilities enable the joint force to seize early initiatives by setting theaters and frustrating adversaries' direct and indirect strategies.

In this regard, the MDB concept may benefit by accounting for indigenous maneuver. The potential effects created by indigenous mass in both the competition space and armed conflict are a force multiplier that cannot be created overnight and should be a doctrinal long term investment. Equally, the Human Domain must be considered for the success of MDB. The most prevalent forms of conflict include insurgency, rebellion, civil war, or resistance movements. MDB should consider incorporating indigenous maneuver and aspects of the Human Domain as the concept matures.

Second, how do US forces maneuver from contested strategic and operational depth, with sufficient combat power in time to defeat enemy forces? Through ARSOF crisis response, a small number of operators can rapidly address emergencies to enable host nation solutions to local or regional security challenges. ARSOF conduct precision targeting operations against uniquely difficult, high-value targets. ARSOF can rapidly infiltrate austere, remote locations and quickly mass combat power—from individual operators to regimental-size formations—to seize, destroy, capture, or recover designated targets in contested and denied areas.

Third, how do US policies and leaders allow ground forces to defeat the enemy in the close area? During armed conflict, indigenous mass developed by ARSOF during competition provides combat power to create physical, virtual, and cognitive effects in the close, deep maneuver, and strategic fires areas. ARSOF support major combat operations through direct action (DA) in the form of precision targeting, deep-penetration raids or interdiction operations and special reconnaissance (SR) against targets of strategic or operational significance. ARSOF deploy tailorable mission command nodes and scalable force packages to conduct independent, dispersed, cross-domain

operations at the tactical and operational levels in lethal, contested, and denied environments either unilaterally or with partner forces.

Future Operating Environment (FOE) Considerations

How do battles that occurred almost two decades ago help prepare our force for competition and conflict two decades in the future? Significant challenges will emerge in the FOE over the next 20 years. Globalization will continue to accelerate the spread of technology and its exploitation. The environment will be comprised of adversaries and competitors both known and yet to be realized. Conflict will emerge in many nascent forms and across multiple domains. Nation states have watched non-state actors impose huge costs on the United States. The United States represents a threat to its enemies and their autocratic systems of government which will continue to use proxies and internally subversive campaigns to undermine and make the United States vulnerable to defeat. The following aspects of the environment are significant for ARSOF capability development and their implications on the future force.

Technology's proliferation and rate of change will empower state actors, non-state actors, and even individuals with competitive advantages. A globally connected world will have pervasive human-machine connectivity, allowing for unprecedented ease of communication and access to information. Adversaries will need minimal investment to employ social media and informational technologies to influence vulnerable populations, spread their ideologies, gather support, fund operations, crowd-source intelligence, and share techniques. Adversaries will likely challenge the stability of regions and US interests through indirect means and approaches.

Implications for the Future Character of Warfare

Identifying the FOE is challenging, but determining how to prepare to compete and win is an even more daunting task. Looking through the lens of the past with an assessment of the future allows for the formulation of implications for future warfare. Five implications emerge with relevance to future competition and conflict:

1. The value of persistent partner engagement and the indigenous approach.

2. Beyond I3 (integration, interoperability, and interdependence); CF-SOF operational synergy.

3. Purpose-built units.

4. The empowered Soldier.

5. Physical, virtual, cognitive mass

The first implication deliniates persistent partner engagement and the indigenous approach, ARSOF Soldiers and units provide commanders options to condition the OE favorable to policy objectives.[37] Hence, ARSOF envisions persistent partner engagement to orchestrate partnered activities around a continuously responsive OE framework that expands operational maneuver options.[38]

Persistent partner engagement enables ARSOF to develop long-term relationships necessary to resist negative influences and remain resilient in adversity.[39] They will provide physical, cognitive, and virtual support to resistance movements as a means to alter an adversary's cost calculus. Persistent partner engagement takes advantage of relationships to respond to security changes in environments where operational reach is strained and the ability to mass forces is constrained. It is part of a campaigning approach using the advantage of operational time, particularly during security contexts outside of combat operations.[40] Such campaigning to engage partners expands the strategic start point and anticipates strategic risks earlier in their development. Global relationships also enable crisis response. ARSOF positions its force globally to respond with partners to crises. In effect, "Persistent engagement helps nurture relationships to the left of the bang that build trust, increase understanding, facilitate stability, buy time to prevent conflict, and shape the environment for the use of short-notice direct action should it become necessary."[41] These options to escalate or de-escalate security conditions are a way that ARSOF can harness the power of partners when competing below armed conflict.

The second implication demonstrates I3: For years, the conventional Army and Army special operations have placed tremendous effort on strengthening the relationship between the two. The current characterization of that CF and SOF relationship leans on integration, interoperability, and interdependence (I3). These terms capture the essence of interaction, cooperation, and compatibility. The efforts to date regarding these aims toward compatibility must continue. However, the element of acting together coherently, which is synergy, has been oriented toward the ability for CF and SOF to operate together. CF and SOF should elevate that foundation to confront future challenges, particularly in the competition space with a synergy that synchronizes the effects of the two formations over time. Achieving synergy by combining conventional and SOF operations aims for greater effectiveness of long-term campaigns and theater operations. It is not an end to itself. It is an operational methodology to synchronize complementary capabilities for amplified effect on physical,

virtual, and cognitive objectives. CF-SOF operational synergy is a way to expand maneuver options at the operational and strategic levels.

The third implication shows that the ARSOF unit is configurable, purpose-built to deploy and conduct ARSOF activities and operations. It leverages capabilities in all domains at tactical, operational, and strategic levels, including cyber, electronic warfare (EW), and space. It requires access to some of those capabilities based on purpose but without necessarily owning them as organic elements. The purpose-built, integrated ARSOF unit is linked with internal and external entities and networks to achieve robust awareness and to exercise mission command. A tailorable unit of action would be composed of a range of capabilities, either permanently organized, or formed on an ad hoc basis. It would also harness traditionally non-military talent and expertise based on particular mission requirements.

Within ARSOF, one such unit is the 1st Special Forces Command (Airborne). As a 2-star, Special Operations, deployable headquarters, it deploys and may become a Special Operations Joint Task Force (SOJTF) to provide mission command of all joint and combined special operations activities in a Theater or JSOA.

ARSOF also redesigned a battalion in each of its five active duty Special Forces Groups to fill identified gaps and increase capability and lethality. Known as the 4th Battalion Redesign, these battalions were changed to support a broader, worldwide mission of assessing, training, and advising partner nation forces. The Army realized its own requirement to fill gaps in training and advising foreign partners and developed the Security Force Assistance Brigades (SFABs).

The fourth implication involves the empowered Soldier. Army special operations will continue to embrace the first SOF truth: "*Humans are more important than hardware*."[42] This truth will be even more relevant in a future environment that relies heavily on technological advantages. In the future, the Soldier will remain the organizational centerpiece, and the Soldier will remain a master of the human domain. Therefore, ARSOF will purposefully focus on its efforts to understand and influence human aspects of military operations as it increases its lethality.[43]

The empowered ARSOF Soldier is a self-contained battle director of human, machine, and information systems. The ARSOF Soldier garners these unique skills, which provide an edge when operating in politically sensitive or austere conditions. The ARSOF Soldier is a balanced person possessing innate characteristics and learned competencies. The Soldier

can operate comfortably with current technologies and can rely on physical discipline to overcome the harshness of austere environments and combat.[44] Awareness tools and lethal systems that are all enabled seamlessly by artificial intelligence augment the empowered Soldier. He or she is able to thrive in complex and ill-defined environments. The ARSOF Soldier will be optimized by harnessing the Soldier's competency, cognition, and performance, and the totality of the Soldier's health.

The fifth implication involves physical, virtual, cognitive mass: ARSOF can generate altogether different forms of mass that can be transferred into use by joint forces as combat power. In a conflict context, mass translates to combat power. Alternative forms of mass also provide options to consider applying alternative forms of combat power. ARSOF's ability to build and develop effective partner capability around the world is a function of their physical and virtual proximity to those partners. USASOC's experience conducting special operations is that proximity in training and operations equates to greater gains in partner abilities. ARSOF live among, train, and fight alongside partner forces and will continue to do so in the future. However, the nature of those partnering relationships will adapt to account for the relative aspect of proximity in virtual spaces.

Through indigenous approaches, ARSOF provide the joint force access to alternative forms of combat power resident within the operational environment. Not only is ARSOF able to complement and compound the effects of its capabilities, but it is able to also capitalize on the potential power from the Internet of Things (IoT) and civil society. These abstract resources are a kind of non-military reserve of data, talent, and expertise that is resident outside of the ARSOF institutional architecture. These resource pools are the everyday flows of data, the technologists, scientists, academicians, expatriates, and others with information and specific skill sets beyond the ability of ARSOF Soldiers to own themselves. ARSOF will need to balance the practicality of leveraging its own capacity and leveraging that of others. Examples of such resources might include mapping information, marketing data, social media data, or skillsets such as app development and coding, bioengineering, and virtual product design. These resources constitute abstract sources of power that can be optimized as new forms of mass.

Insights

Addressing the implications for future warfare cannot occur in isolation. Joint and inter-organizational partners will need to move forward together. Challenges from bureaucratic, organizational, legal, cultural, or

financial aspects could jeopardize an integrated effort. Maximizing the full scope and potential of future capabilities from across all domains will require a broad, collective approach.

Policies and regulations must keep pace to address the challenges of modern warfare. Adversaries not bound by limits in authorities may be able introduce operational dilemmas faster than our own institutional abilities to apply innovative security solutions. Policies and regulations must enable future ARSOF and conventional forces to leverage capabilities in all domains and to expand the ability to operate not only in physical space, but also to operate in cognitive and virtual spaces.

The ARSOF enterprise could miss the opportunity to seize advantages and mitigate risks in the future by moving slowly and failing to adapt. An institution trapped by archaic processes would constrain ARSOF's ability to deliver its capabilities for the nation. ARSOF must pursue the rapid, operational integration of technology and commercial innovation at a rate to outpace adversaries.

Developing solutions to address the implications for future warfare carries a risk of unintended consequences. The solutions could create unintended consequences and unanticipated second and third order effects. Leveraging capabilities from all domains, incorporating emerging technology, operating in physical, virtual, and cognitive spaces requires rigorous integration of doctrine, organization, training, material, leadership and education, personnel, and facilities (DOTMLPF) changes, prototyping, and testing to mitigate the risk of unintended consequences.

Implementing the solutions to address future warfare could disrupt the enterprise's ability to recruit, train, and equip personnel and units ready for employment. Recognizing the SOF truth that humans are more important than hardware and that the Soldier is the primary weapon system of ARSOF, the enterprise will need to reevaluate the necessary attributes of its personnel to meet the requirements of the future. More broadly, incorporating the solutions could result in potential adjustments to current processes, organizational structures, capabilities, standards, and perhaps the way the enterprise sees itself.

Conclusion

Task Force Viking's operations in northern Iraq provide lessons for today and implications for future warfare. Harnessing the combat power of the Kurdish forces demonstrates the value of approaches that incorporate partner and ally capabilities. It underscores the need in the future to

conduct persistent partner engagement over time, build capabilities, and grow relationships through indigenous approaches. The CF-SOF synergy at tactical, operational, and strategic levels which produced decisive results reflects the synergy required tomorrow. Incorporating multi-domain capabilities against the diverse range of adversaries of the future will necessitate synergy among many mission partners and their capabilities.

The rapid aggregation of a variety of units under Task Force Viking reflects the agility and flexibility required to form purpose-built units for the future. Comprised of a range of capabilities, they will form, reform, and harness talent and expertise based on particular mission requirements. The Soldiers who possessed the skills to lead and advise large-scale indigenous forces and disrupt armor and mechanized forces exemplify the Empowered Soldier of tomorrow. The Empowered ARSOF Soldier will have the competencies and skills to prevail in the future, including cross-cultural proficiency within our Special Forces, technology, and digital fluency, and the ability to succeed without digital capabilities. Finally, Task Force Viking created significant combat power through the physical mass of the Peshmerga. In the future, ARSOF will create and orchestrate physical, cognitive, and virtual mass in the conduct of campaigns.

To gain and maintain an enduring competitive advantage over our nation's adversaries, ARSOF will be compelled to adapt and change in an accelerated fashion. As part of the Joint SOF Force, ARSOF will be ready to prevent, deter, and defeat adversary strategies both below the level of armed conflict and if that fails—during armed conflict. The United States Army Special Operations Command is ready to move from the force of today to the force of tomorrow to ensure we remain—*Without Equal.*

Notes

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24. Briscoe et al., 258–59.

25. Briscoe et al., 194.

26. Briscoe et al., 195.

27. Briscoe et al., 195.

28. Briscoe et al., 197.

29. Briscoe et al., 198.

30. Lieutenant General Kenneth E. Tovo, Commanding General, USASOC interviewed by Dan Stoltz, Fort Bragg, NC, 2 May 2018.

31. Major Isaac J. Peltier, *Surrogate Warfare: The Role of US Army Special Forces* (Fort Leavenworth, KS: School of Advanced Military Studies, 2004), 31.

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35. Fontenot, Degen, and Tohn, *On Point,* 224.

36. Robinson, *Masters of Chaos*, xviii.

37. Joint Chiefs of Staff, Joint Publication (JP) 5-0, *Joint Planning* (Washington, DC: 16 June 2017), III-4.

38. Derek Eaton, Angela O'Mahony, Thomas S. Szayna, and William IV Welser. *Supporting Persistent and Networked Special Operations Forces (SOF) Operations: Insights from Forward-Deployed SOF Personnel,* Research Report, International Security and Defense Policy Center, RAND Corporation, 2017, accessed 27 April 2018, https://www.rand.org/content/dam/rand/pubs/research_reports/RR1300/RR1333/RAND_RR1333.pdf.

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Chapter 11

Maintaining Capability and Options: Dismounted Reconnaissance in the Division and Corps Deep Area

Major Brendon E. Terry

Our expanding technology has given us the employment of satellites for reconnaissance, specially designed aircraft, sophisticated infrared techniques, and many others. While these are all important, the man on the ground—well-trained and alert—still remains an important element in our reconnaissance structure. Only he can go places where the infrared or the aerial camera cannot go.[1]

—Colonel Harold R. Aaron

Corps headquarters play a significant role in physical and temporal deep area operations. Temporally, corps planners must project into the future and decide what conditions can be created and exploited to defeat the enemy and accomplish the corps mission. Corps deep operations are those activities which are directed against enemy forces not currently engaged in the close operation, but capable of engaging or inflicting damage in future close operations. Information collection, fires, EW, cyberspace operations, and tactical deception (TAC-D) focus on high-pay off targets in the corps deep area. Many of these capabilities are not resident in the corps. As such, the corps headquarters coordinates for these through planning and the targeting process for joint support (including joint fires; EW; cyberspace operations; and intelligence, surveillance, and reconnaissance).[2]

—Field Manual (FM) 3-0, *Operations*

The conventional US Army currently lacks an organic capability at the division and corps level, or Echelon Above Brigade (EAB), to conduct ground reconnaissance operations without task-organizing forces from subordinate units. In addition to the division cavalry squadron and corps cavalry regiment, the US Army historically possessed a long-range surveillance detachment or company (LRSD/C) to provide a deep dismounted reconnaissance or surveillance capability for the division and corps.[3] As of 2017, the US Army has deactivated all of these units in both the active and reserve components.[4] While the dedicated unit may no longer exist in the conventional force, the need for the capability endures and could be needed in future large-scale combat operations against peers challenging and disrupting other reconnaissance methods.

This chapter begins by examining the doctrinal role of the EAB headquarters, the deep fight, and doctrine of a necessary capability to fulfill that purpose, reconnaissance. It presents a force management summary of historic dismounted reconnaissance units to set the stage for case studies of Long-Range Patrol (LRP) units in Vietnam and Long-Range Surveillance Units (LRSU) in Operations Desert Storm (ODS) and Iraqi Freedom I (OIF I). The conclusion analyzes the continuities of those case studies and summarizes the case for conventional force dismounted reconnaissance capability.

The Purpose of the EAB Headquarters: The Deep Fight

The following analysis focuses on EAB headquarters—a division or corps—conducting a mission at the upper tactical or operational level in a near-peer hybrid threat environment. Field Manual (FM) 3-94, *Theatre Army, Corps, and Division Operations*, lists roles and tasks of the division and corps. These include serving as a tactical headquarters commanding two to five divisions or brigades, a joint task force, a joint force land component command, or an army forces headquarters—to integrate joint, army functional, and special operations capabilities. The purpose of this integration is to shape the environment for subordinate units with capabilities they do not possess. The corps and division differ in scope, scale, and time horizon. The corps "shapes throughout an operational environment to set the conditions for the tactical success of subordinate divisions . . . shaping and sustaining in preparation for the next phase of operations."[5] The division focuses on a shorter time horizon, synchronizing joint and Army capabilities with brigade maneuver while planning branches and sequels to the current tactical phase.[6]

Army Techniques Publication (ATP) 3-94.2, *Deep Operations,* and the newly published FM 3-0, *Operations*, reinforce this focus on deep operations for both the corps and division. *Operations* notes that corps headquarters "play a significant role in physical and temporal deep operations" to "project into the future and decide what conditions can be created and exploited;" Division deep operations nest with and are reinforced by corps capabilities to identify gaps, seams, and opportunities beyond the range of their subordinate brigades.[7] *Deep Operations* refers to the responsibility to shape operations for subordinate units in the close area through deep operations as "fundamental" for a corps or division headquarters in a tactical role.[8] The aggregation of this doctrine illustrates the importance of EAB's focus on operations in the deep area.

Reconnaissance Doctrine Review

To create effects in the deep area, the EAB headquarters must collect information through reconnaissance and requesting or controlling appropriate targeting assets. Assets typically under the direct, exclusive control of an EAB headquarters—both to conduct reconnaissance and place effects—consist almost exclusively of army aviation and long-range fires assets. The division headquarters typically controls a combat aviation brigade, which has remotely piloted aircraft (RPA) and manned attack-reconnaissance aviation assets organic to its formation.[9] With the transformation of battlefield surveillance brigades (BFSB) to expeditionary military intelligence brigades in 2014, no organic or routinely assigned ground reconnaissance force falls under direct control of the EAB headquarters.[10] Instead, such capability requires ad hoc task organization out of forces from other subordinate units. FM 3-90-2, *Reconnaissance, Security, and Tactical Enabling Tasks*, shows the typical forces available at each echelon. Dated 2013, it still lists the LRSU and BFSB as assets, and further classifies the dismounted cavalry troop organic to the infantry brigade combat team (IBCT) as an LRSU equivalent.[11] FM 3-55.93, *Long-Range Surveillance Unit Operations*, acknowledges the commonality in many aspects of infantry reconnaissance units, but clarifies the focus for special operations forces (SOF) at the strategic level, LRSU at the operational level, and infantry battalion scout platoons and dismount reconnaissance troops at the tactical level.[12] Having reviewed the assets available to the EAB headquarters, the next necessary discussion is their doctrinal employment.

The fielded force should possess the capability to fulfill requirements and principles defined in doctrine. This chapter shows the capability of dismounted assets to accomplish reconnaissance in the EAB deep area through their contribution to the fundamentals and management of reconnaissance described in FM 3-98, *Reconnaissance and Security Operations*. The fundamentals and management of reconnaissance inform the commander's integration of the forms and methods. Army doctrine lists seven fundamentals of reconnaissance: Ensure continuous reconnaissance, gain and maintain enemy contact, do not keep reconnaissance assets in reserve, orient on reconnaissance objectives, report all information rapidly and accurately, develop the situation rapidly, and retain freedom of maneuver.[13] Specific circumstances can place these principles in tension with others, and it is the art of reconnaissance management to find the optimal balance in execution.

Achieving this balance of the fundamentals is the goal of reconnaissance management— cueing, mixing, and redundant employment of as-

sets to address critical information requirements in priority at the appropriate time. Cueing refers to using one form or method of reconnaissance to initiate follow-on or more detailed collection by another form or method; mixing involves using different types of reconnaissance or assets concurrently to develop the most complete picture possible; redundancy means making use of multiple similar assets or techniques against the same requirement.[14] Successful management achieves the maximum possible breadth and depth of collection by prioritizing intelligence requirements and creating synergy between the different capabilities and limitations of each form, asset, and method using the strengths of one to counterbalance the limitations in the others.

LRP, Ranger, and LRSU DOTMLPF-P Summary

The US Army first published doctrine for infantry long-range patrols in 1962 as FM 31-18, *Long Range Patrols, Division, Corps, and Army*. The manual's title updated in 1965 to *Infantry Long Range Patrol Company*, and then in 1968 to *Long Range Reconnaissance Patrol Company*. The manual focused on a conventional ground war with units only authorized at the corps or field army level, and provisionally at the division level.[15] The 1968 version defined the role of the company to operate in the "area of interest" so as to "not duplicate organic unit reconnaissance," in language of the period relating to the deep area defined in current doctrine. The 1968 edition also included a new chapter on stability operations and the formation of provisional units based on lessons learned in operations in Vietnam.[16] The doctrine reflected understanding of the need for the capability, but the actual organization of units to execute it would not occur for several years after the conflict in Vietnam began.

The LRSU doctrine recreated in the 1980s AirLand Battle process was "an artful amalgamation" of the prior doctrine and experiences in the Vietnam War. [17] It maintained their employment in the "area of interest," but focused the purpose on intelligence collection with LRSU organic to military intelligence units. [18] LRSU doctrine maintained the heliborne method as primary insertion, but also accounted for other airborne, amphibious, ground, or stay-behind methods; a later edition included sections on vehicular movement, personnel selection, and operations other than war. [19]

US Army Special Forces, followed by conventional units like the 173rd Airborne Brigade and 1st Brigade, 101st Airborne Division (ABD), recognized the need and formed provisional LRP units with on-hand personnel and equipment.[20] General William Westmoreland, the Military Assistance Command Vietnam (MACV) commander, recognized the suc-

cess of these units. In 1966, he directed all divisions and separate brigades to organize LRP units provisionally prior to the forthcoming Department of the Army approval.[21]

In the 1980s, provisional LRSU again preceded officially authorized units; in this case, the 9th Infantry Division (ID) and the 82nd ABD. Initially, two corps fielded LRSCs and all 18 divisions formed LRSDs in the late 1980s. As part of the post-ODS force drawdown, heavy division LRSDs inactivated and remaining LRSUs realigned to support different headquarters.[22] This force structure remained largely the same until 2009, when all LRSDs inactivated and LRSCs organized under BFSBs, including all reserve component units.[23]

In Vietnam, units at all echelons used LRPs; SOF teams worked directly for MACV headquarters while each field force (FF), division, and separate brigade possessed LRP capability.[24] LRP company location varied within each unit. Often, the division cavalry squadron provided administrative control, while LRP units received operational assignments from the intelligence section.[25] A similar arrangement emerged at the brigade level, with the LRP detachment under the air cavalry troop for support and coordination of aviation assets.[26] LRP units or sections often operated under the control of subordinate units based on mission requirements at the corps and division level.[27]

Doctrinally, the corps and army-level companies had three platoons of eight, five-man teams. The company totaled 230 personnel, including a communications platoon, a support section with parachute riggers, and an operations section. Doctrine described a standard team size of five personnel, subject to mission requirements: patrol leader, assistant patrol leader, two radio operators, and one scout observer. [28]

In Vietnam's operations, however, LRP structure was slightly different. The field force companies, when formed, had an authorized strength of 230 like the doctrinal company, but with six-man teams. The division and brigade level companies or detachments possessed a similar structure at the individual team level, but had fewer platoons with fewer teams and a less robust support, communications, and headquarters section. Brigade units had 61 personnel while the division units had 118.[29] A team of four personnel—considered the minimum feasible size—sometimes conducted LRP missions. However, more often teams operated with an additional scout, increasing the team size to six personnel. Teams also often included indigenous personnel or combined into "heavy teams" if planning a deliberate ambush, prisoner capture, or similar operation.[30] The LRSUs

reorganized in the 1980s had a similar team, platoon, and company or detachment structure, scaled appropriate to their echelon.[31]

LRP personnel in Vietnam took nontraditional paths to train for their unit mission. The provisional units consisted initially of volunteers already assigned to subordinate units. As the units remained and individuals rotated on tours, replacements included a mix of experienced Soldiers and raw recruits. Doctrine suggested a timeline of "eight months to produce a long-range patrol"—an unachievable goal for units with personnel who rotated individually every 12 months.[32] LRP training was a continuous internal program within each organization. After completing individual and collective training, units would then use progressively more difficult combat patrols to build each new Soldier's experience and capability. To augment raw recruits, units took in as many repeat tour personnel and Ranger School graduates as possible. Soldiers ideally attended the MACV Recondo School before assignment as a team leader or assistant team leader.[33]

Personnel for LRSUs were largely second-assignment Soldiers, drawn through internal unit selection processes unique to each installation. This created varying difficulty in recruiting personnel based on the available population. Units such as those at Fort Hood and in Europe with large mechanized forces did not have a large pool of light infantry soldiers to draw from.[34] These units successfully cross-trained mechanized and anti-armor infantrymen, among others, but it was one more hurdle to overcome.[35] There was some use of the Q6, which later became the 6B, skill identifier to identify LRS personnel trained for these units, but stability and repeat assignments were not guaranteed.[36] The manning of these units was also subject to the level of emphasis the senior commander placed on allowing the desired type of personnel outlined in the doctrine to be made available for the LRS units—prior successful company commanders, platoon leaders, scouts, and other specialties who were de facto, if not de jure, leaders in the larger units. Concentrating this quality of personnel in one location would tend to lower the proficiency of the larger general population units.

While LRSUs benefited from the establishment of the Long-Range Surveillance Leaders Course (LRSLC), later renamed the (still existing) Reconnaissance and Surveillance Leaders Course (RSLC), they had difficulty maintaining the specialized insertion skills called for by doctrine. This difficulty primarily manifested in dive and military free-fall (MFF) parachute proficiency, but also in overall team proficiency. Eventually, the US Army removed the dive insertion method because the units could not maintain certified dive masters to maintain a baseline of proficiency. A combination of factors caused this inability—including personnel turnover and longevity, and a variance

caused by unit proximity to facilities and equipment to train in these skills that conventional forces, unlike SOF, do not typically employ.[37]

Case Study 1: Vietnam Long-Range Patrol Units

The US combat action in Vietnam has strong relevance as a case study for the future operating environment. The enemy threat was composed of a mix of guerilla forces and conventional force units operating in conjunction on the battlefield, much as expected in the potential future operating environment. The terrain of Vietnam also presented, in many ways, the ideal case for the use of dismounted, stealthy reconnaissance as it inhibited many other methods. US forces used technology most effectively in conjunction with other, traditional collection methods. The only thing lacking in the scenario of Vietnam that would apply directly to an analysis of future use is the lack of contestation in the air domain; in South Vietnam where US forces waged ground combat, only low-altitude direct fire threatened US forces in the air domain.

LRP teams conducted very small-scale tactical actions whose individual results and aggregation of patterns developed significant information at the upper tactical and operational levels. Senior leaders in multiple after-action reviews credited these long-range patrols with developing the information that drove major operations. I Field Force Commander Lieutenant General William R. Peers stated at the August 1968 Long-Range Patrol Conference that in 1967, "every major battle that the 4th Infantry Division got itself into was initiated by the action of an LRP. Every single one of them."[38] In his Vietnam Studies monograph, *Tactical and Material Innovations,* US Army Lieutenant General John H. Hay Jr., a division and field force commander, also noted the significance of LRPs through their increasing frequency of use and effects at the division and higher level.[39]

Operation Cedar Falls in January 1967 is one example. Beginning in late 1966, MACV conducted Operation Rendezvous, a comprehensive plan for intelligence collection and pattern analysis. It included all means of information collection, including agent reports, overhead infrared collection, airborne radar, radio direction-finding equipment, and long-range patrols to feed a pattern analysis of enemy activity. The MACV intelligence officer, Brigadier General Joseph McChristian, used this information to conclude that a strike in the Iron Triangle area of military region IV would severely disrupt enemy operations. Operation Cedar Falls then led to a significant setback for both North Vietnamese and Vietcong operations.[40] In particular, both US Army and Army of the Republic of Vietnam (ARVN) troops found that the enemy locations plotted using pattern anal-

ysis prediction correlated very closely with the actual locations discovered during the operation, with 156 of 177 predicted enemy locations in the 11th Armored Cavalry Regiment's (ACR) area found within 500 meters of the predicted position.[41] While multiple assets enabled achieving this success, it would have been significantly less effective without LRP teams because of the key role they played in the intelligence collection.

The 101st ABD and 1st Cavalry Division (CD) operations integrated LRP operations with their companies attached to the division air cavalry squadron, 2-17th Cavalry and 1-9th Cavalry respectively. The senior officer debriefings of Major Generals Melvin Zais, John Hennessey, and John Wright—the three 101st ABD commanding generals from July 1968 to January 1971—all mention significant contributions to success by LRP and Ranger units.[42] Similarly, 1st CD used their LRP company in conjunction with their division reconnaissance squadron assets to pull subordinate brigades into an area of operations. Major General Elvy B. Roberts, the commanding general from April 1969 to May 1970, outlined use of H Co (Ranger), 75th Infantry in detail combined with the scout helicopters, lift helicopters, and aero-rifle platoons of 1-9th Cavalry to pinpoint enemy supply lines along trail networks. The division committed battalions and brigades based on that reconnaissance to disrupt enemy supply operations, attack uncommitted forces, etc., in the Phuoc Long province.[43] Both units reported LRPs enabling disruption of large-scale enemy attacks and integration with other technical reconnaissance measures.[44]

LRP operational success varied based on their position relative to enemy units. If dismounted patrols were close to friendly lines near the enemy's known line of contact, they found enemy forces in a very high state of alert, and thus greatly increased the risk of friendly unit compromise and mission failure. However, when patrols infiltrated what current doctrine calls the enemy's support area, enemy units were much less alert and the patrols had much more freedom of maneuver, time, and ability to collect useful intelligence.[45]

In both unit employment and the conduct of individual operations, LRP units often conducted missions other than reconnaissance or surveillance. Especially later in the conflict and after the name change from LRP to Ranger, the units conducted more offensive, deliberate ambush operations as the purpose for the patrol, rather than as an opportunity taken close to the planned extraction time. These missions sometimes grew even beyond the "heavy team" into full platoon- or company-sized operations. Given their association with the air cavalry units, LRP units also common-

ly served as a downed aircraft reaction team or as pathfinders for airborne and air assault operations.[46]

Commanders at all echelons generally supported the idea of LRPs. They resourced them appropriately with personnel and other assets needed for successful operations like aviation, sometimes assuming significant risk in their employment. In several instances, enemy forces eliminated entire teams, with all personnel killed or captured. While LRP recruiters at replacement depots advertised that the individual LRP mission was less risky than being a line infantryman, the risk of catastrophic danger to a team was far higher.[47] If circumstances delayed or made unavailable indirect fire support, a reaction force, or helicopter gunship support, a small recon team could do little to mitigate the risk. While this situation was not a common occurrence, nor something deliberately planned, it was a risk that high-level commanders accepted when conducting these operations.[48]

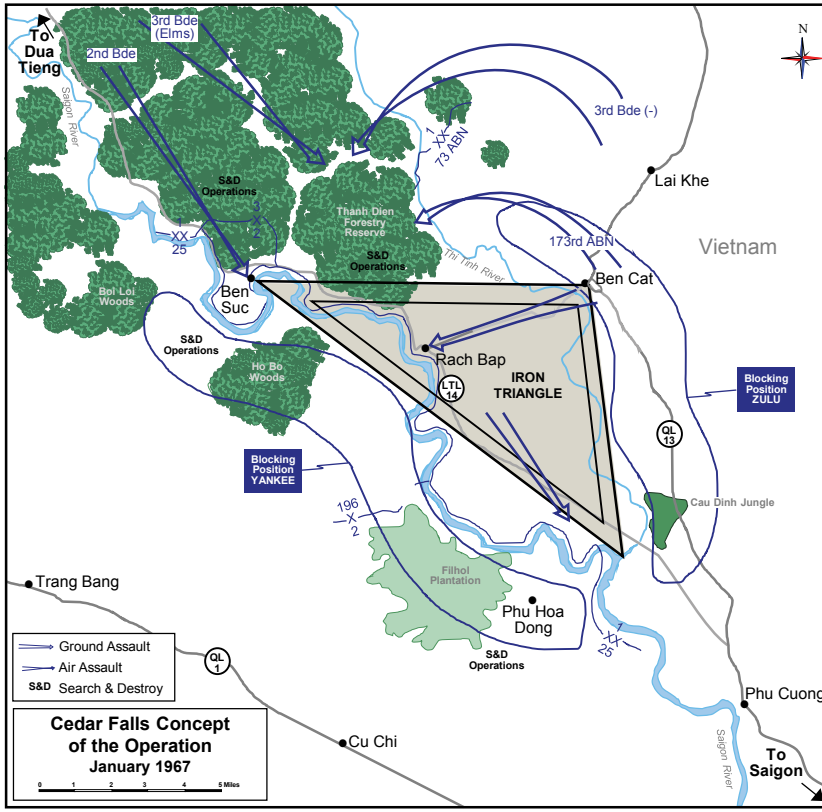

Figure 11.1. Cedar Falls Concept of the Operation. Map created by Army University Press.

The support varied between units and even within units as commanders changed, but it remained generally positive.

Analyzing LRP operations in Vietnam against the fundamentals of reconnaissance reveals their operations most significantly impacted gain and maintain enemy contact, maintain freedom of maneuver, and focus on the reconnaissance objectives. Adherence to these fundamentals of reconnaissance enabled all aspects of effective reconnaissance management. Without the options LRPs provided, reconnaissance management would have been much less effective.

A significant contribution, particularly early in the conflict, was the ability for LRPs to collect information about the enemy movement in areas where conventional unit action would not suffice and the US Army had not yet developed reliable technology-based means. Organic conventional reconnaissance units did not have the equipment or organization to conduct the extended foot patrolling required to gain and maintain enemy contact in the dense vegetation of Vietnam.[49] LRP units provided this essential capability to US forces in Vietnam.

LRPs also had a significant impact on maintaining freedom of maneuver for the supported force. As described by General Roberts, the use of 1-9th Cavalry with the LRP unit attached allowed the 1st CD to maintain most forces out of contact at fire support bases or conducting local security and stability missions in their area of operations. When their reconnaissance—combined with intelligence and other assets—provided information on the movement of enemy units or supplies, the division had the flexibility to position its main combat units to conduct the attack. Reconnaissance by main force units would likely have been less effective and reduced flexibility.

LRPs had mixed results within the fundamental focus on the reconnaissance objective. One could argue that the deliberate ambush and larger size unit operations misused the capability in methods of employment needed to obtain necessary information. The use of LRPs in non-reconnaissance or surveillance missions, such as downed aircraft recovery, does violate this principle, but understandably so. The LRPs were an available and capable force used to achieve a necessary task. Viewing this principle as an absolute, use of LRPs for anything but a stealthy surveillance patrol is a misuse of the organization and an unachievable, unrealistic extreme.

The most significant impact in the framework used for this analysis is the LRP's ability to provide flexibility in conducting effective management of reconnaissance. LRPs were most effective when used in conjunction with other methods and means of reconnaissance. LRPs provided a criti-

cal ability to verify reports from emerging technology such as the "people sniffer," infrared sensors, and ground radar reports. LRPs often emplaced these technical assets, later cueing their own reconnaissance missions. LRP operations further cued operations by a localized reaction force or collectively larger scale battalion and brigade operations. The ability to cue, mix, and provide redundancy to other reconnaissance operations was the greatest contribution of the LRP units in Vietnam.

Four major factors contributed to LRP success in Vietnam: They occupied optimal locations relative to the enemy's battlefield framework; terrain and the character of the enemy created a dense battlefield favorable for their use; the tempo of the conflict allowed the time necessary for stealthy reconnaissance operations to gain necessary information; and the chain of command at the highest echelons resourced their formation appropriately and deemed the inherent risk acceptable. LRP use in the Vietnam conflict represents a high point in the breadth and depth of stealthy reconnaissance use and integration at all echelons from battalion to corps. It provides many templates for what is necessary for their effective formation and employment. The remarks of Colonel Aaron at the 1968 LRP Conference, displayed in the epigraph, best summarize utility of these patrols in Vietnam: No matter what new technology comes along, at some point a force may have the need to insert ground assets to cover gaps in capability and coverage. [50]

Case Study 2: Long-Range Surveillance Units in ODS/OIF I

Dedicated dismounted reconnaissance units for the EAB returned to the US Army as part of the transition to AirLand Battle doctrine that evolved in the 1970s and 1980s.[51] These units looked much like the LRP units of the Vietnam War, but had broadened in their designed capabilities and purpose to enable the deep disruptive fight that US Army leaders envisioned necessary to defeat a Soviet offensive in Europe. The reconstituted reconnaissance force participated in numerous actions, spanning a spectrum from close alignment with the doctrinal mission to no alignment at all. This analysis focuses on the larger-scale conventional operations in Iraq, both in 1990–91 and 2003, as these most closely address the elements germane to a division or corps deep fight in a peer or near-peer conflict.

Some consider Operation Desert Storm as the culmination and validation of the AirLand Battle Doctrine revolution that began in the 1970s and came to fruition in the 1980s.[52] Since the recreation of LRSUs was part of this doctrinal revolution, it is logical to examine LRSU performance in ODS. LRSU operations divided in two categories based on the decisions

of the two corps commanders, Lieutenant General Gary Luck commanding XVIII Airborne Corps (ABC) and Lieutenant General Frederick Franks commanding VII Corps. The VII Corps largely did not employ the LRSUs in accordance with doctrine, while XVIII ABC did. This variation was due to differences in commander personality, level of comfort with the mission profile, and the size of the assigned areas. Both commanders made decisions with risk as a significant factor: General Luck's guidance was to use the corps and division LRSU only if needed information was unobtainable by other means, while General Franks decided not to attempt any cross-forward line of own troops (FLOT) ground reconnaissance missions with LRSU.[53] LRSU employment had mixed results. It generated no spectacular successes but provided solid intelligence in some cases, while there were also outright failures to achieve necessary information in others.

The XVIII ABC possessed five LRS organizations in ODS: Each subordinate division had its LRSD organic to either the military intelligence battalion or cavalry squadron. The corps lacked an organic LRSC and received the LRSD from the inactivating 2nd Armored Division (AD), D/522nd Military Intelligence Battalion. The LRSDs from the 101st ABD and 24th ID both conducted successful cross-FLOT reconnaissance missions onto initial objectives. They communicated effectively, using high-frequency radios to both division and brigade headquarters, and provided effective surveillance on initial cross-border objectives for the 24 to 48 hours before the invasion. These units were overtaken by advancing forces and had no opportunity for reinsertion due to the rate of advance.[54] The 82nd ABD LRSD, F Troop, 1-17th Cavalry, acted in support of squadron operations with downed aircraft recovery, damage assessment of Talil airbase, and surveillance of pro- and anti-Saddam forces in An Nasiriyah.[55] The 24th ID and 101st ABD teams avoided compromise and provided positive communications on Iraqi units back to their respective brigades and divisions, proving successful but not spectacularly so.[56]

The XVIII ABC LRSD failed to obtain coverage in the necessary period to provide early warning of an Iraqi advance. Three teams inserted beyond division LRSD teams. In two cases Bedouins compromised the teams, and Iraqi soldiers compromised the third, forcing extraction less than 24 hours after insertion. These teams were not in place in the window expected for Iraqi movement south, 24 to 48 hours after the XVIII ABC attack.[57] Five US Army Special Forces teams inserted eight observation posts even deeper than the corps LRSU. They faced similar compromise issues that forced extractions; of the eight, only three remained in operation

more than 24 hours. They were, however, in place long enough to confirm that Iraqi strategic reinforcement was not moving south from Baghdad.[58]

VII Corps employed LRSUs in relatively close border security missions prior to the ground invasion. In accordance with the corps commander's guidance, it did not reinsert them across the border prior to the ground invasion. Poor communications with adjacent units plagued the operations of F/51st Infantry, the VII Corps LRSC, and D/101st Military Intelligence Battalion, the 1st ID LRSD. The observation posts emplaced were within visual range of the main units, causing multiple instances of confusion between LRSUs moving and potential Iraqi army forces, creating conditions for fratricide. [59] This employment of LRSUs in a non-doctrinal manner, within visual range of the FLOT, created unresolved communication and coordination issues.

Despite the less-than-spectacular successes, much of the after-action review comments advocated retention of the capability and modification to its organization. Likely from the use and coordination issues experienced,

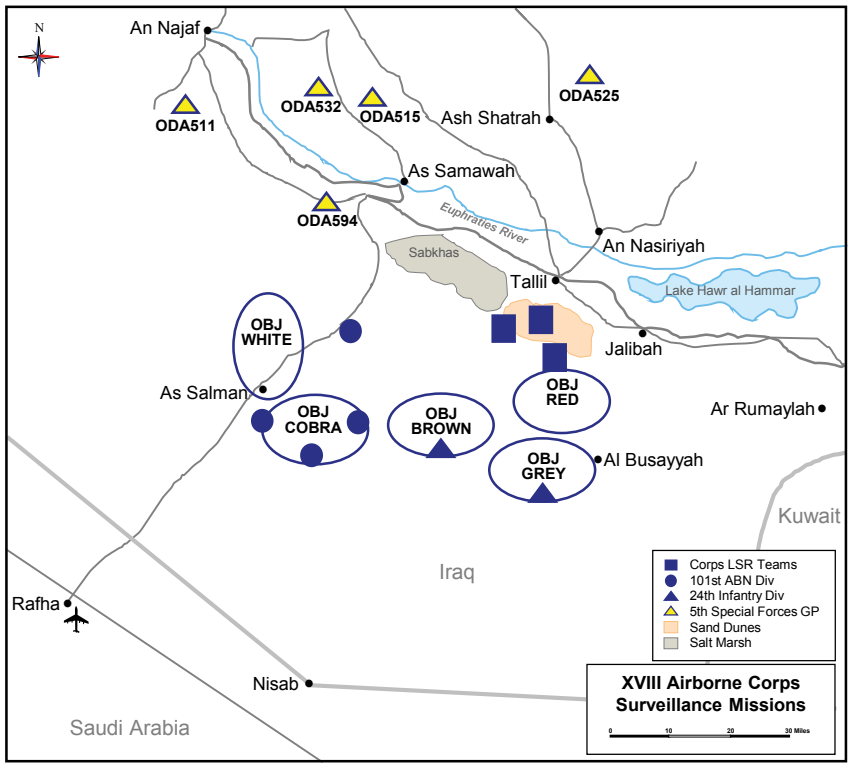

Figure 11.2. XVIII Airborne Corps Surveillance Missions. Map created by Army University Press.

coupled with the unexpectedly rapid rate of advance, common suggestions were to move the LRSU from the military intelligence unit to the division cavalry squadron or corps cavalry regiment and to eliminate the LRSD from the heavy divisions.[60] At least one heavy division commander, Major General Barry McCaffrey of the 24th ID, objected to the deactivation of

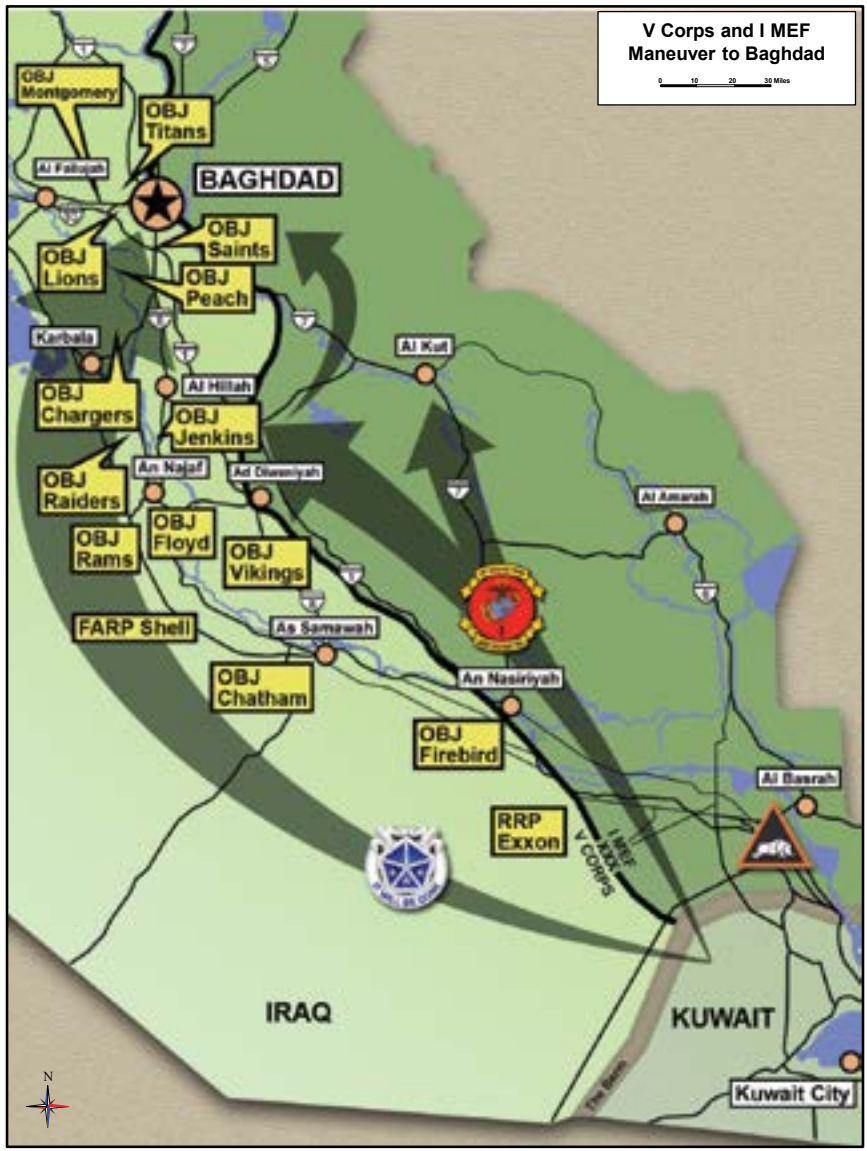

Figure 11.3. V Corps and I MEF Maneuver to Baghdad. Map created by Army University Press.

the LRSD after Desert Storm.[61] Most LRSUs conducted operations under the corps or division reconnaissance unit, but were temporarily attached; neither had great experience working with the other. The 82nd and 101st ABD LRSDs had garrison relationships with the cavalry squadrons. In 1st ID, D Company (LRS),101st Military Intelligence Battalion, conducted most operations under the control of 1-4th Cavalry, the division cavalry squadron. However, the more successful heavy division LRSD, D Company (LRS), 124th Military Intelligence Battalion of the 24th ID, operated directly through the division G2 and used the SOF experience of the assistant division commander to develop and employ teams against targets.[62]

Ten years later, part two of the Persian Gulf War in the form of Operation Iraqi Freedom had similarly mixed results. The Coalition force employed LRSUs in two areas during the 2003 invasion. One supported the 3rd ID attack north from Kuwait in advance of the attack. The second

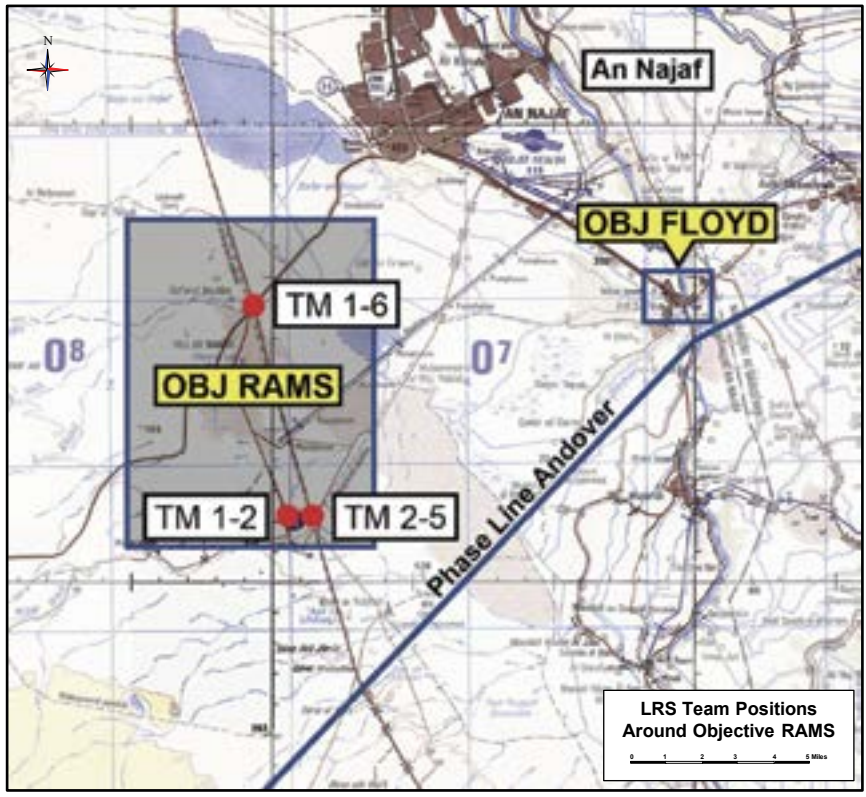

Figure 11.4. LRS Team Positions Around Objective RAMS. Map created by Army University Press.

supported the 173rd Airborne Brigade airborne assault into Bashur airfield in a pathfinder-type role.[63]

3rd ID attacked north to Baghdad and employed the attached corps LRSC, E Company, 51st Infantry (LRS). Three teams inserted on Objective Rams, southwest of the city of Najaf, which was two-thirds of the distance between Kuwait and Bagdad. E/51st IN was organic to the 165th MI BN, part of the V Corps MI brigade. V Corps inserted the teams early in the morning of G-Day and expected them to be in place for the 48 hours it expected 3rd ID to need to advance that far. Of the three teams inserted, enemy forces compromised one team within hours, forcing it to break contact to an alternate hide site, concealing themselves in a ditch for 48 hours while Iraqi soldiers actively searched for them within 10 feet of their location. The other two teams successfully established observation posts and communicated Iraqi unit locations to the advancing 3rd ID.[64] The rate of advance was much faster than expected: The division cavalry squadron, 3-7th Cavalry, reached Objective Rams on G+1 and linked up with the teams.[65] The speed of advance and length of the planning cycle for insertion of 48 to 72 hours precluded any subsequent use of the LRS teams in the south in their doctrinal surveillance role.[66]

The 74th Infantry Detachment (LRS), organic to the 173rd Airborne Brigade, supported the airborne assault into Bashur air base. Their initial role, supporting the brigade S-1 and enabled by attached Air Force combat control personnel, was to form the drop zone support team necessary for the airborne operation to take place. The team air-landed into the airfield the night prior to the airborne assault on 25 March 2003, linking up with a Special Forces team already on the ground. They established communications and verified weather conditions for successful execution of the assault.[67] Over the days and weeks following the airborne assault, the 74th Infantry Detachment integrated into reconnaissance operations as the airhead expanded, using their long-range communications capability to assist in command and control of the brigade in the mountainous terrain.[68]

By examining deep dismounted reconnaissance actions in ODS and OIF I how the deep capability is an important role in future warfare. The salient fundamentals of reconnaissance for this case study are to gain and maintain enemy contact, retain freedom of maneuver, report information rapidly and accurately, develop the situation rapidly, and orient on the reconnaissance objective. Within the management of reconnaissance, all three elements of mixing, cueing, and redundancy are germane. The difference in employment and effectiveness between the two corps areas in Operation Desert Storm also provides opportunities for contrast.

Regarding *maintain continuous reconnaissance* and *maintain enemy contact*, despite reservations especially expressed in ODS, commanders had information requirements that other means could not better or sufficiently meet. Even though RPAs were available in Desert Storm, and even more so in Iraqi Freedom, they were in limited supply. This limited their ability to provide continuous coverage to those reconnaissance objectives that required it, such as the 24th ID G-Day objectives in Desert Storm or Objective Rams in Iraqi Freedom. In both cases, advancing forces moved more quickly than expected, preventing reinsertion following initial objectives.

On the other hand, LRSUs had issues with reporting information rapidly and accurately, most notably during the VII Corps border security missions prior to the Desert Storm ground invasion with 1-4th Cavalry and 2nd ACR. There were also successes with the 24th ID and 101st ABD in their G-Day objectives, units whose headquarters planned effectively for LRS employment from the outset. An aspect of LRS employment apparent in the Desert Storm accounts was the variance in use according to the level of knowledge and comfort by the commanders. XVIII ABC, and 24th ID, even though they were a heavy unit, made much more deliberate and doctrinal use of the LRS units than did VII Corps. This was also partly due to the much greater terrain in the west assigned to XVIII ABC, but also due to the background of the leaders and varying knowledge and comfort with this type of operation.

Under the *orient on the reconnaissance* objective, commanders employed LRSUs outside their primary doctrinal surveillance role. In OIF I, it was effectively so in another task outlined in FM 7-93, as a pathfinder unit for an airborne operation. On the other end of the spectrum, some headquarters in both conflicts employed LRSUs in a manner not leveraging any of their unique capabilities, riding in trucks along the advance and securing prisoners of war in ODS were examples.[69]

A factor in the non-doctrinal employment of LRSUs was each commander's decreasing tolerance for risk. Lesser confidence in team and staff proficiency, disadvantageous terrain, and other needs that the units were available to fulfill influenced this trend. The LRSUs of the Cold War and later era were a conventionally owned and resourced unit whose doctrine called for SOF-type techniques. Without the specialized manning and training procedures available to SOF, the dispersion over a wide area prevented a critical mass of expertise to form. These units faced an uphill battle to maintain proficiency that ebbed and flowed in the level of success attained and was highly dependent on leader knowledge and support of their operations. In the OIF I examination in *On Point*, the editors concluded "the Army should assess long-range surveillance units. . . . [They] did not produce

great effect for the investment of talent and the risk to those involved."[70] The editors speculate there may be nothing unsound with LRSU structure and organization, but leaders are unwilling to accept the risk posed by using these "fragile units" in "fast-moving, ambiguous situations."[71]

In the management of reconnaissance, dismounted reconnaissance still provided a needed capability. The persistent surveillance emplaced on high-priority locations enabled other assets, such as RPAs, to be available for other missions. Dismounted reconnaissance enabled the art of management in mixing, cueing, and redundancy.

Cross-Case Analysis

Several continuities emerged through the examination of both case studies through the framework of reconnaissance fundamentals and reconnaissance management techniques. These continuities fall into three categories: the requirement for options to enable reconnaissance management, the decrease in risk acceptable in operations, the requirements for a dismounted reconnaissance organization to mitigate risk, and limited SOF capacity to support conventional units. These continuities show the need and necessary form for a dismounted reconnaissance force to operate in the EAB deep area.

The first continuity emerging is that no single method or type of reconnaissance can meet all information requirements. Both case studies show that integration of all methods and forms of reconnaissance enabled success in the deep area. Future operations may require all forms and methods even while terrain and tempo considerations make each more useful in specific circumstances. The restricted terrain gave dismounted reconnaissance a dominant role in Vietnam, while the open terrain of the Iraqi desert drove an operational tempo dictating increased use of aerial assets and fighting for information. In neither case, however, was the role so dominant to eliminate the need for the other.

The second continuity is that circumstances enabling successful execution of deep, stealthy reconnaissance declined. Specifically, operational tempo increased due to the open terrain but without a corresponding increase in acceptable risk, lowering the "stealth threshold."[72] However, battlefield density has not decreased but increased and, therefore, aerial reconnaissance is unable to meet all requirements. There is tension between the need for detailed information only available through dismounted reconnaissance and the level of acceptable risk.

The third continuity is that mitigating the risk of dismounted operations requires significant and specialized resource application. Successful

dismounted reconnaissance requires selectivity in personnel beyond initial-level training, especially in a deep area, and significant if not dedicated support assets from aviation and artillery to mitigate the risk. The personnel of successful dismounted reconnaissance units are not initial-entry soldiers, but those demonstrating the necessary mental and physical capacity to accomplish a high-risk mission. The specialized assets are not typically available in sufficient quantity at the brigade level to permit successful mitigation.

The last continuity is that requirements exceeded the capacity of SOF dedicated to supporting conventional units. In all three conflicts, SOF operated near and coordinated with conventional force headquarters but had a different mission focus that precluded their focus on information and other requirements for the conventional force. This led to the creation of conventional units for this mission in Vietnam and their employment in both ODS and OIF I.

Conclusion

Based on these continuities, the conventional EAB headquarters should have the ability to employ stealthy, dismounted reconnaissance in the deep area to enable proper management of reconnaissance assets and execution within the fundamentals of reconnaissance. Future operations in restricted terrain such as those in the Pacific or Africa, much closer to the terrain examined in the Vietnam case study, may increase the need for this capability. Two broad options are available to fill this capability gap: Modify the conventional force structure or increase interoperability with similarly capable SOF units. This capability exists within SOF, but at insufficient capacity. It also exists in the IBCT; but insufficient resourcing of personnel, training, and equipment make employment of this force in the EAB deep area disadvantageous.

Maintenance of a dismounted stealthy reconnaissance capability is essential to provide options to the future force commander. It is an integral part of the reconnaissance system our doctrine envisions. The 2016 elimination of these specialized units at the EAB level constrains options potentially necessary to the EAB commander in the future fight and continues the trend of degrading basic field craft and Soldier skills foundational to unit capabilities. The terrain of recent conflict enabled an operational tempo that broke the "stealth threshold" for large-scale use of stealthy reconnaissance but did not eliminate it entirely. The US Army must maintain this critical skill to enable commander flexibility and options at all levels.

Notes

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4. "Army Structure Memorandum 2019–2023," 11 October 2016, i. Excerpt provided by XVIII Airborne Corps G37.

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7. Department of the Army, FM 3-0, 1–34.

8. Department of the Army, Army Techniques Publication (ATP) 3-94.2, *Deep Operations* (Washington, DC: 2016), iii.

9. Department of the Army, FM 3-94, 6–7.

10. Andrew Fowler, Brian Fitzgerald, and Pete Rose, "Retaining Army National Guard Long Range Surveillance Companies" (TCM-Reconnaissance, CDID, Maneuver Center of Excellence, 26 February 2015), 1. Document provided by Mr. Pete Rose through email correspondence.

11. Department of the Army, Field Manual (FM) 3-90-2, *Reconnaissance, Security, and Tactical Enabling Tasks* (Washington, DC: 2013), 1–4.

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16. Department of the Army, FM 31-18 (1968), 3, 21–25; Michael Lee Lanning, *Inside the LRRPs: Rangers in Vietnam* (New York: Ivy Books, 1988), 70–71.

17. James F. Gebhardt, *Eyes Behind the Lines: US Army Long Range Reconnaissance and Surveillance Units*, Global War on Terrorism Occasional Paper 10 (Fort Leavenworth, KS: Combat Studies Institute Press, 2005), 117.

18. Gebhardt, *Eyes Behind the Lines*, 112; Department of the Army, Field Manual (FM) 7-93, *Long-Range Surveillance Unit Operations* (Washington, DC: 1987), 1–2.

19. Department of the Army, Field Manual (FM) 7-93, *Long-Range Surveillance Unit Operations* (Washington, DC: 1995), iv; FM 7-93 (1987), 3–6.

20. Lanning, *Inside the LRRPs*, 47, 51–59.

21. Stanton, *Rangers at War*, 30.

22. Gebhardt, *Eyes Behind the Lines*, 135.

23. Department of the Army, FM 3-55.93, 1–7.

24. Joseph A. McChristian, *The Role of Military Intelligence 1965–1967*, Vietnam Studies (Washington, DC: Government Printing Office, 1994), 105; Lanning, *Inside the LRRPs*, 62; Stanton, *Rangers at War*, 209.

25. William R. Peers, "LRRP Briefing - Commander's Conference" (Combined Arms Research Library, Fort Leavenworth, KS, Special Collection, 24 September 1967), 4; Gebhardt, *Eyes Behind the Lines*, 62.

26. "Operational Report - Lessons Learned (1 November 1966–31 January 1967), 173rd Airborne Brigade (Separate)" (Center for Army Lessons Learned, Fort Leavenworth, KS, 15 February 1967), Tab C, 12.

27. "Operational Report - Lessons Learned (1 November 1966–31 January 1967), 173rd Airborne Brigade (Separate)," 17.

28. Department of the Army, FM 31-18 (1965), 5–6; Department of the Army, FM 31-18 (1968), 6–7.

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32. Department of the Army, FM 31-18 (1965), 24.

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Chapter 12
The Future of Army Aviation in Deep Maneuver

Major General William K. Gayler

> *Troops used in the enemy's rear cannot be used against his front; that is to say, that the effect of an action on the rear or flanks will not in itself multiply our forces. Rather it will raise their potential to a higher power—higher as to possible success, but also higher to possible danger.*[1]
>
> —Carl Von Clausewitz

Throughout the history of modern warfare, commanders at echelon desire to conduct deep operations to interdict an adversary's lines of communications, restrict the employment of their uncommitted forces, and gain positions of advantage physically and psychologically. Operations in the deep area ultimately set conditions for the close fight or future operations by reducing an adversary's relative combat power, will to fight, and freedom of action.[2] Those operations are cross-domain focused to enable that freedom of action when commanders commit maneuver forces. Army aviation, as the combined arms team third dimension maneuver force, employs intelligence, fires, electronic warfare (EW), maneuver, and mission command to give commanders the flexibility to exploit successes in the deep area that enables close operations. To retain this capability in the future, US forces must continue to develop and refine training and doctrinal concepts that are supported by technological innovation and advancement.

A Historical Perspective

Over the last century, the expansion in vertical lift capability transformed maneuver warfare particularly within the deep area. Multiple historical examples illustrate Army aviation's success in shaping operations in the deep area in both continuous and noncontiguous areas of operations. World War I (WWI) saw the first application of aviation to shape the deep area from the air through reconnaissance, limited bombing, and artillery spotting. World War II and Korea expanded the application of concepts identified in WWI, but included strategic bombing, close air support, and employment of ground forces in the deep areas to shape the close fight through the use of airborne forces. It wasn't until the Vietnam War did rotary wing aircraft assume many of the roles fixed wing held up to that point. Expanded doctrinal concepts and technological advancements allowed for the practical application of rotary wing aircraft employment deep in enemy territory to give the Army the operational reach with organic assets.

The late 20th Century and into the early 21st Century saw further advancement in aircraft and support system technology. Simultaneously, doctrinal developments and employment considerations capitalized on that technological advancement with concepts for aviation deep operations. Desert Storm, Operation Enduring Freedom (OEF), and Operation Iraqi Freedom (OIF) all saw the practical application of the new technology with supporting doctrine and tactics with revolutionary success. Task Force Normandy, where the 1/101st Aviation Regiment partnered with US Air Force Pave Low helicopters, led the Desert Storm air war by destroying an Iraqi early warning station. Army Aviation then executed air assaults and deep attacks throughout the four-day ground war destroying significant Iraqi forces. The Army further refined aviation maneuver in the deep area in the open battles of OEF and OIF with limited success. Unfortunately, near-peer adversaries of the United States have watched and learned from those successes. They have subsequently invested heavily in multi-domain capabilities to enable their anti-access/area denial concepts to counter the employment of US joint forces.[3]

The Operational Environment

As near-peer adversaries continue to develop and refine their strategies while also deploying advanced, multi-domain capabilities at the tactical, operational, and strategic levels, they create an even more complex and contested environment. This strategy specifically challenges Army aviation's ability to conduct forcible entry and Joint Combined Arms Maneuver (JCAM) in the deep area due to the development of integrated defense capabilities consisting of robust integrated air defenses, long-range fires, and sophisticated Intelligence, Surveillance, and Reconnaissance (ISR) assets. Combined with offensive and defensive information technologies, electronic warfare, and cyber capabilities this presents a formidable, but not insurmountable challenge.[4]

Our potential adversaries can now challenge US and allied reliance on space-based ISR and Position, Navigation and Timing (PNT), network-centric mission command systems and capabilities, such as the global positioning system (GPS), and secure satellite communications (SATCOM). With the propagation of technology comes the escalation of machine learning and artificial intelligence resulting in detection and observation of forces in all domains. Those developments coupled with the increased range and lethality of enemy systems leads to the very real probability of precision attacks on our forces. Subsequently, the manifestation of risk to the execution of operations in the deep area increases significantly in the future operational environment. Considering the current and future operational

environment, US forces must pursue Doctrine, Organization, Training, Materiel, Leadership and Education, Personnel, Facilities and Policy (DOTMLPF-P) solutions for the operational employment of aviation while integrating the warfighting functions to enable forces to regain an asymmetric advantage and retain the ability to operate throughout the battlespace.

Intelligence

The force must improve its intelligence collection and dissemination of information. It is well known that intelligence drives maneuver, particularly when executing operations in the deep area. Intelligence must continue to develop and refine in capabilities as the enemy becomes more sophisticated. Intelligence officers must support the targeting process and plan for the employment of all ISR assets to support maneuver forces.[5] The collection apparatus for deep operations will require an array of sophisticated sensors that not only detect, identify, and geo-locate enemy weapon systems and formations, but also must rapidly disseminate critical information and react to lethal or non-lethal target threats by spoofing, jamming, swarming, or attacking them. Additionally, sensors should provide an understanding of the terrain and environment.

It is important that the focus of reconnaissance and collection not only include the target area but also collection and targeting within the battlespace that enables maneuver from the forward line of friendly troops throughout the route of flight to the deep operations area. The 11th Aviation Regiment learned this lesson the hard way when it attacked the Iraqi Republican Guard Medina Division during the 2003 invasion of Iraq.[6] En route intelligence and enemy disposition in the objective was inadequate and ambiguous which forced aviation attack formations to conduct a movement to contact to locate and destroy the enemy. Couple that with the Iraqi preparedness for aviation deep attacks and the 11th Aviation Regiment suffered significant damage to all but one aircraft while inflicting minimal damage on the Iraqi force. Had intelligence provided the attacking aviation unit with refined enemy positions both along the route and in in the objective area, that force would likely have seen different results.[7]

Future aviation forces must not only utilize intelligence assets from the entire joint force, but must also detect, identify, and geo-locate targets and hazards with fused sensors within the degraded visual environment whether due to adverse weather (clouds, fog, haze, dust, and precipitation) or battlefield obscurants (multi-spectral smoke, chaff, aerosols, etc.). This, coupled with autonomous and cooperative targeting for both line of sight and beyond line of sight engagements, will increase lethality and surviv-

ability enabling aviation maneuver in the deep area. Advances in manned and unmanned teaming to include autonomous control of unmanned aerial systems coupled with information sharing among aerial platforms are just two ways technology can improve the situational awareness of aviation forces. Peer-to-peer combat operations are dynamic and require increased and committed integration between intelligence and maneuver forces, especially when conducting operations in the deep area.

Fires

The force must continue to develop maneuver in the deep area through the integration of long range precision indirect fires and electronic attack (EA) capabilities. If intelligence drives maneuver, then fires enable maneuver. In contrast to the unresponsive, unsynchronized, and unsuccessful fires employed during the 11th Aviation Regiment's March 2003 failed attack on the Iraqi Republican Guard's Medina Division, the 101st Airborne Division (Air Assault) was able to employ robust, synchronized, responsive, and effective fires that enabled the aviation formation to maneuver in the deep area and attack the Iraqi forces with minimal aircraft damage while inflicting significant enemy loses.[8] Arguably firepower alone did not lead to a decisive victory; it was a balance and synchronization of combat power in which fires and maneuver complemented one another on the battlefield enabling success.

In the future, cross domain teaming of Army aviation forces with other elements integrating electronic warfare, cyber capabilities, and long-range precision fires can create temporary windows of domain superiority and enable freedom of action for the Joint Force in the deep operations area. The rapid transfer of information for targeting creates opportunities for dynamic targeting to disrupt and destroy enemy forces while increasing the protection of employed aviation assets. This approach presents the enemy with a multitude of dilemmas to overcome. The US Army force must balance requirements development for increased range, mass, precision, responsiveness, and dedicated fires to ensure survivability and success in the deep area.

Maneuver

Aviation is an essential maneuver force to the joint force commander. During the American Civil War, J.E.B. Stuart conducted deep maneuver in the form of raids on Union communications and logistics nodes with dramatic effects. In fact, J.E.B Stuart was able to utilize maneuver deep to encircle General George McClellan's forces in June of 1862.[9] Because of his unit's agility, survivability, and lethality, J.E.B. Stuart's formation was a constant deep threat to Union commanders. Army aviation also demonstrat-

ed these traits in Vietnam. The 1st Cavalry Division could air assault over great distances, maneuver organic helicopter and tubed fire support assets, and rapidly mass forces to overwhelm the enemy deep on their territory.[10]

Future aviation systems, tactics, doctrine and training must enable operational maneuver. The Improved Turbine Engine Program (ITEP) and Future Vertical Lift will support expansion of the maneuver envelope for Army aviation, particularly in the deep area. The scope and scale of change will be much like that experienced by the Army entering the Vietnam War. Maneuver tactics and doctrine must evolve with the material changes to have the holistic impact of the next generation aviation system. Army aviation leaders must then apply the evolved systems, tactics, and doctrine to training programs that increase the pace and rigor of training to not only mitigate risk, but also prepare Army aircrews for the complex and dynamic environment in a Large-Scale Combat Operation.

Mission Command

The correct application of mission command is essential to enable effective maneuver in the deep area. It is the warfighting function that integrates the others into a coherent whole of particular importance for Large-Scale Combat Operations.[11] The Army provides the framework for executing mission command through the operations process, and the planning, preparation, execution and assessment activities that help enable success. Deep maneuver operations utilizing rotary wing aviation, especially those "out of contact" of friendly forces, must be viewed, resourced, and executed as division level or higher operations in order to ensure all war-fighting functions are integrated and synchronized to set the conditions for success. Briefly mentioned earlier in this paper, the Task Force Normandy mission at the beginning of Desert Storm is an excellent example of effective mission command and the proper integration of Army Aviation, which resulted in a successful deep maneuver mission enabled by collection and dissemination of intelligence, movement and maneuver, and sustainment. Apaches from 1/101st Aviation Regiment, with MH-53J Pave Low helicopters from the US Air Force's 20th Special Operations Squadron, attacked the Iraqi Early Warning radar station to open an attack corridor for coalition forces. The mission was conducted over long distances with minimal communications to higher headquarters against a refined target deep in enemy territory.[12] The Task Force executed the mission to the highest levels, ultimately leading to the initial onslaught of coalition air attacks.

Army aviation currently contributes to effective mission command by extending communication ranges, providing essential intelligence, and employing fires and maneuver to allow commanders to balance the art of command with the science of control. In the future, aviation formations will further enable mission command as it operates deeper with better sensors while still providing the necessary information for commanders to make the best decisions. The increased lethality and targeting effectiveness of enemy forces will require dynamic action by subordinate leaders. Therefore, commanders must be comfortable in ambiguous situations relying on subordinate leaders who have the training, systems, and guidance to execute decisive operations to defeat our adversaries in the absence of further direction. As the complexity of the battlefield continues to increase, in any Large-Scale Combat Operation utilizing Army Aviation, the most important aspect remains the inclusion into the overall ground scheme of maneuver from the beginning of the operations process, and not as an after-thought. Like Task Force Normandy and other successful missions of its kind, Army Aviation will always achieve its greatest effect for the supported component or ground force when it is planned in detail as a maneuver element as part of a combined arms team. As US Army General Donn A. Starry stated, "Deep attack is not a luxury; it is an absolute necessity to winning. . . . It is essential to winning because it creates opportunities to seize and retain the initiative."[13]

The Army must continue to develop, refine, and execute procedures to dominate across all domains throughout the battlespace. By the continued pursuit for solutions to counter adversary technological advances in weapons and tactics, Army aviation must also develop doctrine, tactics, and training strategies to support its own advances in aviation systems. New technology will not ensure success alone. Conscious development of DOTMLPF-P solutions and the application of the warfighting functions will support regaining overmatch in the deep area. While doctrine is a starting point, training in the application of that doctrine as units prepare for Large-Scale Combat Operations is a must. Army aviation will fight a much more capable and technologically superior adversary than they have in the past. Therefore, the Army, and Army aviation in particular, must be able to project combat power rapidly in all domains to defeat that enemy through a trained and ready force capable of executing the most complex operations in all environments.

Notes

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Chapter 13

Disrupted, Degraded, Denied, but Dominant: The Future Multi-Domain Operational Environment

Major General Gary M. Brito and Major Keith T. Boring

No matter how clearly one thinks, it is impossible to anticipate precisely the character of future conflict. The key is to not be so far off the mark that it becomes impossible to adjust once that character is revealed.[1]

—Sir Michael Howard

Army forces in the future will face enemies more capable than ever to disrupt degrade, or deny the advantages of American and Coalition land power. Yet, future US and Allied forces can maintain dominance by maintaining an edge in effective operations across the multi-domain: land, air, maritime, space, and cyberspace.

Future enemies will manifest as state and non-state, insurgent, near-peer, or peer forces. They will adapt to gain more parity against Army forces as they seek to defeat US and Allied interests. Adversaries will attack Army forces not only on the land domain, but all domains of land, air, maritime, space and cyberspace. Such forces will use new or maturing technologies to include Robotics and Autonomous Systems (RAS) or Unmanned Aerial Systems (UAS). They will fight in environments disadvantageous to US forces, such as dense urban environments, subterranean environments, or the cyberspace domain. These future enemies will have long studied American capabilities to coordinate technical reconnaissance, satellite-based communications, and air and maritime power to enable ground freedom of maneuver and overmatch.[2] They will be more adaptive—employing combinations of traditional, unconventional, and hybrid strategies to threaten US interests.[3] Army forces will face future battlefields that are more lethal, and fight through degraded conditions.

US and Allied forces in the future will not forfeit overmatch and dominance as a *fait accompli*.[4] Future success of Army forces and their ability to meet the greater challenges of future enemies relies on executing four critical components. Army forces will project combat power beyond land into the five domains as they conducting cross-domain operations. Formations will operate semi-independently. They will integrate reconnaissance and security operations in all domains. Army forces commanders and leadership will better realize the Army's mission command philosophy. With the

continued technological advancement and innovations of American industry—and application of cross-domain operations—US and Allied forces will continue to remain dominant in battle through the 21st Century.

Historical Review

Contemporary and future rapid advancement of new technologies; maturation of older technologies; and the opening of new warfare domains has similarities to another transformative era in warfare; World War I. In that war from 1914 to 1918, the most advanced Industrial Age powers fought mostly on land. The Industrial Revolution of the previous century led to a dizzying pace of technological advancements that transformed warfare. Armies were revolutionized with magazine-fed weapons, rapid-fire machine guns, more advanced howitzer artillery, radio communications, and internal combustion engines leading to the development of aircraft and tanks.[5] During the war, aircraft and tanks were first introduced to warfare and advanced exponentially to gain an advantage. The battlefields of World War I were among the bloodiest in history, as armies failed to adapt doctrine and tactics to the new deadly weapons of the era. Air became the new warfare domain as the first aircraft for war conducted reconnaissance, air-to-air combat, and ground attack through bombing and strafing.

The first half of the 21st Century, much like a century before, shows a similar rapid advancement of warfare technologies. The advances of the Space Age in the mid-20th Century and the Information Revolution of the late-20th Century are shaping warfare in the future. New technologies are emerging, such as RAS. Less-new technologies are maturing, such as UAS. Warfare is also extending to new domains—space and cyberspace—as state and non-state forces seek to gain an advantage. Like the armies of the World War I battlefield, today's armies face the challenge of adapting doctrine and tactics with the rapid transformations of the near future. As was the case a century earlier, the costs of failure in the future are extremely lethal scenarios.

The New Emerging Operational Environment

Adversaries are increasingly more advanced and capable as they attain inexpensive and more available new or maturing technologies to counter US advantages in all domains. UAS for reconnaissance and attack are less expensive for non-state and state militaries to procure. US forces can no longer assume that all UAS are friendly. Near-peer militaries such as Russia and China are developing RAS for land, air, and maritime domains. A current example is the Russian Uran-9 multifunctional reconnaissance and fire support system. The Uran-9 is a small tracked armored vehicle

operated autonomously and armed with a 30-mm turret. The Uran-9 was confirmed by the Russian military as being fielded in Syria.[6]

Army forces operate with advantages in effective information networks, enabling rapid information sharing and understanding as well as joint and combined arms capabilities. These capabilities are coupled with network-assured positioning, navigation, and timing (PNT) and availability of precision munitions. US forces no longer monopolize these capabilities. Enemies already are capable of synchronizing space and cyberspace means to locate and attack forces with precision weapons and use electronic warfare (EW) capabilities to disrupt or degrade Army information networks. Adversaries already outnumber and outrange Army indirect fire capabilities and are adept at linking manned and unmanned platforms with effectively massed indirect fires.[7] American capabilities that allow current overmatch are due to a growing dependence on digital and electromagnetic systems. Army formations can become more vulnerable to enemy attack in cyberspace and EW, while threatening PNT and the Army's information network. Adversaries possess capabilities to degrade US situational awareness, shared understanding, and common operating pictures. US use of precision munitions can be threatened. Vital space-based capabilities can be attacked from cyberspace, or destroyed physically. US forces should expect periods of degradation in current and future operations.[8]

Future enemies will seek to deny Army forces advantages on land by contesting them in the physical domains: land, air, and maritime. They will disrupt and deny access of air and maritime forces and reduce support to land operations. Enemies will also disrupt and degrade land operations through the domains of space and cyberspace.

In the air domain, future threat forces will further reduce US air superiority through the use of integrated air defense capabilities. Man-portable systems—difficult to detect—can particularly threaten Allied air. Adversaries will also gain access to advanced unmanned air and ground systems. Such systems allow the enemy to threaten US formations at lower cost. Long-range integrated air defenses could defeat or limit US dominance in aerial reconnaissance capabilities. Enemies will use unmanned air systems—once monopolized by US and Allied forces—to inexpensively target US formations and critical nodes. Enemy capabilities will be resistant to electronic suppression and use passive sensing technology such as infrared search and track to deny effective US air-ground integration of movement, maneuver, and fires.[9] Land forces will be less protected or supported by the air domain.

In the maritime domain, Army and Navy forces will operate more jointly than ever as maritime assets provide lift, sustainment, and ship-to-shore fires to support maneuver. Ground forces project land-based combat power via direct and indirect fires into littoral areas to support maritime operations. Enemies will employ anti-access area denial (A2AD) against maritime and air assets to deny land forces access to theater.

The space domain is not a physical domain like land, air, and maritime. The opening of the space domain was originally peaceful, with few nations economically capable of accessing the domain. Spacefaring nations agreed to keep the space domain peaceful—more for exploration and not for weapons systems. Instead, the space domain was used to support the physical domains through the use of satellites for weather, reconnaissance, and PNT. Future warfare will see an increase of military activity into the space domain as more nations gain access. Future enemies will seek to deny US and Allied space-based intelligence, reconnaissance, and PNT capabilities, such as the global positioning system and secure satellite communications. Disrupting space-based capabilities would better enable adversaries to degrade US forces in the physical domains.

In the cyberspace domain, technology advancements will allow adversaries to attack the Army information network and degrade effectiveness. Cyberspace offers other state and non-state actors the capacity to delay US and partner responses to a nonlethal attack by implanting malicious code in advance on US and partner logistics, command, control, communications, computers, intelligence, reconnaissance, and commercial support networks.[10] The United States can expect similar advancement and challenges from the electromagnetic spectrum (EMS). For example, the Chinese strategy—known as integrated network electronic warfare—combines EW, computer network operations, and nonlethal strikes to disrupt battlefield information systems that support an adversary's warfighting and power-projection capabilities.[11]

How US Forces Maintain Overmatch and Dominance

US forces in the future will need to maintain, improve, and adapt the human factors of leadership and training while continuing to pursue technological innovations that help ensure American overmatch and dominance. Future success of Army forces will rely on executing four critical components: dominate cross-domain maneuver in all domains, operate semi-independently, integrate reconnaissance and security operations, and make the Army's mission command philosophy real.

Dominate cross-domain operations. Army maneuver forces must expand the concept of combined arms to include employing capabilities in all five domains. Cross-domain maneuver is the employment of mutually supporting lethal and nonlethal capabilities in multiple domains to create a synergistic effect that increases relative combat power and provides Army maneuver forces with the overmatch necessary to destroy or defeat enemy forces.

Operating semi-independently. The future operating environment will require Army forces to operate dispersed with the ability to concentrate combat power rapidly at decisive points, and in spaces (domains) to achieve operational objectives. Brigade combat teams (BCTs) operating semi-independently possess sufficient mobility, firepower, protection, intelligence, mission command, and sustainment capabilities to conduct cross-domain maneuver at extended supporting range and distance for up to seven days while achieving operational objectives. Operating semi-independently will allow BCTs to infiltrate along multiple axes, evade enemy attacks, achieve surprise, and gain positions of advantage to isolate, envelope, or destroy enemy forces.

Integration of reconnaissance and security in all domains. The complexity of the operating environment requires an integrated combined arms approach to reconnaissance and security beyond traditional air-ground screen, guard, and cover missions conducted by dedicated reconnaissance forces. Semi-independent operating BCTs will use their organic cavalry squadrons and cross-domain capabilities to develop tactical and operational depth and create reaction time and maneuver space.

Make mission command real. A cluttered and hyperactive battlefield limits higher commanders' ability to manage all decisions in a timely manner. To generate the tempo of operations desired and best cope with the uncertainty, disorder, and fluidity of combat, command must be decentralized. That is, subordinate commanders must make decisions on their own initiative based on their understanding of their higher command's intent rather than passing information up the chain of command and awaiting decisions. The potential for enemies to degrade communications will force commanders to realize the Army's mission command philosophy. Under dispersed and degraded conditions, the Army's ability to seize, retain, and exploit the initiative will depend on empowering leaders to exercise disciplined initiative consistent with the commander's intent when mission command systems become degraded, fail, or are not used in order to conceal operations and reduce digital signature.[12]

Conclusion

US Joint and Allied combined forces in the future will fight more capable enemy forces—both state and non-state across all domains: land, air, maritime, space, and cyberspace. These more capable adversaries will use traditional, unconventional, and hybrid strategies to narrow US forces overmatch. Army forces in the future will fight more lethal battlefields in degraded conditions, as enemy adaptations and procurement of advanced technologies will allow successful disruption and denial of American advantages. The Army must be capable of effectively projecting combat power beyond land into all domains as cross-domain maneuver. Army forces in the future will fight semi-independently—better integrating reconnaissance and security operations and empowering leaders with disciplined initiative to fully realize mission command. These synergistic advances, with American technological innovation, will best ensure US forces overmatch and dominance against the worst of any future enemy.

Notes

1. Sir Michael Howard as quoted in Department of the Army, Field Manual (FM) 3-0, *Operations* (Washington, DC: 6 October 2017), 1-4.

2. Department of the Army, TRADOC Pamphlet 525-3-6, "The U.S. Army Functional Concept for Movement and Maneuver, 2020-2040," 11–12; overmatch is defined as the application of capabilities or unique tactics either directly or indirectly, with the intent to prevent or mitigate opposing forces from using their current or projected equipment or tactics.

3. TRADOC Pamphlet 525-3-1, "The U.S. Army Operating Concept: Win in a Complex World," 10–12.

4. *Fait accompli*: A thing that has already happened or been decided before those affected hear about it, leaving them with no option but to accept it.

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Robert F. Baumann

Robert F. Baumann has been Director of Graduate Degree Programs for the Command & General Staff College since April 2004. He joined CGSC in 1984 and served 19 years as a member of the Department of Military History/Combat Studies Institute. He received a BA in Russian from Dartmouth College (1974), an MA in Russian and East European Studies from Yale University in 1976, a Master of Philosophy in History from Yale University in 1977, and a PhD in History from Yale University (1982). In addition to more than 20 scholarly articles and book chapters, Baumann is the author of *Russian-Soviet Unconventional Wars in the Caucasus, Central Asia, and Afghanistan* (Combat Studies Institute, 1993), as well as coauthor of *Invasion, Intervention, Intervasion: A Concise History of the US Army in Operation Uphold Democracy* (Combat Studies Institute, 1998), *My Clan Against the World: A History of US and Coalition Forces in Somalia 1992–1994* (Combat Studies Institute, 2004), *Armed Peacekeepers in Bosnia* (Combat Studies Institute, 2004). He also wrote "Soviet Media Performance during the Afghan War: STRATCOM Utopia or Dystopia?" in the Proceedings of the CSI 2009 Symposium on *The US Army and the Media in Wartime* published in 2010. In addition to teaching at CGSC, Baumann has frequently served as an adjunct faculty member at the University of Kansas and Kansas State University, where he has served on numerous thesis and dissertation committees. He continues to teach graduate courses

in Russian and Eurasian Military History, The Balkans, Peacekeeping Operations, and The Evolution of Military Thought. Since 2009, Baumann has also served as a Peer Reviewer for the Higher Learning Commission of the North Central Association of Colleges and Schools.

Paul E. Berg

Colonel Paul E. Berg is an active duty aviation officer currently serving as Director of Academic Affairs at Army University at Fort Leavenworth, Kansas. He has more than 23 years of active duty and four combat deployments. He has a BBA and MBA from the University of North Texas and an MS and PhD in Adult Education from Kansas State University.

Keith T. Boring

Major Keith T. Boring is a Strategic Planner at the Maneuver Center of Excellence, Fort Benning, Georgia. He received a BA in Peace, War, and Diplomacy and History from Norwich University; a Master of Arts in Statecraft and National Security Affairs from the Institute of World Politics; and master's of Military Science from the US Army School of Advanced Military Studies. He is a graduate of the US Army Command and General Staff College and the US Army School of Advanced Military Studies.

Gary M. Brito

Major General Gary Brito, a native of Hyannis, Massachusetts, was commissioned an Infantry Officer through Penn State University and entered active duty in March 1987. He most recently was Commanding General, Joint Readiness Training Center (JRTC) and Fort Polk. Previous assignments include Deputy Commanding General for Sustainment then later Operations, 25th Infantry Division; Director, Force 2025 and Beyond, US Army Capabilities and Integration Center (ARCIC), Training and Doctrine and Command (TRADOC); and Operations Officer (G3) for III Corps, Fort Hood, Texas. In that capacity, he deployed and served as the Deputy Director, Afghanistan National Security Forces (ANSF) Development, International Security Assistance Force (ISAF) Joint Command in Kabul, Afghanistan. Brito has served in a variety of command assignments, including Commander, 120th Infantry Brigade, First Army; Commander, 1st Battalion, 15th Infantry Regiment, 3rd Brigade, 3rd Infantry Division. He has a Bachelor of Science degree in Community Studies from Penn State University, a master's in Human Resource Management from Troy State University, and a second master's in Joint Strategy and Campaign Planning from the Joint Advanced Warfighting School. He is also a graduate of the MIT Seminar XXI Program.

Ronnie L. Coutts

Lieutenant Colonel (Retired) Ronnie L. Coutts, MBE, is a graduate of the Royal Military Academy at Sandhurst. He graduated from the US Army Command and General Staff College in 2003 and was the recipient of the General Dwight D. Eisenhower Award for the Outstanding International Officer Graduate and the General George S. Patton Jr. Award for the Distinguished Master Tactician. He served in multiple key positions in the British Army.

Edmund J. Degen

Colonel (Retired) Edmund J. "EJ" Degen has commanded artillery units at all levels through brigade and served as the V Corps Chief of Plans during Operation Iraqi Freedom. He has a Master of Military Arts and Science degree from the Army's School of Advanced Military Studies and a Master of Science degree in Strategic and Operational Planning from the Joint Advanced Warfighting School. He is co-author of *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004) along with numerous journal articles. He presently works for the Chief of Staff of the Army as the Director of the Operation Enduring Freedom Study Group and is writing the Army's first official history of OEF.

Gregory Fontenot

Colonel (Retired) Gregory Fontenot, commissioned Armor in May 1971 in the Regular Army as Distinguished Military Graduate of Kansas State University. He served in armor units in the United States and Germany. He commanded 2-34 AR 1989–1990, including more than 4 months in Desert Shield/Desert Storm, as well as 1st Brigade 1st Armored Division in Germany, including a tour in IFOR 1 from December 1995–November 1996. His other important assignments included Director Wargaming and Experimentation, TRADOC G2, lead author for *On Point: The United States Army in Operation Iraqi Freedom (*(Fort Leavenworth, KS: Combat Studies Institute Press, 2004*),* and Director University of Foreign Military and Cultural Studies.

William K. Gayler

Major General William K. Gayler is Commanding General at the US Army Aviation Center of Excellence at Fort Rucker, Alabama. He was a Distinguished Military Graduate of North Georgia College in Dahlonega, Georgia, where he was commissioned as an Aviation Officer in 1988.

Gayler's key command assignments include C/2-227th Aviation Regiment in Hanau, Germany; D/2-227th Aviation Regiment in Germany and Bosnia-Herzegovina; A/1-14th Aviation Regiment in Mesa, Arizona; 3-101st (Eagle Attack) Aviation Regiment in Fort Campbell, Kentucky, and Iraq; 101st Combat Aviation Regiment (Destiny) in Fort Campbell, Kentucky, and Afghanistan; Deputy Commanding General (Support), 7th Infantry Division, Joint Base Lewis-McChord, Washington; Director, Officer Personnel Management Directorate, Human Resources Command, Fort Knox, Kentucky; and Deputy Commanding General, US Army Europe. Gayler has master's degrees in Military Arts and Sciences and in National Security Strategy. He is a graduate of the Command and General Staff College and the National War College. He is a Master Army Aviator and Standardization Instructor Pilot in the AH-64D Longbow Apache and also rated in the OH-58A/C Kiowa.

Timothy G. Heck

Major Timothy G. Heck is a graduate student at King's College, London, in the Department of War Studies. An artillery officer by training, his previous assignments include 5th Battalion, 10th Marines, Marine Corps Embassy Security Group, and 4th ANGLICO. He is a graduate of Georgetown University and several military command and staff schools. He is working on several projects on the Red Army during and after the Great Patriotic War. He lives and works in Southeast Asia.

Jack D. Kem

Colonel (Retired) Jack D. Kem is Associate Dean of Academics and Professor at the US Army Command and General Staff College. A retired Military Intelligence colonel, he previously served in the Senior Executive Service as the Deputy to the Commander, NATO Training Mission–Afghanistan from 2009 to 2011. He is a graduate of the Air Command and Staff College and the Army War College. His dissertation from North Carolina State University studied the role of public ethics in Russia, Poland, and the United States.

Dean A. Nowowiejski

Colonel (Retired) Dean A. Nowowiejski is the Ike Skelton Distinguished Chair for the Art of War, Command and General Staff College. He has directed the Art of War Scholars Program since 2013. He is a retired Colonel of Armor, former III Corps G3 and Chief of Initiatives for CG USAREUR. His dissertation from Princeton University analyzed the

American military governors of Germany, and he is finishing a book on the American military occupation of Germany from 1918 to 1923.

Joseph A. Royo

Joseph Royo is a Senior Defense Research Analyst with Booz Allen Hamilton. He is a retired Army Special Forces officer with 20 years of military service. He has a Master of Arts in Diplomacy from Norwich University, a Master of Arts in International Studies from Kansas University, and a Master of Military Arts and Science from the School of Advanced Military Studies (SAMS).

Stephen E. Ryan

Stephen E. Ryan is a Booz Allen Hamilton Senior Defense Research Analyst and retired Special Forces officer with 37 years of active duty service. He has an MA from the University of Connecticut.

Glen L. Scott

Colonel (Retired) Glen L. Scott is a retired Infantry officer living in Colorado Springs, Colorado. During his active duty career, he led Infantry units from platoon through brigade level; was an Observer/Controller at both the JRTC and BCTP programs; served on the DA Staff, and was a Division and Installation Chief of Staff. He is a graduate of SAMS and the Army War College. His civil education includes an MMAS and a Doctorate of Management.

Edward P. Shanahan

Lieutenant Colonel (Retired) Edward P. Shanahan served as a military history instructor and member of the Staff Ride Team at the Combat Studies Institute, US Army Command and General Staff College. He received his commission in Armor from Eastern Kentucky University and an MS in geography from Pennsylvania State University. He served as a scout pilot in Vietnam and was an instructor in geography and assistant professor of history at the US Military Academy.

Christopher J. Shepherd

Major Christopher J. Shepherd is an Armor officer and a planner for the US Army, Pacific. He has served on the staffs of battalion through theater Army, and served and deployed in operations across the CENTCOM, EUCOM, and PACOM areas of operation. He has an MA from Louisiana State University, a MMAS from the Command and General Staff College, and is a graduate of the School of Advanced Military Studies.

Daniel E. Stoltz

Daniel E. Stoltz is a Senior Defense Research Analyst with Booz Allen Hamilton. He served 26 years in the active Army with the Infantry, Rangers, and Special Forces. He has a Master of Arts degree from the US Army War College.

Brendon E. Terry

Major Brendon E. Terry is an active duty infantry officer and a plans officer in the US Army Africa Future Operations Cell. He has experience in mechanized, air assault, and airborne infantry units and as a Ranger Instructor at 5th Ranger Training Battalion. He is a 2018 graduate of the School of Advanced Military Studies with an MA in Military Operations, a 2017 graduate of the Command and General Staff College, and a 2004 graduate of the University of North Georgia with a BS in Political Science.

Kenneth E. Tilley

Kenneth E. Tilley became the Army Aviation Branch historian at Fort Rucker, Alabama, in October 2016. Previously an Army logistics officer, he has been in three different components of two branches of service. In 1991, he ran the air marshalling area for US helicopters returning from Desert Storm to aviation units in Germany. As an Air Force historian, he deployed to Iraq and Afghanistan, along with numerous other deployments. Most significant of these was as the JSOC historian forward in 2004. He also was a civilian historian at JPAC, where he researched and investigated cases of World War II missing in the China-Burma-India Theater. His work there led to the identification of remains of several aviators from that conflict. He also started the US Army Cyber Branch history.

David W. Tohn

Colonel (Retired) David W. Tohn is a retired Military Intelligence officer who served for more than 24 years in the US Army. A graduate of the School of Advanced Military Studies, he graduated from Gettysburg College and was a National Security Studies Fellow at Harvard University. He was co-author of *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004) along with numerous journal articles.

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