An Army University Press Book
US Army Combined Arms Center
Fort Leavenworth, Kansas

The *Lariat Advance* title reflects the two code words used to send more than 200,000 US troops serving in Europe into alert status during the Cold War. Although the code words were for a field exercise, the lessons learned from these practices reflected the US Army's recognition of the need to reform and reorganize to meet an increased USSR and Warsaw Pact threat following the Vietnam War. Fortunately, a shooting war never occurred, but those who served in the Air Force or the Army in Europe took the possibility seriously. *Lariat Advance* provides contemporary lessons from influential US Army leaders who helped transform the US Army during the Cold War period. That transformation is not unlike the one that must occur in today's force—experiences that current and future generations of soldiers can learn from as they reshape their Army.

ISBN 978-1-7372048-1-7
90000>
9 781737 204817

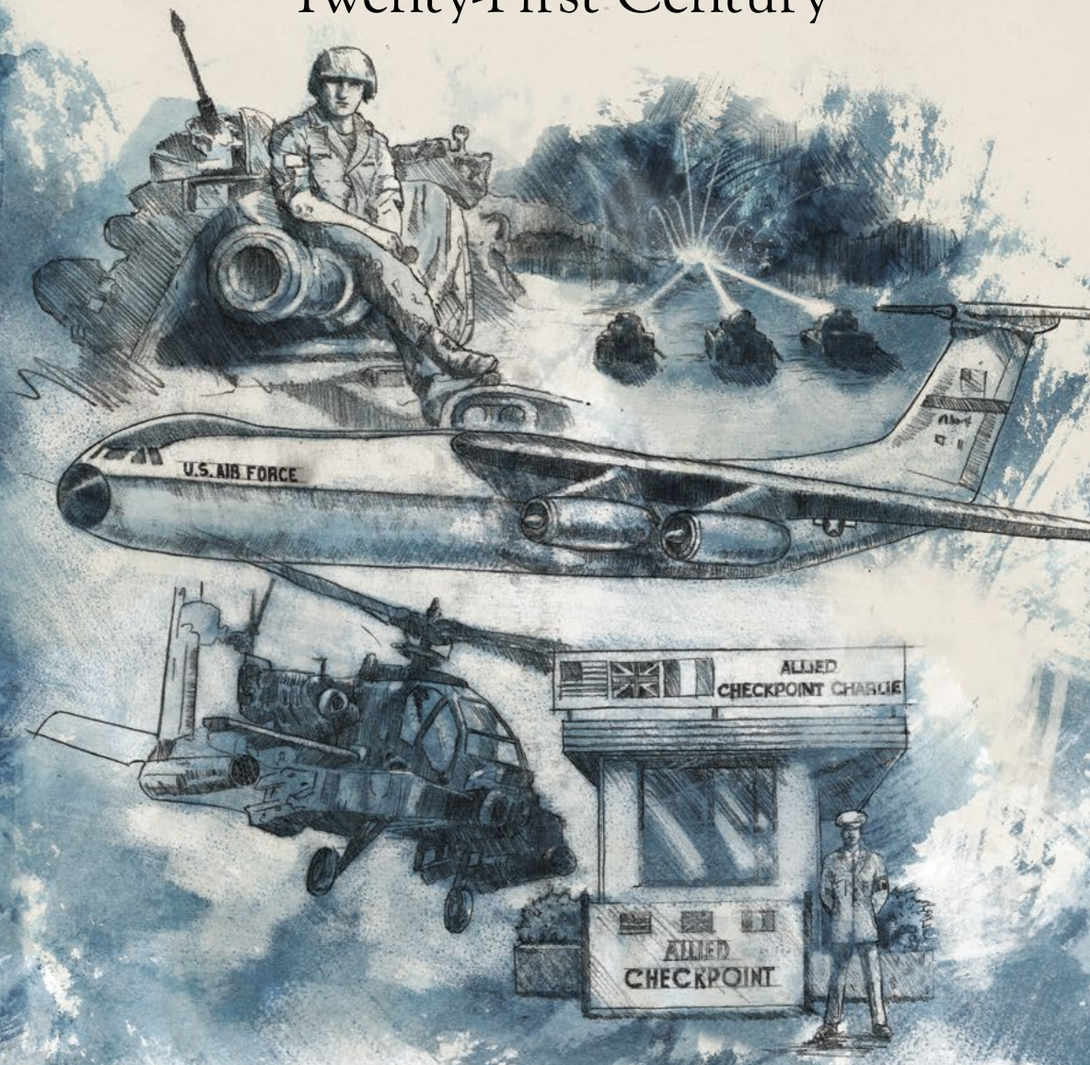
FONTENOT
O'NEAL

LARIAT ADVANCE: INSIGHTS FROM THE COLD WAR FOR THE TWENTY-FIRST CENTURY

ARMY
UNIVERSITY
PRESS

Lariat Advance

Insights from the Cold War for the Twenty-First Century



Army University Press
US Army Combined Arms Center
Fort Leavenworth, Kansas

Edited by
Gregory Fontenot and
James P. "Pat" O'Neal

Cover design by Dale E. Cordes, Army University Press.

Lariat Advance
Insights from the Cold War for the Twenty-First Century

Edited by Gregory Fontenot and James P. "Pat" O'Neal



Army University Press
US Army Combined Arms Center
Fort Leavenworth, KS

Library of Congress Cataloging-in-Publication Data

Names: Fontenot, Gregory, editor. | O'Neal, James P., editor. | Army University Press (U.S.), issuing body.

Title: Lariat Advance: Insights from the Cold War for the Twenty-First Century / edited by Gregory Fontenot and James P. "Pat" O'Neal.

Other titles: Insights from the Cold War for the Twenty-First Century.

Description: Fort Leavenworth, KS : Army University Press, US Army Combined Arms Center, 2026 | This is a publication issued by the United States federal government or produced with federal funds. | Includes bibliographical references.

Identifiers: LCCN 2026014788 (print) | LCCN 2026014789 (ebook) | ISBN 9781737204817 (paperback).

Subjects: LCSH: United States. Army--History--20th century. | Cold War. | Military art and science--United States--History.

Classification: LCC UA25 (print) | LCC UA25 (ebook) | DDC 355.00973--dc23/eng/20260410 | SUDOC D 110.2:L 32.

LC record available at https://lccn.loc.gov/2026014788.

LC ebook record available at https://lccn.loc.gov/2026014789.

June 2026



Army University Press publications cover a wide variety of military topics. The views expressed in this publication are those of the author(s) and not necessarily those of the Department of the Army or the Department of Defense. Press. A full list of digital Army University Press publications is available at https://www.armyupress.army.mil/Books/.

The seal of the Army University Press authenticates this document as an official publication of the US Army University Press. It is prohibited to use the Army University Press official seal on any republication without the express written permission of the director of the Army University Press.

Diane R. Walker, Editor
Robin D. Kern, Graphics

Foreword

Welcome to this remarkably informative and inspiring anthology of the Lariat Advance period of US Army history. I am honored to be invited by its four creators and my friends—Greg Fontenot, Pat O'Neal, Mike Shaler, and the late Lon (Bert) Maggart to whom this anthology is dedicated—to write this Foreword. I am equally honored to introduce the talented and devoted authors who wrote these chapters, themselves major leaders in this Lariat Advance era and many with whom I have served.

Following this Foreword is an informative Introduction for our readers written with great clarity by my close friend Greg Fontenot, commander Task Force 2-34 Armor in 1st Brigade, 1st Infantry Division VII Corps in combat in Desert Storm, 1st Brigade 1st Armored Division in NATO's Implementation Force in Bosnia; former School of Advanced Military Studies director; chief of my Planning Group when I was US Army Training and Doctrine Command (TRADOC) commanding general (CG); author of four books; and creator of the University of Foreign Military and Cultural Studies (Red Teaming).

This Lariat Advance period includes roughly twenty years from the end of the Vietnam War until the end of the Cold War even though US Army Europe units had done "alerts" since the early 1960s. The US Army was acutely aware it needed to regain the ability to fight and win as part of NATO against a Warsaw Pact that had modernized while our troops were fighting in Vietnam. The US Army and the nation it serves also were acutely aware that we as an army needed to heal from the physical and moral injuries and deaths and from the fractured trust between our Army and its government and citizens. Those who served and the Gold Star families of those who died in that service needed to trust that their government and fellow citizens would remember and honor that service and be there for them when they returned home for continuing care as that was needed or discovered necessary. Both would go on simultaneously.

This anthology informs and inspires us about the remarkable transformation of the US Army through the experiences and history of that era. *Lariat Advance* recounts how the noncommissioned officer (NCO) and officer leaders and soldiers who served in that era transformed themselves into the formidable force of deterrence that helped successfully end the Cold War for NATO and the world. Then that now-razor-sharp combat-ready force deployed from Europe and the United States to fight and win Desert Storm with the Allied Coalition to liberate Kuwait.

This anthology is about military readiness, transforming our Army to be able to fight outnumbered and win, winning the first battle of the next war and every one after that to gain strategic victory. It is about fighting right now and winning within hours of where you and your families are stationed—a come-as-you-are war. It is about a major professional land battle that transformed the US Army in all its dimensions. It is about US elected leader support for the 1973 Mideast war and the congressionally mandated All-Volunteer Army that injected a sense of urgency for our Army to become stronger, better, and more resilient than ever.

It is about adopting an ethos of fierce advocacy and intense practice of battle-focused, battle-winning, relevant training at a level of excellence and commitment that our potential enemies surely noticed, and that our Army and joint force validated twice in mounted battle, 1991 and 2003. Never has our Army been so fiercely devoted and committed to this ethos for such an extended transformative period as was our Army in Europe within the code words Lariat Advance.

Over those Lariat Advance years, we evolved into an Army of Practice. No one issued an order or regulation that we were to become an Army of Practice. Under the no-notice Lariat Advance policy, leaders would issue an alert for troops to assemble and deploy—uploaded for combat—to General Defense Plan positions in two hours. Our US Army, soldiers and leaders built themselves into that Army of Practice based on a revolutionized Army training system rather than mindless repetition. This approach focused on improving combat readiness each time to the razor-sharp battle readiness that our Army demonstrated in the Desert Storm victory.

Lariat Advance was our monthly all-weather, outdoor, go-to-war terrain classroom of practice. We learned, we demonstrated the resolve and competence to win at least cost, we each grew as soldiers, we grew confidence in each other and as a tight team, and we were better the next time, and the time after that. With practice comes critical thinking, intuition, instinct—looking at the same thing you did a year ago but seeing more. You cannot get enough of this practice growing up professionally. That kind of practice fuels and develops a quicker, reflective decision-making ability than your enemies.

The better we got to potentially execute our General Defense Plan (GDP) in Central Europe through relentless Lariat Advance practice and adjustments, the more confident we became that we could adjust and adapt anywhere to fight and win using the mission, enemy, terrain, troops, and time available (METT-T) factors.

I personally began this era as a seriously wounded major serving in the 2/11th Armored Cavalry Regiment, Blackhorse, in the Vietnam War; that injury resulted in amputation of my left leg below the knee. Our Army approved my request to return to active duty in February 1972, an act that I have forever called life's great privilege, and I ended this period as a lieutenant general honored to command VII Corps within our Coalition to victory that liberated Kuwait in Desert Storm. I was not alone in this transforming journey. All our serving Army, Vietnam veterans, and families made a journey, a transformation of one way or another. I am honored to have remained in the ranks doing what I could as we all did to add value to our transforming Army.

Our authors explain and teach us about that remarkable transformation with the best type of history—personal memoir and accurate recording of events. The memoir piece is invaluable context because they all shared the competence, character, leadership, and commitment passion to get this right for our nation and those they were entrusted to lead. The accurate history piece is invaluable to learn from, gained from actual research complete with references and bibliography. That combination, that focus of each chapter in this anthology makes it so invaluable. Our authors lived and, in many cases, created that history with their soldiers.

Thus, readers from our military profession and indeed anyone interested in leadership and transforming organizations with a sense of urgency will see through these chapters the totality and passion of our total Army to get this right—from private to general. In a larger sense, it represents the enduring value for our Army of what the current Army chief of staff calls one of his priorities, a transformation ethos—those behaviors needed to sustain, adapt, or create new so our Army can continue to fight and win at least cost to those we are entrusted to lead even as there are dramatic changes in strategic conditions and methods of war.

We all knew we had to lead with ideas on how to fight—ideas that the Army changed three times during this period through doctrine, in 1976, 1982, and 1986. The US Army also needed the right equipment and fielded the Big 5. We also understood within our profession that talking isn't fighting. That sentiment was described so well on many occasions by 3rd Armored Division CG in VII Corps Lt. Gen. Paul "Butch" Funk and his command sergeant major (CSM), Joe T Hill. Leaders, NCOs, and officers, and their soldiers must go and execute. They have to learn and teach themselves in actual training practice to be able to enter that uncompromising arena of land combat, to go fight and win at least cost in casualties to gain victory.

We were reminded of that each month. All of us saw that total commitment answering the Lariat Advance alert calls to execute in two hours—from notifying unit members, loading vehicles, opening communication networks, then battle ready with ammunition already uploaded and ready to move rapidly to local or actual GDP positions. All ranks were involved, with the backbone of our Army running through our ranks in our NCOs. I recently asked my friend CSM (Retired) Bill Hutton, who served with me commanding the 11th Armored Cavalry Regiment in the Fulda Gap as our Troop A first sergeant, about the value of Lariat Advance. He told me: "Bottom line, confidence at every level—building the team into an even more deadly force. Every participant had a major role. It also required us to improvise on occasion, which in my view was a key ability our Army has always had. In the absence of a leader, some trooper took charge. Again, strengthening the team."

The best surprises we get to see as leaders are bursts of initiative from soldiers of any rank who advance unit missions forward. To discover those, our units train in practice that resembles combat—as our Army chose to do during this period through Lariat Advance; GDP terrain walks initiated by General Donn Starry; intense maneuver and gunnery exercises at Hohenfels, Grafenwöhr, and local training areas; as well as annual Return of Forces to Germany (REFORGER) and deployment exercises and our combat training centers at Hohenfels, Fort Irwin, and the Battle Command Training Program at Fort Leavenworth. With all who served in that era, I got to participate in those discoveries and help reinforce them from second lieutenant to VII Corps commander. It fueled my confidence in our soldiers, NCOs, and officer leaders that we could do anything on our Desert Storm attack as I told our 3rd Army commander about our 90-degree left hook turning movement. And we did. But it was only because we were an Army of Practice.

Yes, we were an Army of Practice fiercely devoted to perfecting its craft in the military profession by actual and continuing practice. I personally have long believed an Army has to practice and experiment its way forward to keep its winning edge. Our Lariat Advance Army did just that. It is why we began Battle Labs in TRADOC after Desert Storm to experiment where battle was changing and stay ahead of change.

An Army of Practice with razor-sharp readiness, able to fight and win a come-as-you-are war—fiercely devoted to training to fight and win, fighting outnumbered and winning, winning the first battle of the next war and the ones after that. Proving to ourselves and anyone who wanted to fight that we were ready. Don't tread on me from our beginnings 250 years

ago. The attitude of deterrence. Execute to standards to do all that each month. These are the stories, that history. I am once more honored to be included in their ranks as a teammate.

As I have said in other places, there is no mystery to what we do as soldiers and as an Army. As leaders, we fulfill our soldiers' trust. Together we fight and win our nation's wars as part of a joint team and with other elements of national power when called to do so at least cost to those entrusted to our command and leadership. We spend a lifetime getting ready to do that and making those necessary transformations.

Our authors in this anthology have given us a glimpse into this Lariat Advance era of our Army's transformation and some enduring truths for all times including this one now. There is a career worth of wisdom in these pages written by our master authors. Learn from them. I did, reading their work even as I experienced it when we all served together as a combat-ready team committed to "This We'll Defend."

Thank you, Greg, for your leadership and together with Pat and Mike and our authors for creating this anthology and including me.

General (Retired) Frederick M. Franks Jr.
Former TRADOC and Desert Storm
VII Corps Commander

Table of Contents

Foreword iii

Introduction—Insights from the Cold War for the Twenty-First Century
Gregory Fontenot 1

Chapter 1—Implications of the Lariat Advance Era
L. Donald "Don" Holder 7

Chapter 2—The Role of the General Defense Plan (GDP) in the US Army
James P. "Pat" O'Neal 41

Chapter 3—Learning to Fight: Post-Vietnam Leader Development
James K. Greer 71

Chapter 4—The Evolving Role of Noncommissioned Officers
Kenneth O. Preston 89

Chapter 5—The Evolution of US Army Doctrine
Kevin C. M. Benson 109

Chapter 6—A Cold War Revolution in US Army Training
Mike Shaler 139

Chapter 7—The Cold War Launches Modern Army Aviation's Role
in Combat, Development of AirLand Battle Doctrine
Daniel J. Petrosky 165

Chapter 8—Cavalry Operations Mature and Become Central
to AirLand Battle
William S. Wallace 183

Chapter 9—A Logistician's Thoughts on AirLand Battle and Beyond
Kenneth L. Privratsky 205

Chapter 10—Built for Purpose: Special Forces and the Global Fight
to Free the Oppressed
Charles T. Cleveland 235

Chapter 11—Reorganizing the Army: The Decade of Force Structure
Transformation from the Vietnam Era to the Cold War
Henry G. Franke III 263

page

Chapter 12—Demonstrating Rapid Reinforcement of NATO: Return of Forces to Germany (REFORGER)
Gregory Fontenot 303

Chapter 13—Generals Sullivan, Franks and Army Transformation: Innovative Leaders in Action
John S. Brown 327

Chapter 14—Preparing for Large-Scale Combat Operations and Cold War Lessons Learned
David D. McKiernan 359

Chapter 15—Conclusion: An Army of Practice
James P. "Pat" O'Neal 383

About the Authors 397

Illustrations

Figure 1.1. The US Army began fielding these Big Five weapons in the early 1980s. 11

Figure 1.2. Armored Cavalry Lt. Brad Tousley participates in multiple integrated laser engagement system training, 1982. 12

Figure 1.3. A crane lifts an M1A1 Abrams main battle tank from the Ready Reserve Force freighter ship Cape Mendocino. 17

Figure 1.4. The Wildflicken Training Area provided the ability to train US forces located in central Germany. 28

Figure 2.1. A 2nd Battalion 81st Armor Battalion tank loaded on the Erlangen-Herzogenaurach railhead enroute to Grafenwöhr, 1986. 43

Figure 2.2. A Company 2nd Battalion 81st Armor stages for movement into the 1986 REFORGER exercise. 46

Figure 2.3. C Company 2nd Battalion 81st Armor moves through a village enroute to a rehearsal for occupying the GDP..... 47

Figure 2.4. The NATO Central Region, which was divided into three major commands, included 200,000 US V and VII Corps soldiers. 50

Figure 2.5. WARSAW Pact Cold War border control structures. 52

Figure 2.6. Lt. Eric "Rick" Swartz, A Company 2nd Battalion 81st Armor platoon leader. 65

Figure 3.1. Dunn-Kempf Battle Guide to Simulation. 77

Figure 3.2. First Battle was designed to train commanders and staff in combined arms operations and decision-making. 78

Figure 3.3. The Army Training Battle Simulation System (ARTBASS) was the first electronically assisted game to train leaders and staff. 79

Figure 3.4. The visit of a SAMS contingent to the *École Supérieure de Guerre* in Paris, March 1985..... 82

Figure 4.1. US troops depart from Vietnam on a "Freedom Bird.". 92

Figure 4.2. Aerial of the US Army Sergeants Major Academy, 2001.....94

Figure 4.3. Sergeant Morales Club and Sergeant Audie Murphy medals recognize outstanding enlisted soldiers and noncommissioned officers...96

Figure 4.4. US Army soldiers operate an M60A1 tank, 1975..... 97

Figure 4.5. Drill sergeant at a US Army rifle range, 1971. 99

Figure 4.6. M1A1 tank from 2-64 Army on Grafenwöhr's Range 109. ..101

Figure 4.7. The 547th Engineer Battalion motor pool, 1978. 104

Figure 4.8. Soldiers training at the US Army Europe NCO Academy....105

Figure 5.1. TRADOC Pamphlet 525-5 graphic illustrates the Soviet second-echelon threat.....115

Figure 5.2. TRADOC Pamphlet 525-5 graphic illustrates the number of systems entering the force in the near- and middle-term future. 117

Figure 5.3. TRADOC Pamphlet 525-5 graphic portrays corps commander concerns in the deep battle. 120

Figure 5.4. This 1986 Field Manual (FM) 100-5, *Operations,* graphic illustrates the integration of deep, close, and rear operations. 123

Figure 5.5. Brig. Gen. John M. Kirk. 124

Figure 5.6. The US Army's AirLand Battle doctrine was written by Huba Wass de Czege, Richard Sinnreich, and L. Don Holder. 132

Figure 6.1. Author Anne Chapman's work provides an objective reevaluation of Army training methods and effectiveness. 142

Figure 6.2. The Army made a wide effort to invigorate training employing a variety of methods. 144

Figure 6.3. The first of four US Army training centers, the National Training Center. 151

Figure 6.4. The Joint Readiness Training Center was established on 20 August 1993—twelve years after the National Training Center. 152

Figure 7.1. A Cobra AH-1 gunship paired with a Kiowa Scout helicopter as a hunter/killer team was used to great effect in Vietnam. 166

Figure 7.2. Elements of 2nd Armored Cavalry Regiment train in air ground integration live fire at Grafenwöhr Training Area. 170

Figure 7.3. UH-60 Blackhawk helicopter at the 101st Airborne Division's Rapid Refuel Point, 4 February 1991. 173

Figure 7.4. CH-47 Chinook helicopters during Operations Desert Storm and Desert Shield. 176

Figure 8.1. Map showing 2nd Armored Cavalry Regiment area of operations, 1983. 183

Figure 8.2. Battle of 73 Easting. 185

Figure 8.3. Federal Republic of Germany border forces working side by side with border cavalry organizations. 189

Figure 8.4. 11th Armored Cavalry Regiment border operation, 1980. ...195

Figure 8.5. This 1980s map shows border responsibility for the 11th Armored Cavalry Regiment. 196

Figure 9.1. A Navy ship being offloaded at Saigon..... 208

Figure 9.2. REFORGER 87 schematic shows the plan of attack and logistics support areas. 214

Figure 9.3. COSCOM support groups established Refuel-on-the-Move "gas stations" to top off tanks before the attack started. 215

Figure 9.4. Military vehicles and equipment line the port area during REFORGER 90. 219

Figure 9.5. A C-5 is loaded for an airlift to deliver cargo to troops in the desert during Desert Storm. 225

Figure 9.6 Mobility Requirements Study after DESERT STORM led to the construction of LMSRs and C-17s to improve strategic mobility. ...227

Figure 9.7. After a container ship struck the Francis Scott Key Bridge on 26 March 2024, the Port of Baltimore remained closed for months..... 228

page

Figure 10.1. Office of Strategic Services training during World War II. ..237

Figure 10.2. Detachment A Berlin Special Forces come of age. 242

Figure 10.3. US Army Special Forces paratrooper conducts a high-altitude low-opening military freefall jump with an MK–54..... 247

Figure 10.4. Special Operation forces operating in Europe during the Cold War. 249

Figure 10.5. Special Forces troops were central players in the evolution of Special Operations. 253

Figure 10.6. Detachment A Berlin, pictured here in September 1962. ...257

Figure 11.1. This XM1 prototype of the M1 Abrams main battle tank at the US Army Ordnance Museum. 269

Figure 11.2. Vehicle-mounted TOW (tube-launched, optically tracked, wire-guided) anti-tank missile system. 272

Figure 11.3. The 63rd Chemical Company was activated in 1980 as the 101st Airborne Division's divisional NBC Defense Company. 273

Figure 11.4. NBC Defense Company structure. 274

Figure 11.5. Pegasus was a computer-assisted wargame used to train command groups. 276

Figure 11.6. Infantrymen prepare to fire during qualifications tests on an M2 Bradley Infantry Fighting Vehicle on a firing range, 1983..... 277

Figure 11.7. Comparison of various 1970s and 1980s division designs..288

Figure 12.1. US soldiers, aboard an M113 armored personnel carrier, cross the Rhine River in a West German landing craft. 304

Figure 12.2. Troops draw POMCUS equipment in a simulated chemical environment during REFORGER 79. 306

Figure 12.3. A unit convoy on the Autobahn during REFORGER 75. ...307

Figure 12.4. Highly trained man and dog teams inspected all baggage and equipment carried by departing REFORGER 79 personnel, 1979. 309

page

Figure 12.5. Photo of the POMCUS from which 1-63 AR drew equipment during REFORGER 1984. 313

Figure 12.6. German FeldJäger and their American military police counterparts work together during REFORGER 82 field training..... 315

Figure 12.7. An M-1 Abrams tank from the 2nd Armored Division crosses an Aller River bridge in West Germany, September 1987. 316

Figure 12.8. A 155-mm howitzer battery laid out in a “lazy W” outside the town of Odmiesbach, West Germany, during REFORGER 86..... 318

Figure 12.9. A German soldier and an American soldier work together in a defensive position during REFORGER 74. 319

Figure 12.10. US Army 3rd Brigade, 2nd Armored Division vehicles move by rail during REFORGER 87, September 1987..... 321

Figure 13.1. Fall of the Berlin Wall. 328

Figure 13.2. “Desert Storm” by Frank Thomas. 331

Figure 13.3. Blue Force Tracking. 335

Figure 13.4. Alaska Air National Guard crew members loading mission-essential cargo into a C-17 Globemaster III.....337

Figure 13.5. FGM-148 Javelin anti-tank missile. 339

Figure 13.6. Force mix: combined arms. 343

Figure 13.7. Modernization: Stryker ICV M1126. 344

Figure 13.8. Training: an after-action review..... 345

Figure 13.9. Cobra II..... 350

Figure 14.1. Battalion road march of 2-81 Armor 2nd Brigade 1st Armored Division in the Federal Republic of Germany, 1985..... 360

Figure 14.2. General Donn A. Starry. 361

Figure 14.3. Troopers from the Field Artillery Support Squadron, 3rd Cavalry Regiment, support Iraqi army operations..... 362

page

Figure 14.4. Lt. Gen. Frederick M. Franks Jr. 363

Figure 14.5. Overview of the military decision-making process. 364

Figure 14.6. Commander's Intent diagram. 365

Figure 14.7. US Army student squad leaders are evaluated by a Noncommissioned Officer (NCO) Academy instructor. 366

Figure 14.8. 1st Sgt. Robert Darringer conducts an after-action review with soldiers following Vibrant Response 13 training. 367

Figure 14.9. The 4th Infantry Division tactical command post in the field during a November 2020 warfighter exercise. 368

Figure 14.10. A portable satellite dish dominates the VII Corps command and control ramp area in the Saudi desert, February 1991. 371

Figure 14.11. Graphic showing unit icons during Operation Iraqi Freedom, March–May 2003..... 372

Figure 14.12. The command and control vehicle was developed in the early 1990s but never moved to full-rate production. 373

Figure 14.13. A US Army logistics support vessel pulls alongside the US Navy Elevated Causeway System-Modular. 375

Figure 14.14. Fuel distribution point being prepared to receive fuel at the Victory Base Complex fuel farm, 2008..... 376

Figure 14.15. The 47th Combat Support Hospital, Kuwait, 2003. 377

Figure 14.16. A 1st Battalion, 8th Marine Regiment platoon returns fire from a rooftop in Fallujah, Iraq, November 2004..... 379

Figure 15.1. This conceptual sketch illustrates the US Army's change generation during the Cold War. 383

Figure 15.2. The Army of Practice evolved to become the engine powering development of the Cold War US Army. 386

Figure 15.3. Graphic depicts the interaction of the three components of US Army Cold War efforts to improve training and operations. 389

Introduction
Insights from the Cold War for the Twenty-First Century

Gregory Fontenot

Lariat Advance is the title for this anthology because it has compelling memories for those of us who served in Europe during the Cold War. Lariat Advance were the code words used to send more than 200,000 troops, organized in two corps, to local dispersal areas in preparation to move onward to general defensive positions or to conduct drills. Generally, that notification came by telephone through the various echelons down to company or detachment "charge of quarters" using only the code words. From that moment, units sprang into well-rehearsed action—loading weapons and arriving within two hours to local staging areas prepared for the eventuality of war. This experience was stable and predictable for more than two decades across the rotation of all ranks of countless leaders. Fortunately, a shooting war never occurred, but those who served in the Air Force or the Army in Europe took the possibility seriously. Unit morale, professionalism, and performance were on the line. Reputations were won and lost in response to Lariat Advance.[1]

We as soldiers also took the General Defense Plan (GDP), known colloquially as "[war plan] 4102," seriously. The GDP was our raison d'être, the focus of our training and in large measure the driver for the development of US Army doctrine. Lariat Advance demonstrated the will to face the Warsaw Pact from defensive positions along the border between East and West Germany and Czechoslovakia. Field Exercises, including those that occurred as part of the Return of Forces to Germany (REFORGER), further illustrated the American commitment to NATO as well as the commitment of other NATO members to defend Europe from Norway in the north to Turkey in the south.

Following the war in Vietnam, the Army recognized the need to reform and reorganize to meet an increased threat from the USSR and the Warsaw Pact. While the United States had been tied down in Vietnam, the Warsaw Pact had modernized. The US Army had to respond. The *Lariat Advance* authors will show how in the three decades beginning in the 1970s, the Army transformed how it equipped, organized, and trained. Some of what we learned as soldiers and leaders may no longer be relevant, but how we learned and that we learned is. The Army underwent a renaissance that stemmed from top-down guidance but also bottom-up

conviction that the US Army needed to change. We learned in both directions, simultaneously, synchronously, and asynchronously.

The United States and its Allies "fought" the Cold War on air, sea, land, and in space. Cold War machinations covered the globe. While all the efforts of US Armed Forces deserve attention, the focus here is on the Army in Europe, where the most serious threat confronted the western Allies. The Cold War featured the continued possibility that nuclear warfare could have begun with tactical nuclear weapons, which both sides fielded in huge numbers. That problem was never far from the minds of any of us who served in Europe and forms the context of the issues considered here.

The fifteen chapters in this anthology are not the seminal or final work on Army ground forces in Europe. We have no chapters on the importance of family support in the volunteer army, or on electronic warfare, the specter of nuclear warfare, the Non-Combatant Evacuation Order, espionage, or any number of other topics of interest. This is no more or less than stated above—a focus on how US Army ground forces learned or relearned how to fight in the context of potential large-scale combat operations in Europe as dictated by Lariat Advance and the culture that emerged following the war in Vietnam.

During the Vietnam War, the US Army Europe (USAREUR) declined in size from more than 239,000 to 169,144 in 1970. Following the end of the war in Vietnam, the Army in Europe grew in strength. More importantly, the Army fielded weapons in new organizations coupled with doctrine designed to confront the problems of insufficient depth and the echeloning and sheer numbers of Warsaw Pact forces. Weapons systems such as the Multiple Launch Rocket System (MLRS), Bradley (M-2), Abrams (M-1), Blackhawk (UH-60), and Apache helicopter (AH-64) enabled the Army to adopt the AirLand Battle tenets: agility, depth, initiative, and synchronization. Revitalized education and training systems taught the application of these tenets to generations of soldiers, as well as commissioned and noncommissioned officers (NCOs).[2]

General William C. Westmoreland, who became chief of staff of the Army (CSA) in 1968, understood that the Army had to change. Roundly and arguably unfairly criticized for attempting to carry out Lyndon B. Johnson Administration policy, he knew the Army was in dire straits. It was Westmoreland who began the process of change. By the time the United States withdrew from Vietnam, the Army knew it had a leadership problem as well as cohesion problems and needed to reequip to meet conventional threats in Europe, the Middle East, and the Korean Peninsula.

Although Westmoreland began the process, it was continued by a succession of CSAs who like him had served as relatively junior officers in World War II and/or Korea. All of them, including Creighton W. Abrams Jr., William E. DePuy, and Donn A. Starry, served in Vietnam.[3] The supporting cast included the Army staff, major subordinate commands, and troops in the field who executed a genuine transformation. Fast forward, Operation Desert Storm proved to be both the culmination of those efforts and a consolidation of gains that resulted in the "digitized" Army that invaded Iraq in 2003. Those of us who grew up in this era found it stimulating and professionally rewarding. We want that experience for those who carry the standard now.

The US Army withdrew from Vietnam, if not in shambles, certainly without having succeeded. Criticism of Army leadership came from within and without. In *Crisis in Command: Mismanagement in the Army,* historian Richard A. Gabriel and political scientist Paul L. Savage offered a harsh assessment of Army leadership that was echoed within the Army as well.[4] Lt. Col. Walter F. Ulmer Jr., who led a 1970 study on professionalism in the officer corps, reported:

> A scenario that was repeatedly described to us in our interviews for this study includes an ambitious transitory commander, marginally skilled in the complexity of his duties, engulfed in producing statistical results, fearful of failure, too busy to talk to or listen to subordinates, and determined to submit acceptably optimistic reports at the expense and frustration of his subordinates.[5]

In his 1972 *The Lionheads* novel, Maj. Josiah Bunting was more than a little critical of the Army in Vietnam, describing the My Lai massacre as indefensible and noting that efforts to cover up the atrocity further stained the Army.[6]

Westmoreland established the context and impetus for change. In September 1969, he directed the formation of a special review panel to "examine the functions, organizations and procedures of the Department of the Army to include those of the US Continental Army Command, the Combat Developments Command, the Army Materiel Command, and the departmental headquarters staff."[7] That study effort ultimately led to Operation Steadfast, a massive reorganization of the US Army and its components that included dissolution of Combat Developments Command and Continental Army Command. Two key institutions emerged—US Army Training and Doctrine Command (TRADOC) and US Army Forces Com-

mand (FORSCOM).[8] That is the context of experience for our *Lariat Advance* authors.

For this book, we assembled a team of soldiers who write in part on their experiences. The focus is on the human dimension of leadership, experiences that inform, thinking in time, and how generations of soldiers and their officers grew. Our aim is to inform current and future generations of Army leaders of how and what we learned, believing that our experiences will provide nuggets of thought and topics for deeper research and consideration to help reshape the current Army.

We believe this anthology is relevant because it is accessible to the general public but, more importantly, because it will resonate with the contemporary Army. The US Army that emerged from the post-9/11 war must undergo a transition. We believe the cohorts of US leaders and soldiers will not only affect a transition but also a transformation like that one that post-Vietnam generations achieved. It is their time.

Don Holder, who served much of his career securing the border with East Germany or Czechoslovakia and finally commanding the 3rd Infantry Division, will get the ball rolling with a chapter suggesting that studying these Cold War experiences might assist current and future generations of soldiers as they reshape their Army.

Succeeding chapters will address training and leader development, the evolution of doctrine, special operations, the growth of Army aviation, cavalry operations, logistics. Throughout, the GDP and the need to "fight tonight" conveyed a sense of urgency. Debate and friendly competition characterized much of the learning that occurred. The revitalized after-action review, staff rides or terrain walks, and journal articles informed professional discourse and thus learning.

The institutional Army led the way in producing the outcomes discussed in *Lariat Advance,* particularly in how soldiers learned at places like Grafenwöhr, Hohenfels, and the live combat training centers at Fort Irwin, California, and Fort Polk, Louisiana, as well as constructive training provided by the Battle Command Training Program (now Mission Command Training Program). John Brown, another Europe veteran, reports on the consolidation of gains undertaken by CSA Gordon R. Sullivan in partnership with Frederick M. Franks Jr. at TRADOC—efforts that produced operational success in Operation Desert Storm. Their work led to an even-more-lethal Army in the form of Force XXI. That Army took Baghdad in 2003.

Pat O' Neal, who commanded three companies and a battalion and served as a division assistant division commander in Germany, wraps up our summary with his "Army of Practice" conclusion. Through all the changes that followed the war in Vietnam, the Lariat Advance culture dominated in USAREUR. The conundrum for NATO forces and the US Army in Europe in the 1970s was straightforward. How would they defeat the vast number of recently modernized forces at the disposal of the USSR and the Warsaw Pact? Moreover, the financial burden of defending Europe resulted in the drawdown of available forces. The size of the Army remained more or less constant, but forces deployed forward decreased.[9] The GDP became the focal point for life in Germany. That focus heightened as the Army revisited doctrine and fielded new equipment.

My co-editor and I—with our gray eminence, Mike Shaler—rise to dedicate this anthology to Maj. Gen. Lon E. "Bert" Maggart. Bert was an unforgettable and indefatigable professional. A brilliant thinker and operator, he was at the core of shaping the Lariat Advance era. Ever the combat leader, as one of our original team and after drafting the doctrine chapter, he passed away from COVID far too early in life. As part of a small group of hand-selected officers who worked directly with General William E. DePuy at TRADOC, Bert helped write the Active Defense doctrine. Later he helped teach our Army AirLand Battle doctrine as a tactics instructor at the Command and General Staff College. As a brigadier general, he served as the deputy chief of staff for doctrine at TRADOC. In his final assignment, Bert commanded the US Army Armor Center. His military service and intellect serve as the example and demonstrate the power of a committed professional to change the Army. Bert, we miss you.

Notes

1. At various times during the Cold War, ammunition was uploaded or kept nearby but not uploaded. The uploading process was not practiced every month or by every unit.

2. Ingo Trauschweizer, *The Cold War U. S. Army: Building Deterrence for Limited War* (Lawrence, KS: University Press of Kansas), 2008. See Appendix II.

3. Creighton W. Abrams succeeded Westmoreland as chief of staff of the Army. William E. DePuy became the first commanding general of TRADOC. General Walter T. Kerwin Jr. became the first commanding general of FORSCOM. General Donn Starry succeeded General DePuy. General Paul F. Gorman served as deputy chief of staff (training) for General DePuy.

4. Richard A. Gabriel and Paul L. Savage, *Crisis in Command: Mismanagement in the Army* (New York: Hill and Wang, 1979), 9. There was evidence also of improvement; see Gregory Fontenot, *The 1st Infantry Division and the US Army Transformed: the Road to Victory in Desert Storm 1970–1991* (Columbia MO: University of Missouri Press, 2017, 16–34.

5. "Study on Military Professionalism" (report, US Army War College, Carlisle Barracks, PA, June 1970), iv.

6. Josiah Bunting, *The Lionheads* (New York: Braziller, 1972); and "My Lai Massacre," Britannica, accessed 9 May 2024, https://www.britannica.com/event/My-Lai-Massacre.

7. Jean R. Moenk, *Operation STEADFAST Historical Summary, A History of the Reorganization of the U. S. Continental Army Command* (Fort Monroe, VA: Headquarters, US Army Forces Command, 1974), 2.

8. General William E. DePuy as the assistant vice chief of staff of the Army played a key role in moving the changes wrought by Operation Steadfast. See Henry G. Gole, *General William E. DePuy: Preparing the Army for War* (Lexington, KY: The University Press of Kentucky, 2008), 228–42. General DePuy became the first commanding general of TRADOC.

9. Trauschweizer, *The Cold War U. S. Army*, Appendices 1–3. During the Korean War, the US Army reached 1,529,724. It peaked at 1,570,343 in 1969. Average troop strength forward remained around 200,000 for most of the '70s and '80s and then declined rapidly at the end of the Cold War. In 1953, the Army fielded twenty divisions. The Army drew down to thirteen divisions from 1971–74. For most of the Cold War era, the Army fielded between fifteen and eighteen divisions.

Chapter 1
Implications of the Lariat Advance Era

L. Donald "Don" Holder

Throughout the Cold War, from 1947 through late 1989, US Army Europe (USAREUR) constituted the big leagues of the American Army's heavy forces. Charged with stopping the Warsaw Pact's large, armored armies, USAREUR leaders and soldiers had no doubt that they were the Army's mounted forces elite. They viewed the stateside heavy units that would rush to reinforce them in a crisis as second stringers. They saw themselves and acted as a special, fully ready army within the Army that stood apart from the rest of the force. Their attitude grated on others and is surely not now possible, but the Command backed up its attitude by achieving levels of readiness that are worth knowing about.

Singled out by its critical NATO mission, the Command followed a different path than the other unquestionably important corps in Korea and in the Airborne establishment. USAREUR's practices and personalities dominated the heavy force for generations. It produced senior leaders with a distinct operational view that colored Army doctrine, force design, professional education, and training over the same period. Powerfully and successfully revitalized after the Army's defeat in Vietnam, USAREUR became the American land force authority on operating with NATO allies late in the Cold War. It also became the model of US Army capabilities for Allied soldiers and potential adversaries.

This was odd since USAREUR-seasoned officers and noncommissioned officers (NCOs) alternated in manning and training those units. Since the same people took turns manning stateside Army units, they carried their expectations and standards into those outfits, too. That was for a good reason: most heavy force units in US garrisons had war plans that would send them to Germany as reinforcements. III Corps at Fort Hood and the 1st Infantry Division (ID) (Mechanized) at Fort Riley stood at the top of the Time-Phased Force Deployment List. Many non-divisional brigades, both Active Duty and Reserve Component, were also on that list. Their leaders reconnoitered their assigned areas in Germany almost every year and regularly participated in Return of Forces to Germany (REFORGER) exercises and Command Post Exercises (CPXs). Many of these units had secondary planning missions for Korea, but Germany remained in the forefront of their minds.

The US Army in Europe constituted the biggest peacetime heavy force that the United States ever maintained. At its peak in 1962, the Command numbered more than forty tank battalions and armored cavalry squadrons, more than twenty-five field artillery battalions, twenty-two mechanized and light infantry battalions, and around half of the Army's brigades of combat engineers, aviation, signal, military intelligence (MI), and military police (MP) troops.[1] In field maneuver exercises or in the major Grafenwöhr training area, the mass of armored companies, troops, and batteries made a huge impression on even experienced soldiers. Marching between firing positions on the Grafenwöhr tank trail at midnight with dozens of artillery batteries was an unforgettable experience for young lieutenants and sergeants.

The following pages describe specific USAREUR/Seventh Army elements in the last decades of the Cold War, the years when the Command restored and then improved on abilities that had deteriorated during the Vietnam War. The chapters review a generation's worth of nearly continuous adaptation and improvement. The authors return repeatedly to two broad trends that characterize the time. First, USAREUR leaders in the early 1970s overcame the Army's post-Vietnam deterioration by reinstating rigorous readiness standards, restoring a high level of discipline, and assuring a continuous line of effective leaders. Strict implementation of those standards by committed leaders jumpstarted the operational recovery that began in the mid '70s and took off in the '80s. Second, after achieving that takeoff, the final set of Cold War USAREUR commanders capitalized on the forward impetus and strongly accelerated their units' abilities. By continuously improving training and equipment, they established an even higher rate of positive change in the Command throughout the period until the Warsaw Pact collapsed.[2]

In the final three decades of the Cold War, the US Army's force in Europe maintained a singular level of momentum in overall readiness and particularly in training. USAREUR preserved its progress while bucking an incessant stream of policy, doctrine, and weapons technology changes. Its leaders not only kept up with that change; they led it and influenced how the rest of the Army adapted. Unlike any other peacetime Army of the United States, they made transformative changes without any respite from their defensive responsibilities.

USAREUR's success offers lessons for today's soldiers contending with similar challenges of maintaining a sharp fighting edge in an interwar period. While Cold War challenges were emphatically not the same as today and the leader solutions from that time cannot be grafted on to today's

conditions, it is still worth investigating what ideas ought to be carried forward. The approach that Cold War leaders took to the challenges of 1970 to 1991 may suggest some solutions for today's Army leaders.

The late Cold War years witnessed extraordinary changes in how the US Army addressed leadership, war planning, tactical organization, and the overall Seventh Army culture. While later chapters will focus on these topics, readers should recognize that from 1960 through 1991 the US Army in Europe changed how it developed leaders, trained soldiers, adapted to new doctrine, and integrated new capabilities. Several of those changes—General William DePuy's training reforms, fielding of a new generation of fighting vehicles, and 1982 introduction of AirLand Battle Doctrine—were substantial, including:

- The move from conscription to a volunteer Army first created widespread shortages in unit strength and key specialties. Leaders learned quickly that volunteer soldiers demanded different leadership and management practices. The "Hollow Army" that General Edward C. Meyer, then chief of staff of the Army, called out in 1979 was unique to its time, but some of its conditions parallel today's recruiting, talent management, and retention challenges. Specifically, to correct a basic readiness deficiency, the Army had to return high-priority units like those in Germany to full strength and reinvigorate their fighting spirit.
- The Army changed its capstone fighting doctrine twice in just six years during the late Cold War, forcing sharp changes in basic tactical concepts. The 1976 edition of Field Manual (FM) 100-5, *Operations*, prescribed a radically different approach to fighting numerically superior enemy forces. It essentially de-emphasized maneuver and moral effects of combat in favor of massing newly potent weapons in front of an enemy's main attack. Just six years later, responding to widespread resistance to this so-called "Active Defense," US Army Training and Doctrine Command (TRADOC) abruptly reversed itself. Its 1982 FM 100-5, labeled as "AirLand Battle Doctrine," abruptly scotched the core ideas of the 1976 doctrine, restoring both familiar forms of defense and the value of maneuver and adding two entirely new ones. The notions of Deep Battle and the Operational Level of War entered the Army's doctrine for the first time with AirLand Battle Doctrine.

- USAREUR went through two extended periods of adjustment as soldiers at all levels worked out the implications of these changes even before lower-level manuals could address them. The bumpy progress of Multi-Dimensional Operations over the past decade from inception to its final doctrinal form somewhat resembles that disarray.
- The Goldwater-Nichols Act of 1986 improved and complicated things, forcing better coordination between the armed services and making Jointness mandatory. Department of Defense directives moved European-based headquarters into closer cooperation and perturbed senior officer management to a degree. The NATO and US European Command fighting headquarters improved because of these changes, but they first had to endure a period of doctrinal and operational change. The act changed education patterns for officers, converted service headquarters like USAREUR to force providers rather than operational elements, and moved many administrative and logistical functions from service to Joint responsibility.
- The Army began fielding the long-anticipated Big Five weapons systems in the early '80s and started in USAREUR, occasioning a long period of new equipment fielding and training. These systems were the M1 Abrams tank, the M2/3 Bradley Fighting Vehicle, the AH64 Apache Attack Helicopter, the UH60 Utility Helicopter, and the Patriot Air Defense System. Each represented leap-ahead improvements over the systems they replaced. As these new systems arrived, Army units in Germany received a near-constant forced issue of repair parts, diagnostic equipment, new types of ammunition, and soldiers with new occupational specialties to maintain and fight with the new weapons. Staff and units learned to bring on whole sets of improved tanks, howitzers, helicopters, communications systems, and rolling stock without stopping their training schedules or allowing their war plans to become outdated. These new capabilities did change plans and tactics, and those changes had to be implemented without a break from General Defense Plan (GDP) demands. Technical change moves even faster today and forces commanders to confront similar issues.[3]



Figure 1.1. The US Army began fielding these Big Five weapons in the early 1980s—the Army's first major weapons system acquisitions since the Vietnam War. They provided a decisive technological edge during the late Cold War and beyond. Courtesy of the US Army.

- TRADOC energetically replaced old training methods and training aids with new ones to make all Army units more potent. To realize the advantages of the unit conduct of fire trainer, multiple integrated laser engagement system, new flight simulators, instrumented training areas, and computerized combat simulations, senior tactical commanders and the Seventh Army Training Command had to substantially upgrade schools, training support, and Major Training Area facilities—without halting critical training. Chapter Six addresses the Training Revolution in detail. Today's soldiers confront similar tests as they integrate new weapons, artificial intelligence techniques, and novel training capabilities

and gauge their effects on organizations, training, plans, and operations. Since much of this expansion is happening in Europe, today's leaders—especially those in USAREUR and V Corps headquarters—must think about how much training support to send there.

USAREUR reformed itself continuously while maintaining its elevated state of watchfulness. Its leaders also had to contend with a mercurial defense policy environment. By the late 1960s, the Command had come through the toils of racial integration (a difficult issue for the '60s Army) and the complex beginnings of Allied cooperation. It had developed from a slick, high-priority force through a time of surviving as a secondary theater during the Vietnam War. When the draft ended in the early 1970s, USAREUR once again got precedence for manning but had to make big changes to succeed as a volunteer-based force. For a few turbulent years, Seventh Army suffered from generally lower morale and, more seriously, a time of questionable capability. Despite considerable upheaval, in the space of about a decade USAREUR restored itself to lethal potency and model soldier discipline. In the following twenty years, it did more than simply sustain that level of capacity, developing as one of the world's premier fighting



Figure 1.2. Armored Cavalry Lt. Brad Tousley participates in multiple integrated laser engagement system training in the Hohenfels training area, 1982. Courtesy of the US Army.

forces. Strong, consistent leadership from USAREUR's creation and continuing throughout the Cold War made the biggest difference.

US Army Leadership in Europe

The Army was both lucky and good at keeping capable leaders in Europe throughout the period. Not enough has been made of how competently USAREUR's Cold War leaders varied their approaches to remain effective in an environment of constant change. They proved perceptive in anticipating change, adapting to it, and remaining positive despite the challenges. While the rest of the Army improved through the same period, USAREUR commanders did more in their theater thanks to some special advantages.

One of those advantages was the high priority given to the Cold War mission. Staying ready to take on a large, dangerous enemy on short notice—the essence of the Lariat Advance mindset—attracted ambitious leaders and instilled dogged insistence on strong leadership at every level. The need to recognize and overmatch changes introduced in the East promoted adaptability and a sense of urgency. In a fairly short time, the Command parlayed its high priority into growing prestige within the mounted force and a linked desire of ambitious officers to serve there. The Command grew better over the years at identifying talented mobile force leaders and earmarking those people for return assignments. In effect, they created and maintained a command-wide team of committed, energetic leaders. Most importantly, they built on their successes to keep improving.

It also helped that the force's broad configuration did not change much. Although people came and went, the mission, units, and relationships—higher to lower, flank-to-flank, supporting-to-supported—stayed generally the same. That is, the Command became firmly established and well understood. The two corps and five divisions differed in small ways and had their own collective personalities, but the relations between them were fixed and understood. All leaders worked in a familiar network in which senior leaders attached great importance to keeping combat readiness as high as possible. Commanders in corps and constituent units consciously competed to excel in combat readiness. They did so both for sound professional reasons and to stand out among their peers. Brigade and battalion commanders felt the pressure to distinguish themselves.

In NATO's first years, the United States assigned some of its best World War II leaders to command the Army in Europe. Respected, demanding officers like Generals Clarence R. Huebner, Manton S. Eddy, Anthony McAuliffe, Lucius D. Clay, and Bruce C. Clarke sorted out the

chaos of the Occupation years and built two US corps—V Corps and VII Corps—into capable, disciplined fighting units. USAREUR's dominant trait—its relentless focus on readiness—originated with these men. In the early Cold War years, they took on a defensive mission against a former ally and overcame hostility toward a former enemy, cooperating rather suddenly with the newly formed *Bundeswehr*.

In 1951, General Dwight D. Eisenhower, NATO's first Supreme Allied Commander Europe (SACEUR) set up a complete Allied fighting structure. For land operations, he activated a theater land component headquarters and two army groups. Central Army Group (CENTAG) planned for the defense of the southern half of the Federal Republic of Germany. Northern Army Group (NORTHAG) defended the northern area up to the Jutland Peninsula.[4] Allied Forces Central Europe commanded both army groups. Like the other NATO national contingents, the United States trained its own troops. But they would fight under Allied command.

The United States provided the CENTAG commanders and planned the defense of the south. British officers commanded NORTHAG, and—after the French withdrew from Allied military commands—Germans commanded the overall land force for the Central Region. The USAREUR commander had a separate multinational CENTAG staff. If called to fight, he would direct the Allied defense in his army group area, delegating US Army theater support responsibilities to his deputy. He trained his CENTAG staff with its wartime force structure at least once per year. A German chief of staff ran the staff for him. Despite its multinational staff and composition, however, CENTAGs war plans clearly followed the American Way of War.[5]

General Bruce C. Clarke became CENTAG's first commander. Generals like Andrew O'Meara, Paul L. Freeman, James H. Polk, and Michael S. H. Davison succeeded him and continued Clarke's dedication to short-notice readiness. Having Generals Polk then Davison in command from 1967 through 1975 made a big difference at a critical time. They provided steady leadership through the disruptions of the Vietnam War and the transition to the All-Volunteer Force. And they insisted on full readiness and strong discipline throughout the period.[6]

These leaders and their corps and division commanders were among the last Active-Duty officers to serve in field grade positions in WWII—Polk in the 3rd Motorized Cavalry Group, Davison in the 45th Infantry Division—and younger officers respected and admired them. World War II and Korean War veterans still led units from battalion level into the mid-

1960s. My first squadron commander and his regimental commanding officer (CO) were among the last of their peers to command at those levels. The second of my troop first sergeants had marched through our garrison town of Amberg as part of the victorious US Army of 1945. Younger soldiers like me just entering the Army learned from these field grade officers and some senior NCOs who participated in World War II and the Occupation. Our corps and army group commanders were men like Lt. Gen. Frank Mildren, General Bruce Clarke, and General James Polk, well-known leaders of those earlier wars.

Americans and their political leaders generally understood the importance of NATO before the Vietnam War. USAREUR's responsibility for that mission made it a desirable assignment for active Army leaders, especially those in mounted units. These leaders came disproportionately from the Armor Branch, the smallest of the combat arms.

Armor officers knew each other at least by reputation after a few years of service. Senior members of the branch earmarked the strongest junior officers and NCOs and assured that they repeatedly served in Europe. Quite often officers and NCOs returned to brigades or battalions where they worked before. (I served with the 2nd ACR three times over a twenty-four-year period.) With about half of the Army's tank battalions and armored cavalry squadrons in Europe, those units trained together at major training areas and on field training exercises. Their leaders collaborated frequently and got to know the leaders of the mechanized infantrymen and self-propelled field artillerymen, specialists in their own branches, who soldiered in the same brigades and divisions.

From its beginning, USAREUR trained hard and tested its formations frequently. Its corps ran large field exercises every winter and tested battalions and companies on combined arms competence at the major training areas. The Vietnam War years forced mid-1960s changes on the Command. Priority for everything shifted to the war effort and USAREUR learned to get along with less. The training budget remained large, but manning levels fell and equipment aged without replacement. Spare parts as well as officers and NCOs also became hard to get.

Despite that, USAREUR commanders in chief never relaxed their standards for training and expected the corps to win their GDP fights. Corps and division commanders continued to frequently test their war plans in CPXs and field training exercises. At lower levels, outside evaluators who graded companies and platoons in their Army Training Tests and combat crew qualification evaluations were as tough as ever.

Nonetheless, the senior leaders carried a heavy load in those years. They still had experienced field grade officers in command of battalions and brigades, but those important leaders had to meet their GDP responsibilities without much seasoned help. Those who had one of two authorized majors thought themselves lucky. A trickle of Vietnam veteran captains got back to the battalions and brigades, but most of staff officers were apprentices. Second lieutenants became first lieutenants twelve months after commissioning and captains a year after that. Newly promoted captains shipped off to Vietnam soon after they pinned on their new bars.

Battalion commanders, therefore, relied on under-ranked and inexperienced officers and NCOs to lead companies and platoons. Very commonly, first or even second lieutenants commanded companies. Sergeants first class became first sergeants and quite often platoon leaders. To fill their NCO slots, company, troop, and battery COs designated their best draftee soldiers as acting sergeants though these young leaders usually had no more than a few months left of their obligated service. Similar on-the-spot promotions were part of the Army's combat experience and the solution worked relatively well in Cold War units. Most young soldiers put into leadership positions early did their jobs at least adequately. Many in my unit excelled.

In the early '70s, USAREUR troop strength stabilized but the Command faced deep funding cuts as the Army reorganized. The social and political aftermath of the war, especially the advent of the All-Volunteer Force, rattled and to a degree demoralized the Army. But USAREUR leaders capitalized on their geographic separation and the officer corps' revived interest in its conventional defense mission to solve those problems. As a forward deployed command, USAREUR got priority for manning and new equipment and moved relatively quickly to restore its readiness for war. By 1969, incoming officers and NCOs with Vietnam experience began to refill important positions throughout the battalions.

These leaders maintained the focus on combat readiness and discipline. Combat readiness included everything related to fighting—manning and equipment levels, logistical readiness and availability of parts and spare assemblies, having the right grade and specialty soldiers on hand. Annual Command Inspections were seen as verification of good management and training. Commanders whose units failed could be fired until late in the Cold War. This approach harked back to USAREUR's "Zero Defects" days when senior commanders expected near perfection and penalized subordinates who did not deliver. That practice did not change until the early '80s; under the leadership of Lt. Gen. Richard Trefry, the



Figure 1.3. A crane lifts an M1A1 Abrams main battle tank from the Ready Reserve Force freighter ship Cape Mendocino at a pier in the Persian Gulf during Operation Desert Shield. Courtesy of the Department of Defense.

Army inspector general, commanders began to make the inspections as much about teaching as evaluating.

But training standards retained their predominant place, and failures could still end careers. Battalion and company commanders and senior NCOs had to do well. Doing poorly on a field training exercise or a graded Army Training Test would likely end an officer's chances for a higher-level command. Failing spectacularly or repeatedly could and sometimes did end careers. Junior officers just learning the profession regarded this as fair and even valuable to help ensure highly competent leadership at higher command levels.

Everyone in nuclear-capable Field Artillery, Armored Cavalry, or Combat Engineer units understood that failing a nuclear weapons surety test or evaluation ended not only a command assignment, but also a career. Other unrecoverable lapses were also understood. Armor lieutenants and junior NCOs who failed to qualify their tanks on Seventh Army Training Center's notoriously picky Tank Crew Qualification Course lost their jobs. Officers and senior NCOs who did that knew that their careers as tankers were over.

When Generals Westmoreland and Abrams stabilized the force and reset its direction beginning in 1968, USAREUR prospered again. The chapters in this book describe how DePuy's training revolution of the middle '70s and Donn Starry's realignment of doctrine in the first years of the '80s laid the foundation for a time of steady growth. Some of the chapter authors were among the younger field-grade officers who stayed on after Vietnam. Serious about revitalizing the Army, they wanted to see their bosses succeed in getting us through the first years of the Volunteer Army and restoring the US Army's fighting potential. Critical as only middle grade officers and senior NCOs can be, the authors in this book held leaders to very high standards.

For the most part, they did not disappoint us. Two of their underrated achievements were encouraging our efforts to innovate and implement good ideas. For instance, while Col. David Blodgett was a War College student, he helped convince Army leaders to establish the Battle Command Training Center. In 1984, he advocated for subjecting brigades and divisions to externally evaluated exercises equivalent to those done for smaller tactical units and had his initiative supported by the Combined Arms Center commander.[7]

Field grade officers also contributed to reinvigorating professional education and tactical training as part of the post-Vietnam revival. Their recommendations affected how officer and NCO education changed. The Army chiefs of staff and TRADOC commanders who had to approve the big changes were open to innovation. The calls for the captains' Combined Arms and Services Staff School, the institution of the School of Advanced Military Studies as a graduate school of the staff college, and institution of new courses for junior NCOs and sergeants major all originated in the field. Chapters by Jim Greer and Ken Preston tell those stories in detail.

Senior generals like Creighton Abrams, Donn Starry, Edward "Shy" Meyer, Carl Vuono, William Richardson, and Paul Gorman seized on and implemented good ideas. They also pioneered and reinforced the good ideas by talking them up and writing articles in professional journals. By example, they encouraged discussion and constructive dissent among their juniors, a thing not common in militaries. Indeed, they presided over the most energetic and fruitful period of intellectual debate that I observed during and after my thirty-one years of service. There were some exceptions: notably General DePuy made his subordinates conform exactly to early TRADOC policies and even moved to censor military pundit Bill Lind's criticism of Army doctrine in a 1977 *Military Review* article.[8]

In the steady recovery of those years, it mattered that heavy force soldiers and officers served multiple tours in Europe. They adopted USAREUR values and ethos, coming back stronger for their experience in each successive tour. The strongest made their reputations in battalions as majors then came back again and again to staff higher headquarters or lead brigades, divisions, and corps. Friendships made in earlier tours greased a lot of wheels: the informal network of professional associates shored up the chain of command by creating useful back-channel conversations and coordination. Majors and lieutenant colonels, in particular, passed the word to their peers through staff channels before COs made decisions and worked ahead of formal orders to get things done. As S3 of the Second ACR, I kept up a lively discourse with my opposite numbers in the squadrons, at VII Corps, and with our supporting GDP units. My successors did the same when I commanded the regiment. All parties knew their parts of USAREUR, which paid off in faster, better decisions.

There was a quiet culling process at work too. Those who didn't impress their bosses usually did not get another tactical assignment in the command. Corps and division commanders had typically served in USAREUR twice or three times before being chosen to command. This promoted continuity and established standards that made USAREUR genuinely distinct from the rest of the Army. Jokes about the Seventh Imperial Army in Germany sprung out of some truths.

In the early 1970s, these issues mattered most to the US Army:

- Rebuilding the NCO Corps after Vietnam War losses.
- Transitioning to an All-Volunteer Army.
- Implementing the DePuy-Starry doctrinal and training renaissance from the mid-1970s to the mid-'80s.
- Maintaining an uninterrupted focus on training and readiness by USAREUR commanders from General Michael Davison through General Crosbie Saint.
- Gaining a theater advantage as US Army and other Allied armies settled and improved while the Warsaw Pact decayed slowly and in 1990 abruptly fell apart.

The biggest lesson is that leaders in Europe succeeded in keeping the Command centered on and authentically committed to combat readiness. Despite the distractions of situational and technical change, senior commanders insisted on maintaining exceptionally high standards at whatever cost. Leaders at all levels embraced and enforced the standards and com-

municated its urgency very clearly. Commanders from platoon level up thought about and lived the challenge of "what if we fight tonight."

Senior commanders were more than willing to relieve subordinates who fell short. That was carried into the US corps and divisions. When Lt. Gen. Frank Mildren, the USAREUR chief of staff, visited my border sector in 1967, a colonel traveling with him tried to reassure me: "He's in a good mood this week, lieutenant. He hasn't fired anyone yet." Most of the others were similarly demanding and could be just as peremptory in making changes. I was not that concerned. Our unit ran a good operation, but also as a twenty-three-year-old with Vietnam in my immediate future, I was not that intimidated about being relieved.

An equally important challenge today is to match USAREUR's Cold War success in finding, developing, and advancing leaders who are, above all else, experts in the kind of combat they will face. The more a group can develop into a lasting team, the better the result will be. Where USAREUR went into the Cold War led by respected leaders first of WWII and Korea, then of the Vietnam War, today's force trusts Iraq and Afghanistan conflict veterans. Service careers are short, however, and the GWOT senior leaders are already mostly retired. The leadership lessons now relevant are about how the next cohort of commanders will do things.

USAREUR's talent management was largely informal, but it was effective. The leader group was small and communicated well internally. Reputations and evaluations of younger officers figured in assignments and promotions. Officer and NCO Efficiency Reports mattered a lot to promotion boards, but experienced Armor officers on those boards usually had some knowledge of who had done well and who had done poorly in troop and staff jobs.

The General Defense Plan and War Planning

The GDP of every unit became its near-obsessive focus for the best reasons. That plan described how each unit would perform its defensive mission in case of hostilities. In tactical units, leaders from platoon to battalion had to prove mastery of their mission within about six weeks of reporting or assuming command. They established this through a detailed on-the-ground explanation of exactly how they would execute the mission from arrival in the sector through conduct of the defense. All their subsequent training and unit evaluations would be purposefully planned to prepare their units for the particular assigned mission. Focus on the GDP became more intense in the late years of the Cold War because the

Army's training doctrine required commanders to derive their "Mission Essential Task List," the basis of their training programs, from their assigned missions. In every USAREUR unit, the war plan made that mission explicit in detail.

War planning for Allied forces began in the 1950s when NATO began organizing to counter the Soviet Union and its Warsaw Pact allies. Considering the Russian use of force in East Germany (1953) and Hungary (1956), organizing a defense seemed urgent. The first Allied plans called for a defense along the Rhine. When the Federal Republic of Germany raised its own army and joined in NATO defense planning, the forward line of defense moved well to the east. In the late 1950s, it ran generally along the Lech and Weser Rivers at first, then even farther east, closer to the Inter German border and the border with the Czechoslovakian Soviet Socialist Republic.[9]

By the mid '60s, the defense of Germany would have begun at the border itself with security operations. The Forward Edge of the Battlefield (the FEBA) initially projected eastward from the vicinity of Grafenwöhr to a line east of Bayreuth in VII Corps and just west of Fulda in V Corps. Every USAREUR unit's Operations Plan (OPLAN) originated with the NATO GDP for the Central Region. The American corps, which both included German divisions, got their war plan from NATO's Central Army Group. III US Corps, a REFORGER unit from Fort Hood, along with a US brigade stationed at Garlstedt, had orders to fight under NORTHAG.

The Warsaw Pact maintained a massive force in East Germany and Czechoslovakia organized for a theater offensive campaign (in spite of their claims otherwise). Their ability to attack western Europe on short notice made the GDP an urgent reality. Joint planning with Allied Air Forces, Special Operations forces, and German civil defense organizations was a necessity at corps and division levels. American tactical unit plans complied with OPLANs from their own US corps, divisions, or brigades. Those plans assigned them a specific mission within their higher headquarters' concept of operation. As part of a mobile defense, for instance, brigades would either defend blocking positions in depth or conduct a planned counterattack that their division's defense envisioned.

OPLAN missions and concepts of operation were clearly stated and within each unit's capabilities. The Second Armored Cavalry Regiment's mission from VII Corps changed from time to time. In every version, however, the Regiment either conducted covering force operations forward of First Armored Division or performed a security mission, covering an

area between that division and Third Infantry Division (Mech). In either case, the Corps CG intended these operations to slow the enemy's attack and weaken its leading divisions in the complex, cut-up terrain of the Hof Approach. Doing that would give the corps and division commanders time to adjust their defenses to the actual form of the attack.

Having a long-term assignment benefited Cold War commanders in many ways. They published implementing plans of their own and prepared their subordinates for a well-laid-out initial battle in a particular defensive sector. These OPLANs provided for defense in depth from the FEBA through a series of positions designed to shape the battle through its course. Units rehashed and rehearsed their OPLANS—repeatedly learning the ground, the plan in depth, and the enemy's options. They wrung out every aspect of combined arms cooperation with supporting unit leaders, German territorial commanders, and Air Force liaison officers. Had it become necessary to fight the plan, they knew the concept of operation cold. Because they reviewed and rehearsed their plans with their superior commanders, they also understood those commanders' intents. Repeated Terrain Walks confirmed this understanding several times annually and provided the basis for the independent action that mobile operations require.

Classified CPXs and wargames also enhanced war plans. Typically, the corps would conduct at least one such exercise every year. Computer simulations gave participating commanders some idea about what worked and what did not. Almost all such exercises and wargames indicated that CENTAG forces would contain the Pact's initial thrust, but that "Red" echelons in depth would roll in to decide the outcome. This led to requests for nuclear release, in almost all the late Cold War exercises. Although the nuclear fire planning was detailed and ready for implementation, using it was problematic. When he commanded V Corps, Lt. Gen. Donn Starry saw this happen in every exercise. He concluded that the Army's just-released Active Defense doctrine needed to change. Interestingly, Starry had played a big part in writing the Active Defense version of FM 100-5. He took command of V Corps in 1976, the same year that manual came out and decided to discard it within a year. Promoted and put in command of TRADOC in 1977, he changed doctrine as quickly as he could to return emphasis to more aggressive forms of defense and stress interdiction of enemy forces in depth. In large part, AirLand Battle Doctrine sprung from Starry's USAREUR insights.

Almost all commanders recognized that their OPLANs could become unfightable in the event of a surprise enemy attack or a defeat on a flank. They hedged those risks by knowing the terrain of their sectors in depth

and training for adaptation on short notice. Maneuver unit commanders leaned on mastery of fighting formations and movement techniques, battle drills, and tactical SOPs as bases for flexible adaptation. Army Training and Evaluation Program (ARTEP) exercises at Hohenfels and free maneuver during annual field training exercises (FTXs) drove home the importance of those things and of Mission Command in general. In effect, a unit's GDP mission offered its commanders a long-standing, obviously vital, and manifestly non-academic case study. When they found better ways of doing their missions or uncovered deficiencies in their arrangements, they made changes. This fierce concentration on the plan undergirded the Lariat Advance mentality.

Small alterations or new capabilities could send ripples of change through the OPLAN. Every time the Army fielded a new capability, commanders whose equipment or organization changed had to react and at least review their plans. Europe and Korea dealt with such changes regularly; units elsewhere had time to absorb them with less urgency. The "what if we fight tonight" fixation in Germany made a difference. For instance, in 1978 the Army sent an early version of the Volcano Aerial Mine Dispenser to the 2nd ACR. This modified Air Force weapon could fit on the regiment's half dozen utility helicopters. Though it was a small change to capabilities, having it allowed the Regiment to drop antitank mines quickly, giving it a new ability to emplace hasty obstacles anywhere across its wide defensive sector. This opened new tactical options. By letting the CO take more risk in his delaying operations, the system affected the overall concept of operation. It let the CO leave gaps in engineer-installed obstacles to draw attackers into areas that he could then block with air-dropped mines. He could place mines in front of hastily designated blocking positions in depth. He could protect the flanks of counterattacking units with mines.

Even in the early years of the Cold War, planning and training for a specific defensive mission outranked all other concerns. The Army Training Program (ATP) of the 1960s and '70s described the doctrinal missions by type of unit and level of organization. Its Military Occupational Specialty (MOS) manuals laid out explicit standards for enlisted soldiers of all ranks. Commanders of that time concentrated on the tasks that their OPLANs required. The DePuy/Gorman reforms in the mid-'70s, heightened attention on the mission even more. Those changes synched nicely with theater goals by making the linkage between a unit's GDP mission and its training plans explicit.[10]

All OPLANS were classified as Secret. Annexes covering nuclear fire support, some special capabilities, and a few other subjects were Top Secret. But frequent rehearsals, CPX, terrain walks, and classes made their basic outlines well-known by everyone, including German residents of the GDP areas and adversaries. That was inevitable given the need to coordinate plans with civilian agencies such as police forces, the German Territorial forces, and visiting dignitaries. When Maj. Gen. Creighton Abrams appeared on the cover of *Time* magazine, the lead story revealed accurate details of his Third Armored Division and V Corps plans.[11]

Warsaw Pact plans were harder to gauge. Russian operational security, in particular, was hard to penetrate. The OPLANs of USAREUR units were based mainly on the US theater intelligence estimate, which named the specific Warsaw Pact units arrayed against the American corps and divisions. European-based units, therefore, at least initially had a fair understanding of what a Warsaw Pact attack in their sector would look like. REFORGER units joining the action later worked with more general intelligence appreciation based on projected large unit layouts and on possible states of play by the time they could be committed. With its NORTHAG reserve mission, for example, US III Corps planned counterattack into any of the sectors of defending Allied corps with only an estimate of the size of the targeted Warsaw Pact force.

After years of observing and analyzing Warsaw Pact capabilities, intelligence officers and their commanders tended to overestimate enemy capabilities. Those were certainly good, but war games and rehearsals generally assumed levels of readiness and overall effectiveness near the theoretical maximum. Buying the MI hype on Soviet and its partner forces became a problem. Warsaw Pact threat briefings that came with every review of war plans, classified briefings that field-grade commanders received several times per year, and a bevy of defense studies and simulations all taught that a Soviet-led attack would be a fearsome thing. Soldiers read novels about war in the Central Region. Novelist Tom Clancy's *Red Storm Rising* and author Harold Coyle's *Team Yankee* were particularly popular and encouraged an exaggerated view of enemy capabilities.

There are lessons for today's Army in the way USAREUR planned and prepared for its GDP mission. The immediate response requirement necessary in the Cold War will not be matched in today's general-purpose force that prepares for multiple contingencies. Forward-deployed American units in Poland and the Baltic states will see some mission similarity with the Cold War USAREUR, but the force size and overall situation differ.

Today's soldiers may find more implications for the present in the way that FORSCOM units of the Cold War period prepared to enter a conflict in progress. Those units learned their primary contingency OPLANs as well as they could but planned flexibly, knowing that things would be different by the time they arrived. They reconnoitered the ground assigned to them by the plans. They played in REFORGER exercises and many more CPXs that practiced them for the GDP. But they also had secondary contingencies to train for. The US III Corps had an OPLAN for Korea as well as Europe. It also had to prepare for Defense Support of Civil Authorities (DSCA) missions in the United States.

Some of USAREUR's last Cold War soldiers took what they had learned from GDP planning and training to Desert Shield in 1990. The mission and terrain of Saudi Arabia differed completely from what they had prepared for in NATO's Central Region. But their planning skills and ability to critique tactical concepts certainly applied. The marches and preparations discussed in *Lariat Advance* gave these troops a start on the theater movements and pre-operations coordination that they used in Saudi Arabia. They also were opposed by a Russian-trained enemy with Russian equipment. As the 2nd ACR approached the defenses of Iraq's Republican Guard, its scouts reported the same general defensive organization that they'd trained against at the Combat Maneuver Training Center in Hohenfels and in FTX training on the German countryside. As the operation continued, the Iraqi's defensive organization continued to conform to the Russian template. Understanding the doctrine of sponsoring states like Russia, China, and Iran will likely give today's soldiers similar insights into how their operations may go, no matter who they face.

After the Cold War ended and USAREUR units began training with Eastern European armies in the mid-'90s, I met officers who had been part of the Group of Soviet Forces in Germany. One of those, a Ukrainian colonel general, had served in a Russian independent tank regiment stationed in Plauen, directly across the East German border from Second ACR. He assured me that he knew the VII Corps mission and plan and even its contingency plans. He sketched those out for me on paper, and I saw that he had it right. I didn't over-do my response, but I knew that the Second ACR would have beaten his regiment anyway. Our soldiers, doctrine and equipment were far superior to his unit. And our planning and rehearsal for the defense of the Hof Corridor had made us far better than they were.

Further, every OPLAN contained detailed annexes that coordinated Fire Support, Electronic Warfare, Mobility/Countermobility, Logistics, Signal, and a dozen other supporting systems. Orchestrating all those

means around a central concept of operation required a lot of serious thought and coordination. Staff officers had to learn ways to knit all this support together to build more effective plans.

Intelligence support to the OPLANs was chiefly a national activity. NATO staff put together Intelligence Annexes, too, but every member state withheld information it collected by sensitive means. The NATO SECRET classified estimates, therefore, weren't as good as the national estimates. Similar limitations will affect future US Army efforts as well and must be, at least, acknowledged in planning and training.

Training and Readiness

NATO's national military contingents trained their own forces. Its headquarters conducted staff exercises regularly and ran CPXs for its own Allied headquarters Allied Forces Central Europe (AFCENT), NORTHAG, and CENTAG several times per year. Corps sometimes provided response cells for NATO exercises, but the Allied headquarters did not participate in training the national components. USAREUR, as the US Army contingent, trained its units hard and usually well throughout the Cold War. Its Heidelberg staff monitored every aspect of readiness, but training got more attention than anything else. In the late decades of the Cold War, USAREUR's training executors, the Seventh Army Training Command, ran the command's schools and the major training areas (MTAs). The two US corps and the divisions planned and executed training in detail.

All commander training plans aimed to prepare soldiers and small units for the specific tasks of fighting their GDP battle. Tactical evaluations and field exercises were a major means of doing this. In the pre-Vietnam period, divisions and regiments evaluated their companies and battalions using the ATP and its mission descriptions.[12] Larger units were not formally evaluated until the Battle Command Training Program (BCTP) began in 1969, but the earlier major field exercises did something similar. The large-scale Wintershield exercises of 1960 and 1961 fielded divisions and corps for large field training exercises. Assessing that as too large to benefit small units, General Bruce C. Clarke decided that smaller field training exercises would be of greater value.[13] Throughout the Cold War, FTXs took place on the countryside. Farms, roads, bridges, and towns in an exercise area usually suffered annoying damage. Typically, the US corps would alternate in supporting each other with exercise control headquarters to coordinate training and umpire teams to adjudicate tactical outcomes between opposing forces.

Beginning in 1969, the US Army replaced its major FTXs with the REFORGER series of exercises. USAREUR ran REFORGER exercises as major maneuvers that brought units from the States and put them in the field when the risk of Soviet action was greatest. At the time when the Russians and their partners had two draft classes present in their formations, the NATO alliance had some of its most important combat unit reinforcements on hand and dispersed for training.

REFORGERs were major efforts that got a lot of high-level attention and press coverage. Other CPXs and training events sustained readiness throughout the year. For large headquarters, this means staff exercises at least twice per year. Tactical units went through quarterly training assessments in key tasks from staff training to gunnery to small unit maneuver training. American training in Europe was sound and effective for most of the Cold War years. The DePuy reforms of the ’70s brought even greater intensity to training. Those reforms instituted an Army-wide Battalion Training Management System; established the Army Training and Evaluation Program for collective training; fielded new training aids and simulators; and created the Combat Training Centers. (The National Training Center at Fort Irwin opened in 1981; Seventh Army got its own smaller Combat Maneuver Training Center at Hohenfels, Germany, in 1988.)[14]

In the late Cold War period covered in this book, the DePuy training doctrine made the GDP of every USAREUR unit its single training focus. Each unit commander had to derive a Mission Essential Task List from assigned missions and make those tasks the sole focus of unit training programs. Crew and individual soldier tasks were deduced from the collective tasks of the programs. And all their subsequent training and unit evaluations would be purposefully designed to prepare brigades, battalions, companies, and platoons for their assigned mission.

Meeting every combat battalion’s required training called for detailed management of major training events and unit access to the major training areas (MTA). Even so, the relatively small size of the MTAs and the difficulty of training big units on the German countryside limited what could be done in the theater. It was not possible to train brigades and divisions at full-scale except during major FTXs, and those were infrequent. And even though every unit had its local training area near its *Kaserne*, those areas only allowed squads, platoons, and in some cases companies/batteries to train without space constraints.

Combat units—infantry, armor, armored cavalry, combat engineers, and combat aviation—organized their annual training around their as-

signed time at the major training areas. Almost all combat units completed live fire training at Grafenwöhr and did maneuver training at the Hohenfels, Baumholder, and Wildflecken training areas. Hohenfels provided the only MTA where unconstrained company and battalion maneuver training could be done. Those training areas were far smaller than the Stateside Combat Training Centers and generally smaller than home station training areas at Army posts in the United States. That compactness limited the scale of training for USAREUR battalions but at least afforded commanding officers with semiannual opportunities to deploy their units.

When Seventh Army Training Command took over Hohenfels for the Combat Maneuver Training Center in 1988, they gave the theater a first-rate instrumented training area for battalion evaluations. That came at the cost of combat units losing access to the only free maneuver area in the American area. In the final years of the Cold War, the quality of USAREUR unit maneuver training declined a little because of Hohenfels space limitations and the negative training that combat training center methods created there.

USAREUR soldiers considered themselves the Army's best at tank gunnery, aviation gunnery, and mechanized infantry squad live fire. From



Figure 1.4. The Wildflicken Training Area provided the ability to train US forces located in central Germany centering on Fulda, Hanau, Weisbaden—8th Infantry Division, 3rd Armored Division, and the 11th Armored Cavalry Regiment. Courtesy of the US Army.

the early years of the Cold War, Seventh Army Training Command's schools at Vilseck were better than most Stateside schools. Tank gunnery trainers at the Combined Army Training Center knew turrets and tank weapons thoroughly. They were the Army's experts in crew gunnery. In the middle years of the Cold War, the Vilseck trainers evaluated all tank crews on Tank Table VIII, determining who qualified and who did not. The DePuy/Gorman training reforms put evaluation back in unit hands. Still, USAREUR kept its reputation for excellence in tank gunnery through the end of the Cold War.[15]

Grafenwöhr's live fire ranges were for a time some of the world's best. Stateside facilities reached the same standards in the '80s and then became better than overseas ranges when they installed new target and range control software (the Multipurpose Range Complexes). The Army also fielded Unit Conduct of Fire Trainers—tank and Bradley turret simulators—to all M1 tank units and Bradley Fighting Vehicle units, thereby evening out gunnery standards across the Army. In the late Cold War years, Vietnam veterans moved from junior officer and NCO middle grades into field grade and senior officer/sergeant major ranks. Their combat experience as junior soldiers helped keep training realistic and kept seriousness about the importance of training at the forefront. That's a generalization and there were certainly some Vietnam vets who were less passionate. Nevertheless, the streak of combat-experienced leaders who cared and could still remember the bad years of the early '70s on the whole contributed substantially to training value in Europe and elsewhere.

When the Cold War ended in 1990, USAREUR units were generally well-trained. They were in the process of revising their training focus from GDP-based defense to more general-purpose operations when Saddam Hussein's army invaded Kuwait. That prompted first the deployment of XVIII Airborne Corps to Saudi Arabia and then, within four months, the additional commitment of VII Corps from Germany to the theater. The Iraqi invasion occurred while my unit was completing its live-fire platoon ARTEPs at Grafenwöhr. We had ended border operations by then and were training for our revised essential mission tasks of offensive cavalry operations. I stressed the likelihood that our soldiers would deploy in the critiques of that training. That was already on their minds.

The Army began sending soldiers with special qualifications and hard-to-get specialties to XVIII Airborne Corps soon thereafter. In October, rumors of VII Corps' commitment to Desert Shield began to circulate. In November, the Corps got its orders to go. The Second ACR deployed intact. The Regiment gained many attachments in Saudi Arabia,

but its own squadrons and separate troops remained with us. This preserved teamwork in the Regiment and simplified the integration of new attachments by giving them like units to plug into. For example, the many Military Intelligence platoons and sections that joined us all reported to our own 502nd MI Company.

Not all USAREUR units had that much stability. VII Corps moved with its own separate brigades but received Third Armored Division, a V Corps unit, in place of its Third Infantry Division (Mech), which had been in its GDP for decades. The divisions themselves left some of their own brigades in Germany to be replaced by brigades from non-deploying divisions. Specifically, First AD left its 1st Brigade in Germany, replacing it with 3rd Brigade, Third Infantry Division. The 3rd Brigade of 2nd Armored Division stationed in Garlstedt joined the First Infantry Division in place of its own 3rd Brigade, which was forward deployed in Germany. That brigade supported port operations in Saudi Arabia.

As for VII Corps separate brigades, all picked up additional battalions, and several changed their composition drastically. For instance, the 210th Field Artillery Brigade left three of its four battalions in Germany, deploying with only one of its GDP outfits (3-17 FA, 155, Self-Propelled). The Brigade added a second 155 SP battalion—6-14 FA—from the Third Infantry Division along with C/4-27 FA, a multiple launch rocket system battery from Corps Artillery. This ability to blend new units into the corps and its brigades demonstrated the value of standards-based training and the practiced ability of commanders to move from one headquarters to another with relative ease.

Cold War practices and standards stayed with the Army. VII Corps followed Army training doctrine exactly once the unit was notified of its scheduled deployment. The 2nd Armored Cavalry revised its METL for offensive missions, added training for desert operations, and began teaching cultural and environmental factors to our troopers. By pure chance, two of the Regiment's majors were Middle East foreign area officers and the unit had several Arab American troopers who helped with cultural and language factors.

As with planning, USAREUR's training for mobile combined arms combat facilitated adaptation to the new theater. Tactical movement, platoon and company fire distribution, and maneuver techniques do not differ much between offense and defense. Even in defense, mounted units move forward as well as back. Spacing of formations, rates of maneuver, and direct fire tactics had to change in Saudi Arabia, but the basics did not.

Similarly, integration of combined arms into battalion-level actions and using indirect fires and combat engineers also transferred easily. Integrating Army aviation support and close air support into combat actions turned out to be simpler in the desert than in European training.

The takeaway from the Desert Shield experience was that concentrating on combat basics not only readies units for a long-running mission but also gives them skills that are immediately useful in a short-notice deployment. Tactical units can fight effectively anywhere if they maintain those skills. Staff training turned out to be equally important and equally transferable. USAREUR staff from battalion level up trained at least quarterly in combined arms operations. Keeping that training current in active-duty units remains important and is generally underappreciated. Because of the rate of change in people, systems and capabilities need continuing attention. Emerging Artificial Intelligence abilities will simplify and accelerate the business of adapting to new missions and new surroundings. Future leaders will have the ability to create sound, closely integrated plans for adaptive training and teaching in their units, as well as improved late-stage training compared with what their Cold War predecessors could manage with the resources of their time.

Because of the small size and rugged terrain of Hohenfels, the training area was a cramped place for training tanks and mechanized infantry battalions. For armored cavalry squadrons and combat aviation battalions, it was simply too small. In the 1980s, the Combat Maneuver Training Center (CMTC) along with the National Training Center at Fort Irwin, California, designed its training scenarios in ways that made Blue Force missions senseless or nearly impossible to achieve. As a regimental and division commander, I spoke last at CMTC After-Action Reviews and told my troops to ignore much of what the center's observer controllers had told them. It was a bad training environment in those years. It was common for the training center exercise chiefs to assign training units inappropriate or impossible missions. For example, they required one of my armored cavalry squadrons to attack and destroy a fortified position embedded in a forested cul-de-sac that could have been bypassed or masked since it could not stop movement along the main approach through the area. Rooting it out cost inordinate losses and taught bad lessons. No capable regimental commander would ever have wasted troops on the position.

The Culture/*Temps Perdu*

Like the frontier army of the nineteenth century, USAREUR worked in a distant sphere of its own and, over the decades, created its own cul-

ture. Many of its leaders and even their stateside bosses viewed the Army in Europe as a self-standing, largely independent entity. Its commanding general (for most of the position's existence, the CINCUSAREUR) had a lot of prerogatives within the alliance and a lot of clout with the Department of Defense. Senior Army leaders took his requests and recommendations seriously and normally granted them without much questioning.

The culture of the Command evolved naturally over the years. When the Cold War ended, USAREUR had been on guard for a generation. Conditions had changed from the founding days of the 1950s, but those changes paralleled those taking place in American society. The veteran soldiers who wrote these chapters saw the Command evolve from a conscript-based army that reflected the social values of the Old Army of the '30s to a volunteer force that accepted the cultural shifts of the post-Vietnam period. The background shifted from that of Elvis's Army (to borrow Brian Linn's phrase) to the first light of the Information Age. Through all that, however, the cardinal aim of the Command—to fight and win in NATO's Central Region—dominated everything else. That imperative held the fundamental values and standards of USAREUR in place.[16]

Young soldiers reporting to USAREUR for the first time usually did so nervously. Older ones arrived or returned knowing what awaited: very long workdays in garrison and more time spent on field training than in the States. Mocked in the Pentagon for its high-handedness and sense of superiority, that army really did possess a perceptible mystique. The result of all that in terms of effectiveness was that every member of the Command felt they were part of a distinctive force somewhat apart from the rest of the Army. Not everyone liked that, but it certainly mattered. Mainly, USAREUR soldiers and even their family members believed they had to solve their own problems and, therefore, had to have a great deal of independence. "Big Army" might eventually help them but, in the present, they had to find solutions of their own.

That attitude and the awareness of being with an elite command made Cold War leaders hyper-sensitive to their responsibilities and willing to adapt to any change aggressively to maintain top proficiency. The speed and intensity with which the Second Armored Cavalry dropped its border mission and reworked its mission essential task list in 1990 testified to the flexibility of the command in general. All V and VII Corps units did something similar. USAREUR standards of immediate readiness made a difference and remained foremost for commanders even after the Warsaw Pact imploded.

The shared values of the command showed up everywhere. The Lariat Advance mentality—readiness to move fast on call and operate without reinforcement for weeks—affected everything those officers and NCOs did. For much of its existence, no more than 10 percent of a unit's soldiers could be on pass or leave. When crew stability fell below 75 percent, for example when a qualified crew lost a member, COs reported that as a combat limitation. The same thing happened if the percentage of senior grade leaders fell below an acceptable level.

Further, soldiers kept their field bags packed. They made plans to get back to their units immediately if they were away for schooling or on leave. They kept Noncombatant Evacuation Operations (NEO) kits, including a case of C Rations, ready for their families and talked with them about how civilian evacuation would work. And they spent a great deal of time with the other members of their wartime task organizations and with their German Army partner units.

The urgency of the mission—"what if we fight tonight?"—justified long duty days, a lot of weekend work, and great concern about operational readiness. The command could not tolerate too many inoperable fighting vehicles. Tanks, infantry carriers, and howitzers were "pacing items"—with availability related directly to fighting power. Commanders had to explain if their readiness rate fell off. Therefore, maintenance sergeants and motor officers made extraordinary efforts to keep fleet readiness numbers up. They frequently drove great distances to fetch or barter for spare parts and would take parts from an inoperable tank or generator and use them to keep another piece of gear from appearing on the deadline report. Because the number of days unavailable for a vehicle counted in computing overall readiness percentages, crews and mechanics would work until midnight to fix a vehicle. A standard Chevrolet V8 283-cubic-inch engine powered the dreadful M114A1 Scout Vehicle of my first armored cavalry platoon. The engine's head gasket failed frequently. To keep our section running, we often sent the track commander to the Vilseck Auto Club repair shop to buy these gaskets, which the club stocked for soldiers' personal cars.

The work atmosphere in heavy force units in the States differed in most of these details. While they were similar, as in crew stability and the vehicle deadline, FORSCOM outfits got more time to resolve the problem. There was less pressure to fix things immediately and better access to Stateside depots and training centers, though lower levels of funding and lower priority for repair parts offset those things.

Readiness inspections also came around frequently enough to keep commanders' attention. The big ones were the Annual General Inspection and the Commanders' Maintenance Management Inspection, both conducted at battalion-level. The two US corps rolled these into a single event with a published schedule. Divisions commonly oversaw preparation and arranged for peer unit inspections and staff visits to get their battalions through them. The inspections themselves inflicted a lot of stress on units, especially in the early '70s when the penalty for failure tended to be relief from company or battalion command. Though the inspections were generally accepted as a nuisance, leaders and soldiers viewed them as reinforcement of the command's high readiness standards.

The social calendar for officers and NCOs in Europe was also distinctive. It featured Happy Hours at the end of the working week and a recurring round of parades and reviews, formal dining-in (exclusively officers) and dining-out (officers with spouses), Spur Ride initiations for lieutenants and buck sergeants, and promotion parties. Stateside units did similar things, but the German environment gave the USAREUR events a slightly different flavor. Socializing with partner *Bundeswehr* units added events to the calendar as did hosting and visiting with community leaders of garrison towns.[17]

Almost none of these gatherings were optional and they usually involved the same small group of people who lived in the same stairwell apartments and worked together daily. On Pond Barracks, the one-squadron post of my lieutenancy, we saw the same people at every social gathering including Happy Hour. For that event, all Squadron officers assembled at the Officers' Club at five pm. We socialized over beer for an hour, and married officers enjoyed seeing their wives for that time. At six pm, however, officers almost always rejoined the troops who were still working in the motor pool or the barracks. The real workday didn't end until around seven pm, and work resumed on Saturday morning. As young officers, we accepted the mandate for full readiness when we could attain it by getting broken equipment back in operation. When units kept their soldiers at work late for no clear purpose, however, the practice bred resentment and doubts about the unit's regard for its soldiers.

Because USAREUR stationed its units in many dispersed *Kaserne*, officers and NCOs spent even more time at work on guard duty and on the many details that characterize life in battalions. In addition to long days at work, they served as officers or NCOs of the guard, led Courtesy Patrols into the *Gasthäuser* on weekends, sat on Special Courts Martial panels,

investigated property losses and incidents, and traveled to other posts on Temporary Duty for schools or projects. CONUS soldiers did most of the same things but did not have to travel as far or interact with foreign police and government officials as USAREUR soldiers routinely did.

German partnership unit relations and hosting community activities also took up time and helped support cooperation. These involved regular meetings with German unit leaders and civilian community leaders but also extended to maintaining good relations with German leaders in GDP areas. When traffic accidents caused injury or damage, US commanders had to represent the US command and ensure that claims were settled, and relationships kept friendly. Moving armored columns through towns to get to training areas meant scheduling and publicizing such actions. Even routine training in a local training area created the nuisance of traffic jams, mud on the roads, and noise at night. All this added up to a unique and characteristic milieu for American outfits stationed in Germany.

With their huge border sectors, the armored cavalry regiments carried an even larger load. Both regiments took on big civil relations roles in communities near their border camps and throughout their border operations areas. Informal community leaders in those areas could be extremely important and also of great help. A noble family in the Second ACR Hof border sector got its name centuries earlier from its rural family seat there. County citizens listened to what that family had to say on any issue. They also took their problems to the knight rather than talking to elected officials. We spent a lot of time maintaining good relations with the *Ritter* and found it worth doing. Happily, he liked us. Or at least he preferred us to the Russians, whose sector boundary had cost his estate some land.

Army confinement facilities and military schools, including for years an airborne qualification course run by the 8th Infantry Division, rounded out the necessities for the European-based Army. The American Forces Network broadcasted radio programming to GIs throughout the Cold War and introduced its television network in Germany beginning in 1976.

US European Command (EUCOM) operates radio and television stations for members of all the services in Europe. *Stars and Stripes* published a European edition of its daily newspaper. There was also an American-owned anti-military tabloid, *The Overseas Weekly,* which reported real and imagined scandals and malfeasance of the brass to willing-to-believe draftees. Soldiers came and left with the expectation of these peripheral features of service in USAREUR. In aggregate, it formed a distinct way of life.

There were plenty of quirky aspects of the culture, too, which further set USAREUR apart. For decades, commanders gloried in promoting variations of the uniform and appearance of their units. Tankers and mechanized infantrymen did this more than others, but aviators and field artillerymen also had their peculiarities. Tankers who could budget them wore tall Dehner boots secured with straps rather than laces. Others bought similar but less expensive boots, waist-length tankers' jackets, and—for a while—black berets. All combat soldiers wore theater-unique qualification patches. These came by the literal truckload of almost-uniform items sold over the sides of specialized hawkers' trailers. Every *Kaserne* had a regular vendor.[18] These entrepreneurs made a good living finding and selling British Army "wooly-pully" sweaters, shaved and shaped black berets, as well as jump boots, tankers' jackets, and non-standard olive-green accoutrements of all kinds.

General Bernard Rogers, SACEUR and EUCOM commander-in-chief, shut down almost all uniform modifications in 1979. One battalion commander called a unit formation to watch him bury his tankers' jacket. My CO, Col. Robert Wagner, dutifully took us out of berets, then ordered 4,000 infantry patrol caps for his troopers.

Having officially sponsored Army families in the command also contributed to the distinct nature of serving there. Facilities and activities for spouses and children ("dependents") improved quickly from the early Cold War arrangements. The Command built family quarters early and improved them throughout the period. Commissaries and Post Exchanges were also present from the 1950s, becoming much better over time. Families satellite on military clinics and hospitals, but those facilities had to provide enough staff, beds, medical supplies, and medicines to care for the spouses and children of soldiers.

Every post needed an elementary school, and those were easy to set up. High schools proliferated more slowly. At first, they were scattered and had to provide dormitories for students whose families were more than an hour away. By the 1970s, almost every military community had a high school near enough to make dormitories unnecessary. Also, the Department of Defense schools tended to be good; many American teachers applied to teach in Europe just for the fun of living abroad and the opportunity to vacation across the continent. Very naturally, many bachelor officers took an interest in single teachers and quite a few Army families grew from those relationships.

Military communities became part of the USAREUR command structure. They looked after all government facilities and buildings in their areas of responsibility and took on a lot of civil affairs load, too. A lot of their work involved families. Spouses' Clubs and American Youth Activities got their administrative support from the Community staffs. So did the small number of US university extension campuses, service clubs, the American Red Cross, partnership units and German American community links, wives' clubs, and dedicated Bavarian resorts.

Today there is no parallel of that separate culture. Its effects at the time were to present an "alternate universe" within the Army. Everybody knew about it. People liked or disliked being assigned there. But everyone agreed it was a thing apart from the CONUS Army.

The implications are controversial. In some sense, the US Army in Europe represented a huge forward-based legion, different because its leaders expected to fight without reinforcement through the critical initial period of war if that came. The permanent assignment of major units to the command—different from today's rotation of temporarily assigned brigades—reinforced that feeling of semi-independence. So did the close, long-running relationships between USAREUR units and their German partner units, territorial army authorities, and civilian communities. Additionally, family communities of the command with their own dedicated schools, commissaries, PXs, and clinics set USAREUR soldiers apart from their colleagues in the United States. The whole experience created senses of separation and isolation that do not exist in forward-deployed forces today.

Nevertheless, today's leaders and soldiers will find useful lessons experiences and practices discussed in *Lariat Advance*. The essays in this book examine the most important US Army in Europe activities during the late Cold War. Readers may see parallels in the shift that USAREUR had to make when the Warsaw Pact dissolved, like their own situations on the verge of radical technology, policy, doctrine, and training changes.

Finding useful insights requires understanding that the late Cold War was a fundamentally different era. NATO armies and air forces of that time faced a massive, dangerous adversary and the potential of extraordinarily destructive combat that could begin without much warning. Nuclear weapons were available to both sides. Huge conventional forces would oppose each other. Cities and urbanized terrain would bear the brunt of the fighting. Importantly, soldiers at that time knew that their own force had deteriorated and could only win if they could return it to high readiness.

Today's soldiers face similar challenges—but only generally so. A NATO Cold War defense against a Warsaw Pact attack of that era, though impressively deadly, would look little like Nagorno-Karabakh or Ukraine battles or even those of Gaza and Syria. The 1990 forces differed from today's in many ways, especially in their access to advanced information technologies and, relatedly, in their ability to see and hit their enemies in depth and in detail. During the late Cold War, standoff sensors, precision weapons, military space systems, and information technology were scarce and primitive in comparison.[19] Future Artificial Intelligence innovations will further distinguish past practices from new ones.

Cold War experience implies most clearly the high value of training that closely resembles combat, the importance of deliberate leader development and sensible selections for command, tolerance for debate and disagreement, readiness to make big doctrinal and procedural changes promptly, and close cooperation among allies. To date, the Army's adjustments after its campaigns in Iraq and Afghanistan have not focused on those things as sharply as the post-Vietnam changes did. Nor has any effort in recent decades come close to the radical shakeup of every aspect of the fighting force component that accompanied TRADOC's first years.

The US Army in Europe had a pre-Vietnam history of high readiness and strong esprit. Under-resourced in the 1960s and caught up in the chaos of the '70s, it capitalized on good leaders and a broad desire of mounted force leaders to regain its past excellence. Those leaders may have idealized USAREUR's earlier abilities, but they knew what they wanted their renewed army to be in terms of readiness. Their senior leaders had studied and served with great World War II figures, and that helped them see and articulate what they expected to become. Their objective force at least resembled the older divisions, brigades, and regiments.

Today's leaders work with a more complicated past and without the clear—if romanticized—model followed by their late Cold War predecessors. Still, the revival of the Cold War Army in Europe suggests several lines of action. The strongest of those and the simplest to emulate concern war readiness, focused and demanding training.

These chapters explain important facets of the Army's late Cold War experience. While they're specific to a time and place, each suggests paths that may be worth exploring today. All contribute to an understanding that, if not directly applicable to today's problems, will form part of the stock of ideas necessary to think creatively about today and the near future.

Notes

1. Aggregated from the H-Series Tables of Organization and Equipment and based on USAREUR's two armored divisions, three mechanized infantry divisions, and three armored cavalry squadrons present in in 1970. US Army Command and General Staff College Organization for Combat—G3 Worksheet, 81-CGSC-2044, Fort Leavenworth, KS, issued at US Army Armor School, fall 1970; adjusted for the 8th US Infantry Division airborne brigade that year.

2. Jim Collins, *Good to Great* (New York: Harper Business Press, 2001); referred to "The Flywheel Effect," that organizations which consistently improve over time create permanent momentum by continuously making incremental improvements. Even after the Warsaw Pact threat disappeared, USAREUR units maintained exceptionally high readiness levels.

3. Headquarters, Department of the Army, Field Manual (FM) 3.0, *Operations* (Washington, DC: March 2025). This version of FM 3.0 replaced the 2022 edition of the Army's operations doctrine for Multi-Domain Operations. See also Col. Marco J. Lyons and Col. (Ret.) David E. Johnson, "People Who Know, Know MDO: Understanding Army Multi-Domain Operations as a Way to Make it Better," AUSA Landwarfare Paper 151, November 2022. Lyons and Johnson explained the development of Multi-Domain Operations from concepts dating as far back as 2012. They described Multi-Domain Operations as an evolution of combined arms warfare that accounts for domains hitherto not well understood, such as cyber and hyperwar.

4. Gregory W. Pedlow, "The Evolution of NATO's Command Structure, 1951–2009," accessed 4 January 2025, https://shape.nato.int/resources/21/Evolution%20of%20NATO%20Cmd%20Structure%201951-2009.pdf.

5. US doctrine changed during CENTAG's existence, but its assigned German division and Canadian brigade group acceded to the American preferences in their interactions with other (all US) army units. The situation was more complicated for NORTHAG, which was a British-run headquarters in charge of corps from four nations. NATO doctrine embodied in Standard Agreements (STANAGs) assured mutual understanding of operational terms and graphics—no small thing as learned in the Gulf War—but did not prescribe doctrine.

6. National Museum of the US Army, "The Army and The Cold War," accessed 25 September 2024, https://www.thenmusa.org/articles/the-army-and-the-cold-war/.

7. Priscilla Offenhauer and David L. Osborne, *History of the Battle Command Training Program 1986–2003* (Washington, DC: Library of Congress Federal Research Division, 2007), 29–30. Carl E. Vuono then commanding the Combined Arms Center supported the idea but had to wait for resources. BCTP began training units in 1987.

8. Bill Lind, "Some Doctrinal Questions for the United States Army," *Military Review*, January–February 1997, 135 (republished with a foreword by the author).

9. Donald A. Carter, *Forging the Shield, The US Army in Europe, 1951–1962* (Washington, DC: US Army Center for Military History, 2015), 238.

10. Anne Chaplain, (Lt. Col.) Nathan H. White, and Katherine Voyles, "Architects of Training: Assessing How TRADOC Makes Soldiers for the All-Volunteer Force," *Military Review*, July–August 2024. Anne W. Chapman, *The Army's Training Revolution, 1973–1990: An Overview* (Fort Monroe, VA: Office of the Command Historian, TRADOC, 1991), 7.

11. "The Growing US Army: in Germany—around the World," *Time*, 13 October 1961.

12. Prior to the Vietnam War, Army units used the doctrine-based Army Training Tests and the individual MOS training requirements as their touchstones for tactical training. These documents defined missions for units and tasks for soldiers by rank level. In the hands of WWII veteran commanders, they were "good enough" to guide and evaluate training. Paul Gorman, *The Secret of Future Victories* (Arlington, VA: Institute for Defense Analysis, February 1992), III–7.

13. Carter, *Forging the Shield,* 454.

14. Gorman, *The Secret of Future Victories*, III–41; and US Government, 7th Army Training Command, *Our History*, accessed 26 September 2024, https://www.7atc.army.mil/History/#:~:text=Due%20to%20increasing%20training%20requirements.

15. They also added verifiable standards at all levels. For individual soldiers, DePuy insisted on "performance-oriented training." That meant ARTEPs graded to measurable standards for units and hands-on Soldier Qualification Testing in place of the ATP's subjective evaluations and written exams. External evaluators—soldier from other units—evaluated all training under the reformed system. Gorman, *The Secret of Future Victories*, III–42.

16. See Brian McAllister Linn, *Elvis's Army* (Cambridge MA: Harvard University Press, 2016).

17. The social niceties changed over time, of course. When I entered the Army, the customs of the 1950s still dominated the military community. Officers made courtesy calls to their commanders' homes in dress uniform when they arrived and departed a unit. They left calling cards on a silver tray by the front door, and their ladies wore hats and gloves for those calls and for club meetings. A number of other courtesies and customs went along with this. By the time I retired, the forms were far more relaxed. We still attended New Year's receptions and ate in the dining facilities at Thanksgiving and Christmas, but interpersonal relations had become informal even between senior officers and junior soldiers.

18. *Kaserne* is German for "barracks;" also used to refer to a military base or installation.

19. VII Corps, the Europe-based formation that deployed for Desert Storm, fielded reconnaissance-strike capability of only a few systems. Notably those were Joint Surveillance Target Attack Radar System, Airborne Warning and Control System, Army target acquisition radars and airborne collection and jamming systems backed by strike aircraft of the air component, and a small number of MLRS launchers.

Chapter 2
The Role of the General Defense Plan (GDP) in the US Army

James P. "Pat" O'Neal

The GDP: The Impact[1]

As a "Cold War warrior," I have long believed that the Army has largely ignored important lessons from General Defense Plan (GDP) 4102 "Defense of Western Europe" of that period.[2] On a whim, I asked Google Bard, the new generative Chatbot artificial intelligence information source: "What was the impact of the General Defense Plan in Europe during the Cold War on the United States Army?"[3] In four seconds, Chatbot produced a one-page response, the summary of which is, *"*Overall, the general defense plan in Europe during the Cold War had a profound impact on the United States Army. The plan led to a major expansion of the Army, a shift in focus to fighting and winning wars in a nuclear environment, and a more professionalized and bureaucratic culture. The lessons learned during the Cold War continue to shape the Army today.*"* There it was, the justification for collecting and documenting the GDP's impact through lessons learned from those who experienced it first-hand.

This chapter captures my observations spanning fifteen years operating in Europe and another fifteen years serving elsewhere across the Army. The boundary referred to by Winston Churchill in a speech on 5 March 1946, as the Iron Curtain extended 4,200 miles from Finland to Greece.[4] This geography was translated into tactical language as the GDP for NATO forces defending western Europe from an invasion by the WARSAW Pact. To be precise, US Army Europe (USAREUR) was responsible for a sector of this GDP. This book, however, follows typical soldier use of the term GDP to mean USAREUR's ubiquitous occupation of its sector defense.

US soldiers who did not share Cold War experiences might not see the persisting lessons learned by the authors in this book. Leaders will recognize, however, that their key observations will inform decisions made in the future. While teaching a "Leading Change" elective course at the School for Advanced Military Studies (SAMS) from 2003 to 2007 during the early stages of the Global War on Terror (GWOT), I learned that students considered Cold War thinking as "old" thinking. Of course, there is no such construct as "old" or "new" thinking; there is only thought involving research and learning. Their perceptions convinced me to begin harvesting experiences from the Cold War to ensure the Army does not lose four decades of learning.

In fairness, a recent Command and General Staff College faculty inquiry suggested today's students view the Cold War from the same perspective that mid-1980s soldiers viewed WWII. "There was about a decade, during the height of the Global War on Terror, when it was fashionable to discount the challenges of conventional warfare when compared to what was required to succeed in Iraq or Afghanistan," commented R. D. "Rich" Creed Jr. in a 16 May 2025 email to the author. "Since our Army started its journey toward being once again prepared for conventional warfare on a large scale against about eight years ago, the Army is learning that there is nothing easy about the transition."[5] This perspective validates the need to document a reflective discussion of Cold War experiences.

Following the official end of the Cold War on 25 December 1991, the US Army followed its institutional predisposition to begin preparing for the next war—quickly shifting to consider an emerging GWOT operating environment.[6] In pivoting to a GWOT focus, the Army concluded that the Doctrine, Tactics, Techniques, and Procedures (DTTP) skills and knowledge honed during the Cold War had little application to the GWOT. The Army needed to retool its equipment, organization, doctrine, and training. As is often the case, the Army first refreshed its education and training system to focus on this new operating environment, quickly discarding any mention of lessons from the Cold War.

This chapter argues that disregarding the Army's Cold War experiences denies subsequent generations of leaders a valuable perspective of in-depth experience with large-scale combat operations—dimension being revisited in this book. Not only must the Army carry forward soldier experiences from twenty years of operations in Operation Iraqi Freedom (OIF) and Operation Enduring Freedom (OEF). Importantly, it must also recover from the past fifty years—the first twenty during the Cold War, which provided a variety of observations critical to complex multi-echelon operations using large combat formations. Leaders need to blend Cold War learning in determining the purpose of today's Army and the Army of tomorrow.

Framing the Discussion

This chapter's bookend dates of 1969 to 2003 are the end of the Vietnam War and the beginning of the War on Terrorism. Between these years, the Army experienced dramatic material and cultural changes to include fielding a volunteer force, focusing on retooling units with equipment and organization, revamping training, and raising unit and leader performance standards. What was the motivation for these changes? While the Vietnam War had little impact on shaping the Army response to the Cold War, cen-

tral to the change was realizing the Army was not trained, equipped, or prepared for maneuver warfare. Institutionally, the Army has done a poor job of accounting for lessons learned from this experience and how this applies to challenges going forward. I argue that the GDP accounts for a majority of the energy and direction for change realized in the Army of the 1990s. Very little has been written concerning the impact of the GDP in generating this change.

As the Army returned from Vietnam in 1973 and shifted focus to the Cold War, it created an alert-for-war system in the USAREUR. While the mechanics of bringing the 200,000 US soldiers in more than 620 separate Kaserne locations to alert status would seem complicated, the system as practiced monthly was simple. At some unannounced hour, any day or time, the USAREUR Command center sent down a code phrase. Often this phrase would come via the phone network to a staff duty noncommissioned officer (NCO) or, at higher echelons, perhaps via teletype. Its message and associated standard were easily understood; within two hours, all the combat equipment (tanks, infantry carriers, artillery pieces, trucks, crew-serve weapons), soldiers, and leaders in unit sets prepared for war had to disperse from barracks and motor pools into a designated local staging area.

While fortunately never transmitted to indicate that the Army was actually going to war, the same go-to-war phrase was used for more than three decades. Every soldier, leader, and family member knew the phrase "Lariat Advance." They reacted in concert and coordinated efforts; its mis-



Figure 2.1. A 2nd Battalion 81st Armor Battalion tank loaded on the Erlangen-Herzogenaurach railhead enroute to Grafenwöhr for gunnery period, 1986. Courtesy of the US Army.

sion and purpose were to move to and occupy the GDP. The GDP became all-consuming and penetrated discussions in US Army Training and Doctrine Command (TRADOC) classrooms as well as officer and NCO Clubs, on gun ranges, and across Army communities worldwide. Everyone knew the importance of the GDP, although never the precise location. They and their families were all too aware of the nearby presence of enemy forces.

Context for the Cold War and GDP

To begin a discussion on the GDP's impact on the US Army, it's important to provide brief context for the Army of the Cold War. The GDP was becoming an "anvil" for the Army. As a boy on a farm in northwest Georgia, I spent time in the family blacksmith shop, where the central object is the anvil. Heat in the forge brings the metal to a high temperature, ready for shaping. Using a wall of special tools, the blacksmith creates and shapes an object such as a hinge, horseshoe, or wagon frame on the anvil. The anvil's use determines the shape of any object. The anvil of the Cold War and the US Army was the GDP. As described later in the chapter, the GDP played a central role in winning the Cold War and shaping the Army of the 1990s and beyond.

The US Army used this shaping phenomenon through Operation Desert Storm, the combat training centers, and the initial V Corps attack to Baghdad during OIF. While reasons for success or failure are often clouded in politics, the Army's shaping of performance through the Cold War GDP was demonstrated in Operation Desert Storm and the early stages of OIF and OEF. The US Army proved effective in conventional operations.

The GDP anvil created necessary conditions for Cold War success. For an Army recovering from Vietnam experience, the energy concentrated on the defense of Europe stimulated important innovations such as creating an Army focused on training and developing leaders; it also served as a deterrent to opponents seeking to attack into western Europe. Simultaneously, the Army grew from these early experiences in framing and training forces for the GDP mission into creating a global force.

My History with the GDP

In early 1974, I was commanding my first company, Headquarters and Headquarters Company 2nd Battalion, 37th Armor 2nd Brigade 1st Armored Division (AD) in Erlangen, Germany. My brigade commander was Col. Thomas P. Lynch, a.k.a. Charger. Returning from my first leave after two years of command, I was put in command of B Company 2nd Battalion 37th Armor. The grizzled Lynch enjoyed a reputation for no-non-

sense training. He had relieved my predecessor for falsifying readiness reports and then lying to him. Dishonesty was a certain ticket to obscurity.

My new company had the distinction of a direct lineage to Chief of Staff of the Army (CSA) General Creighton Abrams, who had commanded the 37th Armor in WWII. On several occasions around the CSA's visit to USAREUR, he would stop by to see "his" command and touch his last tank, the operational (thanks to my unit's creative mechanics) M4 Thunderbolt VII sitting on a pedestal in front of the company[7]. Often during these visits, he would re-enlist some troopers and eat a meal in the mess hall, seated with troopers only. My troopers could see the connection from General Abrams's service in combat to their need to be prepared to defend western Europe on short notice.

Lynch's Catholic Irish lineage together with a touch of experience in WWII produced a combination of leadership skills exactly needed to help the Army recover from Vietnam. From leadership practices to soldier discipline, the Vietnam experience created bad habits and poor morale. Lynch was determined to remove such negative Vietnam practices from his brigade. None of these habits could be tolerated in combat units. While he had a sense of humor, one needed to be careful with using common Vietnam expressions and obscene or demeaning comments as he would not tolerate or condone either. In the spirit of storied WWII combat commands, he was laser-focused on creating a combat-ready brigade. In his previous life, he was probably a Teutonic Knight.

Lynch never seemed concerned about how his actions might be perceived up or down the chain of command, following his own moral compass. It was widely known that Lynch and the division commander—Maj. Gen. Roland V. Heiser—did not see eye-to-eye. That did not seem to bother Charger. However, he and the corps commander—Lt. Gen. George Blanchard—were close friends and cut from the same cloth.[8] The lesson to me and others in the brigade was to do what you think is correct, be moral, and be at the front in any action. Be accountable. Before the term came into the Army lexicon, Charger was a performance-oriented trainer. He was constantly out observing, visiting training, and walking motor pools to gauge the spirit of the troops. Shortly after taking command of one of the most powerful heavy brigades in USAREUR—with three tank battalions and one mechanized infantry battalion plus the associated multipliers—he announced a new program. At the time and date of his choosing, he will visit your company and present you with an overlay. On this overlay would be a route of march, with graphics indicating the start point, traffic control points, release point, and tactical assembly area. From the



Figure 2.2. A Company 2nd Battalion 81st Armor stages for movement into the 1986 REFORGER exercise. Courtesy of the US Army.

time he presented the overlay to the company commander or first sergeant, the company had exactly two hours to cross the start point configured for combat, where it could be assured Charger would be sitting in his M-151 jeep looking at his watch.

I learned early what Lynch expected of these no-notice training opportunities. On a crisp and cold Monday winter morning in early 1974, my first sergeant sent a runner to the motor pool to get me. When I arrived, there sat Charger grinning impishly and waving a folded overlay. After a long weekend of soldiers enjoying their free time, I was about to find out the true battle-ready condition of Company B.

Fortunately, all seventeen of my tanks, along with a mechanized company from 2nd Battalion, 6th Infantry with crews and an assortment of combat support equipment, crossed the start point for the 108, mostly Autobahn kilometers, enroute to the western edge of Grafenwöhr training area.[9] Arriving in the early afternoon, Company B moved to a staging area, downloaded our combat ammunition load, and uploaded training ammunition, and were presented with a fragmentary order to occupy an attack position to attack and destroy a WARSAW Pact tank battalion—an operation that today is called a Combined Arms Live Fire Exercise. In those days, the targets were cloth panels instead of today's automated target arrays.



Figure 2.3. C Company 2nd Battalion 81st Armor moves through a village en-route to a rehearsal for occupying the GDP. Courtesy of the US Army.

In those days, the unit had only a concept of controlling the distribution of fire and no technique. Today's Army has a distribution of fire Tactics, Techniques, and Procedures (TTP).[10]

Mission accomplished? Not quite! Following the live fire, I was provided another overlay instructing me to move around to the southern area of Grafenwöhr adjacent to Vilseck and establish a blocking position. At this point, Company B was entering day three of what would become an eight-day continuous experience. True to form, once our unit occupied the blocking positions, Charger walked the tank positions looking at sight lines, range cards (periodically climbing into the gunner's seat) to validate them, and walked into hide positions. At this time, the Army had not yet created the Master Gunner Military Occupation Specialty (MOS); Charger walked the line with platoon sergeants (PSGs). From experience, he knew PSGs were the key to sustaining combat operations, were candid and lived by standards of performance. In contrast, lieutenants were to focus on the training experience and learn the profession.

The morning of day four brought yet another overlay; overlays came to mean high adventure. This time, after uploading combat loads of am-

munition (a teaching point: never go anywhere without your combat load), the company was ordered to road march eighty-four kilometers to Hohenfels and occupy a tactical assembly area. This was the beginning of an Army Training Test (ATT), including the forerunner to the Multiple Integrated Laser Engagement System. The Army Training and Evaluation Program (ARTEP) was still some years away. Following three days of attacking and defending in the rugged, muddy, and snow-filled Hohenfels terrain, Company B was ordered to road-march ninety-one kilometers home to Ferris Barracks in Erlangen, Germany.

During Charger's operations at a major training area or perhaps training in the local training area, it was not uncommon to spot the brigade commander and Corps commanding general (CG) in the middle of the night checking the condition of the unit. These WWII-experienced leaders understood the need to visit units and take measures of their readiness. One evening I received a radio call from a platoon leader announcing that he had a "three-times twinkle" on the back deck of his tank. That would turn out to be Lt. Gen. George Blanchard walking the line . . . at midnight. These unannounced visits were important; they demonstrated senior leader dedication to knowing ground truth in unit readiness. From the unit commander perspective, midnight is when "gremlins and Murphy" along with tired soldiers can interrupt unit operations—a phenomena that these senior battle-experienced leaders understood.

In this operation there was no way to hide weakness. Colonel Lynch spent the entire weekday and night—observing the company. From tactical employment, to gunnery, to maintenance proficiency, to supply operations, to command and control, he knew Company B. Eventually, he knew the strengths and weaknesses of every company in the brigade. 'Charger' lived the accuracy of the monthly readiness report; no doubt his brigade reports were among the most accurate in the Army.

The outcome of this training event and certainly a part of his methodology was that leaders like me knew our organization at a deeper level. I had new confidence in the unit's ability to fight. My company had responded successfully to a mission order—exactly like the doctrine specifies. As a result, morale in the outfit was high, troopers walked with a new positive stride, and NCOs wore the experience with honor. What is the importance of this personal story for the GDP? First, this operation was a full-scale rehearsal for the GDP fight—similar to today's live training. The unit could arrive at the GDP with the proper equipment in operational condition and troopers ready to fight—or not. This approach was not without risks, such as convoy operations causing damage or injury, junior leaders

making bad decisions, or soldiers not understanding the impact of weather on mobile operations. Second, the brigade commander was training me and my battalion commander simultaneously. Third, in the 1970s Army environment of drugs, friction over race relations, and challenges associated with launching an all-volunteer force, Lynch found a way to overwrite the issues, build cohesion through training, place units in the caldron of operational friction, and instill a shared focus on mission success.

Third, he created a superordinate goal: the unit would work together and win or fail to work together and lose. He presented an opportunity for the unit to achieve a new level of accomplishment and bragging rights. He placed the unit in an environment where "field craft" was important; maintaining the health of the unit is critical—especially in combat.

A decade before the US Army created the combat training centers (CTCs), unit leaders in the GDP framework had to understand and be able to apply the doctrine—then the emerging Active Defense. Just because a leader could say Movement to Contact did not mean the leader understood characteristics of the operation to an application level. In this operation with my brigade commander, I had to have a working knowledge of Movement to Contact and all other tactical operations. The GDP served as the catalyst.

GDP: A Macro Perspective

Across my four USAREUR tours, I served as a Cavalry platoon leader and troop commanding officer, commanded two tank companies, commanded a tank battalion, served as a brigade executive officer for a Fort Hood brigade deployed to Return of Forces to Germany (REFORGER) in northern Germany, and finally served as assistant division commander of an Armored division. My experiences provided me with a wide and deep perspective of the GDP. I developed a profound appreciation not only for the potential fight but also for the effects the mission had on our Army and the sense of purpose that it brought.

From a terrain perspective, the GDP was a zone sixty kilometers deep spanning east to west paralleling the post-WWII boundary across West Germany (the Federal Republic of Germany, FRG) with the border of east Germany (German Democratic Republic, DDR). The Army did not select the terrain chosen at CENTAG (Central Army Group) because it was favorable for defending western Europe. In the south, the GDP began on the border between West Germany and Austria, extending north and west and in front of and parallel to the border with what is now the Czech Republic. The border continued north along the border with East Germany and ended at the shore of the North Sea.

In 1947, post-WWII from a force's perspective, the European terrain was divided among the countries involved in the Potsdam Conference: United Kingdom, United States, France, and the Soviet Union.[11] With the increasing threat from the emerging Soviet Union and in 1955 the WARSAW PACT, the other signatories to the Paris Treaty formed NATO in 1949 and began to divide the land based largely on the terrain they conquered in World War II.[12] Emerging from this division was a decision to defend western Europe using GDP among NATO partners. Initially, the terrain was divided between the forces from the United States in the south and Great Bri-



Figure 2.4. The NATO Central Region was divided into three major commands, Northern Army Group (NORTHAG), Allied Forces Central Europe (AFCENT), and Central Army Group (CENTAG). The region included 200,000 US V and VII Corps soldiers. Courtesy of www.globalsecurity.com.

tian in the north. Later, as the FRG gained sovereignty and joined NATO, its emerging army was integrated into the southern portion of the GDP.[13]

The Forces

In the late 1970s through the early 1990s, forces arrayed along the GDP from south to north in the FRG were from Germany, the United States, and Great Britian. As the GDP continued to mature, beginning in the 1950s, the post-war German border between the FRG and DDR became a heavily fortified one-kilometer no-mans-land with a five-kilometer warning zone. Each nation assigned forces to the warning zone to overwatch Soviet (WARSAW Pact) forces securing the eastern edges of the new border. Each country approached the challenge using different tactical solutions. USAREUR deployed the 14th (later 11th) and 2nd Armored Cavalry Regiments (ACR) in front of the V and VII Corps respectively to secure the border providing for the other, heavier forces to deploy for a zone defense. In other sectors, the Germans deployed their military Border Security Organization for security.[14] Great Britain forces provided intermittent border security, preferring not to place forces against the border.

To visualize the USAREUR array of force, the GDP sector began in the beautiful Bavarian area east of Regensburg. The trace of the GDP then ran north and east of Grafenwöhr, north of Bayreuth, to Coburg. This area defined the Hof Corridor, an historical route for invaders coming from the north into Bavaria.[15] The GDP continued west and north across the city of Fulda and north to Bad Hersfeld. This area represented the famed Fulda Gap, another invasion route into southwestern FRG and France with the objective of seizing Paris. US forces assumed two of the three historical invasion routes into western Europe—the Fulda and Hof corridors.

Towers and Atomic Bombs—Shaping the Zone and Terrain

The border was defined by concrete markers, with US camps on the NATO side and observation towers on the east German side. Figure 2.5 on the next page shows the classic border security post. The 30-foot towers provided observation for several kilometers into the FRG and would serve as the eyes for any WARSAW Pact attack into the FRG. As such, US Army border troops would constantly practice targeting these structures with kinetic energy weapons. In an attack by the WARSAW Pact, the first mission of these border security forces would be to neutralize the towers.

The DDR created this significant border security infrastructure, which NATO intelligence argued was actually designed to prevent DDR

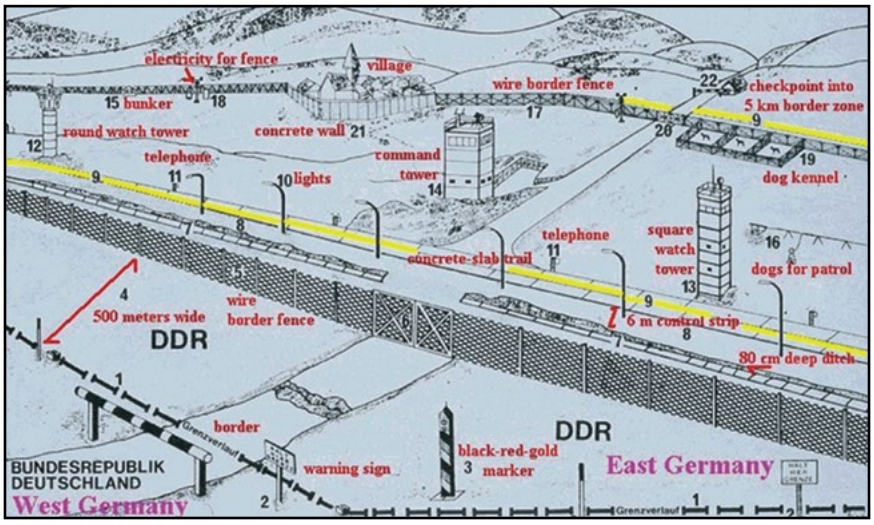


Figure 2.5. This image shows typical WARSAW Pact Cold War border control structures. Courtesy of Wikimedia Commons.

citizens from escaping to the west. Alternatively, this system prevented Western forces from sending scouting parties into the east.

Less well-known was the preparation to deny Warsaw Pact forces high-speed avenues of advance into FRG. Along the GDP zone were areas of the terrain where, for example, a mountain sloped to a lake and a road ran along the area where the mountain and lake met. As NATO soldiers drove through the FRG along these choke points, pre-chambers covered with manhole covers and 150 meters apart lined the middle of the road. On one side of each chamber was a covered trench running to a small concrete bunker. These chambers were designed for Atomic Demolition Munitions (ADM) that could destroy the high-speed avenue of advance and shape the terrain for NATO forces.[16]

Complementing the ADM was the prospect of using tactical nuclear artillery in the form of a Davy Crockett weapon system.[17] The system was withdrawn from Europe in 1971 as most field commanders felt the need to replace it with a system capable of destroying WARSAW Pact follow-on forces. It played a role in the thinking of battlefield commanders concerning ways to defeat WARSAW Pact forces well into the 1980s, however, and led to the creation of other systems to deal with the echelons of forces expected to threaten western Europe.

Engineer battalions across NATO were the contact point for these unique ADM teams, trained and certified to draw munitions from desig-

nated supply points then emplacing and triggering the munitions on order.[18] As the Army began to practice Active Defense, tactical commanders had to consider these routes in planning. Because there was little coordination between tactical commanders and the ADM teams, this approach likely would have been a disaster.

As the Cold War intensified in the late 1970s, NATO added nuclear artillery to its tool set. This development saw the demise of Davy Crockett and ADM systems; the US nuclear surety program became a key to artillery unit certifications.

Training on the GDP Mission

From 1970 to 1990, for generations of USAREUR tactical leaders, a core task for combat units was to rehearse and visualize the fight on the GDP. Learning how to fight the US Army GDP sector plan was a growth experience. In the early 1970s, soldier appreciation of how to defend was primitive at best; understanding and planning matured into the 1980s. Although the precise location of the GDP trace was classified, ways were found to practice the fight. Foremost were constructive and live simulations.

Constructive simulations usually involved a Division Command Post Exercise (CPX) that used virtual GDP terrain as the foundation. This technique helped soldiers understand large-scale combat operations on the GDP terrain.[19] Further, with a competent simulation Opposition Force emulating WARSAW Pact tactics, the Division could learn what did and did not work. Most importantly, tactical leaders could visualize the fight. This enhanced understanding of battlefield dynamics for up and down echelons. Development of a series of constructive simulation systems focusing on the division echelon led to the core system that became the Battle Command Training Program of the 1990s.[20]

Live simulations consisted of Tactical Exercises Without Troops (TEWTs) proving practical in seeing terrain around the GDP and predicting tactical battlefield dynamics. Often battalions and brigades would host a TEWT inside a CPX that allowed company team commanders to walk the terrain. These events involved wheel-mounted road marching of the battalion Command and Control structure along with company team elements along the primary deployment route exercising the battle command systems.

On two occasions, my battalion task force was ordered by VII Corps to deploy to our GDP to test Corps boundary operations between my task force and the German Army battalion to my southeast, the 12th Panzer Brigade. Both events led to a new level of boundary coordination between

the US and German battalion organizations. On another occasion, my division commander—Maj. Gen. Dave Palmer—loaded his ten battalion task force commanders on a bus and had the bus navigate the entire Division sector of the GDP.[21] When the bus arrived in each task force GDP, the group dismounted at a designated observation point where the task force commander provided a description of how he saw the fight.

Not surprisingly, the training and exercise schedules across the two corps, four divisions, two ACRs, and hundreds of support units centered on finding new and better ways to visualize this fight. As leaders, on repeated assignments to USAREUR, found new ways to energize training, backstopping these efforts was a core of training developers at each training center. For example, in the 1980s and into the early 1990s, the Armor Training Center had a large organization to develop training.[22] There developed a direct link between units in USAREUR and the largely US centric training development community. Frequent visits by the training development community to forward-deployed units provided frequent updates to training manuals. This cycle propelled the importance of training to new heights.

Addressing the Soviet Threat

Across the early 1970s and into the early 1980s, the US Army at the tactical echelon began to realize the power of the WARSAW Pact army. Codifying this reality was Field Manual (FM) 100-2-1, *The Soviet Army: Operations and Tactics*, published in 1984.[23] Publication of this FM accelerated a debate concerning how the Army was going to deal with the issue of echelon. Soviet forces viewed the first echelon as penetrating defense positions and second echelon forces as exploiting the penetration. The US Army and NATO had only sixty to eighty miles between the inter-German border and the Rhine River, insufficient to permit absorbing both echelons.

Another aspect of Soviet doctrine was the concept of norms. Norms provide a mathematical prescription for proper action. They are formulated by historical analysis, training exercises, requirements, and gaming FM 100-2-1 models. Based on norms, there was an approved response for a given situation. The correctness of a commander action or troop response was measured by adherence to established norms for that situation.[24] In the late 1980s, the US Army began to examine the science of this approach, developing the Opposition Force at the National Training Center to replicate a Soviet regiment and adopting this mathematical approach after gaining appreciation for the logic.

The discovery of Soviet Doctrine's dependence on scientific calculations generated a US Army response in the form of Correlation of Forces (COFOR). In addition to viewing the battlefield in terms of geometry, as measured in platforms and units, the Army considered the combat potential of friendly and opposing forces. COFOR became the metric for gauging the adequacy of the type of offense or defense operation. It became the norm to require a three-to-one advantage for a deliberate attack.[25]

The GDP: A Family Perspective

While duty with US forces in Germany was rich in adventure and memories, it presented a challenge for families that accompanied the soldiers. When a soldier takes family members to potential combat zones, as has happened since the mid-1880s pioneer expansion of our country west of the Appalachian Mountains, they are in the fight.

On every training and community calendar was the mandatory Non-combatant Evacuation Order (NEO) briefing. The intellectually thin logic to the NEO evacuation process was that in case of Lariat Advance, family members would be sent to assembly areas then on to evacuation points for transshipment to the United States. Conceptually, the families would flow back to the United States on aircraft that delivered follow-on troops to Europe.

At these briefings, spouses persistently wanted to know where their soldier would fight. It was impossible to ignore this question. Finding a way to circumvent the security edict was associated with the GDP location. Instead of referring to a map of Germany, my solution was to provide them a reference. Every USAREUR spouse had toured local pottery and crystal factories. This was almost a rite of passage. Go visit the factories and stock up on pottery and crystal. My solution was to tell the spouses they should take their one-of-a-kind Nachtmann crystal with them when they evacuated. They found this approach amusing and informative.

No commander ever believed this evacuation system would work; units would deploy to the GDP, and their families would follow the migration of displaced citizens to the west and flood into Switzerland, France, Spain, and the Netherlands. US family members would compete with the refugee flow of German nationals and others escaping west. Recent examples of civilians evacuating ahead of invading forces in Ukraine demonstrate the fallacy in this plan. Examining 2022 refugee issues in Ukraine, the potential challenge in Germany would have magnified this refugee flow by a factor of five, evidence of the unworkable nature of the NEO process.

Retrospectively, the GDP Served Five Functions for the Army

From my experience and perspective, the GDP served five functions for the US Army emerging from Vietnam. First, GDP dynamics created a demand on all Army echelons for leader selection and development. Second, the GDP became a platform for rejuvenating Professional Military Education (PME). Third, the GDP conditioned leaders to work with allies. Fourth, the GDP created a form for debating doctrine. Finally, and perhaps most importantly, the GDP provided the utility of live training that led to the birth of the live, virtual and constructive framework and Combat Training Center (CTC) architecture. Each of these functions deserve deeper discussion.

The first function goes to the core of our Army. Most would agree the core function of sustaining the Army is to select and develop effective combat leaders. At the onset in its recovery from the Vietnam War, the Army discovered its processes for selecting leaders were fraught with challenges dating back to WWII.[26] Too often leaders were selected because they were available and/or friends with the senior officer making the selection. In the early 1970s, the pool of junior leaders was arriving in the ranks from universities (including the US Military Academy) and Reserve Officers' Training Corps programs in a national environment that emphasized tolerance, dislike for the Vietnam experience, antiwar protests, and nonconformity. As a result of this permissive culture, junior leaders were practicing what they had been conditioned to expect: more freedom and tolerance of indiscipline. This leadership ran headlong into an Army trying to rebuild conventional capability and build a culture of mission-focused and competent leadership. Between 1972 and 1975, among ten company commands in a USAREUR combat battalion, six company commanders were relieved for cause.[27]

This period of change led to the idea of assigning newly arriving company-grade officers to staff positions so they could be observed for some months before being placed in command of a company. In concert with this new approach, USAREUR created courses for company commanders (in addition to the traditional Army Career Course). In the mid-1970s, while the Army branch-specific career course was advertised as preparing company-grade officers for command, more than 80 percent of the students in my 1975–76 course had already commanded one or two companies. The USAREUR company commander's course focused on the unique aspects of command in Europe, particularly the defensive mission.

The Army recognized its emerging leadership challenges.[28] In response to a 1970 survey of more than 450 junior officers, the US Army

War College commissioned a Study on Military Professionalism. The thirty-one recommendations included "making all command assignments of lieutenant colonels and colonels directly from Headquarters Department to the Army."[29] As often happens with broad studies, implementation took another five years, yet the process was launched to ensure units had the best leaders the Army could produce. The Study on Military Professionalism report prompted a series of leadership studies led by Lt. Gen. Walter Ulmer across the 1970s and into the early 1980s. A second focus is that the GDP drove rejuvenation of PME. In the early 1970s, former Vietnam veterans began arriving in increasing numbers for service in Europe to an Army with no meaningful or useful tactical doctrine in place. All doctrine and tactics on the books were influenced by operations in Vietnam and did not apply for the GDP.[30] Evolution of the "new" Active Defense doctrine from paper to practice moved slowly and seemed inadequate to build confidence among unit commanders facing a formidable WARSAW Pact threat.[31]

Across the late 1970s and 1980s, the US Army began to consider the need for a rejuvenated PME, feeding off the energy surrounding the development of useful doctrine. During this period, every professional development course began with a focus on the WARSAW Pact and the GDP fight. The GDP became the steering wheel for guiding PME at every echelon and at NCO and officer ranks. In the process of rebuilding the NCO Corps post-Vietnam, the Army created the Basic Noncommissioned Officer Course and the Advanced Noncommissioned Officer Course. Woven throughout these courses was a world view that included discussion of leading units in the Cold War, focused on the GDP, and used these methods to certify NCO leaders: Proficiency Pay, Job Books, and later Sergeant's Time.[32]

The Army began creating courses to prepare leaders for leading units, particularly USAREUR GDP units. As an example, in addition to the previously mentioned company commander's course, USAREUR began a series of leadership courses mimicking others the Army was developing. The 7th Army Training Center began USAREUR-specific pre-command courses for battalion and brigade commanders, specialty courses for Operations officers in tactical units, and courses for senior leaders assuming USAREUR commands. Not surprisingly, all USAREUR courses concentrated on the GDP fight.

Third, the GDP helped prepare leaders to work with allies that used various DTTP approaches. Through courses such as those mentioned above, the US Army conditioned a generation of leaders to understand how to work side-by-side with peer armies, particularly in cross-bound-

ary operations in both ground and air dimensions. This crucial function was reinforced in 1974.

In 1974, my battalion task force was on the right flank of VII Corps. I was the right flank company in the battalion, and across the Corps boundary was a German Armor unit from the 12th Panzer Brigade. US soldiers were taught in the tactical propensity for WARSAW Pact forces to find the seam between units, especially units from different armies, and to use this terrain as the point of their penetration, obviously a concern to both US and German commanders. Our Corps commander generated an exercise to evaluate how the fight might progress. I was ordered to occupy the exact positions in which our troops expected to fight. This proved to be valuable in understanding not only boundary issues, but also doctrinal issues.

The obvious issues were tactics, language, boundary coordination, and doctrine. US doctrine dictated Active Defense and systematic withdrawals rearward to a series of key terrain defenses, but this produced an unexpected problem among allies. As my unit began the movement to the rear, the German unit remained in place. Confused, I approached my German counterpart for coordination. He firmly announced that he would not withdraw—ever. He would defend his terrain forever: "What would these farmers think if I withdrew?" Point taken. Much to the surprise of my Corps and Division commanders, he and I created a joint quick reaction force and counter-attacked forces attempting to penetrate the boundary area. Through this exercise, our units discovered a fatal weakness in our use of Active Defense. Unfortunately, it took another five years and Air-Land Battle (ALB) to remedy this critical issue. I often wonder how our NATO allies will evaluate today's emerging FM 3-0 multi-domain doctrine and their ability to operate inside this approach to warfare. Perhaps a survey and collection of lessons learned would surface coordination and operation issues with our allies at the tactical echelons.

During my USAREUR assignments, I worked with very diverse armies. In one case, my unit was assigned to the 4th Canadian Mechanized Brigade Group headquartered in Baden-Baden, Germany. My unit was integrated into their formation for a REFORGER. Working with allies in various roles and missions taught us where to look for potential issues within various doctrines and approaches to tactical operations. The only way we could discover these issues was through full-scale operation on the terrain. Current operations with Polish and other allied units in contemporary eastern Europe are informing all tactical echelons. From a tactical viewpoint, having soldiers, junior leaders and commanders operate with Allied formations informs soldiers at a tactical level, and characterizes the culture. This

broadens all participants' appreciation for why we operate together. Such an environment strengthens unit morale across all formations.

Fourth, the GDP encouraged debating doctrine from Active Defense to ALB. In anchoring the development of GDP-related doctrine, it's important to acknowledge that doctrine during the early stages of Vietnam was defined by a combination of tactical terms developed in the Vietnam era such as "search and destroy," "sweep," and "jitterbug." FM 100-5, published in February 1962, reflected a doctrine with no application to the Cold War of the 1970s. The 1962 doctrine lacked the necessary robustness to capture the early stages of formalizing large-scale combat operations (LSCO) in the FRG.[33] In the early 1970s, the US Army attempted to formalize the process into the 1976 Active Defense Doctrine, which rapidly became inadequate. The Cold War and particularly the WARSAW Pact drove the US Army to consider a consolidated approach to focusing forces on what is now termed LSCO. That, together with the increasingly complex NATO battlefield, made it clear that US Army doctrine had to adjust.

From the 1970s to the early 1980s, I rose from captain to lieutenant colonel. During this period, it seemed that I was in constant discussion about the changing of doctrine from Active Defense to various forms of ALB and its carrier, FM 100-5. Every Officer Professional Development discussion, from the new lieutenant to the brigade commander, dissected ALB, especially its implementation. Elsewhere in this book, Kevin Benson and Don Holder provide more depth, discussing the Cold War's energy and its importance to creating a doctrinal foundation for the Army.

Perhaps because of TRADOC's decision to send a continuous stream of teams to the field to solicit thoughts and ideas, all units were directly involved in shaping doctrine and part of the change. The literature was full of letters to the editors and articles asking hard questions of ALB authors. This process produced a rapid series of FM 100-5 editions—a process that is not replicated with the current approach to changing and modernizing doctrine.

With a focus on the GDP, discussion in field manuals, articles, meetings, and informal gatherings examined the left and right limits of exploring new concepts, while examining the profession both vertically and horizontally. These forums created an atmosphere of thinking realistically about challenges, exploring ideas to overcome challenges, and energizing leaders to embrace challenges. It seems these debates have disappeared from Army publications and articles in professional journals, replaced by discussions of techniques rather than core doctrinal precepts.

The discussion of the emerging ALB doctrine created the need for practitioners to develop visualization skills. While US Army doctrine today uses the term visualization—involving commander use of information to understand, visualize, describe, and direct warfighting functions—the Army did not offer this framework or use the term visualize in the early 1970s. The Army determined that commanders with a GDP mission needed to develop the ability to see the fight. Senior leaders began to train junior leaders in the art of seeing the fight that over time became visualized. Using CPX and constructive simulation, tactical leaders at all echelons began to see the fight on the terrain and in their minds. As leaders rose through the ranks—platoon to brigade—with multiple assignments in USAREUR, their experience with the GDP enabled deep thinking about the complexity of the potential fight. Consequently, thoughtful leaders began to question the doctrine. This process of repeated assignments was a contributing factor in the demise of Active Defense doctrine. The GDP became a living sandbox for imagining new DTTP.

In a 1991 Command and General Staff College thesis, Maj. Jeff Long noted: "The recent wave of doctrinal innovation does not reflect a newfound ability to keep up with objective change in the environment. Rather, internal machination explains recent changes in doctrine. Current doctrine reflects the biases of the decisionmakers, the organizations, and the decision-making process." The Army's focus on defending western Europe was driving the evolution of doctrine from FM 100-5 first published in 1976 and republished in 1982.

Finally, and perhaps most importantly, the GDP birthed the CTC concept. This discussion again turns to Paul Gorman; in the late 1970s, he was working for William E. DuPuy as the TRADOC chief of training. Credited as the "father" of the Combat Training Centers, Gorman began to formulate a process that emerged in the mid-1980s as the National Training Center, Joint Readiness Training Center, and Joint Multinational Readiness Center. At its core, the CTC idea traces linage to the ideas from Gorman's duty as CG of 8th Infantry Division in USAREUR and his volumes of writing and study of the emerging GDP fight. The constant focus on GDP operation—alert, staging, movement, and maneuver—drove his thinking and became the focus of his work across the 1980s and into the 1990s. Internal to his thinking was the need for full resolution, end-to-end operation, and associated training to support this operation.

As US forces transitioned on the GDP from Active Defense to ALB, terms were used freely and often without a common and clear understanding of their precise meaning. Using terms like "attack" without qualifying

the term as "hasty attack" or "deliberate attack" surfaced a weak point in the Army's ability to conduct tactical operations. Further, as the ability to deliver precision—with weapons, units, and outcomes—became a reality, the need for precision vocabulary became critical. In conjunction with the development of the CTCs came a need to discipline the use of specific doctrinal terms. To communicate with precision, soldiers had to understand precisely what tactical and doctrinal terms meant and practice that meaning on the terrain. The GDP operation exposed the need for precision, and the idea was carried into the culture of the operational Army.

A deep appreciation for the increasing complexities of the LSCO battlefield and the combination of a dense NATO terrain and forces stationed in the suburban FRG surfaced the requirement for advanced planning skills among future Army leaders. To integrate a new doctrine, which would require graduate level professional education for selected officers, the Army developed the ability to plan for: complex movement, tactical interaction of large formations, synchronizing operations, and inclusion of Allied formations. GDP-experienced leaders in the Army, foremost among these Col. Huba Wass de Czege, created this curriculum, providing the vision and impetus for the establishment of SAMS. Central to this program was understanding the art and science of war, enabling the planning of complex operations at Corps and beyond. SAMS graduates were assigned to positions that directly influenced the Army's ability to prosecute war. Foremost among these operations was the mission in Europe.

GDP Focus Created Four By-Products Important to the Army

The first by-product was that senior leaders thought about and wrote with authority about the challenges of the GDP. During the Cold War, these leaders focused on planning for potential conflicts and writing about their perspectives, something rarely seen until recently. The Harding Project is designed to change this trajectory. One commentary from Maj. Gen. Paul Gorman, then 8th ID CG, was "Winning in the Cold: A Leaders' Guide to Winter Combat Readiness." Gorman is both a prolific author and deep thinker about the actual skills necessary to lead. While in division command, he developed Cardinal Point, a ten-day exercise for all division leaders. At various stations arranged around the Division Training Area, each leader was required to demonstrate various leadership skills appropriate for the situation.

These stations included operating in an electronic warfare environment; movement to the GDP, passage of lines, crossing water obstacles, and interacting with artillery, engineers, and the US Air Force (USAF).

This was performance-oriented training before it became a term of reference. This brief example of one division commander's focus on training reflects the deep involvement of all leadership echelons

Simultaneously, the CSA held mandatory leader conferences, usually in the at the Command and General Staff College that focused on an Army-wide topic of interest. Most focused on a topic like training for LSCO that directly impacted the GDP fight. Because of the importance of the topics, any senior leader's absence had to be personally approved by the CSA. Commanders from Army to Division level were tasked to lead discussions on various aspects of the emerging AirLand doctrine. These events provided focus and purpose for the Army. Clearly Army preparations for the GDP fight created a genuine focus on dimensions of leader development, training, tactics, and logistics for this emerging fight. These dimensions also became the guardrails for focusing momentum and energy to prepare for combat.

A second by-product was that the Army focused its agencies on contemporary macro issues such as directing their capabilities toward emerging Cold War support with the Army Research Institute (ARI). Its history dates to 1917, including major contributions to victory in WWII. ARI cites its role as "Science and Technology (S&T) research developing innovative measures and methods to improve and enhance the soldier lifecycle, conducting scientific assessments and providing behavioral and social science advice to inform human resource policies, and developing fundamental theories and investigating new domain areas in behavioral and social sciences with high potential impact on Army issues."[34] During the Cold War, ARI began a series of studies focused on supporting the purpose and mission of Army units.[35] When Army leadership puts a laser beam on the purpose of the future, it generally leads to fundamental change. The clearer the purpose, the stronger the focus, and Army Operating Agencies tend to home in on that purpose exclusively. Across the Cold War, ARI—accountable to the Army G-1—began directing its attention to research opportunities emerging from the discussions around GDP challenges.

Third, the Army integrated the concepts of logistics and terrain management into the Cold War architecture after learning the power of logistics during WWII as it extended operations across the beaches of Normandy though France then into Germany. This experience demonstrated that the pace of operation was directly proportional to the Army's ability to create and operate logistical support with the famous Red Ball Express using truck companies and trucks stripped from units.[36] The GDP experience, however, reframed this challenge. Although the Army's use of host

nation transportation for logistics solved the supply movement challenge, this operating environment presented another challenge. Terrain was at a premium. The Army lacked operational depth in West Germany. With an Active Defense doctrine and with terrain at a premium between its defensive sector and the Rhine River, the Army's need for positioning logistical infrastructure limited its maneuver options. As it began to exercise GDP plans, the Army learned about limitations related to logistical supply. In part this issue produced rationale for new doctrine, a doctrine that did not further compress the zone for logistical support.

Finally, ALB development and discussion surfaced the problem of the Fire Support Coordination Line (FSCL). Determining where ground commanders could employ artillery and where they would have to clear these fires with the USAF or, by extension, other NATO air forces directly affected ALB implementation. The introduction of artillery systems that could range well into terrain formerly "owned" by the air forces complicated the debate. As ground force commanders gained the ability to see deeper into the terrain and were able to perform Battle Damage Assessment (BDA) for potential re-attack, the issue of clearance of fires surfaced during GDP operation. This debate, carried over into Operation Desert Storm, was finally decided in favor of creating coordinating agencies to deconflict fires regardless of terrain considerations. GDP was essential in framing this discussion.

Implications of the GDP Experience for Today's Army

During the post-Vietnam era of the Cold War, the US Army experienced two decades of change with no experience in change management. Second, soldiers had spirited debates, a professional attribute that seems to have been lost in the Army expeditionary period of 2000 to 2020. Finally, and perhaps most importantly, the GDP experience demonstrated that the Army profession demands constant reformatting of battlefield architecture.

Across the GDP period, young officers and NCOs who did not have formal preparation were required to lead changes in training soldiers' individual skills, absorbing new systems, and integrating new technology. As the Army began fielding new systems, it developed the New Equipment Training (NET) construct. Few senior officers were schooled in the art and science of change. Worse yet, the Army education and training system, then separate and now combined in the Army Learning Concept Doctrine, failed to identify "change management" as a necessary skill.[37] As a result, change during the Cold War was slow, cumbersome, and often unproductive.

During the Cold War and GDP missions, the Army was ill-equipped to integrate changes. Leaders fumbled and wasted the most precious resource—time—when integrating changes. While the NET concept was a bridge to change, it placed the unit on a conveyor belt of change that became the responsibility of a team of experts, not unit leadership.[38] The challenge following NET began when the unit had to sustain the change amid personnel turbulence. The Army then realized leaders needed to develop change management skills to direct the change from the onset and continue through successful integration. This could not be an Acquisition Corps approach; it was a leadership challenge.

Change is constant in today's Army. Leaders, especially young leaders, will require change management skills to include how to optimize and integrate systems into a set of changing conditions, understanding how to facilitate, manage, and lead change.

A recent example of the need for training to change management skills was during OIF. A bright young major created an internet-based site to quickly publish new TTP so it could be immediately adopted on the battlefield. Termed Cav Net, the system became standard across OIF and eventually during OEF.

In this example, the need for change met with innovation. Change management is an essential skill for adapting on the battlefield. Should the Army condition junior leaders to lead change? Does the Army place enough emphasis on the junior leader's responsibility for managing and leading change? There is evidence that the US Army is trying to tap into soldier ideas for change.[39] Hopefully these ideas for change will encourage junior leaders to push the change forward.

The GDP tended to foster debates and reformatting the battlefield architecture. Debates on doctrine and the future of warfare are generally found in publications like *Small Wars Journal, The Bridge, Military Review,* and *War on the Rocks*. A few podcasts and blogs are helpful in discussions as well. Only recently, the CSA has directed for the Army to sponsor debate.[40] Debate is critical to advance the professionalism of the profession.

One hallmark of any profession is the ability to sponsor real debate, especially on core principles of the profession. Yet within its ranks, the US Army accepted Multi-Domain Operations as doctrine seemingly with little professional discussion. After only eighteen months, the doctrine changed. Why? Certainly, many professionals saw the weaknesses. A correction could have come from within the ranks before publication. The point is that, unlike during the Cold War, the Army has left debate to a small group



Figure 2.6. Lt. Eric "Rick" Swartz, A Company 2nd Battalion 81st Armor platoon leader, commanded Task Force 1-64 Armor 3rd Infantry Division troops for the famous April 2003 Thunder Run raid during OIF. Courtesy of the US Army.

inside the institutional Army and is no longer anchored in the operational Army. Yet the end-user, operational Army, must apply the doctrine. Perhaps those leading the Army are unwilling to entertain opposition to their view of the future.

Battlefields remain dynamic and are affected by objectives, technology, training, and terrain; constant refreshment of the battlespace view is critical. Its complexity demands techniques that can adjust to changes and understand the interaction between forces and interaction between capabilities. During the Cold War, with the help of ARI, the Army created Battlefield Function Areas Analysis.[41] This effort, which diagrammed battlefield functions, enabled leaders to see the flow of tasks and responsibilities and enhance their understanding of battlefield dynamics. Across the Army, from the CTCs to unit training rooms, these formats reinforced understanding of how to operate on an increasingly complicated battlefield.

Today, the Army needs end-users guiding the discussions concerning war-fighting functions and how to think about the battlefield. An example is Capt. John M. Kelly's 2020 *Military Review* article justifying the need for a seventh warfighting function.[42] He offers a fresh view of battlefield architecture bringing information into the elements of combat power. As a former RANGER and Stryker company commander with a degree in Mandarin Chinese, Kelly represents a voice focusing on the future. His article and idea focus on a new direction for the Army—that future leaders need to be able to diagram complexity as demonstrated during the Cold War. Soldiers need to think, write about, and challenge conventional thinking.

Conclusion

Across the course of the Cold War and its involvement in the USAREUR General Defense Plan, the US Army reshaped a Vietnam-damaged force. This period of reflection, focus, and development validates the concept that a western army with a single focus that permits innovation and advancement can transition to high levels of performance. In inventorying this period of maturation, the Army needs to recognize the conditions that fostered growth, the risk-taking leadership that directed the effort, and the depth of influence across operating systems during this period of reflection. A key to this rejuvenation was the encouragement of debate and difference of opinion.

As today's Army marches forward to an uncertain set of missions and operating environments, depending on organizational and institutional structure changes to create a modern Army is a fool's errand. While creating new organizations appears to be accommodation for the future, these changes have been and continue to be universally inadequate. At the core of understanding the Army's future is tolerance for strong debate and introduction of challenging concepts. Deep within Army culture must be the ability to challenge thinking from various branches, institutional, funding, and joint perspectives. The US Army must maintain focus on that last mile of units responsible for winning. That's where the Army will earn a reputation for managing change and presenting a deterrent to opponents. The Army ignores this at its peril. The GDP provided the anvil that shaped the Cold War. What is the contemporary anvil?

Notes

1. The acronym GDP (General Defense Plan) is used to describe many aspects of operations in the Cold War. The GDP was the creation of Headquarters, Allied Forces Central Europe (AFCENT), a NATO Major Subordinate Command headquartered in Brunssum, the Netherlands. AFCENT was commanded by a German four-star and had three major commands: Central Army Group (CENTAG), commanded by the same US four-star who commanded US Army Europe (CINCUSAREUR); Northern Army Group (NORTHAG), commanded by the same British four-star who commanded the British Army of the Rhine (BAOR); and Allied Air Forces Central Europe (AAFCE), commanded by the US four-star who commanded US Air Forces Europe (CINCUSAFE). HQ AFCENT was later disestablished and replaced by Allied Joint Force Command Brunssum (JFCB). With the acronym AFCENT no longer preempted by NATO, what had been the Air Force Service Component Command of US European Command (USEUCOM) changed its name from CENTAF to AFCENT. In 2002, Secretary of Defense Donald Rumsfeld issued guidance noting that the US Constitution provided for only one commander-in-chief; the title for USAREUR, USAFE, and USNAVEUR leaders all changed to commander. After the fall of the Berlin Wall, work on the Central Region GDP ceased, and the HQ AFCENT staff instead worked on a document called the Future Defense Plan of the Central Region (FDPCR, pronounced "fuddpucker").

2. "OPLAN 4102: Defense of Western Europe," Global Security, accessed 1 April 2025, https://www.globalsecurity.org/military/ops/oplan-4102.htm.

3. Jennifer Dubina, "The Army and the Cold War," National Museum of the United States Army, accessed 1 April 2025, https://www.thenmusa.org/articles/the-army-and-the-cold-war/.

4. "The Iron Curtain—History of Western Civilization II," Boundless World History, accessed 5 April 2025, https://courses.lumenlearning.com/suny-hcc-worldhistory2/chapter/the-iron-curtain/#:~:text=Overview,the%20Cold%20War%20in%201991.

5. Email to the author from R. Creed, director Combined Arms Doctrine Directorate Mission Command Center, US Army Combined Arms Center, 16 May 2025.

6. "End of the Cold War," Encyclopedia, accessed 1 May 2025, https://www.encyclopedia.com/history/encyclopedias-almanacs-transcripts-and-maps/end-cold-war.

7. In an effort to document WWII battlefield experiences, tank names were numbered by their sequence with the crew in the fight. For example, Thunderbolt VII was the seventh tank the Abrams crew rode in the war; the first six were combat casualties. In the Armor force, these names and numbers are legendary.

8. As an example of Cold War leadership, my battalion commander presented me with an out-of-cycle officer evaluation report. In a fit of anger after being upset with my position on a serious incident report, he awarded me a career-end-

ing total of 3 points out of a possible 100 points. When Charger heard of the incident, he gathered both of us and, after a short and intense lecture on leadership, promptly tore up the document.

9. Ironically or coincidentally, the brigade's GDP sector was a short fifteen miles north of Grafenwöhr.

10. From this and subsequent experiences, one axiom that survives over time is that no matter the training task, training conditions, or task, the challenge and associated learning curve remain steep.

11. For additional details, see "Potsdam Conference," Britannica, https://www.britannica.com/event/Potsdam-Conference, and "Paris Peace Treaties," Britannica, https://www.britannica.com/topic/Paris-Peace-Treaties-1947.

12. To learn more, see "The Warsaw Pact Is Formed," HISTORY, 31 January 2025, https://www.history.com/this-day-in-history/May-14/the-warsaw-pact-is-formed, and Rob Mudge, "What Is NATO and Why Was It Created?," Deutsche Welle, 24 June 2025, https://www.dw.com/en/what-is-nato-and-why-was-it-created/a-60688639.

13. "West Germany Joins NATO," HISTORY, 13 November 2009, https://www.history.com/this-day-in-history/west-germany-joins-nato.

14. "Defenders of the West: The Bundesgrenzschutz," DECODED: The Cold War in Europe 1945–1995, 10 July 2013, https://coldwardecoded.blogspot.com/2013/07/guardians-of-frontier-bundesgrenzschutz.html.

15. "Hof Corridor Operations," Global Security, accessed 20 April 2025 https://www.globalsecurity.org/military/world/war/ww3-hof-corridor.htm.

16. "Cold War Capabilities—Special Atomic Demolition Munitions," Soldier Systems, accessed 20 April 2025, https://soldiersystems.net/2022/04/30/cold-war-capabilities-special-atomic-demolition-munitions/.

17. Matthew Seelinger, "The M28/M29 Dave Crockett Nuclear Weapon System," The Army Historical Foundation, accessed 22 April 2025, https://armyhistory.org/the-m28m29-davy-crockett-nuclear-weapon-system/.

18. The ADM teams consisted of a senior combat engineer NCO as team leader and four soldiers with two M-151A1 jeeps and trailers—trained and certified for the special mission. Matthew Seelinger, "The M28/M29 Davy Crockett Nuclear Weapon System," The Army Historical Foundation, accessed 25 April 2025, https://www.history.com/this-day-in-history/west-germany-joins-nato.

19. James Greer, "Assessing the Value of the Lariat Advance Exercise Relative to the Louisiana Maneuvers for Preparing the U.S. Army for Large-Scale Combat Operations," Divergent Options, 20 March 2021, https://divergentoptions.org/2021/04/19/assessing-the-value-of-the-lariat-advance-exercise-relative-to-the-louisiana-maneuvers-for-preparing-the-u-s-army-for-large-scale-combat-operations/.

20. James P. Kahan et al., "Implementing the Battle Command Training Program," RAND, 1989, https://www.rand.org/pubs/reports/R3816.html.

21. "Lieutenant General Dave R. Palmer," Ike Skelton Combined Arms Research Library, accessed 26 April 2025, https://cgsc.contentdm.oclc.org/digital/collection/p16040coll5/id/30. The author of *Summons of Trumpet: U.S. Vietnam*

in Perspective, Palmer was a strategic thinker who later served as US Military Academy superintendent—a great man, scholar, and soldier.

22. These civil service employees were largely responsible for building the latticework of the modern Army armor training system. Using the Table of Organization and Equipment (TO&E) for every armor organization, they combined a study of the battlefield operation of that organization and created an Army Training and Evaluation Programs (ARTEP). They then created a crosswalk from the ARTEP to the individual skills of a particular Military Occupational Specialty (MOS). The result was a foundation for unit training. In the early 1990s, this process became the Mission Essential Task List (METL). The METL continues in use in helping unit leader focus on Essential Tasks. In the mid-1990s and the associated "downsizing" of the Army, these training development organizations were removed from the training centers. Today, it is unclear how the US Army will develop and link collective and individual training from the small unit echelon upward. Having a trace of training tasks for the individual soldier to the battalion maneuver tasks and the proficiency of individual and collective tasks is essential in focusing precious training time. Time and not funding is the pacing resource for combat units.

23. Department of the Army, Field Manual (FM) 100-2-1, *The Soviet Army: Operations and Tactics* (Washington, DC: 16 July 1984).

24. FM 100-2-1, 2–11.

25. FM 100-2-1.

26. John Zdeb, "Restoring the Shield: Westmoreland and the Recovery of Military Professionalism" (thesis, US Army Command and General Staff College, Fort Leavenworth, KS, 2016), https://apps.dtic.mil/sti/pdfs/AD1020365.pdf.

27. The reasons for removal from command centered on falsifying maintenance records and lying to the brigade commander. The unit was in the process of trying to change out old tanks for refurbished tanks. In the process, old tanks had to reach a certain mileage to be categorized as eligible for turn-in. Company commanders developed a habit of forging mileage through maintenance clerks.

28. "Leadership for the 1970s" (monograph, US Army War College, June 1973, Carlisle Barracks, PA), https://apps.dtic.mil/sti/tr/pdf/AD0764250.pdf.

29. "Study on Military Professionalism (report, US Army War College, Carlisle Barracks, PA, June 1970), 42, https://archive.org/details/DTIC_ADA063748.

30. Maj. Robert A. Doughty, *The Evolution of US Army Tactical Doctrine, 1946–1976* (Fort Leavenworth, KS: Combat Studies Institute, 1979), https://www.armyupress.army.mil/Portals/7/combat-studies-institute/csi-books/doughty.pdf.

31. "Understanding Military Doctrinal Change during Peacetime (thesis, Columbia University, New York City, 2018), 152–77, https://academiccommons.columbia.edu/doi/10.7916/D8709HB9.

32. Kevin Lilley and Michelle Tan, "'Sergeant's Time' Is Making a Comeback in the Army," *Army Times,* 14 December 2015, https://www.armytimes.com/news/your-army/2015/12/14/sergeant-s-time-is-making-a-comeback-in-the-army/.

33. Department of the Army, Field Manual (FM) 100-5, *Field Service Regulations Operations* (Washington, DC: 1962), https://cgsc.contentdm.oclc.org/digital/collection/p4013coll9/id/977.

34. Doughty, *The Evolution of US Army Tactical Doctrine*.

35. *List of U.S. Army Research Institute Research and Technical Publications October 1, 1994, to September 30, 1995, With Author and Subject Index* (Alexandria, VA: US Army Research Institute for the Behavioral and Social Sciences, 1996), https://apps.dtic.mil/sti/tr/pdf/ADA327770.pdf.

36. Allyn R. Vannoy, "Red Ball Express: The Allies' Unprecedented Lifeline to Victory," Warfare History Network, Summer 2010, https://warfarehistorynetwork.com/article/red-ball-express-the-allies-unprecedented-lifeline-to-victory/.

37. Baggott; and *The U. S. Army Learning Concept for Training and Education 2020–2040*, TRADOC Pamphlet 525-8-2 (Washington, DC: US Army Training and Doctrine Command, April 2017).

38. "All Together Now," US Army Acquisition Support Center, 14 September 2018, https://asc.army.mil/web/tag/new-equipment-training/.

39. Sam Skove," How Innovation Cells in Army Combat Units Are Harnessing Soldiers' Ideas," Defense One, 17 August 2013, https://www.defenseone.com/threats/2023/08/how-innovation-cells-army-combat-units-are-harnessing-soldiers-ideas/389518/.

40. My professional associate, who prefers to remain anonymous, dates his entry into the Army to the late 1960s. He rose through the ranks with service in a cross section of the Army in both the operational and institutional Army components. Following retirement, he worked for over a decade in the office of the CSA.

41. J. Patrick Ford, William J. Mullen, and J. Ward Keesling, *Analysis of Command and Control Battlefield Functions as Performed in the Armored Brigade* (Alexandria, VA: US Army Research Institute for the Behavioral and Social Sciences, 1997), https://apps.dtic.mil/sti/pdfs/ADA328661.pdf.

42. Capt. John M. Kelly, "Information on the Twenty-First Century Battlefield Proposing the Army's Seventh Warfighting Function," *Military Review* (January–February 2020), https://www.armyupress.army.mil/Journals/Military-Review/English-Edition-Archives/January-February-2020/Kelly-Info-warfighting/.

Chapter 3
Learning to Fight: Post-Vietnam Leader Development

James K. Greer

A week after taking command of E Troop, 10th Cavalry in Wildflecken in the Federal Republic of Germany (FRG), I was talking with the V Corps commanding general, Lt. Gen. Paul Williams. After he grilled me on my troop's readiness and personnel, we discussed my troop's Covering Force mission and plan. What followed was a master class in tactics, applied to the ground and accounting for the enemy's doctrine and capabilities. Williams clearly understood how the Army's Active Defense doctrine was applied not only at his much-higher corps level, but also the troop level. That day he spent probably twenty minutes with me, a significant time investment given he had more than 400 company-size units in his corps.

A few weeks later it was my turn as a leader developer. Turning the running of the unit and its more than 300 troopers over to our First Sergeant, I took the five assigned lieutenants and two vehicles on a week-long Tactical Exercise Without Troops (TEWT) during which we practiced and refined execution of the full range of cavalry troop tasks on terrain where we might execute those tasks against our enemy. The lieutenants not only practiced their own duties but also had the opportunity to act as troop executive officer and commander for at least one mission each. It was a leader development opportunity not only for the officers who went on the TEWT, but also for the entire noncommissioned officer (NCO) team in the Troop. While the officers were away, the Troop NCOs led training, maintenance, and daily operations and even excelled in a NATO-wide monthly no-notice deployment alert they led themselves, providing practical experience without officer supervision.

But activities in 1980s Europe were not just about small unit leader development. Shortly after taking command, E Troop was tasked to support the 8th Infantry Division's First Battle command post exercise. First Battle was a division-level wargame using NATO vs. Warsaw Pact forces played as counters on an actual 1:50,000 map of European terrain. I found myself playing a brigade commander in the 8th Infantry Division with my radio telephone operator delivering reports to the division staff as our efforts drove their training. While we were training aids for the exercise, I personally learned much about integrating combined arms at the brigade-level and gained a much greater appreciation for how a division fought using the Active Defense doctrine.

Meanwhile, when I was not training or preparing for the defense of Europe, I was working my way slowly through the Combined Arms Services Staff School (CAS3) "box of books." The box of books was the distance learning portion of CAS3, developed to ensure that all captains attending the course were grounded in US Army doctrine, tactics, and organizations before they attended the in-resident course.[1] Additionally, I was writing my first article for publication, "By Night as by Day," which was later published in *Armor*.[2]

My own leader development experiences as a lieutenant and young captain were by no means unique. Instead, they illustrate the Army's focus on leader development in the midst of the Cold War. Those experiences also capture the range of leader development activities that included the institutional, such as CAS3; the operational, such as TEWTs and wargames in units; and individual self-development, such as researching and writing for professional journals. This chapter captures the expansion of Army leader development during the Cold War—suggesting its ultimate contribution to an effective Army that deterred the Soviet Union from attacking NATO and triumphed in Operations Just Cause and Desert Shield/Desert Storm. That expansion of leader development post-Vietnam began with the revision of leadership doctrine to account for the failures of the Vietnam War, the transition to an all-volunteer force, and the changing social and cultural environment.

Leader Development Doctrine in the Post-Vietnam Cold War

A defeated US Army left Vietnam with significant leadership challenges. Atrocities such as My Lai, "fragging of junior officers," poor tactical performance in battle, and crippling losses in the professional NCO Corps resulting in large numbers of "shake and bake" NCOs all pointed to leadership deficits in the force.[3] In response, the US Army conducted a 1971 service-wide Leadership for the 1970s survey that identified deficiencies in junior and senior NCO and company-grade officer leadership and competence. Following the survey, the Continental Army (CONARC) led a service-wide 1973 leadership conference of senior leaders focused on revitalizing the officer and NCO corps. These two efforts significantly affected the direction of leader development in the post-Vietnam Cold War Army.

The Leadership for the 1970s study provided the research basis for developing new leadership doctrine post-Vietnam. That study included responses from more than 30,000 soldiers, NCOs, and officers of all ranks

from across the Army. Some key insights from the survey that informed Army doctrine:

- Company grade leader deficiencies in the key responsibility to "Know Your Men."
- Differing perceptions of the responsibilities of leaders versus commanders.
- Shortfall of senior NCOs to "be aware of the state of morale and do all they can to make it high."
- Disconnect in that senior leaders emphasized mission, while junior leaders emphasized people.
- Lack of key leader skills such as setting the example; setting high standards; and communicating effectively.[4]

The Army was and is doctrine-based, so it followed that the Army would lead its rebuilding effort with publication of leadership doctrine. As the Vietnam War was drawing to a close in 1973, the US Army published a new leadership manual. Unlike previous manuals, this version of Field Manual (FM) 22-100, *Military Leadership,* leveraged decades of research in human behavioral and organizational science. The manual recognized that the all-volunteer Army soldier of the 1970s was different than the soldiers of the Korean or World War II conflicts. Among the major differences was a greater understanding of world affairs and inclination to think and question more than Korean or World War II soldiers. Five chapters of the manual were devoted to ensuring leaders understood human behavior. And, recognizing the state of the Army post-Vietnam and the challenges of the society within which the Army functioned and from which it recruited, specific chapters were designed to prepare leaders to deal with issues like drug abuse, race relations, and problems with AWOL (Absent Without Leave).[5]

The manual devoted specific content for leader development, in particular recognizing that junior leaders were both the least experienced and the most likely to be confronted with behavioral problems. FM 22-100 divided leader development into two task areas. The first, developing an understanding of human behavior and leadership principles, was envisioned as occurring primarily in an academic setting. The second area was in the application of principles and techniques. This could only be accomplished in a real-world, organizational setting. Recognizing that the Army was in transition from a draftee-based force to one based on volunteers as well as the severe discipline challenges of the later years of the Vietnam War, the manual took the approach that the Army's leaders needed to accomplish the mission while balancing the needs of soldiers.[6]

While the challenges of drug abuse and race relations were both institutional and operational, the ultimate solutions would be addressed by leadership—specifically by commanders at all levels.[7] The progress that was made in unit leadership enabled the Army to refocus on its warfighting mission. It was time for the Army to develop its competence and capabilities for warfighting as a strengthening Soviet Union and Warsaw Pact continually threatened Europe. With the advent of AirLand Battle in 1982, the initial fielding of Big 5 combat systems, and the looming Division 86 reorganization of the Army, it was time to update leadership doctrine. The Army was rapidly improving, and leaders were needed to realize the full potential of the force.

The principal author of the 1983 version of FM 22-100 was Lt. Col. Boyd Harris. His focus, which remains the core of Army leadership and leader development, was on what a leader must "*Be, Know, and Do*." This was shorthand for attributes leaders must possess and demonstrate; what knowledge they must have; and what skills they must master. In terms of *Be*, the manual concentrated on developing ethical leaders of character. In terms of *Know*, it addressed the necessity for leaders to be competent in the tactics and techniques of their specialty. In terms of *Do*, the manual described key leader skills: directing, implementing, and motivating. Moreover, it recognized that leadership must be adapted based on four factors: the follower, the leader, communication, and the specific situation. The application of *Be, Know, Do* across the Army produced effective leaders who would help the Army be victorious in the 1989 Operation Just Cause in Panama and 1990–91 Operation Desert Shield/Desert Storm.[8]

At the same time, under the direction of US Army Training and Doctrine Command (TRADOC), Army professional military education (PME) had matured, strengthening the institutional component of leader development. Meanwhile, its companion organization—US Army Forces Command (FORSCOM) and the overseas component of US Army Europe (USAREUR)—WAS strengthening the organizational component of leader development. And leaders at every echelon were emphasizing and setting the example of personal leader self-development.

Organizational Leader Development

Commanders at every echelon had the responsibility for organizational leader development. Most units and organizations had formal Leader Development Programs (LDP) that consisted of regularly scheduled classes on a variety of operational and administrative subjects. However, the majority of NCO and officer leader development occurred through in-

formal leading, coaching, and mentoring during the performance of daily duties associated with commanders, leaders, and staff. Senior leaders taught their subordinate NCOs and officers during maintenance periods, training events, inspections, and even formations. In *Common Sense Training*, Lt. Gen. Arthur S. "Ace" Collins commented that every single event is a training opportunity.[9] A number of those leader development opportunities are discussed below. They illustrate the breadth and depth of organizational leader development.

Battle Books

During the Cold War, US Army forces in Europe comprised almost half the Active Army. In Europe, every company/troop/battery was required to have a "battle book" of their mission in the General Defensive Plan (GDP) of Europe against a possible invasion by the Warsaw Pact. The battle book was a running detailed plan of how that unit would execute its specific tasks, on the exact ground it would operate, and against the expected threat. Battle books were extremely detailed and regularly updated and evaluated.

A typical battle book included an enemy situational template drawn on maps of the area of operations and then pages for each battlefield operating system (BOS), today called Warfighting Functions (WfF). There were pages for maneuver phase of the operations, such as primary, alternate, and successive battle positions; the fire support plan; engineer obstacles and/or survivability positions; nuclear, biological, and chemical (NBC) likely enemy targets, decontamination positions, and routes; Warsaw Pact air threats and friendly air defense; command, control, and communications; and logistics support. Battle books were updated for and assessed during each Quarterly Training Brief and inspected by senior leaders during General Defensive Position terrain walks to ensure they were up to date.

Leader development occurred in the very act of building and updating a battle book. Unit squad leaders, section sergeants and above, NCOs, and officers collaborated to build and maintain the book. To accomplish this, they had to learn and understand the application of the doctrine for their mission to a specific enemy and terrain. Leaders had to learn and understand the integration of all WfF for their unit to accomplish their mission. This required senior NCOs (first sergeants and platoon sergeants) and company and field trade officers to teach and coach their subordinates at a very detailed level.

The monthly or quarterly review of the battle books by the higher headquarters provided yet another leader development opportunity. Often conducted on the actual terrain, battalion commanders and command ser-

geants major and above would have the unit leaders brief their battle books on the ground then would question them about specifics, or "what ifs" to improve their ability to conduct the potential operation. This forced leaders to study, think through their operations and branches and sequels, and understand their specific military operational specialty (MOS) and duties to the highest standard. Thus, the battle book was both an operational and a leader development aid.

Alerts to Test the Readiness of NATO Units

During the 1970s and 1980s, all forces in Europe would execute a monthly deployment alert, code named Lariat Advance. These alerts were designed to test the readiness of all NATO units, at every echelon and throughout Europe, to deploy within two hours of notification of a Warsaw Pact invasion. And, in the event of an actual war, the same procedures would be employed; readiness training and actual crisis deployment were identical. Units would typically recall all their personnel, deploy from their base to a local dispersal area or their GDP position, and then perform some operational tasks. That task might be simply establishing command, control, and communications; or it might be executing a task related to their mission in defense of Europe. Based on the decisions of commanders and readiness assessments, selected units would remain out a few days executing more detailed tasks relevant to their planned mission.

While these monthly alerts contributed to NATO's defense readiness, they also had a leader development component. Both NCO and officer leaders had to learn how to prepare a unit for deployment to combat. That effort included planning, detailed preparation of vehicles and teams, loading of equipment and ammunition, and detailed inspections to include pre-combat checks of individuals and systems. Each month leaders had to receive and give fragmentary orders (FRAGOs) then lead their elements in executing those orders. Thus, every alert generated a leader development opportunity.[10]

Terrain Walks

Throughout the Army, both in the Continental United States (CONUS) and overseas, terrain walks led by senior leaders were a fixture of leader development in the post-Vietnam Cold War era. Senior leaders (Corps, Division, and Brigade commanders) would go out on the terrain accompanied by subordinate leaders and talk through various missions and tasks, connecting the doctrine to execution, with consideration for the impacts of terrain and the potential enemy. In Europe and South Korea, these

terrain walks were often discussions of actual battle plans if the Cold War were to turn hot. In CONUS, these terrain walks were most often aimed at specific operations, such as a river crossing, breach of a complex obstacle, or establishing an engagement area. Terrain walks were an opportunity for senior leaders to gauge the competency of their subordinates, teacher and coach, and impart their "how to fight" philosophy. And, for subordinate leaders, terrain walks were tangible proof that their senior leaders knew their craft as competent professionals. Like many other post-Vietnam Cold War leader development tools, terrain walks were simple and low cost (just the expenditure of time and transportation to the location), but with a very high return on investment.

Dunn-Kempf Wargame

The post-Vietnam Cold War was a period of significant growth of wargames and simulations for leader development. The US Army sought out and developed wargames and simulations that would have a dual purpose of both organizational training and individual leader development. Wargames primarily provided a minimal resource leader development approach to provide multiple iterations of tactical problem-solving without the significant expense of taking units to the field. An example is the Dunn-Kempf wargame that was developed in 1975.[11] Dunn-Kempf was a small unit (platoon and company) wargame that employed miniature vehicles, weapons systems, and personnel to simulate combat against the Warsaw Pact in Europe. The terrain of the gameboard was a three-dimensional representation of actual German terrain accompanied by a 1:50,000 map of the area. This enabled small unit leaders to execute troop leading procedures, develop orders and graphics, and then execute their plan on the actual terrain against a live enemy, often played by the intelligence staff, enabling them to learn as well.

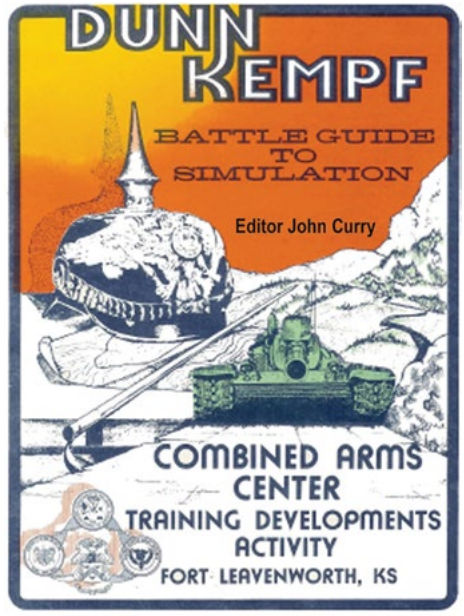


Figure 3.1. Cover of the Dunn-Kempf Battle Guide to Simulation. Courtesy of the US Army.

For example, a company-level training session would include the company commander/first sergeant, platoon leaders/platoon sergeants, and special sections such as fire support team (FIST)/forward observers, air defense, engineers, and logistics. Company commanders could issue orders, coach subordinates as they planned, receive back briefs, conduct rehearsal of concept (ROC) drills, and then execute the mission in the wargame. During the play, all leaders employed actual radio calls and reports, company and platoon standard operating procedures, and tactical actions. Individual vehicle commanders and dismounted element leaders moved their pieces on the board to practice movement techniques, employ weapons, and perform drills—all while using the terrain in realistic fashion. Virtually any small unit operation could be simulated, regardless of WfF or mission, enabling leaders to tailor each iteration to address their leader development gaps. Dunn-Kempf was low-cost and low-overhead, an entire game from orders development through play and then after-action review (AAR) could be completed in a half day.[12]

First Battle Wargame

The First Battle was a US Army-developed simulation played by Division commanders and their staff. The wargame could be played on any 1:50,000 map; while primarily for the European Theater, it could be used by the 2nd Infantry Division on the Korean Peninsula or any other region in the world. Counters represented the various units organic to or supporting a division as well as its opposing force, normally Warsaw Pact and Soviet Combined Arms Armies. While maneuver and fires-centric, the simulation included rules for all relevant warfighting systems. The opposing force was played live using the same rules as friendly forces. Often a brigade staff was tasked to play the opposing force, serving to enhance the leader development population reached by a single game. The game was designed so that

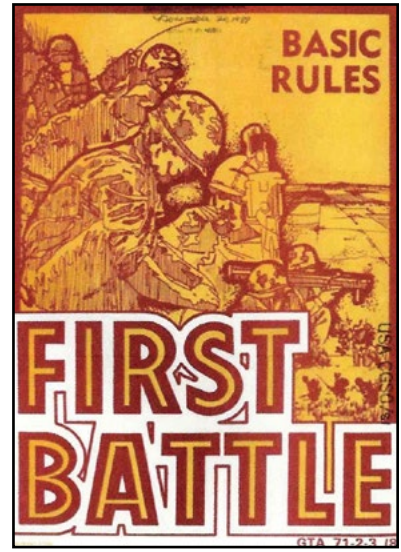


Figure 3.2. First Battle, which was manually played without any electronic assistance, was designed to train commanders and staff in combined arms operations and decision-making. Courtesy of the US Army.

commanders and staff could see the map in an open version or be separated from the map, even operating from their command posts in the field in the closed version. Rules for First Battle were published in TRADOC Graphic Training Aid (GTA) 71-2-3. The wargame was sufficiently flexible to train brigade or corps staffs by contracting or expanding the map and adding counters for additional units.[13]

Army Training Battle Simulation System (ARTBASS)

In the early 1980s, the Army began fielding computer-assisted simulations. While Dunn-Kempf and First Battle were analog, the Army Training Battle Simulation System (ARTBASS) was its first digital leader development system. This computer-driven, real-time, free-play interactive combat simulation system was designed to train maneuver battalion commanders and their staffs. The system provided many of the characteristics that training developers believed necessary for effective training. The computer enabled many iterations in a short period of time with minimal resources and provided feedback data that could be used in developmental AARs.[14] Real-time training required leaders to act under time pressure, planning and executing as they would in combat. The free-play and interactive characteristics of ARTBASS meant that commanders and staffs had to "outthink" their enemy to win rather than just applying processes to staff work and decisions. The experience helped improve effectiveness in training leaders in that mid-range between small unit Dunn-Kempf and higher unit First Battle.

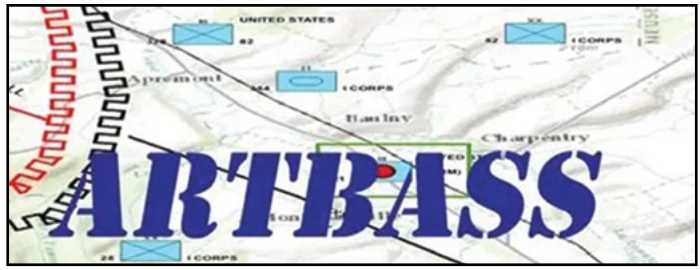


Figure 3.3. The Army Training Battle Simulation System (ARTBASS) was the first electronically assisted game to train leaders and staff. Courtesy of the Army National Guard.

Multiple Integrated Laser Engagement System (MILES)

One of the most, if not the most, impactful simulations to emerge during the Cold War era was the Multiple Integrated Laser Engagement System (MILES).[15] This comprehensive system could be fitted to weapons systems, vehicles, and individuals, enabling them to engage each other

with a significant degree of realistic capabilities and effects. Lasers calibrated for specific weapons were attached to each system so the operator could use it in a realistic manner. Individuals and vehicles were fitted with sensors so that weapons effects could simulate killing or wounding soldiers and destroying or disabling vehicles. The entire system was instrumented and connected to centralized computers. As a result, entire battles from squad to brigade could be fought with every individual and system, regardless of WfF, immersed in a realistic environment. The entire training event was recorded, analyzed, and played back in support of AARs. While primarily designed for unit training, MILES proved a valuable tool for leader development. Leaders were put in real-time, realistic situations demanding effective decision-making, orders, actions, and staff operations. During AARs, leaders were often asked developmental questions such as: "How did you visualize the battle at this point, what was your understanding of your unit position and status, and why did you make the decision you did?" At both combat training centers (CTC) and home station training areas, these interactions—often uncomfortable for the leader being grilled—were instrumental in development of the officer and NCO Corps in the late 1970s and throughout the 1980s.[16]

Institutional Leader Development

The Army divides its mission into two main efforts: operational and institutional. Operational efforts are conducted by operational units—the organizations that will engage in combat and other military operations during crisis and conflict. Institutional efforts are those that generate and support operational units. The chapter to this point has focused on the operational side of the force. The remainder will focus on the institutional side of the Army.

During the post-Vietnam Cold War era, the Army invested heavily in institutional leader development—recognizing that it had spent almost a decade fighting a counterinsurgency in Vietnam and was now required to defend Europe against a strengthened Warsaw Pact. The US Army understood that confident and professional leaders—schooled in the new technologies, capabilities, and operations of war—was an absolute requirement. Also during this period, the US Army developed two successive doctrines to defeat the Warsaw Pact and published three FM 100–5, *Operations,* capstone manuals in 1976, 1982, and 1986. The 1976 capstone manual introduced the Active Defense doctrine. Active Defense was followed by AirLand Battle doctrine, which was introduced in the 1982 FM 100-5 then refined in the 1986 version. The necessity for all leaders to

understand the doctrine changes and be able to apply emerging doctrine to their branch, duty position, and leadership/supervisory responsibilities was paramount. Most importantly, there were improvements in both officer and NCO institutional leader development programs.

Officer Professional Military Education

During the post-Vietnam Cold War, the US Army developed and opened two new officer Professional Military Education programs. Both were aimed at developing commanders and staff officers who would be able to plan, prepare, and lead large-scale combat operations against the Warsaw Pact if deterrence failed resulting in war with the Soviet Union. The first was the School of Advanced Military Studies (SAMS), which had a course of instruction for majors selected to attend following their Command and General Staff College experience and a course for lieutenant colonels who had been selected for Senior Service College. The second program was CAS3. Recognizing the need for skilled staff officers across the entire Army, and at every echelon, CAS3 was aimed at midgrade captains who would soon serve on battalion, brigade, division, and corps staffs.

The impetus for SAMS was a 1982 Army Staff College Level Training Study conducted by Lt. Col. Huba Wass de Czege. Following the study, he concluded that the increasing complexity of warfare required more education than was possible in a single year of instruction for field-grade officers. His research of multiple recent military operations and military education systems suggested the increasing complexity was prompted by vastly increased command, control, communications, and intelligence systems; addition of more significant battlefield operating systems; and the increased scope, scale, and tempo of modern operations.[17] Wass de Czege proposed a second year of instruction to provide a broad and deep military education in the science and art of war. The proposal was approved in December 1982, and the Army adopted a second year of education in the fall 1983 SAMS for select majors in an Advanced Military Studies Program (AMSP) as well as a War College Fellowship for select lieutenant colonels.[18]

The SAMS curriculum focused on integrating military theory, history, and doctrine with practice through wargames and exercises. Also unique to SAMS was the Army's investment in Fellowship graduates. Besides their year of study, these former battalion commanders served a second year as seminar leaders for the SAMS majors course. The Army's best leaders were setting an example for SAMS students while developing into leaders themselves. Six years after SAMS graduated its first class from



Figure 3.4. This photo shows the visit of a SAMS contingent to the *École Supérieure de Guerre* in Paris, March 1985. Col. Richard H. Sinnreich is at the center in civilian clothes; faculty member Robert M. Epstein, PhD, is on his right. The school's original purpose was to provide a broad, deep military education in the science and art of war. Over time, SAMS became central to planning and preparing large units for deploying to operate on modern battlefields. Courtesy of the US Army.

both the majors course and the lieutenant colonels fellowship, the newly trained leaders planned the successful Operation Just Cause in Panama and Operation Desert Shield/Desert Storm in Iraq. In their very first operations, the SAMS graduates proved the value of the Army's investment in leader development.[19]

The first resident CAS3 class began in June 1981. Like SAMS, CAS3 grew out of an Army Leadership Development study, the 1978 Review of Education and Training of Officers (RETO). The RETO study identified US Army leader development requirements with a focus on two major drivers: the Army as a profession and the anticipated operational environment and threats of the 1980s and 1990s. RETO then recommended a leader development system that addressed Pre-Commissioning, Military Qualification Standards for officers, improvements to existing schools, and the addition of a new school, CAS3.[20] Recognizing the increasing complexity of warfare and the role of staffs in ensuring effective planning, coordination, and execution, the focus of CAS3 was on combat opera-

tions, rather than garrison administration and training. CAS3 consisted of two phases. Phase I was the non-resident phase, initiated after captains had completed their branch's Advanced Course (today's Captains Career Course). Captains received a "box of books" with modules on various military subjects. Each module consisted of readings, practical exercises, and a test—with the intent to establish a baseline of Army doctrinal and organizational knowledge before participants attended the resident course. Phase II was a nine-week resident course at Fort Leavenworth, Kansas. Whereas Phase I was individual work, the focus of Phase II was collective. Each small group was organized as a staff and functioned as that staff through a series of Military Decision-Making Process (MDMP) planning evolutions.[21] As with SAMS, the Army invested in post-Battalion Command lieutenant colonels as small group instructors—an investment that paid off in generations of captains educated to be effective staff officers.

Noncommissioned Officer Education System

The US Army exited the Vietnam war with a severely depleted NCO corps. To be able to contribute to the defeat of the Soviet Union and the Warsaw Pact in Europe, the NCO corps needed to be rebuilt. Building on the program that existed during the Vietnam War, the new Noncommissioned Officer Development Program (NCODP) provided comprehensive and progressive leader development for each NCO rank from sergeant through command sergeant major.

Rebuilding the NCODP had several components. First was to select the most competent and professional NCOs for promotion to keep them in the force and in positions of responsibility. Second was ensuring that NCOs were competent in their MOS so they were able to lead teams in executing tasks associated with their branch. Third was leader development to help NCOs develop progressively as leaders of teams, then squad or crews, then platoons, then companies, and finally battalions and above as command sergeants major. Taken together, these efforts represented a comprehensive approach to developing a professional, experienced, and effective NCO corps.

Skill Qualification Test to Assess/Develop Required Skills

As the Army began rebuilding its ground forces in the years following Vietnam, it became apparent that soldiers did not have necessary skills. As these skills were developed in branch schools, it was critical to standardize MOS skill knowledge from basic to branch-specific skills. Thus, the Army instituted annual testing to validate that soldiers in units had the correct skills and that their skills increased in complexity as they moved up in rank.

The Skill Qualification Test (SQT) was an Army-wide program to ensure that soldiers and NCOs at every rank and each MOS had the right skills to perform their job.[22] Instituted in 1977, the program consisted of two parts. First, there was a specific program for each rank and MOS divided into five "skill levels" by rank. Skill Level 1 was for basic entry soldiers. Skill Levels 2 through 5 were aimed at NCOs by rank—sergeant, staff sergeant, sergeant 1st class, and master sergeant/first sergeant respectively. The SQT levels were aimed at developing technical and tactical skills necessary for the NCO to perform the job. There were three parts to the skill qualification test. The first part, Skill Component, came in the form of booklets that were mailed to the individual NCO. The NCO worked their way through the booklet and when it was complete, sent the book back to TRADOC for assessment. NCOs who passed a test then moved onto the next one in their skill level This hands-on test was conducted each year for all soldiers and NCOs. The third component was the Job Site component—supervisor evaluation on the individual's performance of selected skills for their rank and MOS.[23] This was followed by an annual Common Skills Test, which was the same for soldiers, NCOs, warrant officers, and officers, regardless of rank or MOS. This tested core common skills such as NBC protection tasks and first aid.

The SQT served as a catalyst for leader development within the NCO corps. For the first time the Army systematically identified required skills for NCOs by rank and MOS. The Army then established a system to not only test those skills, but also tie performance of those skills to promotion to the next rank. This placed a requirement on both the formal chain of command and the informal NCO chain to ensure that each NCO had the training necessary to succeed in the SQT. The overall result was a significant skills improvement within the NCO corps, as demonstrated by the 2002 Army Training and Leader Development Panel (ATLDP) Report, which recognized the SQT's contribution NCO proficiency and as a tool for NCO leader development.[24]

Leader Self-Development

The third leader development domain was self-development—leader development activities initiated by the individual based on self-assessment of knowledge, skills, or attributes to develop. Often this is individual study or education outside of the duty day. One major post-Vietnam Cold War initiative for self-development was the Army Continuing Education System (ACES). ACES provided resources, facilities, instruction, and programs to support soldier and leader self-development across the Total

Army (Active, National Guard and Army Reserve components). ACES included Basic Skills Education Program (BSEP); High School Completion Program (HSCP); Associate, Baccalaureate and Graduate Degree Programs; Skill Recognition Programs; Skill Development Programs; and Language Programs. These leader development programs were available to both NCOs and officers.[25]

The post-Vietnam Cold War was a period of significant professional writing and reading. Military leaders wrote about the profession, and their subordinates and peers avidly read to improve. Many units had professional reading programs in which leaders read books and then discussed them to add collectively to individual learning. Some particularly impactful books for small unit leaders were *Common Sense Training* by Lt. Gen. Ace Collins and *Small Unit Leadership* by Col. Dandridge Malone.[26] These books introduced junior leaders with no combat experience to the post-Vietnam War Army as well as challenges of preparing for and leading in combat. Other books, such as Marine Corps veteran Anton Myrer's *Once an Eagle* and historical fiction writer Michael Sharra's *The Killer Angels* provided instruction on the Army as a warfighting profession.[27] For example, in the weeks before the Operation Desert Storm ground operation, brigade commanders who had experienced small unit combat in Vietnam used Shaara's *Killer Angels* descriptions of battle in small unit leadership discussions with junior officers who had no experience in combat.

In the post-Vietnam War Army, officers and NCOs were encouraged to write about their profession. Most of their articles were published in the many professional journals produced by each of the branches and services. Authors used professional journals as fora to describe best practices, share lessons learned from training experiences, learn from military history, explore the complexities of late twentieth century warfare, analyze enemy and friendly forces, and debate issues related to doctrine, organizations, and leadership. Military leaders of every rank read branch journals and major publications such as the Army's *Military Review* and *Parameters*, *The Marine Corps Gazette*, the Navy's *Proceedings* of the Naval Institute, and the Air Force's *Air University Review*; these publications provided a twentieth century "chat room" for critical discourse on important topics in the same way the chief of staff of the Army's 2025 Harding Project improved professional discussion and debate. For example, in the late 1970s and early 1980s, the Active Defense and AirLand Battle doctrines were debated publicly in writing, leading to lively debate among commanders and staff and on occasion contributing to institutional decisions on doc-

trine. For post-Vietnam Cold War leaders, reading and writing were an integral component of leader development.

Implications of Revitalized Leader Development

The US Army returned from Vietnam with weakened officer and NCO corps. It was a force that lacked experience in what today would be termed large-scale combat operations (LSCO) and needed to shift focus away from failures in Vietnam. The Army was then confronted in Europe by a rapidly strengthening Warsaw Pact that had grown both in capability and aggressiveness. No organization can be any better than its leaders; to be good enough to defeat its enemies, the Army would require significant development of its leaders. Fortunately for the United States and NATO, the US Army met that challenge.

Beginning in 1973, the Army published relevant and effective leadership doctrine. It then translated that doctrine into reality through a comprehensive leader development approach that incorporated organizational, institutional, and self-development components. Moreover, organizational leader development was led by experienced, competent, and dedicated senior leaders who taught, coached, and mentored their subordinates and developed a culture committed to leader development. Institutional leader development included the introduction of new officer and NCO schools to educate staff and small unit leadership skills. And leaders set the example in promoting self-development by all leaders.

Seventeen years after leaving Vietnam in defeat, the US Army was decisive in victory in Operation Just Cause in Panama and Operation Desert Shield/Desert Storm in the Middle East. The Army's tremendous performance in those two operations was in large part due to strong leadership at all levels, resulting from the comprehensive and systematic approach during the post-Vietnam Cold War.

The current generation of Army officers faces a similar opportunity to prepare the Army for an as-yet-unknown war by preparing to fight near-term threats ranging from terrorist attacks to conventional operations against a near-peer/peer competitor. The challenge arguably is more difficult than for Cold War officers and NCOs. They met their challenge with determined leadership from the top bolstered by well-educated and trained subordinates who promoted bottom-up change as well. Officers emerging from the long wars of the early twenty-first century must also meet and overcome continuing leader development challenges so they can effectively lead US armed forces and succeed in competition or, if necessary, defeat the nation's enemies in conflict.

Notes

1. The "box of books" was the term used to describe courses, lessons, and references that were mailed to each captain attending CAS3. These included references such as Army field manuals on operations, tactics, battlefield operating systems, logistics, and staff operations as well as articles or chapters of books covering military history, theory, and current operations. In addition to instructional materials, most course lessons included practical exercises such as map problems or a requirement to develop sections of operations orders. The overall intent was to help students establish a baseline understanding of Army doctrine and operations before they attended the in-resident portion of CAS3. The in-resident portion then focused on staff operations and processes in support of planning and decision-making.

2. James Greer, "By Night as by Day," *Armor*, July–August 1988, 16–19.

3. Robert Heinl, "Vietnam: The Collapse of the Armed Forces," *Armed Forces Journal* (June 1971), https://libcom.org/article/vietnam-collapse-armed-forces-marine-colonel-robert-d-heinl-jr.

4. Department of the Army, *Leadership for the 1970s: Consolidated Army War College Monograph Series 1–5* (Carlisle Barracks, PA: US Army War College, January 1975).

5. Department of the Army, Field Manual (FM) 22-100, *Leadership* (Washington, DC: 22 June 1973), v.

6. FM 22-100.

7. Beth Bailey, *An Army Afire: How the Army Confronted its Racial Crisis in the Vietnam Era* (Chapel Hill, NC: The University of North Carolina Press, 2023), 155.

8. Boyd Harris, "A New Army Emphasis on Leadership: Be, Know, Do," *Military Review* 63 (February 1983): 62–71; and Department of the Army, Field Manual (FM) 6-22 (incl C2), *Leader Development* (Washington, DC: 2022), viii. Today's leadership and leader development doctrine uses the same three leader attributes (Be, Know, Do) as those introduced by Lieutenant Colonel Harris in the early 1980s.

9. Arthur Collins, *Common Sense Training: A Working Philosophy for Leaders* (New York: Random House, 1978).

10. James Greer, "Assessing the Value of the Lariat Advance Exercise Relative to the Louisiana Maneuvers for Preparing the U.S. Army for Large-Scale Combat Operations," Divergent Options, 19 April 2021, https://divergentoptions.org/2021/04/19/assessing-the-value-of-the-lariat-advance-exercise-relative-to-the-louisiana-maneuvers-for-preparing-the-u-s-army-for-large-scale-combat-operations/#:~:text=Lariat%20Advance.

11. Richard Fulton, "Gaming with Dunn Kempf: The Army's Packaged Battle Simulation System," *Wargamer's Digest (*March 1979): 6–12.

12. Hilton Dunn and Stephen Kempf, "Terrain Boards as Tactical Instructional Aid," *Military Review* (October 1975): 16–26.

13. Department of the Army, Graphic Training Aide 71-2-3, *First Battle* (Fort Leavenworth, KS: US Army Combined Arms Training, 1979).

14. Delane Garlanger, Jon Falleson, Robert Solick and James Lussier, *Appraisal of Army Training Battle Simulation System Test Validation Phase* (Leavenworth, KS: Army Research Institute Field Unit, 1987).

15. Stephen Medlin, et al., *Multiple Integrated Laser Engagement Simulation (MILES) Training and Evaluation Test Evaluator Guidebook*. Report 79-11 (Alexandria, VA: US Army Research Institute for the Behavioral and Social Sciences, 1979).

16. Department of the Army, *Multiple Integrated Laser Engagement System Training Checklist* (Alexandria, VA: US Army Research Institute for the Behavioral and Social Sciences, 1986).

17. Huba wass DeCzege, *Final Report: Army Staff College Level Training Study* (Carlisle Barracks, PA: US Army War College, 1983), 21–26.

18. Kevin Benson, *School of Advanced Military Studies Commemorative History 1984–2009* (Fort Leavenworth, KS: US Army Command and General Staff College, 2009).

19. Benson, 31.

20. Department of the Army, *A Review of Education and Training for Officers*, vol. 1 (Washington, DC: The Army Staff, 1978); and Ralph Ekwall, "Creating a New Curriculum to Educate Army Staff Officers" (information paper, US Army Command and General Staff College, Fort Leavenworth, KS, October 1981), https://apps.dtic.mil/sti/pdfs/ADP001431.pdf.

21. Michael Anderson, "Student and Course Evaluation at the Combined Arms and Services Staff School" (information paper, US Army Command and General Staff College," Fort Leavenworth, KS, October 1981), https://apps.dtic.mil/sti/tr/pdf/ADP001429.pdf.

22. Joan Harmon, *Success and Failure in Skill Qualification Testing: Troop Views* (Alexandria, VA: US Army Research Institute for the Behavioral and Social Sciences, 1980).

23. Joan Harmon, *Training for Skill Qualification Testing,* Technical Report 549 (Alexandria, VA: US Army Research Institute for Behavioral and Social Sciences, 1981).

24. Department of the Army, *Army Training and Leader Development Panel Final Report (NCO)* (Fort Leavenworth, KS: Combined Arms Center, April 2002).

25. Department of the Army, *Design Guide Army Continuing Education Centers* (Washington, DC: Office of the Chief of Engineers, 1979).

26. Arthur Collins, *Common Sense Training: A Working Philosophy for Leaders* (Novato, CA: Presidio, 1978); and Dandridge Malone, *Small Unit Leadership: A Common Sense Approach* (Novato, CA: Presidio, 1983).

27. Michael Shaara, *The Killer Angels* (Boston: Park Press, 1974); and Anton Myrer, *Once an Eagle: A Novel* (New York: Holt Rinehart Winston, 1968).

Chapter 4
The Evolving Role of Noncommissioned Officers

Kenneth O. Preston

Looking back over the Cold War period from 1947 to 1989, the role of the noncommissioned officer (NCO) evolved and grew significantly, especially trust and increased responsibility. From a force structure perspective prior to the Cold War period, the United States only manned a small continental Army with an officer and enlisted force large enough for operations at that time and to train a conscripted force when needed. Following WWI, Congress reduced the size of the Regular Army to less than 200,000. This small Regular Army force retained a contingent of career officers and enlisted soldiers. In June 1920, Congress consolidated all enlisted soldiers, without regard to occupational specialty or position, into seven pay grades from E-1 to E-7. While the positions of first sergeant and master sergeant still existed, these were filled by soldiers in the pay grade of E-7. The position of sergeant major at the battalion level and above was eliminated and generally filled with a master sergeant. This was the enlisted structure of the Army through WWII and the start of the Cold War.

It was not until 1958, five years after the Korean War, when Congress added two additional paygrades for first sergeant/master sergeant (E-8) and sergeant major (E-9). The following year in April 1959, the first promotions began filling these positions across the force. These changes reflected increasing professionalism across the Army and were a significant milestone toward building a professional enlisted force.[1] The late ’50s and early ’60s saw the expanding need for the Army to put more boots on the ground around the world in Vietnam, Europe, Korea, and other potential hotspots. This period in Army history was characterized by low morale, retention shortages, and a quality senior enlisted force. Army leadership recognized the necessity to increase the attractiveness of enlisted career opportunities to support the growing need to train a conscript Army in the 60s, which continued to become a larger problem.[2]

Chief of Staff of the Army General Harold K. Johnson spent his first two years in office staffing and reviewing the recommended concept of establishing a sergeant major of the Army (SMA) position. While many senior enlisted NCOs across the force recommended establishing the SMA position, many senior officials on the Army staff and across the force were opposed.[3] General Orders No. 29, dated 4 July 1966, officially established the position of SMA and the length of tenure in position tied

to the tenure of the chief of staff of the Army. In preparing to fill this position, Johnson requested recommendations from senior commanders across the Army. A total of twenty-one sergeants major were recommended from the commands stationed and deployed around the world. At that time, only one of the recommended senior NCOs was serving in Vietnam, Sgt. Maj. William O. Wooldridge, the sergeant major of the 1st Infantry Division. After reviewing the candidates, Johnson selected Wooldridge and administered the oath of office on 11 July 1966. The charge given to Wooldridge was to establish the Office of the Sergeant Major of the Army for those who would follow.

During Wooldridge's two years as SMA, several key developments set the stage for professionalizing the NCO Corps. He established a formal NCO support chain to complement and support the chain of command. This move further strengthened the roles and responsibilities of NCOs across the force. Wooldridge was key in establishing the rank of command sergeant major (CSM), which Johnson approved in July 1967.[4] The Army began filling CSM positions in January 1968 from the first promotion board list of 192 sergeants major, including Wooldridge and four future sergeants major of the Army. Although large headquarters and organizations throughout the Army can have dozens of sergeants major assigned throughout subordinate organizations and staffs, only the CSM serves as the sergeant major of the command. The establishment of CSM positions across the Army further enhanced the informal NCO support chain and its communication structure. Over time, the CSM role and authority became more standardized. Johnson approved the establishment of the CSM position as he "believed commanders and their troops needed a dedicated senior NCO who was broadly experienced and more at home in the field with troops as a senior trainer than sitting at a desk in the headquarters."[5] In addition to establishing CSM positions across the Army, the military occupational specialty code for CSMs changed to 00Z5, removing ties to a specific occupational career field.

NCOs use an informal NCO support network to accomplish certain routine but important permissive tasks as delegated by the command. As an example, Wooldridge received an 18 December 1967 call from Florida Congressman Charles E. Bennett regarding a constituent whose son was traveling home on leave and had been bumped off the Military Airlift Command plane in Rhine Mein Airbase, Germany by a higher-priority passenger. After Wooldridge worked with Sgt. Maj. Ken Koon of the US Army Europe headquarters in Heidelberg, Germany, the soldier made it home by Christmas and the Army gained the gratitude of everyone in-

volved. Johnson was pleased by the outcome and how the sergeants major used the informal chain of communication.[6]

Wooldridge was also responsible for establishing the Major Commands' Annual Command Sergeants Major Conference. Johnson approved the meeting for twenty-one of the most senior sergeants major to travel to the Pentagon with their commanders who were attending the Army Commander's Conference.[7] These conferences, coupled with the Annual Meeting of the Association of the US Army, further improved the communication channels for enlisted professional development and quality of life issues around the world.[8]

When General Harold K. Johnson left his position as Army chief of staff in July 1968, General William C. Westmoreland replaced him, and Wooldridge planned his return to Vietnam. Like his predecessor, Westmoreland asked senior commanders across the Army to send recommendations for SMA. Following the selection process, he named George W. Dunaway, the CSM for the 101st Airborne Division, to serve as the second SMA.[9]

Dunaway began his tenure focused on the roles and responsibilities of the NCO with a renewed focus on professionalism, attention to detail, and discipline.[10] With centralized promotions for master sergeant and sergeant major in effect in 1969, centralized promotions followed in 1970 for sergeant first class (SFC) and platoon sergeant (PSG)—both paygrade E-7. NCO education and professional development courses historically were taught internally to the thousands of units in the Army-based on their missions and needs. With more than 86 percent of the Army manned with enlisted soldiers, most training and professional development was on the job.[11] Many divisions ran their own leadership course for newly promoted sergeants. In 1969, Westmoreland approved the Noncommissioned Officer Education System (NCOES). When fully implemented, the system would consist of three levels of formal instruction during an NCO's career, focused on transitions to positions of increased responsibility. Once the system was approved, it would take the Army two years to begin implementing the NCOES across the force.[12]

With two years in position as the SMA, Dunaway reached thirty years of service and retired in 1970. Dunaway recommended and Westmoreland approved the SMA's tour length be set at two years in position, a change from the original intent established by Johnson. Westmoreland also approved a more formal process for selecting future SMAs. The process would consist of a senior officer panel chaired by a general officer to interview and review each nominated CSM. The panel would involve

more of the Army staff and further broaden the base of support beyond the established selection process. The panel recommended the top applicants for Westmoreland to interview. Westmoreland selected Silas L. Copeland, the division CSM for the 4th Infantry Division in Vietnam, to serve as the third SMA. This selection process using a general officer panel to identify the top CSMs to interview with the Chief of Staff continues to this day.[13]

As Copeland began his tenure as SMA in October 1970, the Army found itself challenged heavily in multiple ways. The pending defeat in Vietnam, a rapid withdrawal of troops, and ever-growing antiwar protests negatively impacted morale within the Army and discouraged potential recruits. The My Lai massacre and other reports of misconduct added fuel to the negative press about military service. Congress began one of the largest Army demobilizations since WWII, which would take the Army from 1.5 million serving in the Regular Army to 780,000, a reduction by nearly 50 percent. If this was not enough, the Commission on an All-Volunteer Armed Force concluded that an all-volunteer force was both feasible and desirable. The Army was the one service that relied the heaviest on the draft and would face the greatest challenges transitioning from being a conscript-based force to an all-volunteer force. Copeland would serve as a valuable resource in this transition with both internal messages to the troops and their leaders, and external to the American public.[14]



Figure 4.1. US Army troops depart from Vietnam on a "Freedom Bird." Courtesy of the US Army Center of Military History.

On 1 July 1973, Secretary of Defense Melvin Laird ended the draft and introduced the all-volunteer force. Westmoreland and Copeland knew the criticality of recruiting and meeting end-strength goals. Westmoreland charged Copeland to work with NCOs to focus on living conditions in the barracks and base housing, career management and professional development, health care, and soldier pay. Gathering recommendations and ideas from the force, Copeland endeavored to improve quality-of-life and professional development opportunities for enlisted soldiers. Copeland worked closely with the Army staff and Recruiting Command to expand the recruiting force and develop attractive enlistment options.[15]

Westmoreland put into effect several policies designed to transition the Army to a more professional force. The Army hired civilians to perform kitchen police (KP) duties, implemented short order food service in the dining facilities, banned bed checks, and eliminated unnecessary formations and details. Copeland worked with NCOs to further emphasize the importance of leadership and keeping soldiers informed in all aspects of their duty and schedule.[16] With the rapid demobilization process ongoing, combat veterans who served honorably for ten or more years were forced out of the service. For those soldiers not forced to leave the Army, many were dismayed and questioned their future in the service, some ultimately choosing to leave the Army as well.

The NCOES changes approved in 1969 began to play a more applicable role across the Army as more NCO academies and schoolhouse institutions expanded opportunities for soldiers and NCOs to attend professional development schools. The three levels of NCOES included the basic level for corporals or specialists (paygrade E-4) and below, to prepare them to serve as sergeants and staff sergeants (E-5 to E-6). The advanced level course focused on training staff sergeants and sergeants first class (E-6 to E-7) to perform duties in the highest enlisted ranks of master sergeant and sergeant major (E-8 to E-9). In the senior NCO course, the final level of NCOES, selected master sergeants received training to serve as sergeants major in higher level command headquarters across the Army or in a joint or combined headquarters.[17] By June 1973, professional development training was implemented across forty-one career fields. In 1973, 11,500 students were in the basic level and 4,400 students attended the advanced level courses. The first class of the new US Army Sergeants Major Academy at Fort Bliss, Texas, started on 8 January 1973 with 105 students in attendance.[18]

During Copeland's tenure as SMA, first sergeants (1SG) were elevated to a position of prestige. Those serving as 1SGs received priority family

housing and early selection and attendance to the Sergeants Major Academy. The enlisted evaluation report for staff sergeants (SSGs) and above was changed to identify future potential to serve as senior NCOs and 1SGs. Copeland's mentoring of the force, especially NCOs, guided them to know their soldiers and treat them with dignity and respect. During his two years and nine months as the SMA, Copeland served as the continuity between Westmoreland and General Bruce Palmer, who served as acting CSA for three and a half months until General Creighton W. Abrams was sworn in as CSA.[19] Abrams asked and Copeland agreed to delay his retirement from January to June 1973. Copeland's extended service provided time for Abrams to select a new SMA.

Abrams administered the oath of office to Leon L. Van Autreve on 1 July 1973. Van Autreve was serving as the CSM for US Army Alaska. In his selection criteria, Abrams identified that the SMA should be married, as families across the Army played a key role in military life. Abrams believed the SMA's spouse should periodically travel with the SMA to meet with the wives of enlisted soldiers.[20] The Army would soon realize it was soldiers they recruited, but it was families who reenlisted. Van Autreve was born in Belgium before his parents immigrated to the United States. His career represented the American dream as he came to this country not able to speak English, attended high school, and then joined the Army to serve as a combat engineer. He also was a Vietnam veteran with two years of combat service.[21]



Figure 4.2. Aerial view of the US Army Sergeants Major Academy, 2001. Courtesy of the US Army Center of Military History.

During this same period, unit-led professional development programs evolved to complement the Army leadership's initiatives for growing model NCOs, including the Sergeant Morales Club (SMC) within US Army Europe. Lt. Gen. George S. Blanchard established the program in 1973 to promote professionalism, leadership, and integrity for junior enlisted leaders serving in Europe. Soldiers who serve in a foreign country need strong first-line supervisors who know their soldiers, look out for their welfare, and train them in wartime tasks. Blanchard sought to identify high-performing NCO role models for others to emulate and to teach junior enlisted leaders their roles, responsibilities, and expectations within the command through self-development. The Sergeant Morales story addressed the daily activities and expectations of an NCO named Morales serving in Europe. The story depicted Morales's time in the barracks from the time his soldiers awoke to the end of the duty day, from checking on the troops on weekends and holidays to training, counseling, and vehicle maintenance. SMC members were identified through a series of four boards, starting at the battalion level and culminating at the Corps level of command. The boards were chaired by the senior 1SGs and CSMs of the command. Top-quality NCOs in the rank of sergeant, staff sergeant, and sergeant first class were "highly" encouraged to volunteer and compete. As these competing NCOs passed a selection board, they would continue upward to the next level board. Successfully passing and becoming a member of the Sergeant Morales Club earned the competitor an Army commendation medal and a membership card signed by the commander and CSM of US Army Europe.[22]

While the SMC was a European Theater award, stateside units beginning with Forces Command created the Sergeant Audie Murphy Club (SAMC). The SAMC was named after and embraced the ideals of Audie Murphy, a medal of honor recipient and the most decorated WWII soldier. Like the SMC, SAMC membership was managed through a series of four boards that test the knowledge, skills, and attributes of the NCO competitors.[23] These volunteer initiatives coupled with unit NCO and soldier of the month, quarter, and year boards promote self-development and self-study. Behind the scenes, SMC and SAMC members played a key role in the professionalism of the US Army's enlisted force, and these programs continue to this day.

Simultaneously, the Army implemented another key NCO development program for armor forces called the Master Gunner Course. The world was becoming increasingly more dangerous as the Soviet Union



Figure 4.3. The Sergeant Morales Club medal (left) is awarded to enlisted soldiers who demonstrate the highest levels of integrity, professionalism, and leadership. The Sergeant Audie Murphy medal (right) is awarded to distinguished noncommissioned officers. Courtesy of the US Army.

continued to modernize its armored force and sponsor training and equipping for many countries across the Middle East. Many lessons were learned from the October 1973 Yom Kippur conflict where Egypt, Syria, and Jordan attacked Israel in a surprise offensive. Ultimately, the well-trained and motivated Israel Defense Forces defeated attacking forces equipped and trained by the Soviet Union. Maj. Gen. Donn Starry, who commanded the Armor Center at Fort Knox. and General William DePuy, US Army Training and Doctrine Command (TRADOC) commander, both focused on capturing lessons learned from the conflict. Starry spent two weeks visiting the armor centers in the United Kingdom, Germany, and Israel. He was accompanied by Lt. Col. John Sherman Crow, who had commanded a British tank company forward-stationed in Germany in the late 1960s. Crow emphasized the value of tank gunnery instructors assigned to British Army tank companies. Starry received a complete tour of the army's Gunnery Instructor training program as well as roles and responsibilities and assignment management across the British forces. Starry acknowledged the US Army's merging complexity of tank fire control systems, tank gunnery planning and training methodology, and standardization of tank crew training.[24] The pilot Tank Master Gunner Course graduated in May 1975 with fifteen graduates trained on the M60A1 platform. Master Gunners became known as the lynchpin to tank gunnery proficiency as subject matter experts on crew training as well as turret maintenance and tank gun accuracy, and the commander's principal planner for implementing a home-station gunnery training plan. The well-respected Tank Master Gunner Course grew and spread across the



Figure 4.4. US Army soldiers operate an M60A1 tank, 1975. Courtesy of the US Army.

Army to include new tank variants, branches, and weapons platforms like the Bradley and Mobile Gun System.[25]

With the regular Army now at 780,000 end strength, increased emphasis was placed on Army Reserve and National Guard forces. Reduced budgets forced the Army to meet readiness requirements with fewer resources. One initiative was to align Reserve component forces with regular Army units to improve readiness and strengthen relationships. One of the first challenges Van Autreve faced as the Army transitioned to a smaller, all-volunteer force was assignment management. Broadening the knowledge and requirements base for occupational specialties allowed the Army to reduce the number of career fields across the force. This reduction in specialties coupled with the new 1975 Enlisted Personnel Management System (EPMS) provided a more manageable and less complex structure for assignment managers, recruiters, training institutions, and the Department of the Army to manage policies governing reclassification, testing, and evaluation. Training institutions could develop tasks, conditions, and standards for all occupational specialties.[26] Soldiers would be required to periodically complete the skills qualification test (SQT) to verify their ability to perform required tasks for their occupational specialty.

Following Abrams untimely death in September 1974, General Frederick C. Weyand became the new CSA, and Van Autreve served two years

as SMA until 1975 when William G. Bainbridge was selected as his replacement. Bainbridge was the first CSM of the US Army Sergeants Major Academy (USASMA) at Fort Bliss, Texas. A year after becoming CSA, Weyand recognized that two years in position as the SMA was too short and officially changed the tenure to three years.[27]

This was also the same period when I joined the Army right after high school—during the beginnings of the All-Volunteer Army or Project Volunteer Army (VOLAR). I arrived at Fort Knox, Kentucky, on 30 June 1975 to begin eight weeks of Basic Combat Training (BCT) as a member of 3rd Platoon, A Company, 11th Battalion, 5th Training Brigade. I will always remember Sgt. First Class Robert Daily in his starched cotton fatigues, spit-shined boots, and perfectly poised campaign hat as he called cadence throughout our run during physical training or marching throughout the day. He was a distinguished Vietnam infantry veteran—his accomplishments visible on graduation day with his numerous decorations, achievements, and service history displayed proudly on his service uniform.

As a member of the company's honor platoon on graduation day, I reflected on the NCO's role, especially the personal hands-on training Daily provided. Daily rehearsed all our learned skills over and over again--eventually transitioning us from a group of unorganized civilians into a disciplined platoon. After basic training, I was moved across the installation to 1st Platoon, D Company, 3rd Battalion, 1st Training Brigade for eight weeks of Advanced Individual Training (AIT) as an armor crewman, military occupational specialty (MOS) 11E. My drill sergeant and platoon sergeant for the next eight weeks was Sgt. First Class Fredrick Strickland, another Vietnam veteran genuinely interested in and committed to training our platoon on the tanks and on the ranges. Both NCOs made a positive impact on my long Army journey that continues to this day.

During Bainbridge's tenure, the Army negotiated many financial challenges that drove initiatives like One Station Unit Training (OSUT) for combat arms and other occupational specialties, which combined BCT and AIT together into one long course. OSUT eliminated excess travel during a soldier's Initial Entry Training (IET) for some of the largest career fields in the Army. The EPMS, completed during Bainbridge's tenure, reduced 36 enlisted career fields with 451 specialties to 30 career fields and 345 specialties.[28] The SQT during this period evaluated a soldier's ability to perform the critical tasks in their occupational specialty at their current and next higher grade. SQT test scores were placed on NCO evaluation reports and used by centralized promotion boards selecting individuals for promotion and positions of increased responsibility.



Figure 4.5. Drill sergeant instructing trainees at a US Army rifle range, 1971. Courtesy of the US Army.

Following AIT, I reported to Headquarters and Headquarters Company (HHC), 2nd Battalion, 8th Cavalry Regiment, 1st Cavalry Division (1CD) at Fort Hood, Texas, in November 1975. The 1CD was transitioning from being an Air Cavalry division in Vietnam to the ground maneuver division that it is today. My unit was an experimental battalion testing many different concepts to determine how the Army should be structured for the Cold War fight. Our battalion was organized initially with three tank companies each with three tank platoons consisting of five tanks in each platoon and a headquarters section of two tanks for the company commander and executive officer. The Headquarters and Headquarters Company was organized with a tank section with three tanks and an armored vehicular launched bridge (AVLB) section of two platforms, a scout platoon with gun jeeps and personnel carriers, and a mortar platoon. The combat ser-

vice support company (CSSC) consisted of the support platoon and all the service support and maintenance elements for the battalion.

My professional development continued with my initial assignment as the loader on the platoon sergeant's tank in the Headquarters Tank Section in HHC. Our three M60A1 tanks included the battalion commander's tank, the battalion operation officer's tank, and the platoon sergeant's tank with an artillery forward observer. I benefitted from several great NCOs who continued my education daily in my chosen profession. Four months later our section's original issue tanks were refitted with Add-On-Stabilization (AOS) to increase the accuracy of the tank during firing on-the-move engagements—the start of the Army's focus on tank gun accuracy and the increasing Soviet threat.

One of the battalion's first test missions the following year was the three-tank platoon concept, similar to the Soviet tank force at that time. In addition to testing the three-tank platoon structure, our battalion tested using motorcycles mounted on the command tanks at the platoon, company, and battalion level. The motorcycles were carried in a mount on the rear of the turret bustle rack so platoon leaders could return to their higher headquarters for operational briefings or to send courier-delivered messages, thus preventing the loss of one-third of the platoon's firepower from a potential defensive position.

One of the key points of this first duty assignment was the shortage of personnel to fill all crew-level positions. This shortage of personnel, especially in the NCO ranks, created opportunities for early promotion. I rose quickly to the rank of sergeant in two years, moving from loader on the platoon sergeant's tank to driver and gunner on the battalion commander's tank. I also served as the assistant section sergeant for the tank section. The personnel turnover in the company and battalion was high and many of the tank crews were three-man crews. This problem was attributed to tiered levels of readiness. With more than 220,000 soldiers stationed in Germany on two- to three-year tours of duty, and a large force based in South Korea on one-year tours of duty, national security required these units to be manned at 100+ percent at all times. I was a specialist at the time, later promoted to sergeant, serving as the gunner on the battalion commander's tank and filling an authorized staff sergeant position. My section leader was a sergeant filling an SFC position. While NCOs were given the resources for all the testing requirements during my two years in the unit, budgets were limited and the vast majority of our field time was maneuver with intense maintenance operations in between.

After the three-tank platoon concept testing and motorcycle trials ended, the battalion transitioned into the Baseline Armor Reliability Test (BART). The testing was to determine if it was more cost-effective to increase resources for older tank systems in the Army inventory or design a new tank (Abrams). Each of the battalion's three-line companies was assigned five new tanks. One set of overhauled M60A1 tanks, a set of new M60A1 Rise tanks, and a set of M48A5 tanks (M60A1 equivalent with AOS), which were in use in Korea. The testing involved several weeks of field training exercises followed by several weeks of gunnery training, followed by a recovery period. The companies would rotate their tanks and then the training cycle would begin again. Through the rotations, the line companies needed all assigned personnel to fully man the tanks, provide officer and NCO data collectors 24/7 for each tank crew to document all the maintenance tasks performed, and logistical support from April to November 1976. The Headquarters tank section, scout and mortar platoons, served as opposing forces (OPFOR) during the maneuver phases.

General Bernard W. Rogers succeeded Weyand in October 1976. Rogers valued Bainbridge's counsel and immediately extended him for an additional year, setting the precedent for future SMAs to serve three years with a one-year extension.[29] TRADOC Commanding General William E. DuPuy initiated a study to define the skills, knowledge, and attitudes that CSMs should possess—CSM skills for battalion and above that were codified in the 1977 publication of Army Regulation (AR) 600-20.[30] The regulation further defined the NCO support channel as a chain of communication between the battalion CSM and 1SGs that would parallel and complement the chain of command. The secretary of the Army viewed



Figure 4.6. M1A1 tank from 2-64 Armor on Grafenwöhr's Range 109, approximately 1987. Courtesy of the US Army.

Bainbridge's professionalism and vision as essential and included him as a member of the Army Policy Council. Rogers also valued his council and made Bainbridge a member of the Army Staff Council and the General Staff Council.[31] The Office of the SMA was now fully integrated into decision-making for Army policy.

As another year began, our battalion's next testing assignment was an early version of the Multiple Integrated Laser Engagement System (MILES). Contractors fitted our vehicles as well as a 2nd Armored Division (2AD) unit with sensors and lasers. The battalion made several trips to the training area to fight force-on-force with 2AD units. I remember celebrating many decisive victories throughout the training period. One of the significant lessons learned in my early career was during these force-on-force simulated fights. The months of maneuver training and maintenance operations during the BART made us a superior unit in this next phase of testing. I realized at that time that there is no substitute for hands-on training.

Months passed and with just sixteen months remaining on my four-year enlistment, I received assignment orders for Germany and had to decide whether to reenlist for three years and take my family on an accompanied tour-of-duty, or leave the family stateside and report to Germany to finish my service obligation then end my Army career. There were three reasons I chose to reenlist. First, the command climate in the battalion, the division, and the installation was very high. Second, job satisfaction also was high; I was challenged with increased responsibilities and recognized for my contributions to the unit. Third, the quality of life for my family was better than I could have provided back on the farm going to college. This was an easy decision for my wife and me.

These stories are meant to provide some insight into what the Army looked like from the summer of 1975 to the end of 1977. During this two-year period, I was fortunate to have great officers and NCOs who took the time to teach and share their knowledge and experiences. Professional development schools for enlisted soldiers were in their infancy and although I was eligible to attend the Primary Noncommissioned Officers Course (PNCOC) and the Tank Commanders Course, my role in the tank section was critical and I never attended a professional development school. This was all about to change.

As a young sergeant I remember the influence of the SMA on the Army. Bainbridge wrote in a 1978 *Army* article about the critical NCO role as trainers and first-line supervisors: "No officer ever took anything away from the NCO. Rather, it was given away. . . . We have worked long and

hard at restoring our officers' confidence in the corps of NCOs. Tomorrow's Army deserves the confidence to be maintained."[32] He stressed the importance of civilian education and learning more about your profession. College-level courses were taught at on-base education centers, and the Army Correspondence Course Program (ACCP) provided opportunities to further individual education and earn promotion points for early promotion. Promotions for both sergeant and staff sergeant were managed at the battalion level and controlled by the Department of the Army (DA) through an 800-point system. A limited number of points could be earned in various categories, including physical fitness, awards, education, time in service, time in grade, and performance before the battalion level promotion board. The ACCP program also provided a range of self-development courses, each with a mail-in exam to be graded. Soldiers received a diploma showing course completion which was then filed in the soldier's personnel file.

When I arrived in Gelnhausen, Germany in February 1978, our 1st Platoon, B Company, 1st Battalion, 33rd Armor—part of 2nd Brigade of the 3rd Armored Division—was the lone armor battalion in a heavy infantry brigade. The war time mission of the battalion and the brigade was to defend the Hünfeld Bowl area of the General Defensive Plan (GDP) near Fulda, Germany. The M60A1 tanks in the motor pool were uploaded with ammunition. Monthly alerts were a necessity to ensure readiness. The base siren would signal the alert and it was all hands up and running to get weapons, personal field gear, and radio communications-electronics operation instructions (CEOI) onto the vehicles and prepared to move to a dispersal area outside the military base. Unlike my previous unit, this company was fully manned and equipped; readiness and equipment operability as well as tank gunnery training and qualification were priorities. I attended the Basic Noncommissioned Officer Course (BNCOC) April–May 1978, my first military school since joining the Army. The 11E-centric course focused on skills for a M60A1 and M551 tank commander. After school, I moved to the gunner's position on the company commander's tank and shortly after that my first Return of Forces to Germany (REFORGER) exercise in the fall of 1978, two weeks of maneuvering through countless German small towns and villages.

In October 1978, Rodgers asked senior commanders to submit SMA nominations before he and Bainbridge left the Army in the summer of 1979. Following thorough background checks and interviews of the top five candidates, Rodgers selected William A. Connelly. General Edward C. Meyer became Chief of Staff of the Army in June 1979, and swore Connelly into position on 2 July 1979. Connelly had been the

CSM of US Army Forces Command at Fort McPherson, Georgia, and the first SMA to graduate from the USASMA at Fort Bliss.[33]

One of the priorities Meyer gave to Connelly was to oversee the continued development of the NCO corps. The Army at this time had two career paths: a leadership path and a specialist path. Connelly was concerned that many NCOs in leadership positions had never attended a leadership school; he also believed more training was needed for the specialist ranks and felt that having four different specialist ranks (SP4, SP5, SP6, and SP7) diminished the role of senior leaders as these individuals saw themselves as technicians and specialists rather than leaders with responsibilities for soldiers. The Army eliminated the SP7 rank in 1978, and SP5 and SP6 ranks were eventually phased out of the tables of organization and equipment by 1985.[34] Under this NCO structure change, all enlisted personnel in the paygrade of E-5 and above were sergeants responsible for their soldiers and as the force's technical experts and trainers. Connelly continued to improve the quality of NCOES instruction across the force for installation-based NCO academies. In 1982, Connelly improved the SQT by adding a common-task test administered to all soldiers in the rank of specialist and above. In his 1983 retirement ceremony, Meyer praised Connelly's efforts to improve NCO training and the quality of the NCO Corps.[35]

General John A. Wickham Jr. replaced Meyer as the CSA in June 1983; the following month, Glen E. Morrell, the US Army Forces Command CSM, became the seventh SMA. During Morrell's tenure, the Army



Figure 4.7. The 547th Engineer Battalion motor pool, Darmstadt, Germany, 1978. Courtesy of the US Army.

saw great stability for soldiers and organizations. Modernization efforts continued as new equipment flowed into units and organizations across the force. Morrell focused on training and readiness, picking up on the initiatives started by Connelly.[36] Morrell criticized the selection process for attending professional development schools, noting that some units chose soldiers who were conveniently available versus the best. Morrell wanted commonality across NCOES schools for all career fields to ensure that sergeants in combat support and combat service support would receive the same type of professional development training. In 1985, the Primary Leadership and Development Course (PLDC) replaced PNCOC and Basic Leader Course. This course was designed for all specialists to prepare them to serve as sergeants in team leader positions. Morrell initiated a common core phase that would be standard for all BNCOC and Advanced NCO Course (ANCOC) classes, regardless of the individual's occupational specialty—with oversight by NCO academies across the Army.[37] Morrell's tenure as SMA ended on 30 June 1987.[38] The following day Julius W. Gates was sworn in as the eighth SMA.

Gates reported to the Pentagon after serving as the CSM of US Forces Korea and Eighth US Army. In a three-hour meeting shortly after taking office as the new CSA, General Carl E. Vuono introduced Gates to his goals and six imperatives for building and sustaining the force. These imperatives would focus on quality soldiers; realistic training; dynamic doctrine; continuous modernization; a force structure properly balanced between heavy, light, and special forces; and progressive leadership development based on a combination of institutional training, operational assignments, and self-development. Vuono told Gates he expected NCOs to be the Army's standard bearers. Vuono wanted all NCOs to be technically and tactically proficient, and to ensure their soldiers were trained and ready for war.[39]



Figure 4.8. Soldiers training at the US Army Europe NCO Academy in Sonthofen, Germany. Courtesy of the US Army Center of Military History.

To implement the new chief's direction, Gates began working on the NCO Evaluation Report (NCOER), which replaced the old Enlisted Evaluation Report (EER). The new report format focused on quantifiable bullets that defined excellence, success, or needing improvement. The new NCOER greatly improved the senior rater section, adding notes about potential for promotion to the next higher rank. Interestingly, the new NCOER was completely designed by NCOs. This initiative greatly improved the quality of the NCOs selected for promotion on the centralized promotion boards. The USASMA's focus is to develop sergeants major to serve on headquarters staffs at all levels of command across the Army and in the joint force. Gates saw a need for a new CSM designee course at USASMA to further develop and teach CSM duties, roles, and expectations. The NCO Battle Staff Course was initiated at USASMA to train NCOs working in operational staff assignments in a headquarters.[40] Gates also saw the need for an official NCO corps publication for the NCO corps. The *NCO Journal* became the first publication written by and for NCOs to focus on NCO and soldier how-to-do-it successes and share historical stories of the Army's rich NCO history.

During the Cold War era, the quality of life for soldiers and families improved dramatically. Better Opportunities for Single Soldiers (BOSS) initiatives started in Europe and spread across the force. Single soldiers in the barracks wanted the same quality of life and privacy as their married counterparts living in government quarters or off-base housing.[41]

In the end, improved training, professional development, education, and responsibilities for the NCO corps and the force overall paid off. On 9 November 1989, East Germans began dismantling the Berlin Wall and the Soviet Union began to break apart. I was the 11th Cavalry Regiment's regimental master gunner and noncommissioned officer-in-charge for the Regimental Tactical Command Post. This was a fascinating time and location to watch history unfold as the Cold War came to an end. The following month, Operation Just Cause restored a democratic government in Panama and then Operation Desert Shield/Operation Desert Storm/Operation Positive Force decisively defeated the Iraqi Army and liberated Kuwait in a campaign that included a massive deployment of troops and equipment. The Army's investment and continued improvement in all facets of service and quality of life created the greatest team in the history of the world. Today's US Army NCO Corps is the gold standard by which all armies of the world aspire to replicate and grow.

Notes

1. Brig. Gen. (Retired) Harold W. Nelson, Maj. Gen. (Retired) Bruce Jacobs, and Col. (Retired) Raymond K. Bluhm, *The Army* (Fort Belvoir, VA: The Army Historical Foundation, 2001), 82.

2. Ernest F. Fisher Jr., *Guardians of the Republic: A History of the Non-commissioned Officer Corps of the U.S. Army* (Mechanicsburg, PA: Stackpole Books, 1994), 305–6.

3. Lt. Col. Forrest K. Kleinman, "Sergeant Major at the Top," *Army* (January 1963).

4. Brig. Gen. (Retired) Harold W. Nelson, Maj. Gen. (Retired) Bruce Jacobs, and Col. (Retired) Raymond K. Bluhm, *The Army* (Fort Belvoir, VA: The Army Historical Foundation, 2001) 82–83, 87–88.

5. Robert M. Mages et al., *The Sergeants Major of the Army* (Washington, DC: US Army Center of Military History, 2013), 13–14.

6. Mages et al., 11.

7. Mages et al., 12–13.

8. Ernest F. Fisher Jr., *Guardians of the Republic: a History of the Non-commissioned Officer Corps of the U.S. Army* (Mechanicsburg, PA: Stackpole Books, 1994), 349–50.

9. George W. Dunaway, "New Voice at the Top for the Enlisted Man," *Army* (November 1968).

10. George W. Dunaway, "New Emphasis Aims at Putting More Strength in 'Backbone of the Army,'" *Army* (October 1969).

11. George W. Dunaway, "People Benefits Will Get More Emphasis in 70s," *Army* (October 1970).

12. Nelson, Jacobs, and Bluhm, *The Army,* 87.

13. Mages et al., *The Sergeants Major of the Army*, 18.

14. Silas L. Copeland, "The NCO Must Grow with the Army," *Army* (October 1972).

15. Mages et al., *The Sergeants Major of the Army*, 20.

16. Mages et al., 20.

17. Mages et al., 22.

18. Nelson, Jacobs, and Bluhm, *The Army,* 87.

19. Mages et al., *The Sergeants Major of the Army,* 22.

20. Mages et al., 23.

21. Leon L. VanAutreve, "Where the People Programs Are: The NCO at the Apex," *Army* (October 1974).

22. "The Sergeant Morales Club Membership and Dr. Mary E. Walker Award Programs," US Army Europe and Africa, 30 June 2016, https://cdn.cocodoc.com/cocodoc-form-pdf/pdf/507312001--Army-in-Europe-Regulation-600-2-30-June-2016-The-Sergeant-Morales-Club-Membership-and-Dr-Mary-E-Walker-Award-Programs-eur-army-.pdf.

23. Forces Command Regulation 600-80-1 and "US Army Training and Doctrine Command Sergeant Audie Murphy Award Program," US Army Training and Doctrine Command Regulation 600-14, 1 January 1999, https://home.army.mil/riley/2415/6095/2950/NEW_RAR_5_MAR_2019_FINAL-FORSCOM_Reg_600-80-1_Sergeant-Audie-Murphy-Aw....pdf.

24. Brig. Gen. (Retired) John Sherman Crow, email message to Cmd. Sgt. Maj. William Hutton, "My Understanding of the Genesis of US Army Master Gunner Program," 4 September 2015, author files.

25. 1st Sgt. (Retired) Jack Cooper, "Tank Master Gunner Course 40 Years Later: What's Next?," *Armor* (July–September 2025).

26. Mages et al., *The Sergeants Major of the Army,* 24.

27. Sgt. Maj. Army (Retired) William G. Bainbridge and Dan Cragg, *Top Sergeant: The Life and Times of SMA William G. Bainbridge* (New York: Ivy/Ballantine, 1995).

28. Mages et al., *The Sergeants Major of the Army*, 28.

29. Mages et al., 26.

30. *The Officer/NCO Relationship* (Washington, DC: Information Management Support Center, September 1997), Chap. 3-1

31. Mages et al., *The Sergeants Major of the Army,* 27.

32. Mages, et al., 28.

33. Sgt. Maj. Army William A. Connelly, "For NCOs; Leadership, Hard Work, and Training," *Army* (October 1980): 21–24.

34. Sgt. Maj. Army William A. Connelly, "Sergeant Major of the Army," *Army* (October 1982): 27–30.

35. Larry Carney, "Our Business Is Soldiers, Says Departing SMA," *Army Times*, June 1983.

36. Larry Carney, "New SMA Outlines Priorities for His Term," *Army Times*, July 1983.

37. Mages et al., *The Sergeants Major of the Army,* 32.

38. Sgt. Maj. Army Glen E. Morrell, "What Soldiering Is All About," *Army* (October 1986).

39. Mages et al., *The Sergeants Major of the Army*, 33.

40. Mages et al., 33.

41. Sgt. Maj. Army Julius W. Gates, "Boot-prints that Will Never Fade," *Army* (October 1990).

Chapter 5
The Evolution of US Army Doctrine

Kevin C. M. Benson

The purpose of this chapter is to show how the doctrine the Army used coming out of Vietnam evolved during the Cold War. The totality of the Vietnam War experience resulted in a physically, intellectually, and morally tired Army. Internal and external debates about how the US Army should fight—primarily against the Soviet Red Army in the central region of Europe—greatly affected how the Army educated its officers, incorporated new equipment, and trained for war. Two major works of doctrine dominated the Cold War period: Active Defense and AirLand Battle.

Active Defense doctrine led the Army away from the helicopter- and infantry-heavy Vietnam focus to an armored/mechanized battlefield in the central region of Europe. The central theme of the doctrine focused the Army on fighting outnumbered in Europe, at least initially, and defending against a numerically superior Soviet Army. While the doctrine included counterattacks and offensive operations, the broadly understood character of Active Defense doctrine is expressed in the name: defense.

AirLand Battle doctrine developed from a desire to restore maneuver to the tactical battle, as well as the operational level of warfare. The AirLand portion in the title of the doctrine reflected the need to extend the battlefield into the depth of the Soviet Army echelons and incorporate air-delivered fires into this deep fight. The doctrine centered on early offensive operations in the air and on land. The idea was to end the battle on terms favorable to US forces.[1]

For the US Army, the post-Vietnam years were, among other things, a time of reflection. In addition to answering the "Why an army?" question posed by some within the force and many outside, those responsible for anticipating future conflicts were also asking, "How should the US Army prepare to fight?"[2] To help answer this question, Army doctrine writers looked chiefly at how to fight Warsaw Pact armies in the central region of Europe and also considered related issues such as the use of tactical nuclear weapons, decisions affecting major weapons systems, and analysis of the 1973 Arab-Israeli War.

Taken together, these concerns influenced the move toward introducing the operational level of war as a central component of US Army doctrine. The miasma arising from the ashes of America's defeat in Vietnam

created an atmosphere conducive to reconsidering the Army's role in strategy and operational art. Army trends in the late 70s and early 80s included consideration of limited war, theater nuclear war, the move to "raise the nuclear threshold," and conventional forces as a part of overall deterrence. Significant events of this era were the 1973 Arab-Israeli War and subsequent 1982 and 1986 versions of Field Manual (FM) 100-5, *Operations*.

So, There I Was . . .

The Cold War was in full swing when I graduated from the US Military Academy in June 1977. In 1976, the US Army had outlined its Active Defense fighting doctrine in FM 100-5. I clearly recall the influence of this manual. After graduating from the Armor Officer Basic Course in November 1977, I joined B Troop, 4th Squadron, 12th Cavalry as a platoon leader. The squadron would act as the advanced guard and covering force for the division. Officers in my division, the 5th Infantry Division (Mechanized), were exhorted to learn how to "fight outnumbered and win." All the war games I participated in from 1977 to 1981 envisioned a vicious fight against the first echelon of the Warsaw Pact forces with no force left to defeat the follow-on Soviet forces, and every division war game ended with the use of tactical nuclear weapons. Following each exercise, participants would adjourn to the officers' club for drinks. The company and junior field-grade officers all felt that there had to be a better way to fight—that the approach to fighting the Russians disregarded tactical excellence. The war games sparked a desire to seek a different manner of fighting.

I commanded a tank company, B Company, 3rd Battalion, 77th Armor, also in the 5th Infantry Division, when the US Army introduced the AirLand Battle concept in the 1982 FM 100-5, *Operations*. Rather than constantly defending, as the Army interpreted the focus of the Active Defense, AirLand Battle spoke in terms of offensive as well as defensive operations and a focus on extending battle into the depth of attacking Soviet formation. I found this FM very exciting.

During all division training exercises, Brig. Gen. John M. Kirk, assistant division commander of the 5th Infantry Division, stressed sustaining an offensive outlook. Using AirLand Battle, he discussed how the purpose of the attack was to restore the international border during a war in Europe, emphasizing that the only border worth restoring was the pre-WWII Polish-Soviet border.[3] During my personal professional development as a Soldier, I constantly thought about the influence of doctrine on how the US Army would fight.

The Role and Value of Doctrine

In his "A New Day for Operational Art" article in the March 1985 *ARMY* magazine, Lt. Col. L. Don Holder asserted that the 1982 FM 100-5 did more than energize thinking about tactics from battalion to corps. He described its introduction of the term "operational art" as the "most important change in Army doctrine since World War II."[4] Holder stated that the Army's officer corps would need to "master an important subject that has been neglected for a generation . . . (and) overcome an entrenched habit of thinking solely in tactical terms."[5] He called on the officer corps, senior officers included, to educate themselves beyond the few lines in the FM. The scope of battle incorporated the tactical, operational, and strategic levels of war. Implementing the FM's direction would require a deeper, more-nuanced understanding of the doctrinal terms. Doctrinal refinement continued with the 1986 version of FM 100-5. The complex conditions the Army and nation faced during the post-Vietnam era reinforced the need for a unifying doctrine.[6]

The US Army relies on its doctrine and shared, broadly understood doctrinal terms to ensure that commander guidance is translated into action. Before the level of operational understanding could be raised in the Army, the term itself required definition. The manual stated the "theory of large unit operations" constituted the operational level of war.[7] The 1986 version of FM 100-5 further defined the term as the use of "available military resources to attain strategic goals within a theater of war."[8]

The 1986 version of FM 100-5, *Operations,* included the term operational art. Operational art is "the employment of military forces to attain strategic goals in a theater of war or theater of operations through the design, organization, and conduct of campaigns and major operations." A campaign is "a series of joint actions designed to attain a strategic objective in a theater of war." A major operation comprises "the coordinated actions of large force in a single phase of a campaign or in a critical battle."[9] The word "joint" in the definition of campaign means that the actions of more than one service—Army, Navy, Marine Corps, and/or Air Force, are a part of the campaign.

War itself is both simple and complex. Given the array of definitions, some form of schooling would be needed to ensure both common use and understanding of the terms. The 1968 FM 100-5, *Operations of Army Forces in the Field*, had described Army conventional operations doctrine before the 1976 version of the FM. This was the doctrine the Army followed during fighting in Vietnam. The 1968 version covered topics from

national policy and strategy to operations under nuclear and non-nuclear conditions. Chapter 6, Conduct of Battle, offered this definition: "Battle is fought with the ultimate purpose of defeating an enemy. It is fought by a combination of offensive and defensive actions. In their broadest sense, the terms 'offense' and 'defense' include the entire range of tactical operations."[10] Coming out of Vietnam, where this doctrine did not seem to fit and did not produce conditions of military victory, the US Army need to change its doctrine—to think about how to fight.

In a discussion after his retirement, Holder, who was one of the authors of the 1982 and 1986 versions, recalled that senior and field grade officers in the early 1970s knew the 1968 version of FM 100-5 and its implementing manuals very well. "The changes that [General William] DePuy's '76 manual made were, therefore, that much more contentious," he commented. "It's accordingly important to understand that the '82 edition of the manual reached back to reinstate forms of defense (mobile, area, position) as well as the forms of offensive maneuver. Those were familiar to people who served prior to '76." In anticipation of the release of the 1982 manual, Lt. Gen. William R. Richardson directed the Command and General Staff College (CGSC) Department of Tactics to publish a *Military Review* article entitled, "New Doctrine for the Defense" in March 1981. They announced that the Army would return to past forms of defense in its new manual. The single technique prescribed by Active Defense would no longer apply.[11]

The impetus to craft a new doctrine clearly derived from painful memories of the withdrawal from Vietnam and subsequent 1975 defeat of South Vietnam by the North, observations made during the 1973 Arab-Israeli War, and the post-Vietnam need to rebuild the US Army to wage conventional war. The world grew increasingly complex, and the conduct of warfare changed just as dramatically. Allies and enemies around the world perceived American power to be at a low point after Soviet clients such as North Vietnam defeated the US military. Warsaw Pact forces in the central region of Europe looked formidable. In the Arab-Israeli War, the use of anti-tank and anti-aircraft missiles indicated a change in the conduct of warfare. Decisions had to be made regarding how to rebuild the Army and equip it for high-intensity conventional combat against a Soviet army that outnumbered NATO forces. Following these events, strategy and force development questions had to be answered to determine next steps to restore the US Army; however, there were significant differences of opinion on what should be done.

The 1982 version of FM 100-5 suggested the Army should take advantage of its growing competence and confidence in the "Big Five" family of weapons.[12] The defense was seen as the stronger form of war, but the combination of these new weapons systems—employed by an officer and noncommissioned officer corps trained and educated in defensive and offensive operations—would reinforce nuclear deterrence with conventional deterrence, and this fact would indeed "raise" the nuclear threshold.

The Army needed to focus on fighting the Soviet Union and developing a strong conventional capability to defeat the Soviets. In 1976, the Army released FM 100-5, *Operations of Army Forces in the Field*, the first step toward a revised focus on training and "how to fight" in conventional warfare. This manual focused the Army on Europe and the complexities of fighting a numerically superior Warsaw Pact force. It introduced the notion of Active Defense, identifying the enemy main effort on the battlefield and maneuvering forces to defeat it. The Army as a whole understood and accepted this statement of the doctrine; however, the doctrine also caused unease as it was applied in war games.[13] Lt. Col. Huba Wass de Czege wrote that commanders "believed that they could beat the leading Soviet echelons using the 'active defense' but that the initial battles would render our units ineffective."[14] In the first war game battles, second echelon forces enjoyed freedom of action, despite air interdiction. These war games, as well as arguments advanced in *Military Review* and *Parameters,* led to the subsequent rewriting of FM 100-5. The weight of articles also prompted a theoretical underpinning for any effort to rewrite the Army's key operational doctrine.

The Influence of Military Theory

A new translation of military theorist Carl von Clausewitz's classic *On War* made the German philosopher's theory of war widely available to the US Army officer corps. In their 1976 translation of *On War* with explanatory essays, military historians Sir Michael Howard and Peter Paret put Clausewitz's words in the hands of the post-Vietnam American officer corps. Clausewitz's nineteenth century work, which argued that war is an extension of policy, informed the doctrinal debate and guided the ideas of those refining the Army Staff and War College curricula. The opening essays in the translation—and especially Bernard Brodie's closing essay, "A Guide to the Reading of *On War*"—helped make Clausewitz understandable for a broader audience within the American Army officer corps.

In his *On War* introductory essay, Paret wrote: "The theory of any activity, even if it aimed at effective performance rather than comprehensive

understanding, must discover the essential, timeless elements of this activity, and distinguish them from its temporary features." Clausewitz asserted: "Violence and political impact were two of the permanent characteristics of war. Another was the free play of human intelligence, will, and emotions. These were the forces that dominated the chaos of warfare."[15] Paret also focused *On War* readers on Clausewitz's explanation of the dual nature of war, expressed in two potential pairs of conflicts—war waged to destroy the enemy and force him to accept any terms or war waged to acquire territory to either retain it or use it for bargaining in peace negotiations.[16]

In this context, NATO needed to conduct a successful defense long enough for reinforcements to arrive from the United States. Doing so would require a balance of early detection/alert and mobilization, forward conventional defense, conventional deterrence, and integration of tactical nuclear weapons. The challenge of balance was chiefly an issue of political control. The release and ultimate authorization to use these weapons was a political decision. The decision to use nuclear weapons in the defense of NATO provoked serious discussion, given the comparison of NATO forces in West Germany and the number of Soviets forces on the other side of the border. Analytical articles and books played a role in how NATO would fight. For example in 1987, social scientist Daniel Charles reviewed a series of works on nuclear planning and concluded that a Soviet/Warsaw Pact first strike on US theater nuclear forces and command & control facilities could so disrupt overall political control over nuclear release that a deliberate escalation would be impossible.[17] In *Nuclear Planning in NATO Pitfalls of First Use,* Charles also analyzed Secretary of Defense Robert McNamara's proposed Flexible Response strategy. Under this strategy, the NATO alliance could use nuclear weapons but avoid situations that might provoke aggression and the dilemma of either appeasement/surrender or use of nuclear weapons.[18]

Although Flexible Response sounded good as a public statement, the detail underpinning the actual execution of the strategy required a great deal of work within NATO, Europe, and the United States in the form of developing and rehearsing plans as well as tactical exercises. In his 1989 *NATO Strategy and Nuclear Escalation*, political scientist Stephen Cimbala offered an independent view of the NATO-Soviet challenge and cited deficiencies in the Flexible Response strategy. These deficiencies ranged from an understanding of terms between US and European leaders to conventional force ratio discrepancies. NATO planners also were increasingly concern about the Warsaw Pact/Soviet Operational Maneuver Group (OMG). Insofar as analysts understood Soviet doctrine, the group consisted of a power-

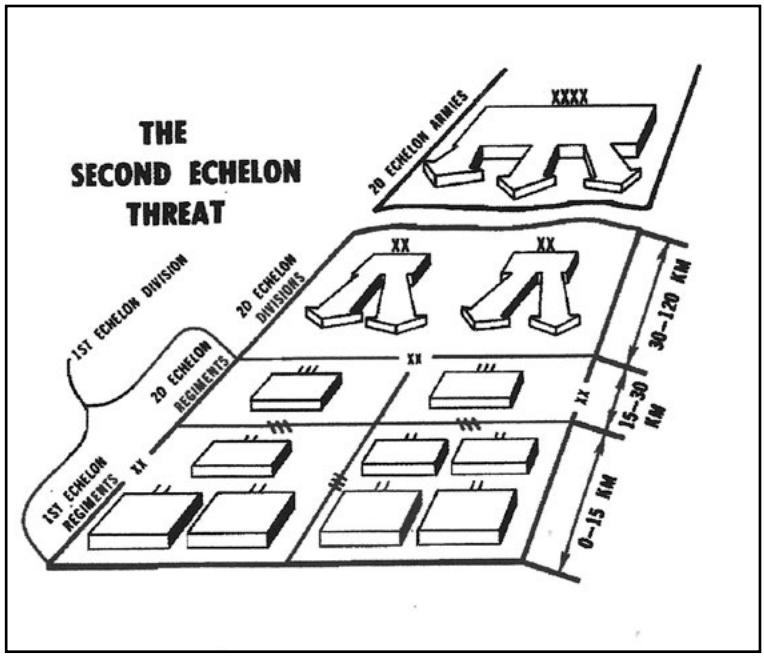


Figure 5.1. This graphic from TRADOC Pamphlet 525-5, *AirLand Battle Concept and Corps Operations—1986,* illustrates the Soviet second-echelon threat. Courtesy of the TRADOC Military History and Heritage Office.

ful armored force under the control of the Soviet theater commander. The OMG would be committed when a penetration of NATO defenses occurred. The weight of the OMG would overwhelm any NATO defensive response and, according to an understanding of Soviet doctrine, force NATO political leaders to accept battlefield reality and ask for negotiations.

The real challenge of the Soviet OMG, according to military analyst C. N. Donnelly, was that it presented NATO with a problem "at precisely that level with which it is at present least well organized to cope—the operational level."[19] The OMG was a concept that could disrupt NATO defenses and preclude nuclear strikes.[20] Donnelly's warnings regarding the OMG and the operational level of planning highlighted the need for officers who could plan for and execute large unit operations. Concern about the OMG led to the development of the NATO concept of Forward Defense.

Forward Defense focused on a strong defense along the inter-German border that would blunt a Warsaw Pact attack. The NATO concept fit into the US Active Defense doctrine but did not sit well with professional

officers who felt that defense—while the stronger form of warfare—was not decisive and could not achieve victory for NATO.

In contrast, NATO political leaders accepted the concept of Forward Defense. The European Security Study (ESECS), a committee convened in 1982 by NATO defense ministers, endorsed the Forward Defense doctrine. The study concluded that the NATO alliance could not trade space for time given the geographic distribution of the NATO population, especially in the Central Region.[21] The controversy within the US Army over Active Defense mirrored the debate within European armies regarding Forward Defense.

The controversy over Forward Defense was the impression that it was a static, Maginot-like line of defense. Officers in the Federal Republic of Germany's army, the *Bundeswehr,* preferred to think of operational level counteroffensives with corps and armies.[22] The challenge for AirLand Battle doctrine was that offensive and counteroffensive operations which crossed the inter-German border to strike deep into Warsaw Pact territory, or in the Soviet Union itself, might potentially provoke a Soviet nuclear response.

The ESECS identified deficiencies in Forward Defense despite endorsing the NATO doctrine. The study noted that Follow-On Forces Attack (FOFA) differed from AirLand Battle (ALB) in that the Soviet interpretation was that ALB equaled preemption, potentially prompting early Soviet use of nuclear weapons. US forces that seized the initiative by crossing the inter-German border into East Germany when the Soviets crossed into West Germany would also potentially disrupt the NATO alliance as some nations viewed the alliance as strictly defensive in nature.[23] Forward Defense had to be strengthened as a NATO concept to both blunt an initial Warsaw Pact attack and degrade the Warsaw Pact's ability to move second echelon forces. The ability to mount a strong Forward Defense and conduct effective deep attacks rested on NATO, specifically US modernization initiatives.

The US and European armies were modernizing their forces during the Cold War. Under the NATO alliance, there were standardization agreements (STANAGS) that covered tactics, techniques, and procedures aimed at making fighting with allies more straightforward. NATO's annual major exercise, Return of Forces to Germany (REFORGER), brought US-based divisions to Germany. The units drew equipment from storage sites and then conducted maneuvers across Germany. The defense of NATO and western Europe relied not only on forward-deployed force in Germany but also reinforcements arriving from the United States.[24]

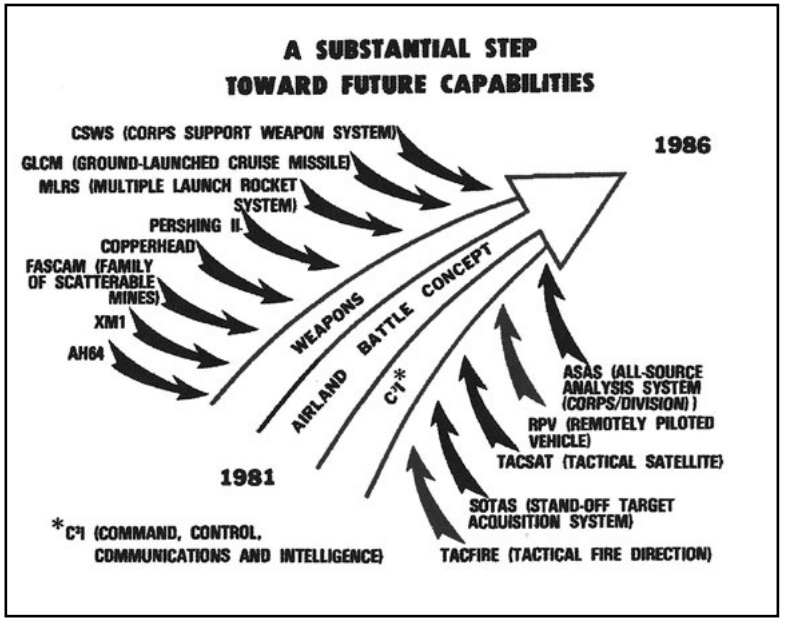


Figure 5.2. This graphic from TRADOC Pamphlet 525-5, *AirLand Battle Concept and Corps Operations—1986,* illustrates the number of systems entering the force in the near- and middle-term future. Courtesy of the TRADOC Military History and Heritage Office.

Cimbala, who criticized both Flexible Response and Forward Defense, believed that US modernization measures enacted in the 1980s—the "Big Five" weapons systems: Abrams, Bradley, Apache, Blackhawk, and Patriot—would significantly threaten Soviet land lines of communication running from the western Soviet Union through Poland and East Germany. Cimbala—and he supposed the Soviets as well—was troubled by the combination of linking Apache attack helicopters with Air Force strike aircraft followed by ground units equipped with M1 tanks and Bradley infantry fighting vehicles crossing into East Germany, all coordinated by doctrine that focused the purpose of deep operations on defeating Soviet second-echelon forces. He postulated that the Soviet lines of communication would be so disrupted by deep attack/FOFA that these operations would preclude smooth movement of Warsaw Pact resupply and reinforcements. Land battles would allow time for maritime forces to ensure NATO sea lines of communication remained open and US reinforcements arrived in France and the Netherlands.[25]

Cimbala also argued that there was some deterrent value in the declarative 1982 FM 100-5, which he described as "remarkably realistic and straightforward" and "exemplary." He noted that the AirLand Battle tactical doctrinal refinements were based on securing and retaining the initiative by striking blows at the coherence of enemy formations and operations vice bringing fires only on the tip of the spear of a Warsaw Pact penetration of a forward defense.[26] The ability to exercise command and control of the close fight—at the tip of the enemy spear—and the deep fight that attacked the coherence of follow-on enemy formations was the essence of the operational level of war and the operational art.

The internal Army debate occurred in the context of the withdrawal from and subsequent defeat of South Vietnam by the North, the 1973 Arab-Israeli War, the 1973 War Powers Act, and the 1986 Goldwater-Nichols Act. These events and strategy and force development questions had to be addressed to determine what must be done for the US Army.

Reflections on Operational Art

The term "operational art" was not used by any of the initial School for Advanced Military Studies (SAMS) sponsors. Generals Richardson, US Army Training and Doctrine Command (TRADOC); Crosbie E. Saint, Command and General Staff College (CGSC) deputy commandant; and Jack N. Merritt, Combined Arms Center, held different ideas about the type of general staff officers that the school would produce and how the school would hone the skills of the officers selected to attend. They were in full agreement, however, on developing officers who were schooled to handle large formations, divisions, corps, and armies. As the US Army struggled to recast itself in the 1970s, Army senior leaders looked across the area called the inter-German border and saw Warsaw Pact and Soviet armies and army groups. To fight those large formations successfully, the US Army needed to know how to plan and execute maneuvers at that level.

The late military historian Roger Spiller commented that the former CGSC Department of Command taught pre-WWII-vintage courses on large unit operations regarding command rather than staff control of corps and higher-level formations. During his tenure as a CGSC instructor, the Army corps was the highest level of formation the Department of Tactics covered "and then only infrequently."[27] Like Air Land Battle doctrine authors Lieutenant Colonels Wass de Czege, Richard H. Sinnreich, and Holder, Spiller believed the College failed to understand the nature and conduct of war and thus turned to what Wass de Czege described as "cookie cutter" solutions to tactical problems. These solutions were easier

to grade for an inexperienced faculty and, Spiller asserted, marked the tendency "to look at war through the lens of the staff (mainly planners) and to ignore the role of the commander and his art. The underlying assumption seemed to be that if you had bright planners, the commanders didn't matter so much. It was an attitude [French military officer Antoine-Henri] Jomini would've instantly approved."[28] Spiller insisted that general staff officers think "like" commanders.

The 1976 FM 100-5 focused on winning the first battle of the next war. While this manual shook the cobwebs from military officer thinking about war, it fostered the perception that the Army focused exclusively on battles. This caused a great deal of debate within the Army and eventually caused development of the notion that tactical battles alone did not win wars.[29] Civilian academic Edward N. Luttwak, Wass de Czege, Sinnreich, and Holder, among others, proposed that a series of successful campaigns wins wars.

In his 1980 *International Security* essay titled "The Operational Level of War," Luttwak focused the thinking of the officers who wrote and refined the proposed FM 100-5, *Operations*. Luttwak introduced the term "operational level of war" as the level of command and intellectual effort that linked the objectives of strategy to tactical tasks assigned to corps and divisions. He defined strategy as the balance of political goals and constraints with available resources to determine outcomes. Tactics dealt with specific tasks assigned to units at this level of war. Luttwak then proposed that the operational level should be built on concepts such as blitzkrieg or defense in depth to "attain the goals set by theater strategy through suitable combinations of tactics."[30] Holder described Luttwak's article as "influential and timely."[31]

Key Leader Influence

Wass de Czege, Sinnreich, and Holder focused on refining Active Defense into AirLand Battle—following solidly based tactical and operational level concepts, based on well-reasoned doctrine.[32] The 1982 FM 100-5 would help ensure a viable doctrine of maneuver in balance with firepower. Conventional deterrence would indeed raise the nuclear threshold because it would present the potential attacker, the Warsaw Pact, with the prospect of a protracted war. Application of the AirLand Battle doctrine would also create a dilemma for the Warsaw Pact as tactically agile American units armed with "Big Five" weapons systems would put teeth into attacking deep into the rear area of the Warsaw Pact and disrupt forward movement. The Army needed a viable doctrine to act as its engine of change.

The 1982 version of FM 100-5 started changes in terms of how the Army would fight and understand the art of warfighting at the tactical and operational levels. The effects of the new doctrine rippled throughout the Army. AirLand Battle addressed the unease caused by the 1976 version of FM 100-5. The new doctrine, the "Big Five," officer and noncommissioned officer education, and training centers affected both the field and institutional Army.

The Army responded positively to the 1982 manual. Richardson described the feedback: "Well, the feelings, I guess, are pretty strong in insuring that the Army had a viable doctrine, that it was well expressed in our publications, and that the field knew what to do with it."[33] Army senior leadership was very pleased with how well the doctrine was received and how quickly US Army elements Army moved to incorporate the doctrine into 1983–84 field exercises.

In 1985, General Richardson realized the doctrine's language needed some fine-tuning, especially regarding development of concepts underpinning the operational level of war. Recognizing the effect of the Goldwater-Nichols Defense Reorganization Act, he made sure the manual contained "sufficient jointness."[34] Field commanders, especially in Europe, asked for more guidance on the precise balance between offensive and defensive operations. Richardson requested that his fellow general officers and their staffs review the field manual and other writings coming out at the time to ensure that "people who had some real concerns or questions

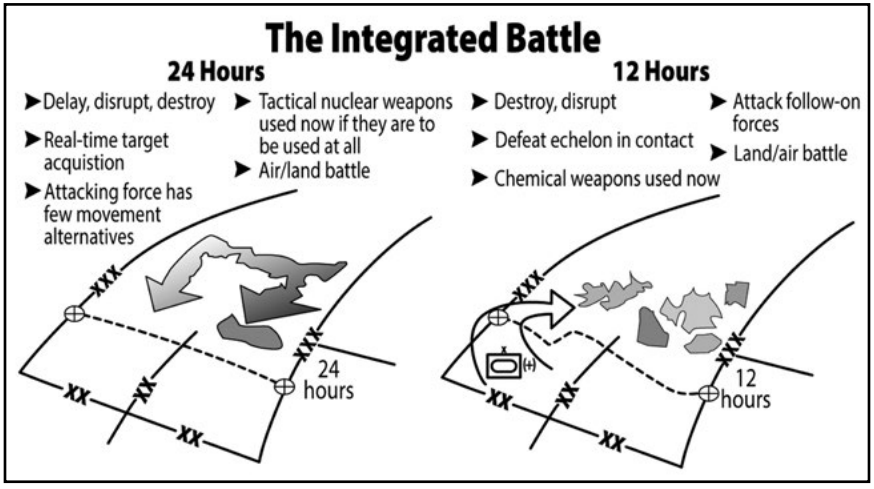


Figure 5.3. This graphic from TRADOC Pamphlet 525-5, *AirLand Battle Concept and Corps Operations—1986,* portrays corps commander concerns in the deep battle. Courtesy of the TRADOC Military History and Heritage Office.

about clarification" would be heard.[35] He recalled the original threesome —Wass de Czege, Sinnreich, and Holder—to Fort Leavenworth to revise the manual, including new doctrinal concepts and repackaging of ideas they introduced in the 1982 FM 100-5; like the first effort, the refinement process would be under Richardson's control.[36]

The writing team sent their initial draft to General Richardson, who returned comments in early 1986. Iterating the draft occurred quickly as the writing time was in tune with Richardson. Once a final draft was ready for wider review, he sent the new draft out for comments from the field and wider institutional Army. The circulation of the draft followed a pattern used during the development of the 1976 and 1982 versions of FM 100-5.[37]

General Bernard Rogers, Supreme Allied Commander Europe, also received the draft for review. Richardson needed Rogers's approval as he served not only as an Army general (and the former Chief of Staff of the Army) but the commander of NATO forces. US Army doctrine had to be applicable to Europe as the key area on the planet where NATO forces faced Warsaw Pact forces. Doctrine as well as equipment had to be interoperable. Then Richardson sent the penultimate draft to Chief of Staff of the Army (CSA) General John J. Wickham. After both Rogers and Wickham approved, the new manual went to the press in March 1986.

To ensure wide acceptance and understanding of the new doctrine, Richardson published an essay in the March 1986 *Military Review* urging the Army "to study the doctrine, understand it, practice it, and then for the school systems to take the doctrine and apply it to all the subordinate manuals that were a follow-on from that Capstone manual."[38] As TRADOC commander, Richardson carried considerable weight with the institutional Army. He viewed the 1982 and 1986 versions of FM 100-5 as the doctrinal base for AirLand Battle and all other Army doctrinal manuals—from tactics to helicopter operations, intelligence collection to supply distribution. Richardson personally considered FM 100-5 to be a good publication, and all those involved with the rewrite thought it gave a much-strengthened AirLand Battle doctrinal base for the Army. He took steps to ensure that the Army would embrace and refine the concepts of the operational level manual at all levels. Doctrine became the engine of change in the US Army.

Very closely related to FM 100-5 was the effort to ensure that all US Army doctrinal manuals were current and supported FM 100-5. The essence of Richardson's vision for the promulgation of FM 100-5 was that all US Army schools, including the CGSC at Fort Leavenworth, would be responsible for developing "How to Fight Manuals." In accord with its

focus on educating general staff officers for Army divisions and corps, the CGSC was tasked to write the manual on corps and divisions operations as well as one on operations for echelons above corps. The other Army schools—including Fort Knox, the Armor Center and School, Fort Eustis, and the Quartermaster School—developed and wrote supporting brigade and below manuals.[39]

Training and Education: Two Sides of the Same Coin

The Army adopted a focused approach to training units in 1973 and 1974. The complexity of training for war formed the basis of this rational approach. Army units had only so much time, money, and resources for training. Unit commanders needed guidance on training focus and Army-wide standards for training. The Army Training and Evaluation Program (ARTEP), adopted in January 1976, provided this focus. The publication of FM 100-5 required an across-the-board reassessment of the ARTEP and how to evaluate the effectiveness of training as well as discern effective execution of concepts in training. The framework provided by ARTEP and its associated Mission Training Plan afforded commanders guidance and freedom of action to develop unit-specific training plans which were in accord with doctrine and effectively used allocated resources. The ARTEP and associated documents enabled Army units to develop a management scheme to conduct training based on a commander's appreciation of the unit's state of readiness and in accord with its specific doctrine—combat brigade to maintenance group. This detailed program, in accord with doctrine, provided the tasks, conditions, and standards in the various areas of tactical application of AirLand Battle doctrine for a particular unit. The necessary bridge to acceptance and widespread use within the Army was incorporating the doctrine in the curricula of key Army schools. The CGSC was the key educational component school in this effort.[40]

A very directive Army emerged from the Vietnam War experience. For example, brigade commanders—based on their reading the 1976 version of FM 100-5—felt they had to position each company in their brigades. Orders based on this doctrine were lengthy, specific, and very directive. Dissatisfaction with this tendency led to the acceptance of German concepts such as *Auftragstaktik*—translated in English as mission orders—in the 1982 version of FM 100-5. The 1980 advent of the National Training Center (NTC) and the results of its first Multiple Integrated Laser Engagement System (MILES) fights against the Opposing Force (OPFOR) showed that a tendency to over-control forces led to swift defeat. The bat-

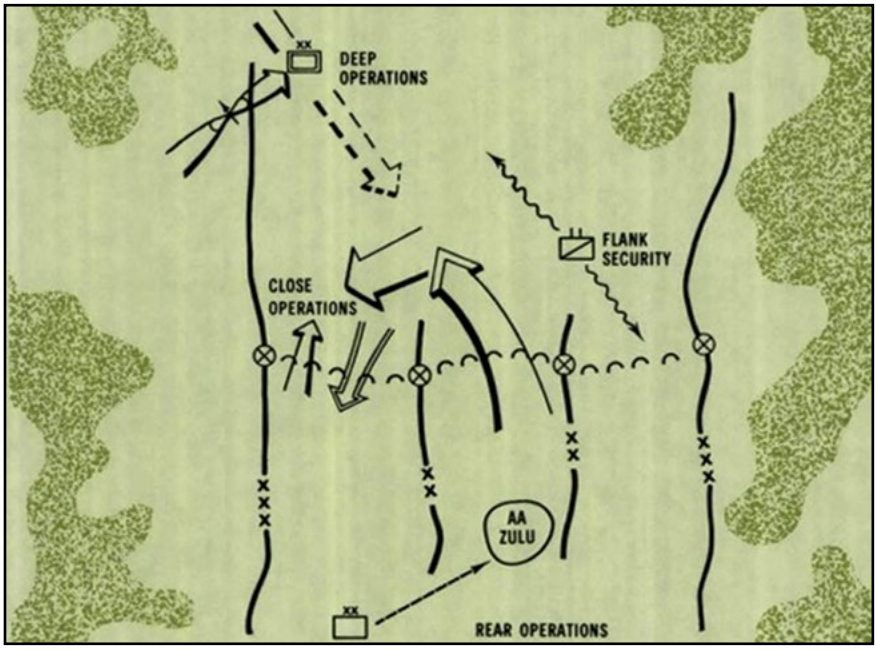


Figure 5.4. This Offensive Framework graphic from the 1986 Field Manual (FM) 100-5, *Operations,* illustrates the integration of deep, close, and rear operations. Courtesy of the TRADOC Military History and Heritage Office.

tles demonstrated that US forces knew Army doctrine but did not "know" how to execute the concepts of the doctrine through tactical techniques.

A notable effort to promulgate tactical techniques within the structure of a corps battle was written by Brig. Gen. John M. Kirk.[41] Kirk demanded that every officer and soldier in the division, as well as any unit to which he was assigned, be serious about training for war. He required that all company to division level commanders share a common tactical language as well as a common philosophical and tactical base. For Kirk, the framework of the 1982 FM 100-5 revealed a chasm between theoreticians and tacticians. The theory articulated in FM 100-5 did not link to tactics suited for the armored warfare that the writing teams envisioned occurring in the Central Region of Europe. He, along with the officers under his command, saw war as a tough, thinking person's game that had to be reduced to "Pavlovian simplistics." These simple concepts were fighting to win—with the combined arms available in the units at the time—against a realistic threat that outnumbered the friendly unit and modernizing technically, tactically, and intellectually every day.[42] Kirk insisted on adherence to tough, demanding standards for individual and unit training, as well as

officer professional development seminars. Kirk focused these efforts through interpreting doctrine.[43]

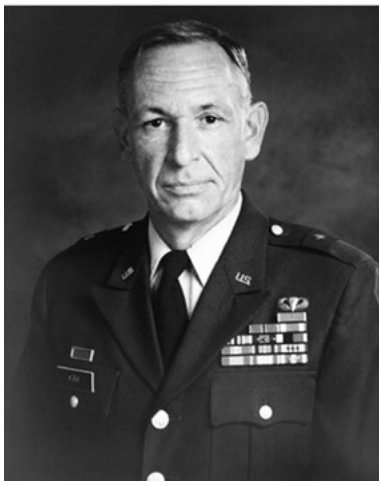


Figure 5.5. Brig. Gen. John M. Kirk. Courtesy of the US Army.

In 1981, Kirk wrote "*Panzergrenadiers"* a pamphlet about his concerns with implementing doctrine, while he was the assistant division commander of the 5th Infantry Division (Mechanized). The pamphlet, which he started while serving in Germany as a 1st Armored Division brigade commander and chief of staff (1977–80), contained an overview of the strategic and operational structure of a war in Europe, and then linked the tactical techniques to this strategy. He reinforced Saint's position that the staff college was not teaching warfighting: "The Army has done a fine job of teaching battalion/company commanders to draw grand goose eggs, arrows on acetate. Symbols bore little relation to ground, enemy, next war."[44] In 158 pages of text with 10 additional pages in two enclosures, Kirk outlined techniques for both offensive and defensive battles within the tactical battlespace of a corps and division. Kirk began with an overview of the strategy for war in Europe.

This overview of a strategy for war in Europe reflected the influence of the ongoing strategic debates on tactical implementation. US Army commanders and units on the ground in Germany interpreted the national strategy as calling for a defense of Western Europe. The conundrum, according to Kirk, was that the strategy also implied the goal was to beat the Russians. Defeating a Russian/Soviet invasion of Western Europe required victory; to attain victory, the US Army had to attack and take the tactical, operational, and strategic initiative away from the Russians.[45] From Kirk's perspective, few writers—military or civilian—put the challenge of defense into an attack/win continuum: "Simplistically put, strategic defense must be tactical attack so that we strategically win."[46] Kirk's pamphlet reflected a tension between the execution of tactics and the strategy of the time.

Kirk deconstructed the Active Defense model. The widely held perception of Active Defense was a one-echelon cordon or area defense. On the tactical level, this form of Western Europe defense did not present the Warsaw Pact with any difficulties; indeed, with a one-echelon-deep cordon, the Soviet preference to penetrate and exploit to operational depths—with

the objective to disrupt political structures—was the best choice for an offense. Kirk realized that the new operational doctrine required a new form of thinking about US Army tactics. To Kirk, a good strategic defense was fundamentally offensive in orientation at the tactical level.[47] Executing offensive tactics would defeat the Russians by taking away the initiative, imposing NATO/US forces will on the Russians, and most importantly destroying Russian psychological dependence on attaining their daily objective and maintaining a precise operational tempo. This last was more important than defeating the Russian force structure and weapons systems.[48] This line of thinking was also reflected in Saint's European experience.

From 1976 to 1978, Saint served in the US V Corps, commanded by Lt. Gen. Donn A. Starry. Starry led US lessons learned teams in talks with the Israel Defense Forces in the aftermath of its 1973 war. Starry, who later commanded TRADOC, also wrestled with the conundrum of strategic defense and tactical offense. Saint commanded Starry's 11th Armored Cavalry Regiment, which formed the nucleus of the corps covering force. If war came to Europe, Saint would meet the Russians first and force them to deploy their forces and thus slow down. In his historic 1994 Senior Officer Oral History Project interview, Saint noted: "Under General Starry, we did a lot of warfighting and built the GDP [General Defense Plan] from the bottom up. I'd say we didn't invent the term, but we invented what a covering force really did for a very large corps."[49] Saint's cavalry regiment would take the first step in defeating the Russians by disrupting the tempo of battle on which the Russians relied—just as Kirk had suggested. Saint said that he was "in a tactical renaissance on how you fight a large force."[50] A renaissance in thinking spread across the Army.

A Renaissance in Military Thinking

This tactical renaissance in the US Army in Europe—and subsequently in Army units in the United States—continued as the new doctrine arrived throughout the Army and the Army came to grips with how to fight. While the Army in Europe, at least initially, faced the challenge of tactical offense with a strategic defense framework, US-based Army units were the reinforcements to the Army in Europe and NATO. The challenge for these units was to integrate tactical formations into the fight while keeping their purpose of going on the counteroffensive with large units, corps, and possibly armies. This level of discourse within the framework of the 1982 version of FM 100-5 forced the Army to consider the tactical formation of the corps and its place within the operational framework.

Application of the operational art on the battlefield canvas grew in scale and scope. Army units rediscovered the art required to move and sustain large formations across long distances. Logistical units had to figure out how to sustain tanks and mechanized infantry units while securing themselves on a fluid battlefield. Intelligence sections thought through how to gather information on a moving enemy force while moving at the same time. Signals units grappled with the challenge of command and control on the move. Units all over the United States tried to expand the distances used during field training and especially command post exercises by entering into agreements with local towns and farmers to use their fields—stretching the distances between headquarters and forcing commanders to deal with the real problem of transmitting their intent to subordinates.

When Saint commanded III Corps, for example, he started a training program at Fort Hood, Texas. He linked headquarters with his simulation center and played out electronic war games.[51] Overall, the effect of this training and the corresponding education was to put the entire corps into the mindset, as Saint put it, "to shoot the enemy in the back."[52] Saint intended that the large-scale level counteroffensives launched by III Corps would—paraphrasing George Patton—provide the enemy the opportunity to die for his country so III Corps soldiers would not die for theirs; the focus was to maneuver large units to a place of significant advantage over the enemy.[53] To accomplish large-scale maneuver, the Army would need well-educated commanders and general staff officers.

The lethality of the modern battlefield was demonstrated in the 1973 Arab-Israeli War. Generals like Starry, Richardson, and Saint recognized the requirement to link company-level tactical actions—the point of the spear of combat—to strategic requirements. Saint described the purpose of operational art as the concept that everybody above the company can lose the battle, but only the company can win the battle: "That is, everybody above the company has only one purpose—to get companies in the right place with the right material and the right training to do the battle."[54] He believed that even the best organization in the world can lose if it's not where the enemy is or is in a bad place. Saint's training program aimed to get companies in the right place, with the ability to close with the enemy in combat. Achieving this aim meant winning the battle.[55]

Kirk also stressed how to link company-through-division tactical actions using a common tactical language and philosophy and thus address the conundrum of fighting in Europe—of strategic defense that required a tactical offense to ensure strategic victory. Kirk discussed the distance between theory and tactics, putting a fine edge on the need to study the

complexity of warfare: "You must give the same level of effort to studying war that we have Sexism, Environment, . . . etc."[56] Others also talked about the distance in thinking and understanding battles and campaigns.

Wass de Czege, recalling his days of company command in Vietnam and how field-grade level command (lieutenant colonel and above) did not know how to string company-level tactical victories into a larger success, wanted to help raise the bar of tactical and operational excellence throughout the Army. Similarly Saint, while he was at the CGSC, had wanted to ensure that graduates would be ready to fight in wars as general staff officers within divisions and corps. Their complementary visions highlighted the necessity to educate officers in the finer arts of the tactical, operational, and even strategic levels of war.

The US Army reached a crossroads in the early 1980s. The waves of debate unleashed by assessments of the 1973 Arab-Israeli War, the lethality of anti-tank and anti-aircraft missiles, introduction of the operational maneuver group in the Soviet Red Army and Warsaw Pact armies, and ultimately the 1982 introduction of new US Army doctrine forced senior leaders to address how to introduce doctrinal concepts throughout the Army. The new approach required general staff officers and commanders who embraced the concepts and could take action to implement these concepts as soon as possible. On the front lines, so to speak, was the CGSC, which had to come to grips with the new doctrine and needed to quickly determine how to teach it to field-grade officers selected to attend the college. Col. F. W. Timmerman, *Military Review* editor-in-chief, described this interesting time for the Army: "Several years ago, the words 'operational art' would scarcely receive any attention much less be considered a major area of study by US Army professionals."[57] The question was how to teach this doctrinal concept, which created a tension of expectations between the field and institutional Army.

The CGSC had a difficult time settling on a methodology for teaching tactics. The already present "wrestling match" over how to present Active Defense articulated by the 1976 FM 100-5 shifted into open combat when the 1982 version of the manual was released. The concept of AirLand Battle proved even more difficult to teach for the CGSC Department of Tactics. The Active Defense outlined in the 1976 FM 100-5, while widely disdained, was in fact easier to understand. The tactics of a divisional defense, for example, required a detailed knowledge of how the Soviets would echelon their forces. The US Army would then move units laterally on the battlefield to blunt a Soviet penetration. AirLand Battle doctrine was more offensive in outlook. The teaching and execution of this doctrine

required tactics instructors to articulate a form of offensive operations that demanded on-the-ground experience in these forms of maneuver. There were not enough Department of Tactics instructors who had recent troop experience, from either US- or Germany-based units, to ensure a uniform approach to teaching the doctrine basics. The CGSC would be required to teach doctrine it did not write without a sufficient number of instructors familiar with its execution.

Maj. Gen. Lon E. "Bert" Maggart, a CGSC tactics instructor, recalled initially teaching "rigid, cookie cutter solutions to tactical situations;" however, that approach changed when General DePuy, the TRADOC commander, gathered "several bright commanders," including then Major General Starry, at the Lodge on Fort A. P. Hill in the mid-70s "to help him think about changing the way the Army would fight following Vietnam."[58] The result of that effort was the 1976 version of FM 100-5, *Operations*. Maggart, who had been critical of the way tactical doctrine was taught when he was a student, commented that DePuy's team reinvented the approach: "I was often handed pieces of paper on my way to class to teach the latest thinking about Active Defense from General DePuy."[59] Army senior leaders also assessed the conduct of teaching tactics.

The Meloy Report on the CGSC

The difficulty in teaching how to practice doctrine came into sharper focus when CSA General Edward C. Meyer directed Maj. Gen. Guy "Sandy" Meloy, the Army's director of training, to assess the CGSC's effectiveness as a training and educational institution based on a 1933 letter from Col. George Marshall to Maj. Gen. Stuart Heintzelman, CGSC commandant. Meyer wanted Meloy to determine if Marshall's fifty-year-old criticisms were still valid.

In his 1933 letter, Marshall suggested that CGSC's methods of teaching needed to be modified to avoid "the chaotic state of affairs in the first few months of a campaign with a major power."[60] The criticisms were based on his years at the Infantry School and work with a National Guard division. Marshall criticized the College for using such meticulous marking and grading techniques that instructors developed problems from a viewpoint of ease of grading as opposed to tactical problems that reflected the rigor of the battlefield. The ripple effect of grading over reality drove the 1933 Department of Tactics to focus on the lowest tactical level. As a result, CGSC graduates were unable to properly estimate a situation other than tactical. Marshall observed that difficult-to-grade topics such as mobilization, deployment, and sustainment were neglected in favor of

simpler, tactical-level instruction. He noted that because of the focus on the tactical coupled with the lack of troop duty at actual corps and army level, in 1933 the CGSC did not produce officers who could maneuver large formations.[61]

Major General Meloy visited Fort Leavenworth and the CGSC from 17–21 January 1982—accompanied by four "troop-seasoned officers"—to evaluate the college curriculum. The resulting 1 February 1982 "Meloy Report" indicated that Marshall's criticisms remained valid—that the CGSC was "teaching form more than substance" and the course material allowed "little opportunity for much more than superficial treatment of any given subject (to include command, staff, and tactics)."[62] The report led to discussions between Deputy Chief of Staff for Operations General Glenn Otis, TRADOC Commander General William Richardson, and Army Vice Chief of Staff General Max Thurman. Their discourse ranged from filling the college faculty with more experienced officers to increased stability for the deputy commandant, who typically held the position for twelve to eighteen months. The focus of this assessment was summed up in a comment by Meloy—that the curriculum did not provide enough "in-depth coverage of those subjects that contribute directly to killing Russians"—as well as an assessment from an unnamed student's comment sheet—"There tends to be a dogmatic approach to tactics."[63] The dogmatic or cookie cutter approach to tactics was a prime motivation for Colonel Wass de Czege to recommend the development of SAMS. The Meloy Report was submitted to the CSA. These senior leaders were primed to "fix" the perceived problem of cookie cutter tactics, promulgating a new doctrine and doctrinal approach to fighting wars.

Even prior to Meloy's assessment and report, the Combined Arms Center tried to improve its instruction of tactics and operations. In 1979, the Combined Arms Center established the Combat Studies Institute (CSI) to promote the study of military history related to the development of tactical and operational practices. According to professor and founding member Roger Spiller, CSI would assist the Center for Army Tactics (CTAC) in developing a deeper understanding of tactics in the CGSC student population. "A fair amount of what we were teaching always seemed to get down to tactics, but also with what was already being referred to as the operational level of war," Spiller recalled. "I doubt very much whether any of what we taught eased CTAC's burdens or mitigated its lackluster reputation."[64] Overcoming cookie cutter solutions to tactical problems proved difficult. Ultimately the effort required a senior Army leader as a champion.

The Starry Years

General Starry, who commanded TRADOC from 1977 to 1981, became the necessary champion. Starry knew that the path to real change in an organization like the Army would be through a change in its educational system. Thus, a real change in doctrine and how the Army would fight in the future had to be led by a change in its approach to teaching. Starry wanted to make the CGSC course of instruction two years long, as it was for a time in the 1920s and 1930s. Eight of the World War II Army corps commanders were graduates of the two-year course, as well as many senior division, corps, and army principal staff officers.[65]

Starry ran headlong into resistance from Military Personnel Center (MILPERCEN) officeholders, who asserted that the Army could not afford to keep its very brightest majors in school for two years. Blocked by their opposition, Starry undertook—as a fallback position—to persuade the CSA to allow him to establish a pilot program for CGSC graduates pursuing advanced military studies. Starry intended that the second year of study would focus on command and staff at higher echelons—Corps, Army, Army Group, Theater. He had planted the seed. Although the School of Advanced Military Studies was not established until 1983, Starry had faith that the experiment would pay dividends for the Army.

CGSC faced serious difficulties with its doctrine instruction. The faculty did not have recent field experience with conducting operations. The Meloy Report showed that few CGSC instructors were conversant in the latest field applications of doctrine. Thus, the method of instruction defaulted to rote doctrine and checklists. The tactics of large units—divisions and corps—formed the base of knowledge essential in the execution of operations in accord with AirLand Battle. Despite earnest attempts to educate the majority of Army general staff officers at a sufficient level to assist division commanders in the execution of AirLand Battle, this was not happening.[66]

As noted in the Meloy Report, perceptions of the CGSC added to the challenge of teaching AirLand Battle tactics. Unlike during the 1920s and 1930s, Army officers did not view an assignment to Fort Leavenworth as career-enhancing. CGSC leadership assumed that any combat arms officer assigned to the faculty could teach tactics. This reinforced the tendency toward approved solutions, lesson plans, and an extendable pointer as instructor tools. The FM 100-5 updates and changing world conditions also added to the challenge.[67]

The FM 100-5 updates attempted to address changing circumstances and possible challenges facing the Army.[68] The end of the Cold War, apparent decisive victory in the Gulf, and calls for a "Peace Dividend" expanded the range of potential operations the Army would be called on to plan and execute. General Frederick M. Franks Jr., commanding general, and others at TRADOC attempted to find a framework for the Army to apply the familiar—AirLand Battle and the decision-making process—to the unfamiliar—Operations Other Than War, stability and support operations, and operations in support of civil authority.

The understanding and application of operational art evolved during this era of change as force in many forms became an extension of policy. Although operational art remained the means to link tactical actions to strategic and policy objectives, how to think operationally also changed as US policy opponents expanded from only state-controlled armies to state-supported actors and transnational groups, or regionally based ethnic groups seeking territory of their own or domination of a natural resource. Army doctrine previously covered how to develop plans and campaigns against state actors and conventional opponents. In the post-Cold War era, Army doctrine had to address how to plan and execute campaigns across the newly expanded spectrum of war and under unfamiliar and changing conditions.

Implications: The Requirement to Continue Refining Doctrine

At the end of the Cold War, General Franks, CSA General Gordon R. Sullivan, and other Army senior leaders recognized that the Army needed to understand the depth of the changes and how to operate in this new environment. New technology, a US drive for smaller yet technologically superior forces, and a growing number of ethnically driven tensions framed the rapidly changing operational environment. The 1993 version of FM 100-5 introduced Full Dimensional Operations and accounted for military operations other than war. The partnership between Sullivan and Franks produced Force XXI, which put the Army on the path to incorporate changing technology into the force. The conduct of war changed, but the nature of war—passions, greed, ethnic animosity, religious differences, etc.—did not change, other than becoming even more lethal given the availability of weapons of greater destructive power.

Sir Michael Howard, eminent British military historian, articulated the challenge of an uncertain future:

> I am tempted to declare dogmatically that whatever doctrine the Armed Forces are working on now, they have got it wrong. I am

> also tempted to declare that it does not matter that they have got it wrong. What does matter is their capacity to get it right quickly when the moment arrives. . . . Still, it is the task of military science in an age of peace to prevent the doctrines from being too badly wrong.[69]

Similarly, Clausewitz wrote in *On War*: "Everything in war is very simple, but the simplest thing is difficult." He described the use of war as an extension of policy and noted that the use of maximum force is "in no way incompatible with the simultaneous use of intellect."[70] Senior Army leaders like Saint, Richardson, Vuono, and Starry perceived a need to educate officers in the art of maneuvering large formations. The Army needed to look beyond the initial line of contact and deeper into Soviet Army formations.

The analysis of the 1973 Arab-Israeli War highlighted a need to disrupt the following echelons of forces behind the initial array of forces in contact lest a defense be overwhelmed. With the introduction of the concept of operational art into Army doctrine came a corresponding need for staff officers and commanders who were intellectually prepared to employ the art and turn concepts into action, which on the battlefield meant movement and maneuver of large formations. Army senior leaders recognized the need to do something. Leaders acted by adjusting doctrine, training, and tactical procedures—led by the changes in doctrine.

General DePuy, the catalyst for the changes in the Army, wrote about the evolution of doctrine beyond his efforts on the 1976 version. He noted that the awareness of operational art resided at the lieutenant colonel level with influential individuals like Wass de Czege, Sinnreich, and Holder rather than at the level of general officers.[71] The doctrinal focus on the operational level had another effect on the Army officer corps.



Figure 5.6. The US Army's AirLand Battle doctrine was written by (from left) Huba Wass de Czege, Richard Sinnreich, and L. Don Holder. They were all lieutenant colonels at the time. Courtesy of the US Army.

The Army achieved tactical success (division and corps operations) during combat operations and operations other than war, including Bosnia, Haiti, and in Los Angeles during the riots. The Army reinforces success. Thus, the focus on the familiar and successful level of war, the tactical, precluded a focus on higher echelons. So, in a sense, today's Army has a problem similar to what it faced in the '70s and '80s.

The doctrine introduced in 1982, 1986, and 1993 versions of FM 100-5 is a success story. The Army faced difficult tests coming out of the Vietnam War. AirLand Battle and AirLand Operations doctrine revitalized the US Army's thinking. The debate and discourse over how to implement this doctrine into Army education systems and training was healthy for the Army professional ethic. The successful conclusion of Operation Just Cause and the first Gulf War reinforced the powerful combination of the Big Five weapons systems, training at national training centers, and doctrine on thinking about and planning for war.

The conclusion of the first war in the Persian Gulf also became the start point for the second Gulf War in 2003. In the second war in the Persian Gulf, the Army initially focused on maneuver warfare against organized conventional units. As conditions changed, the Army recognized the need for new doctrinal guidance to deal with warfare conditions in the Iraq theater. The Army refined new doctrine—training units in updated counterinsurgency methods—and employed units and a new doctrinal approach to warfare with remarkable success. The seeds for this agile thinking were planted during the development of AirLand Battle. The Army will require the same level of agile thinking to deal with the array of changes to the conduct of war and warfare in the twenty-first century.

Notes

1. For a more complete discussion of these two doctrinal manuals and the underpinning concepts, see John l. Romjue, "From Active Defense to AirLand Battle: The Development of Army Doctrine 1973–1982 (historical monograph, US Army Training and Doctrine Command, June 1984). Also see Kevin C. M. Benson, *Raising the Bar: The School of Advanced Military Studies and the Introduction of Operational Art into US Army Doctrine, 1983–1994* (Havertown, PA: Casemate Publishing, 2026).

2. See Maj. Paul H. Herbert, *Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations*, Leavenworth Papers no. 16 (Fort Leavenworth, KS: US Army Command and General Staff College, 1988).

3. Brig. Gen. John M. Kirk, "*Panzergrenadiers*" (unofficial pamphlet, 1981). This pamphlet was distributed between 1981 and 1983 to promote self-study of war, the Russians, and military history. Kirk used the Fort Polk printing plant to produce his work. I used my personal copy of the pamphlet to guide my own tactical thinking from 1982 until I retired from the Army in 2007. In his use of the term *Panzergrenadiers*, Kirk was influenced by General William E. DePuy, who closely coordinated with the Germans in his development of the 1976 version of Field Manual (FM) 100-5. *Panzergrenadiers* fought mounted in their combat vehicles until they had to fight dismounted.

4. Lt. Col. L. Don Holder, "A New Day for Operational Art," *ARMY* (March 1985): 22.

5. Holder, 22

6. General Creighton Abrams, US Army Chief of Staff, directed the establishment of US Army Training and Doctrine Command (TRADOC). General DePuy took command of TRADOC on 1 July 1973. TRADOC directed the development of Army doctrine from that date.

7. Department of the Army, Field Manual (FM) 100-5, *Operations* (Washington, DC: 20 August 1982), 2-3.

8. Department of the Army, Field Manual (FM) 100-5, *Operations* (Washington, DC: 5 May 1986), 2-10.

9. FM 100-5 (1986), 10.

10. Department of the Army, Field Manual (FM) 100-5, *Operations of Army Forces in the Field* (Washington, DC: 6 September 1968), with change 1, 6-1.

11. Lt. Gen. (Retired) L. Don Holder, email exchange with the author, 31 August 2024; and "New Doctrine for the Defense," *Military Review* 61, no. 3 (March 1981), https://cgsc.contentdm.oclc.org/digital/collection/p124201coll1/id/334/.

12. The US Army's "Big Five" were the Abrams main battle tank, Bradley infantry fighting vehicle, Blackhawk transport helicopter, Apache attack helicopter, and Patriot anti-aircraft and anti-missile system.

13. For a superb discussion of this period and the inner workings of the development of the 1976 version of FM 100-5, see Herbert, *Deciding What Has to Be Done.* He describes how DePuy developed a doctrine that focused the Army and, by extension, the US Air Force, NATO, Forward Defense, and fighting the Soviet Union.

14. Lt. Col. Huba Wass de Czege and Lt. Col. L. D. Holder, 'The New FM 100-5," *Military Review* 62, no. 7, (July 1982): 53.

15. Carl von Clausewitz, *On War,* ed. and trans. Michael Howard and Peter Paret (Princeton, NJ: Princeton University Press, 1976), 11.

16. Clausewitz, 12.

17. Daniel Charles, *Nuclear Planning In NATO Pitfalls of First Use* (Cambridge, MA: Ballinger Publishing, 1987), 5. According to Charles, the United States maintained more than 5,000 nuclear warheads in Europe for use by NATO.

18. Charles, 15.

19. European Security Study (ESECS), *Strengthening Conventional Deterrence in Europe: Proposals for the 1980s,* A Report of the Steering Group (New York: St. Martin's Press, 1983), 133. This study was the official endorsement by NATO policymakers of the Forward Defense concept. C. N. Donnelly is a British scholar. He served as a special advisor to a number of NATO secretaries general, as well as to Margaret Thatcher. His approval of Forward Defense was influential given his role as advisor.

20. Stephen J. Cimbala, *NATO Strategy and Nuclear Escalation* (New York: St. Martin's Press, 1989), 161, 163.

21. ESECS, *Strengthening Conventional Deterrence in Europe*, 10.

22. ESECS, 163.

23. ESECS, 167.

24. See Tom Clancy, *Red Storm Rising*; General Sir John Hackett, *The Third World War*; and Harold Coyle, *Team Yankee* for fictional descriptions of war in the central region of Europe, and beyond. Reliance on the United States and coordination with Allies was key to the defense of Europe and deterring Soviet aggression.

25. Cimbala, *NATO Strategy and Nuclear Escalation*, 195. The modernization measure included fielding of new main battle tanks, infantry fighting vehicles, attack and troop-carrying helicopters, and anti-aircraft and missile systems.

26. Cimbala, 167.

27. Roger Spiller, email message to the author, 7 October 2009.

28. Spiller. For another look at this time, see Michael Stewart, "Raising a Pragmatic Army: Officer Education at the U.S. Army Command and General Staff College, 1946–1986" (unpublished dissertation, University of Kansas, Lawrence, KS, 2010). Stewart investigated the pressures on the college curricula during this forty-year period.

29. *Military Review* and *Parameters*, the journals of the Command and General Staff College and Army War College, respectively, contained multiple

articles during the 1970s and 80s on how the Army should fight as well as the challenges of Active Defense and AirLand Battle.

30. Edward N. Luttwak, "The Operational Level of War," *International Security* 5 no. 3 (Winter 1980/81): 61.

31. Lt. Gen. (Retired) L. Don Holder email exchange with the author, 21 March 2008, and phone conversation with the author, 30 August 2024.

32. Richard Lock-Pullan, *US Intervention Policy and Army Innovation from Vietnam to Iraq* (New York: Routledge, 2006), 80–85.

33. General (Retired) William R. Richardson, interview by Lt. Col. Michael W. Ackerman, Senior Officer Oral History Program, Project 87-18, US Army Military History Institute, Carlisle Barracks, PA, n.d., 448–51.

34. The Goldwater-Nichols Defense Reorganization Act, signed into law on 4 October 1985, streamlined the military chain of command so regional combatant commanders reported directly to the chairman of the Joint Chiefs of Staff and the secretary of defense. The act also required any officer selected for promotion to general/flag officer rank to be joint-qualified—schooled in joint doctrine and having served on a joint staff.

35. Richardson interview, 449.

36. Richardson, 451.

37. Brig. Gen. (Retired) Huba Wass de Czege and Col. (Retired) Rick Sinnreich in discussion with the author, 6 January 2009; and Lt. Gen. (Retired) L. Don Holder in discussion with the author, 21 and 26 March 2009.

38. Richardson Interview, 451. The quotation and the following passage are drawn from this page of the interview.

39. Richardson, 448–51.

40. ARTEP succeeded the Army Training Test. See *Victory Starts Here: A Short 52-Year History of the US Army Training and Doctrine Command* (Fort Leavenworth, KS: Army University Press, 2026). Origin of ARTEP is after TRADOC was founded. See pages 61–63 developed by Gorman under DePuy.

41. Brig. Gen. John M. Kirk graduated from the US Military Academy in 1956 and arrived at 5th ID after commanding a brigade in Europe. He served as the 5th Infantry Division assistant division commander in 1981–82. Kirk continued the effort to reinvigorate a focus on tactical excellence. He died on 22 April 2012.

42. Kirk, *Panzergrenadiers,* Introduction.

43. Kirk, Introduction.

44. Kirk, 3.

45. Kirk, 4.

46. Kirk, 4.

47. Kirk, 6.

48. Kirk, 6.

49. General (Retired) Crosbie Saint, interview by Lt. Col. Robert Wilson, Senior Officer Oral History Program, Project 1994–93, US Army Military History Institute, Alexandria, VA, 6 January 1994, 76–78. Saint shared a remarkable

view of the tension in this time regarding how the Army would fight, including how General Paul F. Gorman was frustrated with him relating to the structure of how V Corps would fight the covering force battle: "Here is this colonel under the protection of the corps commander negotiating with a two-star general. . . . You know I was in the Vietnam peace negotiations with the North Vietnamese. Negotiating with Saint is significantly more difficult."

50. Saint, 79.

51. Saint, 138.

52. Saint, 140. Saint was famous for printing and distributing posters of an M1A1 Abrams tank sight picture of the back end of a Russian T-72 tank with the caption that this was the proper sight picture to have after effective maneuver.

53. Saint, 140.

54. Saint, 140.

55. Saint, 140.

56. Kirk, *Panzergrenadiers,* 7. Kirk was famous, some would say infamous, for being blunt and insisting on tactical excellence above all. He told a story of going to general officer "charm school" a pejorative he used to describe the series of short courses the Army required for newly selected brigadier generals. After enduring lectures on which fork to use at a dinner party and how to flatter a congressional aide, he attended the cocktail party that followed. While others were drinking "wine spritzers," Kirk would have a double martini and walk up to a large group of people and introduce himself: "Hi, my name is Kirk and I came here from Europe to teach you people how to say F*&%!" Kirk was a hard, tough man, and a great tactician. He retired from the Army as a brigadier general.

57. Frederick W. Timmerman, "From the Editor," *Military Review* 65, no. 9 (September 1985).

58. From an earlier, unpublished draft of this chapter written by the late Maj. Gen. Lon E. "Bert" Maggart, who died in February 2024.

59. Maggart.

60. Maj. Gen. G. S. Meloy to chief of staff, US Army, "Subject: Evaluation of CGSC Curriculum, Tab A," memorandum, 1 February 1982, Special Collections Section, Combined Arms Research Library, US Army Command and General Staff College, Fort Leavenworth, KS. Hereafter cited as Meloy Report.

61. Meloy Report, Tab B.

62. Meloy Report, 1.

63. Meloy Report, 2 and 6. Based on a review of documents in the Combined Arms Research Library and electronic files available through the US Army Center of Military History, there is no record of any effort to "fix" problems cited by the Meloy Report other than Wass de Czege's work to establish SAMS.

64. Roger Spiller email to the author, 10 October 2009.

65. Robert H. Berlin, *U.S. Army World War II Corps Commanders: A Composite Biography* (Fort Leavenworth, KS: Combat Studies Institute), US Army Command and General Staff College, KS, July 1989.

66. Meloy Report, 2–6.

67. For another discussion of the Meloy Report, see Kevin Benson, "Educating Officers for the 21st Century," *ARMY* (January 2013): 38–41.

68. The 1982 and 1986 versions of FM 100-5 introduced and refined the tenets of AirLand Battle, Agility, Initiative, Depth, and Synchronization. The 1993 version added the tenet Versatility.

69. Michael Howard and Maj. Gen. A. J. Wilson, "Military Science in an Age of Peace," *The RUSI Journal* 119, no. 1 (1974): 3–11.

70. Clausewitz, *On War*, 119 and 75.

71. Henry G. Gole, *General William E. DePuy Preparing the Army for Modern War* (Lexington, KY: The University of Kentucky Press, 2008), 265.

Chapter 6
A Cold War Revolution in US Army Training

Mike Shaler

The State of US Army Training in the 1960s and 1970s

The senior leaders of the Army of the 1960s and 1970s served in World War II, the Korean War, and the Vietnam War and had widely different experiences in theaters of war, types of units in which they served, and varied leadership positions. Though the details were different, they shared a common understanding that the training to prepare soldiers for these conflicts, and how that training would apply to the battles they would face—was remarkably inadequate.

As they rose to positions of higher rank and authority in the 1960s and 1970s, these leaders reflected on their diverse experiences and many developed training regimens suited to the individual unit missions and environments of their current command. In making these determinations regarding training, they collectively tackled their assigned missions and exchanged ideas focused on improving individual and unit training.

Senior leader efforts laid the groundwork for—and provided the basis for widespread acceptance of—the Army's Training Revolution which was fully underway by the time the last of the US ground fighting forces were withdrawn from Vietnam in March 1973. In a 1991 US Army Training and Doctrine Command (TRADOC) history, author Anne Chapman described the transition:

> The configuration of the Army's training system differed radically from the one that had existed when the command [TRADOC] was formed. Indeed, the major fundamental changes that had occurred—and continue to occur—in response to new doctrine, increasingly sophisticated weapons systems, advancing technology, and dramatic changes in the makeup of the training base, constituted a revolution.[1]

The Role of the Vietnam-Era Chiefs of Staff, Army

The Army Chiefs of Staff during the Vietnam War (Generals Earle G. Wheeler, Harold K. Johnson, and William C. Westmoreland) realized that serious changes in Doctrine, Organization, Training, Leadership, and Materiel (DOTLM) would be required when the Vietnam conflict was terminated. Generals Johnson and Westmoreland in particular faced sig-

nificant, continuing demands for replacements to fill the ranks of forces deployed in Vietnam, while both Presidents Lyndon B. Johnson and Richard M. Nixon decided not to activate the nation's National Guard forces. Operating within constrained budgets, these Chiefs of Staff were unable to address the challenges that a wider review of DOTLM presented.

Adding to Westmoreland's challenges were the results of an Army War College study he had ordered to "examine the moral and professional climate within the ranks—the state of discipline and ethics." The Study on Military Professionalism results which the research team briefed to Westmoreland in June 1970 highlighted "disharmony between traditional, accepted ideals and the prevailing institutional pressures" particularly among middle and senior grade officers. One of the conclusions of the study was exceptionally troubling and shocked many of the Army's senior leaders:

> A scenario that was repeatedly described in seminar sessions and narrative responses includes an ambitious, transitory commander—marginally skilled in the complexities of his duties—engulfed in producing statistical results, fearful of personal failure, too busy to talk with or listen to his subordinates, and determined to submit acceptably optimistic reports which reflect faultless completion of a variety of tasks at the expense of the sweat and frustration of his subordinates.[2]

Westmoreland had the troubling study results marked "Close Hold" so they would not be released for a number of years; however, he did not wait to act.

In its remake for Army training, the training community focused on the study's references to marginally skilled transitory commanders. This refers to the policy in Vietnam that battalion and brigade commanders would serve a six-month command tour—a practice that resulted in many reports of inadequately trained commanders. The Army's officer corps knew there was a significant gap in leadership preparation, and in subsequent years worked hard to overcome the challenge.

Responding to the findings of the Army War College study, the Army's personnel community examined the command tour length and initiated a lengthy study which ultimately resulted in three significant changes for prospective battalion and brigade commanders: their normal tour length would be two years; a new centralized Command Selection Board Process would identify candidates; and later pre-command courses were initiated. To address other significant issues General Westmoreland also appointed Brig. Gen. Paul F. Gorman as the head of the new Board for Dynamic Training located at Fort Benning, Georgia. One of Gorman's early

findings was that "Army-wide, training is regarded as only marginally adequate."[3] Westmoreland's appointment of Gorman was one of the clearest signals that the US Army's Training Revolution was underway.

Revolutions Require Revolutionaries

Westmoreland retired as Chief of Staff of the Army (CSA) on 30 June 1972. Then General Creighton W. Abrams, who was returning from commanding the forces in Vietnam, was nominated to assume the duties as the 26th CSA. A delay in his confirmation by the Senate enabled him to review in depth the overall status of the Army and efforts underway in the Headquarters, Department of the Army, particularly those actions initiated by General Westmoreland relating to a significant reorganization entitled Operation Steadfast. Historian Henry G. Gole described the result:

> An unintended—and positive—consequence of the delay was the opportunity it gave Abrams to relax a bit after a series of demanding jobs, culminating in overall command in Vietnam. The delay also gave him time to study the proposed reorganization of the Army and to put his personal stamp on it.[4]

After a 102-day delay, Abrams was sworn in as CSA on 16 October 1972, and in concert with Secretary of the Army, the Honorable Robert F. Froehlke, Abrams began work to make Operation Steadfast a reality. The net result was to simultaneously stand up the US Army Training and Doctrine Command (TRADOC) at Fort Monroe, Virginia and the US Army Forces Command (FORSCOM) at Fort McPherson, Georgia, on 1 July 1973. General William E. DePuy was the first TRADOC Commander and General Walter T. Kerwin was the first FORSCOM Commander. As Chapman described in her book, Abrams, Kerwin, DePuy and other senior Army leaders had worked together and shared common experiences—all critical elements to help deal with superior Warsaw Pact technology and forces. She commented that many Army senior trainers believed that better training would be required to offset the challenges:

> The Army needed a training system that was capable of maintaining acceptable levels of readiness at all times. It also needed a system by which training could be evaluated to determine the efficiency and effectiveness of individual instruction and unit exercises. . . . Against that background, a training system had to be devised to respond to TRADOC's mission to supervise and conduct individual and collective training in institutions and in units.[5]

The coincident view held by Army senior leadership and the recent restructuring of a major portion of the Army laid the groundwork for significant improvement in training at all levels.

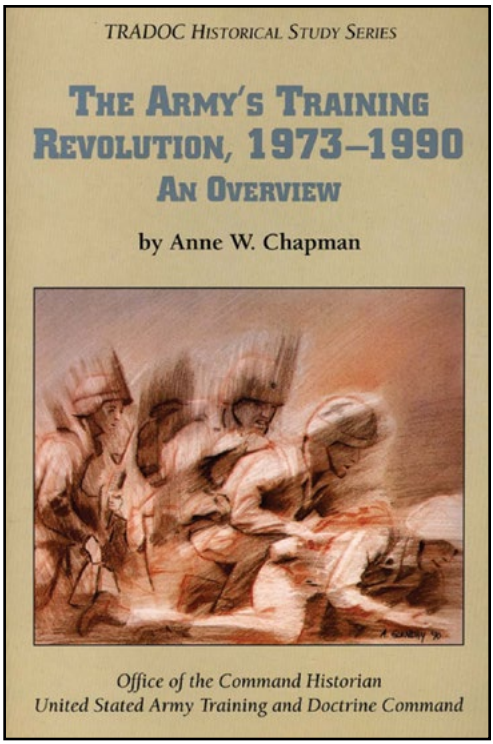


Figure 6.1. Author Anne Chapman's work provides an objective reevaluation of Army training methods and effectiveness in responding and adapting to new doctrine, increasingly sophisticated weapons systems, and advancing technology. Courtesy of the US Army.

Connective Tissue

From TRADOC's earliest days, the organization focused on the five DOTLM domains mentioned earlier: Doctrine, Organization, Training, Leadership, and Materiel. Each of these domains has a long-standing set of rules, accomplishments, and a healthy constituency throughout the Army. The interdependence of these five domains points to the fact that **Training** is the "connective tissue" that binds them together in solving significant Army challenges and preparing fighting units to win on the battlefield. If **Doctrine** is difficult to train the fighting force to understand and execute, published doctrine will become just another elegant pamphlet. Understanding and training the **Organization** of the fighting force without successfully utilizing the full extent of its capabilities and integrating supporting organization capabilities will result in a lack of combat readiness. Leaders must participate in and comprehend the education and training essential to enabling them to **Lead** their unit, build cohesion, and simultaneously develop junior leaders to ensure stronger units and higher performance. Employing the **Materiel** issued to the organization without fully understanding its capabilities, and being unable to achieve crew proficiency, confidence, and full unit performance during training will significantly im-

pact a unit's ability to accomplish the mission. **Training** thus becomes the focal point and connective tissue for fighting forces to develop to their full potential. They must achieve and maintain fully trained and ready status.

Developing the Fundamental Training Systems

When General Gorman joined General DePuy in the fall of 1973, as the Deputy Chief of Staff for Training (DCST) at the newly established TRADOC, he was faced with developing and establishing a new training system for the entire Army. In *Cardinal Point: An Oral History—Training Soldiers and Becoming a Strategist in Peace and War,* Gorman discussed his approach:

> For the macro management of Army training, the first thing you must do is to try to think about all the elements of the ways the Army conducts training as a system, then apply some logic to how you use the system for the purposes for which it was intended, to provide a combat-effective Army.[6]

To provide a roadmap to help develop the overall training system, the US Combat Arms Training Board (CATB, originally called the Board for Dynamic Training) adopted a Systems Approach to Training (SAT):

> Basic to all the changes was the adoption of a training development and implementation process known as the "Systems Approach to Training" (SAT). . . . The SAT was designed to insure that all components of the training development system were examined in detail in order to develop knowledge about them, their interrelationships, and dependencies.[7]

As an example of what was to follow, General Gorman adopted the following "Algorithm of Readiness" which guided his efforts: ***E = W • P • T*** *wherein* ***E*** *represents Effectiveness,* ***W*** *represents Weapon Capability,* ***P*** *represents Proficiency of the Crew,* ***T*** *represents Tactics*.[8]

General Gorman, General DePuy, and others in the training community focused on the ***P*** in the equation—the Proficiency of fighting units at the bottom of the organizational pyramid, but closest to the fight when the time comes. Tank crews, infantry squads, artillery sections, and similar units that maintained proficiency in the full utilization of their weapons systems were most important when the fighting begins. In his 1949 *Men of Fire* analysis of World War II and Korea battles, Brig. Gen. S. L. A. Mar-

shall discussed how the fighting soldier is low in the organizational scheme, but critical for winning:

> We have come through another great war and its reality is already cloaked in the mists of peace. In the course of that war we learned that man is supreme, that it is the soldier who fights and wins battles, that fighting means using a weapon, and that it is the heart of man which controls this use. That lesson we are already at the point of forgetting. We can ill afford it.[9]

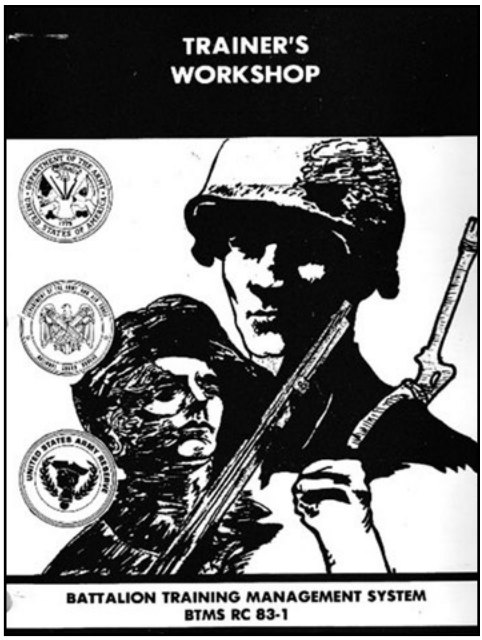


Figure 6.2. The Army made a wide effort to invigorate training employing a variety of methods to establish standards of and for training beginning at the platoon level. Courtesy of the US Army.

General Gorman and General DePuy shared the belief that **Proficiency** was a critical element in the development of a successful fighting force as outlined by Marshall, and they built the training system to reflect that starting at the bottom of the organizational pyramid was critical.

The Army exported the Battalion Training Management System (BTMS) across the force and this common experience shared among and between battalions had a big payoff in achieving the desired **Effectiveness.** TRADOC-trained and coordinated BTMS Teams conducted educational sessions for battalion staff members, company commanders, and key noncommissioned officers (NCOs) at their home stations. The teams provided necessary training materials and appropriate field manuals for each unit and helped unit leaders clearly articulate the battle-focused training standards that would guide their training efforts. The articulation of the Task, Conditions, and Standards model was front and center in all these engagements.

Train the Trainers

Additionally, prospective battalion and brigade commanders received training in BTMS during their attendance at the Battalion and Brigade Pre-Command Courses and were likewise equipped with pertinent, up-to-date training materials and field manuals. Perhaps the most important of the new approaches was the Army Training and Evaluation Program (ARTEP). This new performance-oriented program for collective training required unit elements from squad through battalion and their soldiers and leaders to perform to a clear, tough standard, not to just put in the training hours. Periodically, battalions would be externally evaluated (EXEVAL) in field conditions, operating against an Opposing Force (OPFOR) with qualified counterparts providing feedback. Beginning in the mid-1980s, combined arms formations deployed to the National Training Center (NTC) for an EXEVAL with OPFOR units that emulated Warsaw Pact forces with feedback provided by observer/controllers trained in their particular specialties.

Lt. Col. Bill Janes, an early Armor task force observer/controller team leader (Radio/Telephone Call Sign: Cobra Zero Seven), described the EXEVAL experience: "The NTC is a fully instrumented battlefield allowing visual replay and accountability of decisions and performance during an immediate post-mission After-Action Review previously unheard of during training."[10] This comprehensive opportunity was a critical element of unit training.

REFORGER

A key component of the training system overall was the identification and refinement of the organization's Mission Essential Task List (METL)—a tiered development of the unit's many tasks to support focused training in order to maintain P**roficiency** and make maximum use of available time. REFORGER (Return of Forces to Germany) units based in the Continental United States (CONUS) had to include Movement to Europe by Land, Sea, and Air up front in their METL. Then their next "tier" included receiving their equipment that shipped from CONUS followed by drawing their major weapons systems from the Prepositioning Overseas Materiel Configured in Unit Sets (POMCUS) located in Europe. The METL sequence continued with moving from POMCUS sites to a local maneuver area for final equipment and personnel checks, followed by movement by rail or road convoy to battle positions—often more than 100

kilometers away. The time for CONUS-based units to accomplish the first "set" of METL tasks was a key variable confronting the senior division and corps senior leaders and a critical task during REFORGER exercises.

The training effort to achieve **Proficiency** was intricately involved with the planning process. All sound war plans include assumptions that have been thought through, examined for their soundness, and built into the plan—avoiding the tendency to assume away the problem. As the plan takes shape and planners and senior leaders work through details, there will remain a series of what-if scenarios that could significantly affect the execution of approved war plans.

In West Germany in the 1970s and 1980s, leaders and planners considered a range of possible challenges such as whether they would receive adequate warning time from NATO leadership; if Autobahns would be blocked by citizens fleeing from invading Warsaw Pact forces; if Warsaw Pact saboteurs would disable or attack key rail junctions, port facilities, or airports and prevent scheduled NATO troop or supply/equipment movement. These challenges would make a huge difference in moving to and defending the front lines.

Linking Training and Planning

Such efforts to link training plans with war plans helped make the effort—and the Warsaw Pact threat—more real for troops stationed in Germany and other European countries. The soldiers also understood that the NATO General Defense Plan (GDP) was the war plan, and CONUS-based REFORGER units were an integral part of the total team that would defend Western Europe. Units stationed in Europe experienced frequent no-notice exercises conducted by higher headquarters—initiated by a very early morning telephone call and the code words Lariat Advance. These exercises helped maintain the focus on the GDP and its successful implementation. Units across USAREUR would quickly convey the notification throughout the unit by use of the Alert Notification Telephone Tree. Then soldiers would assemble in the unit area to ensure accountability within the unit, draw individual weapons, head to the Motor Pool, check their vehicles, establish radio communications, and upload ammunition if not already uploaded. Individual units would head to the designated assembly area and prepare for further instructions, and move to another location if ordered.

In 1979, when he assumed command of the US VII Corps in Germany, Lt. Gen. Julius W. Becton Jr. published his objectives for the 92,000 soldiers in the Corps:

> My first priority deals with training to execute our General Defense Plan. (We will) develop and maintain the ability to execute the General Defense Plan and contingency plans by maintaining a high degree of combat readiness through effective and dynamic unit and individual training, equipment maintenance, personnel and supply accountability, and the allocation of adequate resources to insure the maintenance of REDCON (Readiness Condition) equal to or higher than ALO (Authorized Level of Organization).[11]

Integrating Advanced Training Technologies

During his time as CSA in December 1971, Westmoreland accepted the recommendation from Gorman and the Board for Dynamic Training (BFDT) to establish the Combat Arms Training Board (CATB). The new board would work to improve training-related communications between schools and units and identify other ways to improve training within the infantry, armor, artillery, and air defense branches in particular. One of its early objectives to accomplish this was development and fielding of Tactical Engagement Simulation (TES).[12]

CATB promptly worked to develop weapon simulators and detectors capable of emulating infantry and armor close combat, devices that came to be known as the Multiple Integrated Laser Engagement System (MILES).[13] General Gorman pointed out that the procurement system did not enable the Army to begin the fielding and distribution of MILES until 1980; however the addition of MILES and supplemental instrumentation laid the groundwork for the US Army to establish the NTC at Fort Irwin, California.

Another key tool for the CATB, in conjunction with the Infantry School, was the 1976 development of the Combined Arms Tactical Training Simulator (CATTS), which used computer-generated imagery to teach battle staff integration. CATTS simulated the actions of friendly and enemy units in combat in a real-time, free-play battle. General DePuy, when he was Commander, TRADOC, directed that CATTS be relocated to the Combined Arms Center (CAC) at Fort Leavenworth to train battalion commanders and their staffs. CATTS led the way for the Army to develop

increasingly complex and significantly beneficial computer-based simulations for training. In following years, as computer processing power multiplied, the Battle Command Training Program (BCTP) was a much more powerful simulation designed to prepare division and corps commanders and battle staffs.

In a May–June 1996 *Military Review* article, General Fred Franks described how the BCTP helped turn the Army into a learning organization:

> One thing I would leave alone is the AAR (After-Action Review). I think the best thing our Army ever did in training was to create a system whereby every leader—from squad leader or vehicle commander to corps commander—goes through a rigorous, tactically competitive exercise and then undergoes an equally rigorous and candid AAR with his or her subordinates. . . . In so doing we became a learning organization. . . . An AAR looks a lot different when you are in the middle seat labelled "commander" than it does when you are drinking coffee on the sidelines and offering sage advice. In my own case, I learned many battle command skills as a division and corps commander from BCTP AARs and my senior mentor, retired General Richard Cavazos, right up to our VII Corps attack in February 1991.[14]

General Franks was a leading player in the Army's Training Revolution, and was deeply involved throughout his thirty-five-year Army career in advancing the state of the art at every opportunity.

Distributing Training Methods

As mentioned earlier, Gorman's readiness algorithm was reinforced by a series of field manuals and other "How to Fight" publications targeted toward the Army's basic fighting elements. For example, Field Manual (FM) 17-15, *Tank Platoon,* provided tank platoon leaders and platoon sergeants with information and techniques to develop and train a tank platoon which is "ready to fight and win." The Introduction makes clear the task at hand:

> The fundamental mission of the tank platoon is to close with and destroy the enemy. The platoon's ability to move, shoot, communicate and provide armored protection is a decisive factor on the modern battlefield. . . . The tank platoon can survive and win in battle, however, only if it is well trained, effectively led, and highly motivated. Crews must be aggressive, and their tactics must reflect the tempo and intensity of maneuver warfare.[15]

As the "Big Five" weapons systems (the M-1 Abrams Tank, the M2/3 Bradley Infantry/Cavalry Fighting Vehicle, the UH-60 Blackhawk Helicopter, the AH-64 Apache Attack Helicopter, and the Patriot Air Defense System), were developed and fielded, TRADOC proponents made every effort to deliver the training support materials and "How to Fight" manuals to the receiving unit coincident with the New Equipment Training Teams' (NETT) fielding efforts.[16]

General Starry at Fort Knox

General Donn A. Starry was very familiar with TRADOC and had served on the Department of the Army staff alongside General DePuy as the plans for Operation Steadfast had taken shape in the 1970s. In his early years Starry was assigned to the 63rd Tank Battalion, 3rd Armored Division in West Germany. The battalion commander was then-Lt. Col. Creighton Abrams. Later Starry had commanded the 1st Battalion, 32nd Armor in Germany when Lt. Gen. Creighton Abrams was the V Corps commander. In Vietnam, then-Colonel Starry had commanded the 11th Armored Cavalry Regiment when General Abrams was the overall commander in Vietnam. Thus, when he was promoted to Major General in 1973, he was summoned to the Pentagon by the CSA—General Abrams—and Starry, who knew Abrams very well, made his preferences for command of the 3rd Armored Division known. Abrams said: "I know that, but you're going to Fort Knox. Don't screw up the tank program. Just start with the doctrine, describe the equipment requirements, re-shape [the] organization, and get the Army off its ass!"[17]

Starry immediately began to address the doctrine and training efforts at Fort Knox. It was a challenging time—balancing the developmental efforts for a new tank, a new fighting vehicle for the Infantry, and a separate new fighting vehicle for the Armored Cavalry. These vehicles were part of the Big Five that General Abrams had approved for development; development and procurement was a long and drawn-out process that involved grand debates before the vehicles were finally fielded in the early 1980s.

Simultaneously, General Starry was deeply involved with writing new fighting doctrine for the Army as it faced the possibility of a ground war in Europe. This doctrine, Field Manual (FM) 100-5, *Operations*, addressed Active Defense and was the centerpiece of rigorous debate among Army leaders.[18]

Starry to V Corps, US Army Europe

In January 1976, General Frederick C. Weyand, who succeeded Abrams as CSA, called Starry to inform him he was being sent to Germany to command V Corps. General Weyand's message was short: "I'm sending you to the V Corps in Europe." General Starry found out quickly that the serving Corps Commander had been relieved and Starry was directed to move to Germany post-haste.[19] Starry was very familiar with the V Corps area and immediately set out to revise unit training of the Corps units in implementing the NATO General Defense Plan (GDP).

Starry had asked General DePuy to send him several hundred copies of FM 100-5 which Starry distributed to his commanders and staff officers. He then began a series of "terrain walks" during which he tasked subordinate commanders to explain and walk through how they intended to implement Active Defense doctrine in their sector of the battlefield, and how they intended to train their forces to accomplish the GDP mission.

Heavy discussions followed in critiquing the new doctrine:

> One of the underlying purposes . . . of doctrinal revisions was to try to figure out how we could fight and win when outnumbered. Yet even if V Corps could defeat the enemy's first echelon, Starry realized that he did not have the time nor manpower to "reset the defense" before being overrun by the second echelon. Hence, the fatal flaw of Active Defense.

Starry reasoned that NATO forces could destroy (or severely disrupt) the enemy's follow-on echelons through a chorus of intelligence, surveillance, long-range artillery, and tactical air support. Essentially, Starry would have to "extend the battlefield" and "attack deep." . . . Although Starry recognized these shortcomings, and the partial solutions, he was in no position to change the Army's doctrine . . . yet.[20]

Starry at TRADOC

General Starry, newly promoted to 4-Star rank, took command of TRADOC in July 1977, following DePuy, with whom he had worked several times. The transition was smooth and General Starry quickly began writing a new doctrinal manual—the AirLand Battle version of Field Manual 100-5, published in 1982. He continued the development of advanced training methodologies and focused on the upcoming delivery of the Big Five weapons systems. Starry commented that the 1982 version of the manual provided a more balanced description and was more in the genre

of what an FM 100-5 ought to be—with less tactical detail and more on the Deep Attack, assuming that most soldiers understood how the battle was to be fought at the forward line of troops.[21]

Grafenwöhr

"Going to Graf!" was a statement heard frequently among forces stationed in Germany, as they prepared to deploy by rail or road march to the Grafenwöhr Training Area (GTA) in Bavaria. Grafenwöhr was the premier training area in Germany, used first as a training area by German armed forces and then, beginning in 1947, US forces stationed throughout Europe, and later NATO forces. With about ninety square miles of countryside, it contained ranges and firing positions to fully utilize almost all weaponry fielded by NATO forces.

In the early 1980s, GTA was substantially upgraded to accommodate the increased capabilities of the forthcoming Big Five weapons systems. For example, tank gunnery ranges were modified to provide modernized targetry to challenge the M1 (and follow-on M1A1 and M1A2) tank and



Figure 6.3. The first of four US Army training centers, the National Training Center informed the Army in how to manage the complex training environment. The training centers merged with the elements of TRADOC, FORSCOM, Department of the Army, and supporting agencies like Army Materiel Command. The environment was often referred to as the point where Army "tectonic plates" came together. Courtesy of the US Army.

Bradley Fighting Vehicle crews. The M1 series of tanks were equipped with "shoot-on-the-move" stabilization systems and much-improved night vision capability, and crew proficiency was tested on every tank range. When the M1A1 was fielded in the mid-1980s with its new 120-mm main gun, the range complexes were ready to accommodate its increased accuracy and lethality for those new systems.

The nearby Hohenfels Training Area (HTA) provided maneuver training space for ARTEP EXEVALS by combined-arms maneuver forces. On many occasions, units would deploy by rail to Grafenwöhr, engage in gunnery training, road-march to Hohenfels for a combined arms ARTEP EXEVAL, then return to their home Kaserne by rail. A combined rotation to Grafenwöhr and Hohenfels was the highlight of USAREUR combined arms training and reflected the utility of Gorman's $\boldsymbol{E = W \bullet P \bullet T}$ algorithm.[22]

Building the National Training Centers

The origins of the NTC at Fort Irwin, California, rest in a concept paper written by General Gorman when he was serving as the Deputy Chief

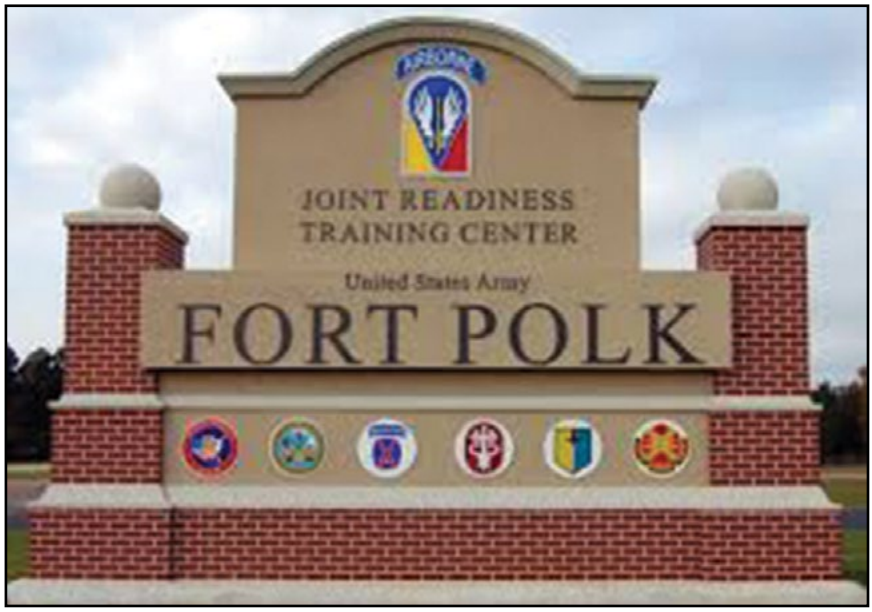


Figure 6.4. The Joint Readiness Training Center was established on 20 August 1993—twelve years after the National Training Center—to train light forces, Special Forces, and special operations forces. Courtesy of the US Army.

of Staff for Training at TRADOC. Gorman's concept paper outlined the rationale for the undertaking:

> In November 1976, . . . General Gorman, . . . chief agent for transforming General DePuy's vision of a "training revolution" into concrete programs, introduced the concept of large training areas where realistic battlefield conditions could be simulated. . . . Gorman's approach to improving collective training was clearly in line with FM 100-5, the Army's new field manual which stressed that American soldiers had to train as they would fight if US forces were to "win the first battle of the next war."[23]

Thus began a lengthy struggle to direct the funding to support the effort; convince both FORSCOM and TRADOC headquarters that the NTC was an essential component of a comprehensive, jointly enabled training program; and develop a support base in the Congress. In addition to the funding challenge, the issue of staffing the NTC as it entered full capacity was an ongoing challenge for the Army's personnel managers.

While some opposed the concept, General Starry was a strong proponent for the NTC and directed an implementation plan for the opening and operation of the NTC:

> On March 19, 1979, General Starry approved the combined development plans which established the NTC as a battalion combined arms training system and set forth milestones and schedules for accomplishment. He also set the goal of "initial operational capability" for the NTC, for the late summer or early fall of 1981. . . . Department of the Army concurred in the development plan on May 25, 1979.[24]

Following the NTC's start, US forces established the Joint Readiness Training Center (JRTC) for light forces—first at Fort Chaffee, Arkansas, and later at Fort Polk, Louisiana. In Europe, the Combat Maneuver Training Complex (CMTC)—now known as the Joint Multinational Readiness Center (JMRC)—was established at Hohenfels for training units up to brigade combat teams and multinational partners. In January 1987, the CSA approved the concept of the Battle Command Training Program (BCTP)—now the Mission Command Training Program (MCTP)—to teach warfighting skills to senior commanders at division and corps level. The BCTP program featured a seminar at Fort Leavenworth followed by a computer-driven warfighter command post exercise; today the MCTP is the Army's capstone combat training center.[25]

As he approached his fourth year as commander and near the end of his tour, Starry continued to guide TRADOC through the full spectrum as outlined earlier in the DOTLM paradigm. The Army benefitted considerably from the continuity over eight years of the DePuy and Starry partnership in command of TRADOC. On 9 January 1981 in one of his last speeches as the TRADOC Commander, General Starry summed up his long-held outlook on the value of training to the audience at the *Cavalry Ball*, at Fort Carson, Colorado:

> I'd like to leave you with a thought I've said before and I firmly believe. Wars are won by the courage of soldiers, the quality of their leaders, and the excellence of training. Of the soldier's courage, there is no doubt. The quality of our leaders can be enhanced by the excellence of training, training that is realistic, meaningful, and thorough; training that adheres to standards that are understood and achievable; training that provides the intangible spark that convinces our soldiers and our leaders that they can and must win the battles of the next war; training that gives them the will and the knowledge that they are the best; training that gives them the skills and craftmanship to do the job.[26]

Operation Desert Shield/Desert Storm

In examining the Army's performance in Operation Desert Shield/Desert Storm, the Training Revolution which began in the late 1960s had clearly taken hold throughout the US Army. Reflecting on General Paul Gorman's Algorithm of Readiness once again as a benchmark of the change in training throughout Army formations, we can see clearly the outcomes of the revolution as played out in the desert: ***E = W • P • T*** *wherein* ***E*** *represents Effectiveness,* ***W*** *represents Weapon Capability,* ***P*** *represents Proficiency of the Crew,* ***T*** *represents Tactics*.[27]

The ***T*** for Tactics was clearly demonstrated in the understanding and implementation on the desert floor of the refined Airland Battle Concept from Platoon formations up through Corps organizations. The ***W*** for Weapon Capability shone brightly for the Big Five weapons systems originating with General Abrams's time as CSA and for all the ancillary equipment developed since then. ***P*** for Crew Proficiency was clearly demonstrated and validated both the training management systems emplaced over the years, confirmed the investment in simulations and other training devices, and paid great tribute to the officers and NCOs who trained the crews

which fought the battle. Overall, the Effectiveness of the fighting force (the ***E*** of Gorman's algorithm) was the ultimate tribute to the leaders of the past decades as they prosecuted the Training Revolution of the US Army.

As documented by Brig. Gen. Robert Scales and his team in the book *Certain Victory*:

> Maintaining an immediately deployable capability for decisive land combat to end a conventional conflict successfully is the single most enduring imperative of the Gulf War. . . . The new style of war fighting is marked first and foremost by relatively small groups of carefully selected, carefully trained, tightly disciplined and skillfully led fighters equipped with state-of-the-art equipment. . . . The battlefields of Iraq and Kuwait demonstrated the completeness of the Army's training revolution. The officer and NCO educational systems not only improved the professional skill of leaders, but inculcated and nourished in them the initiative and confidence to extend themselves beyond the bounds of set procedures and doctrine.[28]

In a 1996 interview with the FRONTLINE Television Program, General Fred Franks, the Commander of the US VII Corps during Operation Desert Shield/Desert Storm, had this to say (in response to a question from the interviewer):

> Q: Did you feel when you'd won this great victory that you'd re-established the American military in the eyes of the American public?
>
> General Franks: I felt that what our soldiers had done certainly was proof of the sustained commitment to excellence that we had seen done in the US military following the Vietnam war, the training in leader development, in equipment, training at our national training centre, that it was a vindication of the wisdom of those decisions and that sustainment to tough, hard, realistic training and that was evident on the battlefield.[29]

Again, from General Scales in *Certain Victory*:

> The Legacy of Desert Storm. This time the American Army was clearly better prepared to fight the first battle than its adversary. It took to war a doctrinally based, modernized force trained to a standard of excellence the Iraqis could never comprehend,

> much less match. The Army went to war with war-fighting, training, and leader-development doctrine that not only withstood the initial clash of arms but emerged substantially intact and completely vindicated.[30]

Conclusion

History of the United States has shown us that sustaining excellence in military training and preparation remains a significant challenge when the fighting ends. General Franks and many other senior leaders were well aware of those challenges that fell on their shoulders as the Operation Desert Shield/Desert Storm forces returned to their home stations. In his final CSA "Letter to Army General Officers," General Carl Vuono addressed these concerns in June 1991:

> As I now hang up the uniform for the final time, I look to the future with enthusiasm and confidence. For we have learned an important lesson in the evolution of the Army from the ashes of the early 1970s to the triumph of the '90s. We now recognize that it took an entire generation and the labors of many thousands of leaders to create this Army. And all of us understand that it will take an equally concerned effort to preserve this Army in the future.[31]

General Hamilton H. Howze was a well-known figure with a reputation as a serious trainer, particularly in his service as Commander of the 82nd Airborne Division, then XVIII Airborne Corps, and finally, US Forces in Korea in the mid-1960s. The words that General Hamilton Howze included in the foreword he wrote for Lt. Gen. Collins's book *Common Sense Training* reflect his strong sentiment that it is important to retain and reinforce the effort to maintain a battle-focused training system that sustains the fighting forces of the US Army:

The key word with respect to proper military training is, and always will be ***interest***. But the problem is not simple. It has two parts. The first is ***interest*** on the part of the soldier being trained. The second half of the problem is ***interest*** on the part of those who run the Army—the Generals. Interest must start with the Chief of Staff and be maintained throughout the higher echelons of command. Whatever the requirements for administration, maintenance, and education, if training for combat is not vigorously pursued the Army will lose its meaning and its reason for being.[32]

Thirty Years of Participation in the Training Revolution: A Personal Vignette by Col. (Retired) Michael D. Shaler, Armor

Checking-in to my first Army assignment in August 1962, I was assigned as a Platoon Leader in the 13th Psychological Warfare Battalion, US Army Special Warfare Center, Fort Bragg, North Carolina. As a Propaganda Platoon Leader, the soldiers were primarily Draftees—but were well educated, with master's degrees from highly accredited universities, and professional radio broadcasters, and artists of many backgrounds. As I looked around for guidance on how to conduct training for the Platoon, I came upon the Training Guidance Memorandum issued by Lt. Gen. Hamilton Howze, Commander of XVIII Airborne Corps and Fort Bragg. In the memo, General Howze outlined how to develop a training plan utilizing the method of identifying the Task, Conditions, and Standards. Define the Tasks, Articulate the Conditions, and Set the Standards—those words were his mantra.

Two years later I was serving as the Executive Officer of an Armored Cavalry Troop stationed along the Demilitarized Zone (DMZ) in South Korea. I was faced with a similar challenge: How to develop a training plan for the Cavalry Troop. Our mission, as part of the Division Reconnaissance Squadron, was to maintain twenty-four-hour a day surveillance of the DMZ and any activity by the North Korean forces on the other side of the Military Demarcation Line (MDL—the precise trace of the line between the forces when the Armistice was adopted). In the case of an attack by North Korean forces, our Squadron would act as the Covering Force for the 1st Cavalry Division and conduct a phased withdrawal to allow the rest of the Division to get set in their fighting positions. As the "senior trainer," I sought training guidance, and found it once again in the Training Guidance Memorandum issued by then-General Hamilton Howze, who had become the Commanding General of the 8th Army and Commander-In-Chief of the United Nations Forces in Korea.

In 1966, I was assigned as an Instructor in the Infantry School at Fort Benning, Georgia. I was the instructor in a course entitled: "Mechanized Infantry in South Vietnam". At that time there was one US Army Mechanized Infantry Battalion stationed in Vietnam, with more to follow. Discussions of training a mechanized force to fight in Vietnam were at the heart of the instruction.

After completing the Infantry Officer Career Course, I was assigned as the S-3 (Operations Officer) in a Parachute Infantry Battalion in the

101st Airborne Division, Fort Campbell, Kentucky. Arriving on Labor Day 1967, I knew that the Division was scheduled to deploy to Vietnam before Christmas. The Battalion Commander and I developed a training program that took maximum advantage of the short amount of time available before we deployed—and we decided to focus on Proficient Squads. We set about establishing a training regimen led by the Squad Leaders, overseen by the Platoon Leader and Platoon Sergeant. The highlight of the training was a Squad Live-Fire exercise, focusing on fire control and fire distribution. Six weeks before our scheduled departure for Vietnam, the Department of the Army notified the Division that any soldier who had returned within eight months from a tour in Vietnam would not be allowed to deploy with the Division. This decision ripped apart the training program and demolished unit cohesion that had developed in the squads and platoons. New replacements arrived and the training regimen was re-run, but much had been lost in the shuffle.

In Vietnam, in February 1968, as the Tet Offensive was underway, due to a shortage of Armor officers, I was reassigned to the Cavalry Squadron in the 101st and assumed command of a Cavalry Troop. The arriving replacement soldiers, comprised of Draftees, Regular Enlistees, and members of "McNamara's 100,000" were arriving, having graduated from Basic Training. Before they were employed in a combat role, I had designed a training program so they fired every weapon in the Troop and qualified in their weapon of assignment. Then the new troops executed a set of drills in patrol operations, air assault operations, radio/telephone procedures, and ambush establishments conducted by their new Platoon Leader and Platoon Sergeant. [As a side comment, the difference in performance between Draftees, Regular Enlistees, and McNamara's 100K was impossible to discern. The American soldier prevailed!]

In 1969 I was selected to be the Aide-de-Camp for the Deputy Commanding General (DCG), 6th US Army, stationed at the Presidio of San Francisco. His responsibilities were to oversee the training establishments at Fort Ord, California; Fort Lewis, Washington; and twenty-six universities in the 6th Army area that hosted Reserve Officer Training Corps Detachments. He also oversaw the training of US Army Reserve formations and Army National Guard units within the 6th Army area. One of the events that became important in later years was the future of Fort Irwin, California. In early 1970, the DCG oversaw the development of a Memorandum of Understanding between 6th US Army and the California National Guard regarding the utilization of Fort Irwin. The National Guard

wanted to establish an Equipment Concentration Site (ECS) for Tanks and other equipment, and have the rights to conduct training in the available maneuver area. The memorandum was signed by both parties . . . with the proviso that the active Army could reclaim full control of Fort Irwin if and when needed. As the movement to establish the National Training Center gained momentum in the early 1980s, the Memorandum of Understanding which outlined the procedures for the transfer of Fort Irwin to the active Army was implemented.

In 1970, I was selected for Graduate Civilian Schooling and earned a Master in Business Administration (MBA) from the Wharton School, University of Pennsylvania. Following this, I was selected to attend the Command and General Staff College (CGSC) at Fort Leavenworth, Kansas. Midway through the course, I received orders for USAREUR and looked forward to serving in an Armor position. Headquarters, Department of the Army was laying the groundwork for one of the most extensive reorganizations in its history: Operation Steadfast, which would create two new commands, Forces Command (FORSCOM) and Training and Doctrine Command (TRADOC). In mid-April, forty-five of the students in the Class of 1973 received orders for FORSCOM, and a like number of forty-five for TRADOC. I was on my way to FORSCOM. I read the entire plan for STEADFAST in the CGSC Library and was ready for duty at FORSCOM on 1 July 1973.

In 1975, I was selected to teach at the US Military Academy, and was Head of the Committee teaching Leadership to the First Class (Seniors). The faculty in the Office of Military Leadership (subsequently renamed as the Department of Behavioral Sciences and Leadership) consisted of those who served in command positions in Vietnam; each of us had commanded Company, Battery, or Cavalry Troop units. Small unit leadership and training were an integral part of our Leadership curriculum.

The time to serve as a Battalion Executive Officer (XO) was fast upon me in 1978, as my tour as a Faculty Member at the US Military Academy concluded. I was assigned to a Tank Battalion in the 1st Infantry Division (Forward), stationed just outside Stuttgart, Germany. The battalion was equipped with M60A1 tanks, the standard tank for USAREUR tank forces in those days. As I arrived into the Frankfurt Airport, I was met by the Battalion S3 (Operations Officer) who was the sponsor for me and my Family. As we drove South to the Stuttgart area, he briefed me on the procedure of readiness testing which begins with an early morning telephone call and an announcement of the Lariat Advance code words. His briefing

"planted the seed" for me and the Family that we were in a "new ball game" in terms of readiness to "Fight On A Moment's Notice." My year as the Battalion XO focused on training, maintenance, and preparations to fulfill our mission as part of the NATO GDP. Training at Grafenwöhr Training Area and Hohenfels Training Area was the highlight of training within USAREUR. Readiness was the top priority for all the battalion's activities. Participating in REFORGER of February 1979, the battalion was attached to the 2nd Armored Cavalry Regiment during their covering force mission, then occupied our GDP defensive position and focused on our mission as part of our parent unit.

In the summer of 1979, I was assigned to VII Corps Headquarters in Stuttgart as the Chief of Training in the G3 Office. Responsibilities included scheduling of the Major Training Areas (MTA) for the major units within VII Corp; overseeing the utilization of training assets, primarily training simulation systems; participating in the planning process focused on the GDP; and supervising an Evaluation Team which assessed unit readiness under the exercise of Lariat Advance-initiated alerts. The opportunity to observe the performance of a number of battalions during their alert sessions proved quite helpful when I later assumed battalion command. During higher level alerts, I was the Chief of the VII Corps Tactical Command Post (TAC-CP).

Lt. Gen. Julius Becton, upon completion of his tour as Commander, VII Corps, was appointed as the TRADOC Deputy General for Training (DCG-T)/Army Inspector of Training (AIT). In the DCG-T role, he reported to the Commanding General, TRADOC; in the AIT role, he reported directly to the Chief of Staff, Army (CSA). I was assigned as his Executive Officer (XO) simultaneously, and was the one-man traveling staff as he executed his multiple roles throughout the Army. In his AIT role, the CSA had designated five focus areas for Lieutenant General Becton: 1) Assist in the establishment of the NTC at Fort Irwin; 2) Assist in the establishment of the School for Advanced Military Studies (SAMS) at Fort Leavenworth, Kansas; 3)Assist in the development of the Noncommissioned Officer Education System (NCOES); 4) Assist in the revitalization of the Brigade and Battalion Commander Preparation Course to include increased focus on training and course attendance by spouses; and 5) Review and revitalize the Army Physical Fitness Test (APFT). I learned a great deal about the larger Army as the XO, and particularly about the Army's overall training establishment.

In June 1983, I assumed command of the 1st Battalion, 63rd Armor, 1st Infantry Division, Fort Riley, Kansas. The battalion was equipped with the same version of tanks (M60A1) as the battalion in Europe where I was the XO. General Cavazos was the FORSCOM Commander and had several "rules" in effect concerning training. First: every new battalion commander would undergo an Externally Evaluated ARTEP (ARTEP-EX-EVAL) within ninety days of assuming command. Every battalion heading to the National Training Center (NTC) for a "rotation" would undergo an ARTEP-EXEVAL within sixty days prior to the rotation. And every battalion would undergo a tank gunnery qualification course within 60 days of the rotation. Thus, in my first year in command, I was engaged in two ARTEP-EXEVALs, two Tank Gunneries, and a rotation to the NTC. A magnificent set of training events, with the NTC rotation in August 1984 serving as the "Grand Experience" for the battalion—and the most satisfying exercise of my career. Because the 1st Infantry Division was an integral part of the USAREUR Warplan for the General Defense of Europe, we participated in the exercises associated with REFORGER units, including POMCUS Inspection, Reconnaissance, and Exercise Program (PIREP). PIREP provided a great opportunity for Battalion Commanders to spend a week in Germany with the Company Commanders reviewing the Tanks and other equipment in storage and conducting terrain walks in the areas assigned by the Warplan. Leader development at its finest, and my earlier experiences in VII Corps were a great assistance during these endeavors.

After completing battalion command and attending the National War College, I was assigned as the Chief of Staff, 1st Infantry Division when Maj. Gen. Len Wishart was the Commanding General, and later when Maj. Gen. Gordon Sullivan assumed command. Being back with the "Big Red One" for two years was a joy in and of itself, but serving with two of the Army's best trainers was exceptionally rewarding. The division's role as a REFORGER unit was paramount in everything the division engaged in. NTC rotations focused on the NATO GDP Warplan; PIREP visits to Germany to inspect equipment and participate in training exercises; and overall preparation for the next REFORGER exercise were the top priority for the division.

When newly promoted Lt. Gen. Sullivan became the Deputy Chief of Staff, Operations (DCSOPS) of the Army, he asked me to join him in the Pentagon, and I became the Director, Army Initiatives Group (AIG) working directly for him. I later became the Executive Officer for the DCSOPS,

serving both General Sullivan and later Lt. Gen. Denny Reimer. The focus on training remained paramount, particularly as General Vuono, then the Chief of Staff, Army made training one of his six Imperatives for our Army.

My final assignment in the Army was as Commander of the Army Research Institute for the Behavioral and Social Sciences (ARI). As an Armor Colonel in command of 254 well-educated PhDs, it was a magnificent way to serve the Army. More than two-thirds of ARI's research efforts were directed toward training in all aspects, from individual training, to unit training, to the National Training Centers, and exploratory efforts in sophisticated simulations.

I retired in December 1992, having enjoyed a very rewarding career as an Armor Officer, and particularly the opportunities to contribute to the US Army's Training Revolution during the Cold War. In January 1993, I established the Steamboat Leadership Institute in Steamboat Springs, Colorado. My first engagement was to establish, in concert with General Reimer, the Commanding General of FORSCOM, the FORSCOM Leader Development Program (FLDP). The FLDP was designed as a comprehensive program for enhancing leader performance through the delivery of focused and structured feedback to Army leaders while they performed their assigned jobs, resulting in rapid growth and development of leadership skills. The FLDP was focused on Army leaders of units participating in scheduled training exercises at the Combat Training Centers.

Notes

1. Anne W. Chapman, *The Army's Training Revolution, 1973–1990: An Overview* (Fort Monroe, VA: Office of the Command Historian, US Army Training and Doctrine Command, 1991), 1.

2. "Study on Military Professionalism," US Army War College, Carlisle Barracks, PA, 30 June 1970), iv.

3. Lewis Sorley, *Westmoreland: The General who Lost Vietnam* (Boston: Houghton, Mifflin, Harcourt, 2011), 238.

4. Henry G. Gole, *General William E. DePuy: Preparing the Army for Modern War* (Lexington, KY: University Press of Kentusky, 2008), 146.

5. Chapman, *The Army's Training Revolution,* 4.

6. General Paul F. Gorman, *Cardinal Point: An Oral History—Training Soldiers and Becoming a Strategist in Peace and War* (Fort Leavenworth, KS: Combat Studies Institute, 2010), 67.

7. Chapman, *The Army's Training Revolution,* 5.

8. Gorman, *Cardinal Point,* 69.

9. Brig. Gen. S. L. A. Marshall, *Men Against Fire* (Alexandria, VA: Byrrd Enterprises, 1947), 23.

10. Col. (Retired)William Janes, who served as the leader of the Observer/Controller Armor Task Force Team in 1985, in discussion with the author, December 2025.

11. Lt. Gen. Julius W. Becton Jr., *Contemporary Readings in Military Leadership,* Reference Book 22-4 (Fort Leavenworth, KS: US Army Command and General Staff College, Center for Leadership and Ethics, 1983), 7-3.

12. General (Retired) Paul F. Gorman, "The Secret of Future Victories, IDA Paper P-2653" (paper, Institute for Defense Analyses, Alexandria, VA, 1992), III–23.

13. Gorman, III-23.

14. General Frederick M. Franks Jr., "Battle Command: A Commander's Perspective," *Military Review* (May–June 1996): 13.

15. Headquarters, Department of the Army, Field Manual (FM) 17-15, *Tank Platoon* (Washington, DC: 1996), 1-1.

16. Brig. Gen. Robert H. Scales Jr., *Certain Victory: The US Army in the Gulf War* (Washington, DC: Office of the Chief of Staff, US Army, Washington, DC, 1993), 19–20.

17. Mike Guardia, *Crusader: General Donn Starry and the Army of His Times* (Havertown, PA: Casemate Publishers, 2018), 113.

18. Guardia, 117.

19. Guardia, 127.

20. Guardia, 135.

21. General Donn A. Starry, *PRESS ON! Selected Works of General Donn A. Starry,* vol 2, ed, Lewis Sorley. (Fort Leavenworth, KS: Combat Studies Institute Press, 2009), 1270.

22. Gorman, *Cardinal Point,* 69.

23. Ann W. Chapman, *The Origins and Development of the National Training Center, 1976–1984,* (Fort Monroe, VA: Office of the Command Historian, US Army Training and Doctrine Command, 1992), 14.

24. Chapman, 22.

25. Chapman, 146.

26. Sorley, *Westmoreland,* 717.

27. Gorman, *Cardinal Point,* 69.

28. Scales, *Certain Victory,* 359–63.

29. General Frederick M. Franks Jr., "The Gulf War," FRONTLINE television interview transcript, Public Broadcasting System, Boston, January 1996), 17.

30. Scales, *Certain Victory,* 382.

31. General Carl E. Vuono, *Collected Works of the Thirty-First Chief of Staff, United States Army* (Washington, DC: Office of the Chief of Staff, US Army, 1991), 382.

32. Lt. Gen. (Retired) Arthur S. Collins Jr., *Common Sense Training* (San Rafael, CA, Presidio Press, 1978), ix.

Chapter 7
The Cold War Launches Modern Army Aviation's Role in Combat, Development of AirLand Battle Doctrine

Daniel J. Petrosky

The US Army initially fought a counterinsurgency war in Vietnam. Then Vietnam became a "helicopter war" after the Army began purchasing UH-1 Huey helicopters in larger numbers and greatly increasing the number of pilots in training. I was one of those pilots.

This chapter discusses how AirLand Battle operational and tactical methods such as use of helicopters matured through the Cold War years. My own experiences paralleled the development of the US aviation capability and capacity. I became a Vietnam aviator before aviation was a branch—starting in 1984 by forming then commanding 2nd Combat Aviation Squadron (2nd CAS) assigned to the Second Armored Cavalry Regiment (2nd ACR) in West Germany. Later I commanded the Combat Aviation Brigade (Iron Eagle), 1st Armored Division (1st AD) stationed in Katterbach/Ansbach Germany.

Early in the Vietnam War, the Army began using helicopters because it was difficult to maneuver troops through the country's triple canopy jungle and high mountain ranges. The Huey could bypass these obstacles and quickly insert large numbers of troops. Then the Army introduced the AH-1 Cobra as a dedicated attack helicopter to respond quickly to troops in contact missions—armed with larger numbers of 2.75-inch rockets, a 40-mm grenade-launcher, and a rapid-fire mini-gun. Additionally, the Army formed two airmobile divisions: the 1st Cavalry (CAV) and the 101st Airborne. These divisions were helicopter heavy and capable of moving multiple units around the Vietnam battlefield.

During the 8 February to 25 March 1971 Lam Son 719 offensive, the Military Assistance Command, Vietnam (MACV) conducted an offensive from northern South Vietnam into Laos toward the Laotian city of Tchepone. The 101st Airborne, which directed all US Army Aviation assets during this operation, used about 750 aircraft plus artillery to insert the Army of the Republic of Vietnam (ARVN/South Vietnam) into Laos to deny safe haven for the People's Army of Vietnam (PAVN/North Vietnam) as well as interdict the Ho-Chi-Minh resupply trail and the flow of PAVN logistics. Col. Bob Bunting, who commanded the 48th assault helicopter company, commented that PAVN forces apparently had somehow been alerted about the attack; they had heavy air defense guns protecting almost



Figure 7.1. A Cobra AH-1 gunship (left) paired with a Kiowa Scout helicopter as a hunter/killer team was used to great effect in Vietnam. Testing would be needed to determine whether this approach would be suitable in the type of armor-heavy battle expected in Europe. Courtesy of Wikimedia Commons.

every landing zone and tanks lined up on highway 9. US forces lost more than 80 helicopters during Lam Son 719, and another 430 were damaged.[1] Although the ARVN fought hard, the PAVN force was much larger than estimated by intelligence.

During the Cold War, Army aviation grew in capability and capacity to operate in large combat formations with the advent of AirLand Battle doctrine, which addressed how to deal with echelons of Warsaw Pact formations. The assumption was that any defeated Warsaw Pact unit would be quickly replaced by a similar unit from follow-on forces. US Army Aviation and the US Air Force worked to change that by destroying and delaying echeloned formations attempting to reinforce the defeated unit in the close fight. The Army's approach to AirLand Battle required cooperation between air and ground capabilities in new innovative ways. Inside US Army Aviation divisions and corps formations were expanded to deal with the echeloned forces and became the link between ground and US Air Force (USAF) efforts to control the airspace beyond the fire support coordination line (FSCL). Integration of air ground formations added exponentially to the US Army's ability to defeat any opponent.

Often aviation history focuses on the exploits of air crews. Aviation warrant officers are certainly the heart and soul of US Army Aviation. Although this chapter focuses on the warrant officer story, Aviation command sergeants major (CSMs) and noncommissioned officers (NCOs) were essential to Army training and execution. Their leadership and creativity ensured victory. Col. John Ward, who commanded 1-2nd Aviation Battalion, 1st AD, in Desert Storm, described his CSM, Larry Mitchell, as a real hero: "I always knew that I could depend on him to get the battalion's main body where it needed to be. . . . It was truly like having another field grade officer in the battalion."[2] Army Aviation cannot fly, fight, and win without talented CSMs and senior NCOs.[3]

Putting the Air in AirLand Battle Doctrine

In his thorough March 2010 thesis, military strategist Wilson C. Blythe Jr. provides a detailed description of the development of AirLand Battle doctrine. Blythe's purpose is to "move beyond [discussions with a] previous narrow tactical focus by integrating a broad array of influences including those of civilian defense reforms and, surprisingly, those of Soviet military."[4] His thesis provides a clear description of the road the Army took to develop AirLand Battle doctrine.

In moving from an inadequate Active Defense doctrinal foundation to a maneuver-centric AirLand Battle doctrine, the US Army was challenged to address Soviet use of a second echelon designed to exploit first echelon success. Blythe describes this challenge: "Greater emphasis was placed upon deep attack in the form of interdiction conducted by artillery, maneuver, unconventional fires, and, to a great extent, aviation with the goal of disrupting, delaying, and attriting the enemy in order to shape the Central Battle.[5] This inclusion of Army aviation in the emerging doctrine—beyond its traditional role of close air support to units in contact—began a collaboration between US Army Training and Doctrine Command (TRADOC) and the Air Force. Under General Donn Starry, TRADOC actively sought input from Air Force leaders and analysts. Starry's team engaged with Air Force commands, joint working groups, and civilian defense intellectuals to refine how air and ground forces would synchronize operations. This wasn't superficial coordination. It was a genuine intellectual partnership.

As often happens, the introduction of new doctrinal construct led to creation of new structures to control and optimize the concept. Such was the case with the Deep Operations Cell. In his 1995 master of military art

and science thesis, Maj. Charles C. Bush discusses the evolution of the concept and introduction of the cell's growth into a center.[6] The center absorbs responsibility for controlling fires beyond the FSCL.[7]

The 1982 edition of Field Manual (FM) 100-5, *Operations*, introduced AirLand Battle then was revised in 1986 to deal with Warsaw Pact follow-on forces. The US European Command (USEUCOM), along with the Army Component command, US Army Europe (USAREUR), and US Air Forces Europe (USAFE) brought AirLand Battle concepts into NATO's Cold War Defense/Deterrence Plan to address these Warsaw Pact follow-on forces. USAREUR and USAFE leadership began to train AirLand Battle to defeat/delay Soviet Union tactical echelons and operational formations to support NATO ground forces in the close fight. The intention was for Army and Air Force troops to attack these deep echelon formations together. Cooperating air and ground operations in the form of Joint Air Attack Team Tactics (JAATT) involving both Army attack helicopters and Air Force jets would simultaneously attack the same target sets.

Later in the Cold War, Army Aviation transitioned from its Vietnam tactics of flying gunship helicopters in pairs for any mission to support troops in contact or fire 2.75-inch rockets onto a landing zone before Huey lift helicopters landed. Army Aviation also provided close support to ARVN companies that sometimes faced Russian-made armored personnel carriers and tanks. In March and May 1972, the US Army conducted joint attack helicopter instrumented evaluations known as the Ansbach studies, which tested AH-1 Cobra helicopters against simulated massed Warsaw Pact armies. The studies, which were near Ansbach, Germany, demonstrated that the Cobra attack helicopter could survive and fight in a large conventional offensive maneuver war.[8] It was also during this period that several studies were conducted to develop and refine close and deep joint air attacks.[9]

When my Air Cavalry squadron went to Grafenwöhr Training Area for live gunnery training during Return of Forces to Germany (REFORGER) exercises, we asked to have an Air Force Tactical Air Control Party (TACP) join us to train and conduct JAATT. Our Cobras and their A-10 aircraft would attack the same targets together. This training allowed us to fight together in the ground-controlled air littoral which is the area from the coordinating altitude to the earth's surface.[10] This type of teaming evolved into other air ground concepts and opportunities such as joint deep attacks—training that established a strong trust between Cobra pilots and Air Force fighter pilots in Europe.

Army Aviation Comes of Age: A Commander's Experience and Opportunity

During the summer of 1984, I formed, equipped, fielded, and commanded the 2nd CAS in the 2nd ACR, Nürnberg, West Germany. Army Aviation, which previously was an Army program, had just become a branch in 1983. Part of becoming a branch was an Army-wide aviation transformation to replace division aviation battalions with a full combat aviation brigade, and ACR aviation troops with a full Air Cavalry squadron. Col. William W. Crouch, my commanding officer, told me that NATO planned to adjust its defense sectors and the 2nd ACR would defend additional ground, the Kronach Approach. Our 2nd CAS Task Force—organized with Air Cavalry, a tank troop, an engineer troop, and a howitzer battery—would execute the mission and support the regiment.

In late May 1984, I organized a team of Cobras and OH-58 Scout aircraft to fly to the vicinity of Kronach city, did an aerial reconnaissance of the terrain, then developed a plan to defend the area—aided by my Air CAV squadron experience in Vietnam and completion of Armor and Aviation pre-command courses.[11] AirLand Battle doctrine, introduced with the 1982 FM 100-5, became key to our planning and operations.

After our defense plan was approved, the 2nd ACR conducted daily patrols along the inner German border between East and West Germany and the border between West Germany and Czechoslovakia. This mission gave our squadron and border pilots the opportunity to work daily with the remainder of the regiment and helped establish trust between regiment air and ground forces. Because daily patrols already used the bulk of our squadron's flying hour program (FHP), I added AirLand Battle task training for crews when enroute to the border or training to defend Kronach. Because Department of the Army unit readiness report did not address all real-world mission tasks, I developed additional squadron internal readiness measures such as long-range movement to contact, forward arming and refueling point (FARP) team procedures, and command post readiness measures.

The 2nd CAS was activated in Nürnberg, Germany, in July 1984 with eight troops: headquarters, assault troop (UH-1), two attack troops (Cobra), three scout troops (Cobra and OH-58 scouts), and a maintenance troop. AirLand Battle doctrine became ingrained in the 2nd CAS training plan. During my time in command, the squadron participated in three REFORGERS. During these exercises we practiced and executed the tenets of AirLand Battle: Agility, Initiative, Depth, and Synchronization.



Figure 7.2. Elements of 2nd Armored Cavalry Regiment train in air ground integration live fire at Grafenwöhr Training Area. These exercises involved Army and Air Force aircraft alongside Armored Cavalry ground platforms. Courtesy of the US Army.

Our squadron executed these tenets within a real operations plan (OPLAN), on the terrain where we would fight, and during an evaluated major exercise. During REFORGER exercises, with the regiment operating over long distances, I learned to focus on logistics. I learned to maneuver our squadron's aviation FARPs so they were exactly where we wanted them, when we wanted them. Our air crews learned how to fight both to gather intelligence and destroy the enemy. REFORGER exercises required agile, well-equipped, and well-supported combined arms operations. Nothing escaped scrutiny during REFORGER. As Gregory Fontenot will discuss in Chapter 12 of this book, everything was evaluated and critiqued.

Lt. Col. John Ward, 2/1 Apache Attack Battalion commander in Desert Storm, recalled his take on AirLand Battle when he was a major in the mid-80s, complementing the value of guidance and training provided by General Crosby Saint, 1st AD commander. "We basically threw out our old general defense plans of Europe and started from scratch mapping out the concepts of deep attack and support of the first Armored division," he recalled. "I couldn't have paid for a better education."[12] US soldiers across Europe had similar experiences as they learned AirLand Battle.

During REFORGER exercises, our squadron conducted AirLand Battle offensive operations with our Air Force partners. These were mostly JAATT engagements, a significant improvement over the way my Cobra attack helicopters conducted ad hoc joint engagements with the Air Force in Vietnam. Years later, the AirLand Battle doctrine had matured further. I had the opportunity to conduct Apache attacks, adjust artillery, execute JAATTs, and employ AF fighter aircraft as we attacked the Iraqi Republican Guard in deep operations.

Army Aviation Is Central to Division Maneuver and Deep Fight

I returned to Germany in the summer of 1990 to assume command of the Combat Aviation Brigade in the 1st AD at Katterbach, Germany. The brigade consisted of two Apache Attack Helicopter Battalions, the 1/1 CAV Squadron with two M-1 Tank and Bradley fighting vehicle companies, Task Force Phoenix with UH-60 Blackhawks and other assorted aviation equipment. Duty in the 1st AD in Germany, and later in Desert Storm, offered the opportunity to bring my Cold War lessons into training the brigade role in AirLand Battle. Within my first month of command, one of the division's ground maneuver brigades was scheduled to train at the Combined Maneuver Training Center (CMTC) at Hohenfels. Given my service in 2nd ACR, I knew how to train at CMTC.

To my surprise, the staff recommended using one UH-60 company and one AH-64 company rotating through the training center—an outdated view of how a combat aviation brigade (CAB) should support training. This exercise not only supported the ground brigade but also was an opportunity to stretch CAB training. The CAB could practice core skills of close, rear, and deep attacks; FARP operations; and downed aircraft recovery across the extended eastern Federal Republic of Germany.

I approached this training using the Army's "crawl, walk, run" method. I did not want to introduce long-range combat operations during day, night, and low-visibility conditions all at once. The brigade had not trained this way. Our pilots needed to be comfortable flying under all conditions.

In August, Iraq invaded Kuwait—my first combat since May 1970. Our division deployed to Grafenwöhr and Hohenfels almost immediately after Iraq invaded Kuwait. Our commanding general, Maj. Gen. Ronald H. Griffith, wanted 1st AD to be fully trained when we got the call to deploy to Desert Shield. Though I felt my brigade was fully trained when we went to Graf and Hohenfels, the training deployment made us even better.

When we were alerted for deployment to Saudi Arabia, the Army decided to stand up the new Aviation support battalion in our brigade. Now I have a new formation to organize just weeks before deploying. Rather than organizing a new and unsourced battalion, we gave its name to the brigade's aviation support company and maintain the training mastery benefits.

Our brigade only received five global positioning system (GPS) devices and a few tactical maps of Saudi Arabia, Iraq and Kuwait. Additionally, our brigade logistics officer researched and then bought LORAN (Long-Range Navigation) systems for every aircraft and commander, CSM, and first sergeant ground vehicle. The LORAN was the single most important off-the-shelf device we had. Our CSMs were vital leaders in the Cold War. During Operations Desert Shield and Desert Storm, brigade and battalion CSMs were responsible for moving the brigade's wheeled vehicles through Germany to Rotterdam for sea deployment to Saudi Arabia; other commanders needed to occupy cockpit seats. Col. (Retired) John Ward talked about the value of being an NCO-led battalion; the CSM and first sergeants were responsible for all logistical support. The NCOs helped ensure that all equipment arrived at the same time in the port of Damam—by rail, road, and air—so the battalion was able to quickly exit and move to its assembly area in the desert.[13] Altogether, the brigade used 26 ships to move 461 vehicles and 124 aircraft to ports in Saudi Arabia.[14]

Applying Cold War Lessons to Desert Storm/Desert Shield

On Christmas Eve, I flew to the Tactical Assembly Area (TAA). We all understood desert flying would require a rigorous training program and wanted to get a feel for the terrain our tanks, Bradleys and Air Cavalry troops would traverse. Our advance party commanded by Maj. Tupper Hillard had used a handheld GPS to mark recommended locations for each battalion and squadron in an environment that was devoid of any recognizable terrain features and made logistics and other preparations for our brigade training.

Our brigade's pilots quickly learned through training that flying in the Saudi desert would be very difficult. Using night vision goggles on a moonless night, the desert floor looked like fog cover. Helicopters would need to be lower than fifty feet to really see where to land. To mitigate dust and sand brownout, Apaches fired Hellfire missiles while hovering then drove forward on the "gun-target" line to stay out of the brownout. For control measures on graphics, pilots changed from formerly used battle positions to battalion phase lines within battle positions—adapting for desert conditions rather than simply applying techniques trained in Europe.[15]

At the port of Dhahran, I met with General H. Norman Schwarzkopf, US Central Command (CENTCOM) commander and chief; Lt. Gen. Frederick M. Franks Jr., VII Corps commanding general (CG); and Major General Griffith and confirmed that our brigade's mission would be to fire Hellfire missiles at Iraqi tanks and tracked vehicles but that the Hellfires might be difficult to get and transport.[16] Other targets would be engaged with rockets or the 30-mm automatic chain gun. Our brigade learned that each heavy expanded mobility tactical truck (HEMTT) would only hold two pallets of the missiles, so more trucks would be required. This added to the logistics burden and increased the need to limit use of the Hellfires.

Based on my personal experience flying and fighting Cobras in Vietnam, I specified that our brigade's Apaches would fight as companies, which would be almost as lethal as an entire Cobra battalion and provide continuous engagement of the Republican Guard. One company would engage the enemy, a second would be enroute to a FARP, and a third would be refueling/rearming in a FARP. Our tactic was to fire 2.75-inch rockets in pairs once in range of the enemy then take out tanks with Hellfires within range—with the capability to conduct a full Apache battalion attack if required.



Figure 7.3. UH-60 Blackhawk helicopter at the 101st Airborne Division's Rapid Refuel Point, 4 February 1991. The complex could refuel thirty helicopters simultaneously and was constructed southeast of Rafha in the Northern Province of Saudi Arabia. Courtesy of Wikimedia Commons.

In the TAA, our brigade set up a firing range and sling-loaded wrecked cars along the Saudi Tap Line Road to use as targets. On 10 January 1991, our brigade were tasked to investigate a US Army Central Command intelligence report that seven Iraqi divisions were getting ready to attack down the Wadi Al-Batin. We investigated and determined the report was false.

The Operation Desert Storm air war, started at 0210 hours on 17 January 1991. The Iraqis countered by launching numerous Scud missiles. General Schwarzkopf had four phases in his war plan: Phase 1 was air war strikes on Bagdad, Phase 2 was air strikes on anti-air systems in Kuwait, Phase 3 was strikes on the Iraqi forces to reduce their numbers and air-defenses, and Phase 4 started when US Army ground units crossed into Iraq.

The 2nd ACR led the VII Corps formation with 1st AD on the left flank and the 3rd AD the right flank. In preparation for the combat, our brigade participated in a full VII Corps rehearsal. Our FARPs were under the control of each battalion executive officer, and I ensured that experienced and informed leaders were at key places on the battlefield. We learned much from this rehearsal, including that my three brigade command posts were not enough. In addition to the need to modify command posts, the long distances challenged the brigade's ability to communicate with division headquarters and the ground brigades, particularly during deep attacks. I solved this by creating a small jump tactical command post consisting of two HMMWVs (high-mobility multipurpose wheeled vehicles) with my operations officer and deputy to extend the thirty-kilometer limit for FM ground radios, as well as an assault command post led by a captain with two HMMWVs and an M-109 communications van for redundant communications.

Once the entire division settled in Forward Tactical Assembly Area Garcia on 17 February, we began to implement lessons learned from the VII Corps rehearsal. In our brigade, only thirteen unit leaders had combat experience. I arranged for all of my aviation battalion and company commanders to fly in their aircraft behind enemy lines before training began—experience that proved valuable for both troop and individual self-confidence.

Then on 23 February, the 1st AD conducted multiple rehearsal of concept drills, which involved brigade commanders rehearsing for the division commander and his staff how we were going to fight Desert Storm inside Griffith's guidance. These drills lasted all day until the CG was satisfied that our unit had a solid understanding of how to fight 1st AD's mission as the VII Corps main attack against the Iraqi Republican

Guard divisions and corps. Our first assignment was a reconnaissance (RECON) mission sixty kilometers into Iraq. My S-3, Maj. Bob Carter, and his team had coordinated CENTCOM theater requirements following AirLand Battle procedures by coordinating with the Air Force, 2nd ACR, and VII Corps. To facilitate our deep RECON, one of our Air Force TACP leaders, Capt. (US Air Force) Rob Dooley, would keep the Air Force's Airborne Command and Control Center (ABCCC) informed of our progress—efforts that he detailed in a Fall 1991 *USAF Fighter Weapons Review* article.[17]

The brigade crossed into Iraq at 2054 hours on 23 February 1991. Our helicopters flew over the Iraqi 26th Infantry Division dug into trench lines in echelon along the route to Phase Line Melon—flying very low and fast to videotape the Iraqi units and their locations, in close coordination with the Air Force. Some of the Iraqi units fired illumination rounds toward our Apaches, but they were popping well north of our aircraft and presented no threat.

My combat aviation brigade crossed the Line of Departure with the 1st AD on 24 February. The 1/1 CAV was tied into the 2 ACR. As night fell, our aircraft were immediately grounded because of winds that were more than fifty miles per hour and torrential rain. In the process of landing in the near-zero visibility, one UH-60 Blackhawk hit the ground hard and broke off one of its landing gears. Aviation mechanics went out at dawn and repaired the damage. The weather improved that morning, and our brigade began conducting Apache support for the division's close fight. Major General Griffith assigned us to conduct a deep attack into Al Busayyah—a mission that our Apaches completed successfully by landing occasionally for eye-to-eye discussions that saved time, allowed orders to be understood, and enabled effective results. As a result, our aircraft quickly destroyed all the tanks, tracked personnel carriers, and artillery.[18] At one point, our aerial scout team flew over to investigate a reported threat and helped avoid a friendly fire incident. An Infantry company commander had been preparing to fire on tracked vehicles that he feared were part of an Iraqi unit. On another occasion, Iraqi infantry vehicles and soldiers moved into an area where our Blackhawks planned to sling-load a lite Heli-FARP into a well forward position. We went ahead with dropping the FARP equipment but kept soldiers on board for insertion after the enemy left. I quickly flew over and the enemy troops moved out. Then we brought the Heli-FARP personnel in and leap-frogged the larger FARP forward.



Figure 7.4. CH-47 Chinook helicopters during Operations Desert Storm and Desert Shield. Courtesy of the National Archives and Records Administration.

The CSMs kept our ground vehicles moving with the division and our brigade emplaced 3-1's main FARP forward. When the weather once again turned bad, all aircraft were grounded but conditions were OK for ground vehicle movement. Our unit conducted deep attacks all night on major Republican Guard formations that ranged from sixty to ninety kilometers forward of the division. The first targets were a tank brigade on the left and a major corps-sized log base on the right. When we hit the tank brigade at maximum range, Iraqi soldiers began leaving their tanks and firing wildly. When my six Apaches hit the corps-sized log base, it seemed like the explosions lasted at least a half hour. It was quite a fireworks show.

After engaging these two targets, our brigade moved forward to attack positions that were battalion-size or bigger. I ordered all aircraft to refuel in preparation to move 3/1's FARP forward. After Griffith gave me all of the battlefield starting at fifteen kilometers in front of his front lines, I used scout aircraft to keep abreast of the division's front line as it moved forward. Through the night of 26 February and early morning 27 February, 3-1 AVN continued the attack, cycling companies throughout the night and the rest of the next day. The Iraqi tank crews initially fired blindly with their main gun rounds falling harmlessly well short of the AH64s. Our helicopters destroyed about thirty-five percent of the Iraqi dug-in tanks, and Iraqi soldiers abandoned the remaining tanks. Rather than using expensive

Hellfire missiles to destroy abandoned tanks, 1st AD brigades put a Sabot round in each one as they passed.

1st AD was still in the "full attack" mode—with Apaches in front of the division. I decided there were so many Iraqi units to engage that in addition to our deep attacks, we should conduct deep JAATTS where feasible—with Air Force air to support the JAATTS. From our practice drills, we had learned it was always important to have an Apache on call to the TACP during engagements so he could take advantage of the AH64's stabilized optics and ability to lase targets. The AH64 reduced the time it took to get fighters with Pave-Penny laser spot tracker-equipped pods to engage targets. AH-64s also could direct laser-guided bombs to the target if CAS showed up with the ordinance.[19]

Our brigade started by conducting a JAATT with 3-1's Apaches and Air Force jets. That went smoothly. Next, the TACP employed jets exclusively on some targets while Apaches attacked others. Concurrently my OH-58 Ds were adjusting artillery fires on the enemy. Our unit received a call from the corps commander that two Special Forces teams located several kilometers to the north needed immediate extraction. Two Task Force Phoenix Blackhawk crews responded and extracted the soldiers, arriving just as enemy armored personnel carriers were closing in. On another rotation to the front lines, two of our AH64s were hit by Iraqi artillery. When the smoke cleared, the aircraft were still hovering but badly damaged, with all their cowlings blown open and no working radios. The company commander assigned another Apache to fly back with the two damaged aircraft for repairs.

On returning from forward of the front lines to refuel, our helicopters witnessed an impressive sight—an armada of 1st AD M-1 tanks stretching from right to left on the horizon. Our brigade had continuously employed 3-1's Apache helicopters since the night before G Day. Midafternoon on 27 February, my second Apache battalion, 2-1, flew back into our sector. The new plan was for 2-1 and 3-1 to rotate, keeping constant pressure on the enemy and Apaches in front of the division the whole time.

The combat leg of the brigade CSM's journey was remarkable. While I was in the air for the majority of the brigade's combat operations, CSM Kenneth R. Weist maneuvered our brigade's critical ground assets through the smoldering battlefield of dead T-72s, BMP infantry fighting vehicles, and numerous Iraqi minefields. It was a character-building trip for the soldiers of the 4th Combat Aviation Brigade. At every designated point during the war, the brigade's ground assets arrived on time.

Applying Cold War Lessons to Tomorrow's Aviation Missions

The aviation commander's internal readiness training measures can give a clearer operational picture of the unit's combat readiness. These internal measures should be focused on the brigade's support of the division mission.

Our brigade-specific training programs were based on mission instructions received from division. The how-to-fight techniques from Fort Rucker and AirLand Battle doctrine training initiatives were used to frame our task-specific training. Training soldiers and units to clear combat-related standards gave them understanding and confidence.

Perhaps the best training energizer was when the 1st AD CG stressed the need to get his aviation brigade into the combat theater as soon as possible. Aviation employment in a new theater can be far different from home station training.

There are many important lessons that US Army flight crews and mechanics could only learn in the desert. Desert flying, maintenance, and the environmental degradation of aircraft blade surfaces and critical systems were far more challenging than anticipated. US soldiers had to see, feel, and overcome these challenges. By allowing time to learn in theater, they gained confidence early-on.

Division and corps commanders should consider requesting that the unit's large-scale combat operations (LSCO) training status be reported in detail during training briefs. This should include any training tasks assigned by the brigade commander.

Ideally, the FHP should fund individual, crew, platoon, company, and battalion level LSCO training, not just air crew currency. The flying hours above crew currency, such as platoon, company, and battalion combat flight training, should be specific to the division's combat mission set.[20]

Additionally, some aviation units may have mission requirements that are not usually funded by the Department of the Army FHP. As an example, my Air Cavalry squadron's FHP did not fund the extensive number of hours that our helicopters flew daily to patrol the border with the Warsaw Pact. Funding unique mission requirements should be a consideration for each deployed aviation unit.

Although the Aviation brigade was manned and equipped to support large-scale AirLand Battle, commanders still must determine how to internally adjust the structure to meet the most critical mission sets for the war they are about to fight. NCO leaders are most effective when they

understand plan of attack details. They should attend every order briefing. CSMs were included in all our brigade's planning. They understood how we were going to fight and provided great input for our plans. Our NCO leaders also translated our Desert Storm war plan for our soldiers.

I trained my brigade to maneuver our FARPs throughout the battlefield and created a fully manned and equipped Heli-FARP to rapidly fill gaps while moving bigger, bulkier ground FARPS. Battalion XOs acted as FARP leaders. They were responsible for keeping our aircraft fueled, maintained, and armed.

Because of AirLand Battle, two Air Force air liaison officers (ALOs) with their TACP joined our brigade for Desert Storm. We met them enroute to theater and did not have time to train with them in Europe. Nevertheless, these ALOs enhanced our AirLand operation capabilities greatly by ensuring we knew the wartime airspace rules and providing special instructions on how to operate near and past the FSCL.[21] Our TACP officer and enlisted personnel were an important part of our brigade.

The FSCL was extended far out and controlled by CENTCOM. Because the division owned the battlespace inside the FSCL, we were able to conduct seamlessly Air Land Battle operations in the division sector. ALOs and their TACP made this easy. TACPs should always be attached to Aviation brigades in combat. Putting TACPs into Army aircraft gives them the ability to range the entire division airspace quickly.

The US Air Force is now looking at making the entire Air Littoral their domain. An April 2024 *Defense News* article suggested that the Air Force should control the multitude of small drones to protect that airspace.[22] The Army and the Air Force should work together to address the low layer of the Air Littoral owned by the ground commander. Joint forces should develop procedures to address the swarming drones at various levels of the Air Littoral—just as my CAV squadron and the 2 ACR learned to employ JAATT in Germany during the Cold War. It does not work to just draw a concept in an OPLAN. You must physically put the force together and train to the new standard.

The most important lesson I learned from the Cold War regarded Army transitions related to doctrine and capabilities. Important work must be done in the field so soldiers understand how the Army intends to fight. My experience in the 1980s and even into the early '90s was that senior leaders at every level of command need to understand the concept and produce a series of events to teach officers and senior NCOs.

I found the transition to AirLand Battle was not a single one-time event for our aviation brigade and battalion commanders. After each change of command, the new commander must assess that the unit is fully trained in current doctrine at the platoon, section, and staff level so every soldier down to the private level fully understands the requirements. With all the improving technology in today's Army, there will always be new and better ways to do the detailed actions required to win in the new doctrine.

With the Army now returning to tailoring the aviation force to meet post Operation Iraqi Freedom and Operation Enduring Freedom operations, there was continuing change.[23] In conjunction with the restructuring, new doctrinal tenets reflected changes in technology—more capable platforms, introduction of unmanned aerial systems, and yet keeping the CAB in rear, close, and deep fight.[24] Through it all, the most important actors in this process are the captains, lieutenants, CSMs, first sergeants, and platoon/section sergeants. I think it's exciting.

Notes

1. Col. (Retired) Bob Bunting in discussion with the author, 24 January 2024.

2. Col. (Retired) John Ward in discussion with the author, 6 June 2024.

3. General William R. Richardson, "M 100-5: The AirLand Battle in 1986," *Military Review* (January–February 1997).

4. Wilson C. Blythe Jr., "AirLand Battle: The Development of a Doctrine" (MMAS thesis, Eastern Michigan University, Ypsilanti, Michigan, 2010), https://apps.dtic.mil/sti/pdfs/AD1119406.pdf.

5. Blythe, 38.

6. Maj. Charles C. Bush, "The Role of the Division Deep Operations Cell in Force Projection Operations" (MMAS thesis, US Army Command and General Staff College, Fort Leavenworth, KS, 1995), https://apps.dtic.mil/sti/citations/ADA299051.

7. Bush, 53.

8. E. W. Cavanaugh, "Helicopter Antitank Weapons Systems: AH-1Q or OH-58Q?" (MMAS thesis, US Army Command and General Staff College, Fort Leavenworth, KS, 1975), 2.

9. Maj. Gen. Willam Desobry, "Air Cavalry in a Mid-Intensity Environment," *Army Aviation* (31 March 1972), https://www.armyaviationmagazine.com/images/archive/backissues/1972/72_03.pdf.

10. Rebecca Grant, "Deep Strife," *Air and Space Forces Magazine* (1 June 2001), https://www.airandspaceforces.com/article/0601airland/. Grant argues that the Army has never understood that air component might have primacy in the joint fight and that the land component might well be the supporting component in some cases.

11. Department of the Army, Field Manual (FM) 100-5, *Operations* (Washington, DC: 1982) introduced AirLand Battle.

12. Ward in discussion with the author.

13. Ward.

14. Col. (Retired) Robert Carter in discussion with the author, 12 July 2024.

15. Ward in discussion with the author.

16. General Norman Schwarzkopf in discussion with the author, 27 December 1990.

17. Capt. (US Air Force) Robert Dooley, "Aim High, Shoot Low, and Be All You Can Be—The Aviation Brigade TACP," *The USAF Fighter Weapons Review* 3, vol. 39 (Fall 1991), 8–11.

18. Lt. Gen. Ronald H. Griffith. "Guest Editorial: The 1st Armored Division in Desert Storm," *Army Aviation* (30 June 1993), 6–12.

19. Robert Dooley in discussion with the author, 5 May 2024.

20. Department of the Army, Training Circular (TC) 3-04.11, *Commanders Aviation Training and Standardization Program* (Washington, DC: 2011).

21. Joint Chiefs of Staff, Joint Publication (JP) 3-09*, Joint Fire Support* (Washington, DC: 2010), Appendix A, https://api.army.mil/e2/c/downloads/361884.pdf.

22. Maximillian K. Bremer and Kelly A. Grieco, "To Reinvent Itself, the Air Force Must Go Big on Small Drone," *Defense News,* 2 April 2024.

23. Jen Judson, US Army to Shift Aviation Force Structure Back to Tailored Brigades," *Defense News,* 25 April 2024, https://www.defensenews.com/land/2024/04/25/us-army-to-shift-aviation-force-structure-back-to-tailored-brigades/.

24. Department of the Army, Field Manual (FM) 3-04, *Army Aviation* (Washington, DC: 2020), https://aviation-assets.info/wp-content/uploads/ARN21797_FM_3-04_FINAL_WEB_wfix.pdf.

Chapter 8
Cavalry Operations Mature and Become Central to AirLand Battle

William S. Wallace

As a newly minted captain, I served as an advisor in Vietnam from October 1972 to October 1973—after the US Army's active combat role in the country had ended. To prepare for advisory duty, I had completed the Military Assistant Training Advisor course at Fort Benning, Georgia; learned the fundamentals of counterinsurgency operations; and attended twelve weeks of Vietnamese language school. It never occurred to me that a year into the job, my future and the Army's future would shift to the plains of Central Europe rather than Southeast Asia.

Meanwhile, Army senior leadership had laid the groundwork for change. Starting with General William Westmoreland in 1969, the Army embarked on a path of change centered largely on professionalizing both



Figure 8.1. Map showing 2nd Armored Cavalry Regiment area of operations, 1983. Courtesy of the author.

the officer and noncommissioned officer (NCO) corps, creating an all-volunteer Army, and developing a doctrinal basis that could be used to contest the Warsaw Pact threat that had developed in Europe while the Army's attention was directed elsewhere.

The Army's doctrinal renaissance reflected the need to address all aspects of combined arms maneuver, including security operations performed by cavalry organizations. It was in Central Europe that the Dragoons of the Second Armored Cavalry Regiment and the 11th Armored Cavalry Regiment, the renowned Blackhorse, both organized as combined arms teams, honed their trade as the Central Region's security forces.

Reconnaissance and security missions are those routinely given to cavalry units, and for which they are uniquely organized and trained. Since security operations are central to the discussion, it's useful to define security operations at the outset. Security operations obtain information about the enemy and provide reaction time, maneuver space, and protection to the main body. Security operations are characterized by aggressive reconnaissance, gaining and maintaining contact with the enemy to ensure continuous information, and reporting early and accurate information to the protected force. Security operations are categorized by the amount of security provided to the protected force and the amount of combat power necessary to achieve that level of protection.[1]

Screen is a security operation that primarily provides early warnings to the protected force. *Guard* is a security operation to protect the main body by fighting to gain time while also observing and reporting information and preventing enemy ground observation of and direct fire against the main body. *Cover* is a security operation conducted independently of the main body, still with the primary task to protect the main body by fighting to gain time while also observing and reporting information and preventing enemy ground observation of and direct fire against the main body.[2]

I can recall a one-on-one discussion with the chief of staff of the Army (CSA) where he questioned the utility of our cavalry regiments while opining that any combat unit could perform reconnaissance and security tasks. He was not alone. I sensed that some force developers on the Army staff were searching for ways to harvest spaces and stretch the Army's end strength to meet political and operational demands. A convenient claim was that contemporary security operations could be performed by any maneuver unit. Actions in the Kuwaiti desert in 1991 by the 2nd Armored Cavalry Regiment (2ACR) and in Iraq in 2003 by 3rd Squadron, Seventh Cavalry (3-7 CAV) refute that claim.

Security Operations in the Desert

The Battle of 73 Easting refers narrowly to the violent action that took place in the final hours of 2ACR's covering force mission. In the battle, four of the regiment's cavalry troops defeated two enemy brigades, the Tawakalna Division's 18th Brigade and, later in the day, the 9th Armored Brigade.[3] The Battle of 73 Easting was the culmination of security operations performed by 2ACR 23 to 26 February 1991 as part of Coalition actions during Operation Desert Storm. The regiment's mission was to provide security for the VII US Corps main body, strip away enemy security forces, clear away significant defenses, and locate enemy defensive positions so that they could be engaged by the full weight of the corps' armored forces.[4]

Moving through the Iraqi security area, 2ACR encountered the Tawakalna Division of the Iraqi Republican Guard's Corps and the 12th Iraqi Armored Division. The regiment detected two Tawakalna Division brigades and cleared the way for the passage of the Corps's main effort (the First Infantry Division), which then attacked across 300 kilometers into southern Iraq and northern Kuwait and severed Iraqi lines of communication.[5] The Battle of 73 Easting and the movement to contact south of the battle successfully concluded the regiment's covering force mission



Figure 8.2. Battle of 73 Easting. The 2nd ACR had to fight low visibility conditions such as those shown here. Courtesy of the Department of Defense.

and is a sterling example of cavalry operations in AirLand Battle. In 2003, a mere twelve years later, the US Army and its Coalition partners once again engaged in the Kuwait-Iraq desert with the forces of Iraqi dictator Sadaam Hussein in Operation Iraqi Freedom (OIF). This time the mission was to eliminate the Iraqi regime whose authoritarian practices had plagued Iraq and the region for decades. In the case of OIF, the V Corps out of Germany was deployed to Kuwait and became the main effort for an attack to Baghdad. I had the honor of commanding V Corps both in planning and executing the Army's attack in Baghdad in 2003. I observed first-hand the impact that successful security operations could have on the overall outcome of a campaign.

The V Corps plan called for an attack on a narrow front across the Iraqi desert on the west side of the Euphrates River, through the Karbala Gap and on to Baghdad. Within the V Corps, the Army's Third Infantry Division (3ID) was designated as the main corps effort. The intention was to bypass population centers as much as possible to speed up the advance and avoid urban combat.[6]

The 3-7 CAV, was assigned to protect the 3ID right flank as it advanced, effectively securing the division's right flank and the V Corps lines of communication. As with most military operations, the enemy gets a vote. During this movement, the squadron ended up stretched over an extended distance as the enemy compelled the cavalry to fight through the night of 24 March and a series of well-prepared ambushes executed by Iraqi paramilitary forces armed with small arms, automatic weapons, and rocket-propelled grenades.[7]

The training and initiative of the squadron soldiers and close coordination of Army and Air Force fires prevailed as the squadron ultimately closed on its objective having successfully fended off enemy paramilitary forces which would have otherwise placed the 3ID brigades and corps lines of communication at risk.

Several days later, 3-7 CAV was again called on to provide security for 3ID brigades. This time 3-7 CAV moved to the north and west of the division as the division brigades moved to encircle Baghdad. In one short but violent encounter, the squadron tank crews destroyed numerous Iraqi tanks along Highway 10 while the Iraqis tried to reposition to aid in defending Baghdad, thus allowing the 3ID brigades to achieve their objectives.[8]

Both 2ACR and 3-7 CAV with economy of force provided cover and security for larger forces, allowing those larger forces to accomplish

their missions. Each is an example of the practice of cavalry operations in AirLand Battle.

Cavalry in Security Operations—A Look Back

Security operations performed by mounted US Army formations are not unique to AirLand Battle. Such operations are part of the history of mounted formations in general and cavalry units in particular. In fact, most modern-day cavalry units reach back to their horse-mounted past to instill tradition and esprit de corps. Such accoutrements as spurs, "cavalry boots," sabers, and Stetson hats are normally present where cavalry troopers gather.

Cavalry operations are designed to perform both reconnaissance and security and are as old as warfare itself. Since its formation, the US Army has used such operations as an integral part of its way of doing business. Notable US Army cavalry units and engagements have shaped the nation's history.

The 1996 version of Field Manual (FM) 17-95, *Cavalry Operations,* helps readers understand the continuity and change of Cavalry Operations dating back to the American Civil War. The newly organized Cavalry Corps of the Army of the Potomac was a substantial contributor to the US Army's success during the Gettysburg campaign. For the first time, the US Army employed an effective cavalry force working directly for the Army's commanding general. Cavalry forces working directly for an operational commander is a practice which proves its value in modern combined arms warfare.[9]

I spent a significant portion of my career in cavalry units including the 6th Armored Cavalry, the 2nd Armored Cavalry, and the 11th Armored Cavalry. In each of these units, the connection to cavalry's history went well beyond wearing Stetsons and spurs. This history was well understood and the subject of historical insights in both the schoolhouse and units. One of the most storied examples of cavalry operations, both good and bad, was the previously mentioned cavalry operations during the American Civil War at the Battle of Gettysburg. The fact that Union Army General John Buford's 1st Cavalry Division recognized, gained, and maintained key terrain in the opening of the Gettysburg campaign was a source of pride and study. Likewise, the fact that General J. E. B. Stuart's Confederate cavalry failed to provide timely information to its forces as they closed on Gettysburg was also understood as a major failure in cavalry operations of the time and a lesson for the future.

Security Force Evolution in Post-World War II Germany

The situation that evolved after the end of World War II, the Army's defensive posture in Europe, and the US Army's transition from its preoccupation with counterinsurgency operations in Vietnam is prologue to the development of AirLand Battle doctrine and the cavalry's role therein. The agreements which followed Germany's surrender in Europe were significant in setting conditions for a divided Europe, the creation of the Warsaw Pact, and the evolution of NATO. At the end of World War II, the Allies divided Germany into an eastern zone of occupation controlled by the Soviets and western zones of occupation controlled by the United States, the United Kingdom, and France. Decades of friction ensued between east and west as the former World War II allies faced each other across a divided and occupied Germany.[10]

The creation of zones of occupation made zonal security, principally along the borders of the zones, a necessity. Amid the disorder of post-war Germany, and since all German military and police entities were disbanded at the end of the war, the responsibility for security fell to the armies of occupation. Despite the need for security, the end of World War II brought rapid demobilization and redeployment of combat units. Army leaders recognized they needed mobile units to be an economy of force and serve as the security force for the occupied areas. They also knew conventional infantry units lacked needed mobility and military police units lacked the necessary combat power. The solution was the US Constabulary, which was formed using armored and cavalry organizations as its foundation. This pseudo-cavalry organization performed security operations in the US zone of occupation from July 1946 until December 1952.

In the occupation zones, nations approached their border security responsibilities a bit differently. In particular in the Russian zone and along the Czech border, outposts and patrols were established to restrict movement of people and goods and keep them in the east. This action was widely recognized as a veiled attempt to prevent a "brain drain" and retain experienced workers to support the Warsaw Pact nations. In the western zones, manned checkpoints and roving patrols were also employed. Soldiers in the west clearly understood that their mission was to provide security for both the defeated German state and its population. Yet, the soldiers in the western zones tended to be more permissive and sympathetic toward the plight of the German populace as compared to the occupation forces of the eastern zone.

During the period from 1945 to 1950, several important border-related developments took place. First, with the withdrawal and redeployment of the western armies responsible for defeating Nazi Germany, a German federal entity needed to be created that could assume responsibilities for the routine administration of the West German border. As a result, the *Bundesgrenzschutz*, or Federal Border Guard, was created. This police force was exclusively responsible to secure the border with a one-kilometer zone of separation between occupation zones and administer legal border crossing points. Joint patrols between the US military and German border police became routine.[11] US patrols grew to depend on the German border police for their terrain familiarity, knowledge of the local population, and language skills. During the war, German border police personnel had seen firsthand the destructive power of the Allied forces and knew they could depend on US combat power should the need arise.

Second, despite the return home of US and Allied combat units, a military presence was needed to provide area security as the German state was rebuilt both physically and institutionally. Hence, the creation of the aforementioned US Constabulary, a lightly armed and equipped cavalry-like force of occupation. A unique Constabulary fixture was its horse-mounted patrols and use of light fixed-wing aircraft for border patrol operations. The Constabulary also established internal procedures for reinforcing the border in case of crisis or situations demanding forces be-



Figure 8.3. Federal Republic of Germany border forces working side by side with border cavalry organizations. In the background is the famous Fulda Gap. The *Bundesgrenzschutz* were highly respected and effective in working alongside US forces. Courtesy of the US Army.

yond the capability of its routine patrols and checkpoints. Standard procedures and proven practices evolved into activity akin to conventional covering force operations.[12]

Finally, the Soviet intentions for eastern Europe became clear with the Berlin Blockade and militarization of the eastern side of the border. Tensions in Europe should have been reduced after the Soviets lifted the Berlin Blockade in 1949, but the Allied powers recognized this was only a temporary respite. The twelve original NATO members (Belgium, Canada, Denmark, France, Iceland, Italy, Luxembourg, the Netherlands, Norway, Portugal, the United Kingdom, and the United States) responded by signing the NATO treaty on 4 April 1949 and helped establish the German Federal Republic in September. This was followed by the signing of the Mutual Defense Assistance Act on 6 October 1949, which authorized President Harry S. Truman to give American aid to NATO members that signed bilateral agreements for an integrated defense plan. In 1955, NATO admitted the Federal Republic of Germany to the alliance. The Soviets responded that year by establishing along with their client states the Warsaw Pact, which set the stage for decades of military and diplomatic confrontation across Europe between NATO and the Soviet-dominated Warsaw Pact.[13]

The United States was an active member of NATO from its inception and understood that the future of Europe—as well as its reconstruction and future political, economic, and security posture—depended, in part, on a strong mutual defense. While much of its focus immediately after World War II was Europe, the United States found itself in a global confrontation during the 1950s and 1960s—first in Korea, then in Vietnam. During the Vietnam War, US Army Europe (USAREUR) forces declined in strength and readiness. By September 1968, US joint forces in Europe had declined from 420,000 to 315,000. Army forces declined as well to the point that the Joint Chiefs identified the level as "high risk." As the war in Vietnam wound down, priority shifted from Vietnam back to Europe. The 1968 Soviet "invasion" of Czechoslovakia and modernization of Warsaw Pact forces thoroughly alarmed NATO.[14]

Restoring readiness and morale and addressing Warsaw Pact modernization became the centerpiece of US military preparation, thought, and training. Facing a large, well-equipped threat force that outnumbered NATO forces, the United States recognized the need to develop doctrine that would describe how to fight and defeat a numerically superior military force. The 1973 Arab-Israeli War galvanized Army leadership, which produced rapid changes in training organization and doctrine that ultimately

led to AirLand Battle doctrine published in the 1982 edition of Field Manual (FM) 100-5, *Operations*. That doctrine—combined with the fielding of new equipment and new formations—helped the Army and the joint and combined NATO forces address the problems posed by the Warsaw Pact-fielded forces.[15]

Convincing the Threat to Commit, the Role of the Covering Force Operations

The cavalry's fundamental purpose is to perform reconnaissance and provide security for close operations. Successful reconnaissance operations provide commanders with vital information about the terrain over which they will fight and the enemy. Successful security operations provide protection of the force while allowing the commander to concentrate on combat power and maneuvering main elements to positions of advantage. Cavalry organizations typically perform reconnaissance and security operations as an economy of force and are normally organized as an integrated combined arms team.[16]

Cavalry formations are uniquely suited to perform missions essential to the success of the larger formations of which they are a part. The cavalry, by virtue of its mobility and positioning, provides fresh information about the enemy and the terrain over which the larger formation operates. The cavalry formation positions itself and engages the enemy with the minimum force necessary so the main body of the force can gain reaction time and maneuver space in accordance with commander directions. The cavalry formation by virtue of its size, mobility, and flexibility allows the higher commander to preserve combat power until the decisive point and time.

Among the many cavalry-suitable missions, covering force operations are perhaps the most complicated, but potentially the most decisive. These operations can be broadly categorized as offensive or defensive covering force operations. In the offense, the covering force finds and fixes the enemy so the higher commander can concentrate on combat power for decisive action. The actions of the 2nd ACR during Operation Desert Storm are a great example of an offensive covering force operation. Located the enemy force and disposition, engaged the enemy, fixed them in place, and allowed the Corps main body to pass through for a decisive maneuver which destroyed a significant portion of the Iraqi Army.

The post-World War II division of Europe into opposing zones established conditions where defensive covering force operations in west-

ern Europe were essential for providing time, space, and early warning to NATO defending forces. Although construction of the famous Berlin Wall did not begin until summer 1961, the East German government built border defenses and effectively closed the border between east and west beginning in spring 1952. The border defenses were designed more to keep people in and restrict their movement than provide a defensive barrier. Accordingly, an intricate system of concrete and wire fence reinforced with barbed wire was erected. Over time, anti-personnel mines, anti-vehicular mines, and plowed strips of dirt were added to the very visible barrier for anyone heading to the west. A series of watch towers equipped with searchlights—connected with communications and manned by East German and Czech border guards—overwatched the barrier across its length from the Baltic Sea to the Austrian border. The line of separation where both friendly and enemy formations faced off against each other became the easily recognized border barrier system. Over time, the Warsaw Pact built a formidable and oppressive military capability in eastern Europe. The participating countries were not shy about declaring their ability to breach the border defenses and attack the West should the military and political situation deteriorate to the point of armed conflict. The threat from the East demanded twenty-four-by-seven vigilance on the part of NATO Allies.[17]

A defensive covering force is essentially the role that cavalry assumed in Central Europe as the border defenses between east and west evolved into what was essentially the forward line of troops (FLOT) between NATO and the Warsaw Pact.

My personal experience in Europe during the Cold War was with the Second Armored Cavalry Regiment from summer 1983 until summer 1988. As commander of the regiment's Third Squadron, I was responsible for a border sector that extended almost 250 kilometers from the German/Austrian/Czech border north along the West German border with Czechoslovakia. The squadron operated two border camps from which border surveillance and security operations were conducted. When ordered, the squadron would occupy pre-determined battle positions in depth along the border, guided by advanced intelligence from the border camps. Our assignment was to ensure the Bavarian and Federal border police were clear of our zone and conduct security and surveillance operations until relieved by the German First Mountain Division. Then our unit would move north to positions southwest of the West German city of Hof and become the Second Regiment's reserve. We rehearsed and war gamed our scheme of maneuver frequently.

The Covering Force Meets Border Operations

In Central Europe from the early seventies to the end of the Cold War, two US Army corps committed to the defense of the region, each with two divisions, a cavalry regiment, and supporting brigades. The overall US Army four-star command in Europe was US Army Europe (USAREUR), headquartered in Heidelberg, Germany, and subordinate to US European Command in Brussels, Belgium. The US divisions, brigades, regiments, and in some cases battalions and squadrons were garrisoned in cities across several states in southern and central Germany. Each organization had responsibilities in the general defense plan (GDP). Yet to accomplish its GDP mission, each organization needed intelligence and advanced warning to assemble its personnel, upload ammunition, move to local dispersal areas, then continue to their initial defensive positions.

As the border became the FLOT, Army leaders quickly realized the need for continuous reconnaissance, surveillance, and security along the border not only to ascertain what was going on in the east, but also to provide advanced warning and time to assemble in the event of a pending Warsaw Pact attack. That doctrinal mission fell to USAREUR cavalry organizations. Each corps would deploy its cavalry regiment to the border region. In the northern portion of the US sector, the 11th Armored Cavalry Regiment occupied garrison locations near the border in Fulda, Bad Hersfeld, and Bad Kissingen. The regimental headquarters was in Fulda. Farther south in Bavaria, the 2nd Armored Cavalry Regiment did likewise in Bamberg, Bayreuth, and Amberg, with its regimental headquarters in Nürnberg. Each regiment assumed operational control (OPCON) of the divisional cavalry squadrons of the European-based Army divisions for the purpose of border operations.[18]

The disposition and mission of European cavalry units provided a true defensive covering force across the US sector. The two cavalry regiments assumed responsibility for a major avenue of approach from east to west. In the north, the 11th ACR and its subordinate and OPCON cavalry squadrons primarily surveilled the Fulda Gap. In the south, the 2nd ACR primarily surveilled the Hof Corridor. Beyond these major avenues of approach, each regiment had responsibility for the entire border trace in their area of responsibility.[19]

One cavalry security operation principle is economy of force. That is, using the minimum amount of force to accomplish the mission while providing information so the commander can concentrate on forces for decisive advantage. This is precisely how USAREUR's approach to border

operations evolved. Each regimental sector was subdivided into squadron sectors, ten in all with the inclusion of the divisional cavalry squadrons. Each squadron was responsible for a border camp (two in the case of the southernmost squadron of the 2nd ACR). Each border camp was continually occupied by a cavalry troop (or an augmented tank company in the case of regimental squadron tank companies), commanded by a captain troop or company commander. Each tour of border duty lasted thirty to forty-five days depending on other readiness demands for the forward-deployed formations. It was via these border camps that continuous border surveillance was accomplished using a combination of roving patrols, fixed observation posts, and in rare cases fixed towers along the border. The border camps were frequently augmented by additional assets such as ground surveillance radars and other capabilities provided by the separate intelligence brigades of the respective corps.[20]

Each border camp, squadron, and regiment operated a border operations center that provided continuous border activity updates. These reports to the operations centers of adjacent squadrons and to the respective corps operations center ensured continuity of information along the entire border trace. At the camp level, the operations center was the hub of camp activity. Each patrol and static observation post had to check in periodically to guarantee communications and prevent compromise. Further, each mounted and dismounted patrol had to report checkpoints along their planned route and the occupation and departure from any static position they occupied along with observations about border activity or the lack thereof. Reporting was in accordance with a specified format for continuity of information. Each border camp maintained what was referred to as a "normalcy file" that cataloged activity in the camp's sector. This file could be checked against current reports to determine if any activity along the border was out of the ordinary, thus indicating a procedure change for opposing border guards or military forces that might indicate a pending hostile act. I can recall several times when the activity of Warsaw Pact border forces caused a heightened sense of alert as multiple east German or Czech tactical vehicles uncharacteristically converged on an area near the border. When NATO forces responded by establishing a fixed observation post to monitor the activity, the Warsaw Pact forces dispersed. Though the increased activity proved benign, it was monitored, recorded, and reported. Army forces were conscious of the importance of recording patterns of behavior.

Each camp had a reaction force which, through the operations center, continually tracked the progress of patrols. The reaction force had a prima-



Figure 8.4. An 11th Armored Cavalry Regiment border operation, 1980. Courtesy of the National Archives and Records Administration.

ry mission of reinforcing active patrols—responding if needed, typically with two fully loaded armored combat vehicles, within five minutes of being alerted and briefed by the operations center. The unit received situational information and intelligence updates while on the move. During its twenty-four-hour tour of duty, the reaction force and its readiness were the subject of numerous inspections, and the members routinely participated in practice alerts to tested their ability to meet strict timelines and mission requirements.[21] In the event of hostilities, our border reaction forces would make first contact, so it was imperative that they were ready to rapidly and efficiently assume the mission. They would be the first eyes and ears of all of US Army Europe.

It was at the border camp/troop level that the integration of German border police was best accomplished. The relationship between German police and US soldiers was one not only of mutual support, but mutual respect. Joint patrols were frequent as was the exchange of information and observations. Not insignificant was the need to understand the role of the German police should hostilities break out. Their cavalry units would assume a defensive posture while allowing the German police to pass to the rear to assume rear area security responsibilities and assist in moving units to their positions in accordance with the GDP.[22]

Along the border, the Cold War would turn hot on occasion, if only briefly. In October 1985, a Czech jet fired on a 3rd Squadron, 2nd ACR, helicopter that was patrolling the border. The Czechs subsequently claimed the US helicopter had violated the border and was thus a viable target—a contention that subsequent US analysis proved was absolutely wrong.[23] I was the regimental operations officer when this incident occurred. Regiment border camps were alerted, reaction forces readied, and joint US/German investigations initiated. Interestingly, the initial report of the incident, co-authored by me and Dan Petrosky, the aviation squadron commander, appeared verbatim in the next day's *New York Times*.

Although border violations were not routine, they were not uncommon. Each incident was fully investigated since even a mundane incident could blossom into an international incident.

As suggested above, cavalry regiment air cavalry squadrons were critical for border operations. Normally operating in two-ship formations,

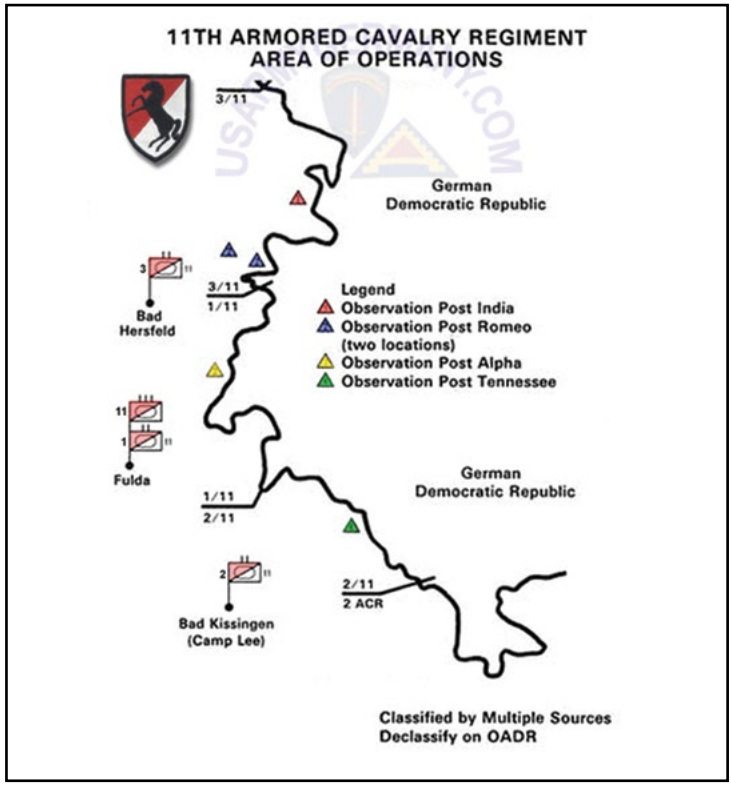


Figure 8.5. This 1980s map shows border responsibility for the 11th Armored Cavalry Regiment. Courtesy of the US Army.

the air cavalry surveyed the border from the air using terrain masking techniques to cover their presence. The aerial observation expertise of regimental pilots was particularly useful; in cooperation with ground patrols, they provided continuity of coverage. Air-ground cooperation techniques were unique to the border cavalry units, and an integral part of how the cavalry would fight. During both air and ground patrols, cavalry unit soldiers and leaders became intimately familiar with the terrain over which they might have to fight, routinely practicing movement techniques and reporting protocols that would prove essential in the case of hostilities. In a very real sense, USAREUR border cavalry units were continuously on a "go-to-war" readiness footing.

Leader Development the Key to Readiness

I arrived in Europe in summer 1983 and was assigned to the Second Armored Cavalry Regiment. Our Cold War obligations and covering force responsibilities were evident every day as we focused on simultaneously maintaining readiness and conducting covering force operations along the southern stretch of the West German border. My regiment experience was akin to graduate-level schooling in the art and science of combined arms operations—learning from terrific Armor and Cavalry leaders like Bill Crouch and John Tilelli. These were lessons I would apply throughout the remainder of my career.

The serious business of Cold War cavalry operations gave urgency to developing small unit skills and leaders at each level of cavalry formation. Understanding bounding and travelling overwatch techniques—routinely taught at the Armor School—was no longer an academic exercise. These skills were essential for border patrols as they maintained mutual support. The movement of reaction forces was not simply a road march but became an opportunity to practice techniques to contact and maintain continuous communication during movement.

The young cavalry NCOs thrived in this environment and grew in knowledge, leadership skills, and confidence. A new sergeant might be a patrol leader one day then leader of the reaction forces the next and serve as an information analyst in the border camp operations center later that week. The development of young leaders was expertly overseen by more-senior NCOs whose operational and border experience had been honed over multiple tours of duty along the border trace. The unique urgency of the mission, the expertise of the cavalry trooper, and the inherent desire to be part of something special led soldiers who served in the Eu-

ropean cavalry units to re-enlist for or seek future assignment to the same unit, thus reinforcing the leadership and experience excellence demanded by the mission.

Leadership skills taught and learned were not the sole providence of NCOs. Commissioned officers were equally challenged to be competent in leadership and warfighting skills. In the crucible of border operations, there was no room for amateurism and nowhere to hide shortcomings. An individual's inherent leadership skills were exposed, regardless of rank or position. Soldiers also had a unique opportunity to learn and grow in the profession of arms while exercising practical war-fighting skills. During a single tour on the border, training and exercising for a vital security mission honed teamwork skills necessary for successful combat operations, leading to enhanced unit cohesion and mutual trust among soldiers and leaders.

Of all the rights of passage for cavalrymen, the most desired is to "earn one's spurs"—authorization to wear the spurs at formal or informal functions. Although the authorization process varied from unit to unit, each unit viewed earning spurs as a leader development opportunity. Typical of the spur authorization process was a unit "spur ride" to test the individual's knowledge of unit history and the enemy as well as weapon and warfighting skills. The test often included a dismounted land navigation course with stops to test various cavalry skills. A successful spur ride often was celebrated awarding of spur followed by a fine German meal and perhaps some fine German brew. In any case, the spur ride was another opportunity for leader development to coalesce around a unit, its mission, and its history.[24]

The Readiness Imperative

There was no time off for European cavalry formations assigned to provide border security. In Cold War Europe, their most important mission was to be ready for any eventuality, including armed conflict. Although the border mission helped improve cavalry unit training and readiness, periodic individual, crew, and unit training also was required for all USAREUR units.

Cavalry formations routinely participated in annual Return of Forces to Germany (REFORGER) exercises while simultaneously maintaining their surveillance and security mission. In most cases, one European cavalry regiment would be designated as a player unit in the REFORGER exercise while a sister regiment would be umpire for the exercise. REFORGER also gave the cavalry regiments an opportunity to rehearse pass-

ing border responsibility from the German border police to US combat units. Stateside units principally used REFORGERS to test their speed and process to deploy and draw prepositioned equipment to reinforce NATO. In contrast, European-based units used the exercises to practice large-scale combined arms maneuver and perform vital terrain and area reconnaissance in their own backyard. Despite intense rivalry between the two European-based cavalry regiments, REFORGERs allowed the regiments to learn from each other, learn new operational techniques, further develop leaders, and enjoy a shared camaraderie.[25]

The stateside 3rd Armored Cavalry Regiment would occasionally deploy to Europe to participate in REFORGER. After these exercises, regiment senior leaders would gather for a "Lucky 16" professional development and celebration event—usually more celebration than development—which was named for the sum total of the regiment designations. At one of these gatherings, other leaders and I were mesmerized as the three regimental commanders—Jim Steele (2ACR), Jarrett Robertson (3ACR), and Tom White (11ACR)—shared stories about their experiences and how they supported each other while serving together in the 11th ACR in Vietnam. They obviously had tremendous respect for each other. Cavalry roots run deep.

Cavalry tanks, fighting vehicles, mortar, and artillery crews were subject to the same semi-annual qualification standards across the European command. The top units proudly bragged about their high gunnery qualification scores and high unit qualification averages. Cavalry units met crew and section qualification challenges with the same discipline as their border mission. It was not unusual for a cavalry troop or tank company to deploy to Grafenwöhr Training Area immediately after completing a border tour and complete gunnery qualification to a very high standard. Likewise, cavalry artillery and mortar crews frequented Grafenwöhr for training and evaluation, with respective corps artillery brigades providing evaluators and senior artillery expertise. Because of their disciplined approach to training, cavalry soldiers and leaders maintained evaluation scores that were the equal of other European units.

Cavalry leaders frequently participated in GDP terrain walks during which they described to fellow soldiers and senior leadership how they would move to, occupy, and defend their assigned sector in the event of an attack. The walks could be intimidating; young cavalry leaders fielded questions from senior leaders on contingencies they might face in executing their GDP mission. Although sometimes intense, the terrain walks

were always a serious, professional discussion of tactics, techniques, and procedures. All participants were vitally interested in the cavalry's ability to accomplish its assigned mission at least cost and minimal acceptable risk while providing cover so the European Army main body could move to and occupy its GDP defensive positions and defeat echeloned Warsaw Pact armies.[26]

Unplanned Lariat Advance alerts were frequent and required all soldiers to assemble and prepare for movement. If ordered, the entire unit would move to local dispersal areas for pre-combat checks then to their GDP positions. At the border camps, alert activity was frenetic as the cavalry troops moved out to positions along the border where they would likely be the units in first contact with an advancing enemy. Evaluators from a much higher headquarters might show up at a border camp at the start of the alert to assess the camp's readiness to discharge its duties.

REFORGER, crew qualification, terrain walks, alerts, and routine unit training, were the fabric of life for European cavalry units—all overlayed on a continuous security mission. The pressure of the mission, the need to simultaneously maintain a high level of combat readiness, and the small unit leadership imperative produced a cavalry force and a US Army in Europe that was significantly better than good enough to carry out the demands of Air Land Battle doctrine.

Insights on Lessons Learned and Lessons for the Future

After multiple tours in Europe and deployments out of the European theater, there is bound to be some experiential learning. Here are a few lessons I learned that are useful and worth considering.

Doctrinal shifts are hard. AirLand Battle doctrine didn't just happen; it took years of thought and preparation. It was accepted and used because of senior Army leadership created visionary doctrine in cooperation with the other services. The AirLand Battle concept demanded both live and virtual experimentation to guarantee its efficacy, adjusting as needed. The new and emerging doctrine had to be taught across the Army in both units and school systems then used in training and exercises to create excellence in execution.

Combined arms operations (to include reconnaissance and security operations) are all about intelligence, reporting, fires, and movement of significant forces to positions of advantage. Within that context, a commander can exert his or her will via a highly mobile command and con-

trol infrastructure. Large, ponderous, immobile, and vulnerable command posts have no place on the modern battlefield.

Readiness is non-negotiable. From individuals through crew, platoon and up to the highest maneuver echelon, all must practice tough and realistic conditions to develop proficiency. Tough training demands teamwork. Teamwork begets trust. Trust is the glue that holds units together when the stakes are high and the going gets tough.

There is little substitute for esprit de corps. Units that see themselves as special and their mission as unique develop an internal bond that is impossible to break. That bond is tangibly manifest in all that the unit does and everything it accomplishes. The spirit of the unit not only brings praise for the unit; it also encourages others to want to be a part of the experience, thus enhancing cohesion, retention, and leadership.

Excellent leadership at the small unit level must be nurtured. It is essential to successfully combined arms maneuver. Such leadership does not come automatically. It must be taught, reinforced, and enhanced by senior leaders who recognize what right looks like and accept nothing less.

Improvement in unit performance via improved technology is not a given. Any new technology must be easy-to-use, help reduce the soldier's burden, and immeasurably improve soldier skills. Anything else, no matter how bright or shiny, will be left behind in a CONEX full of other technologies that were equally bright and shiny when they left the showroom floor. Adopting small doses of technology that is acceptable to the soldier is a winning combination.

An Epilogue—Riderless Horses

On 9 November 1989, the unimaginable happened—the Berlin Wall fell. This barrier that was designed to keep intellectual and technical expertise from escaping the East German state disintegrated in a series of rapid-fire events. Soon after, the Warsaw Pact ceased to be a threat and a divided Germany became whole once again. The impact on Europe in general and NATO specifically was profound. Some questioned the need for NATO. Every nation on both sides of the former east-west dividing line seized the opportunity to capitalize on the "peace dividend" offered by political circumstances.

Eventually, the US Army in Europe was reduced to a skeleton of its former self. Operations Desert Storm and Iraqi Freedom as well as unrest in the Balkans suggested that there was still security work to be done in

a more unified Europe and beyond. Although Desert Storm and the early phases of Iraqi Freedom validated the need for security operations performed by cavalry organizations, that validation was short-lived.

The 11th Armored Cavalry Regiment returned to the states and reorganized to resemble an armored brigade, assuming the role of the opposing force at the National Training Center. The 2nd Armored Cavalry Regiment morphed into a Stryker cavalry regiment and remained in Europe as one of the few stay-behind forces. Stationed stateside, 3rd Armored Cavalry Regiment was similarly reorganized as a Stryker-based organization. The Army used cavalry aviation assets and personnel to adjust its aviation posture to meet the intense demand for aviation brigades. Accordingly, cavalry regiments lost their aviation squadrons and thus the integrated air-ground operational collaboration that the squadrons had provided. Recent Army force structure decisions have further reduced cavalry squadrons in Stryker and light infantry brigades.[27] Yet, the need for security operations and the cavalry's unique capabilities as an economical force providing information and security remain a likely fixture of future combined arms maneuver.

Notes

1. Department of the Army, Field Manual (FM) 3-90, *Tactics* (Washington, DC: July 2001), Chapter 12.

2. FM 3-90.

3. FM 3-90.

4. Robert H. Scales, *Certain Victory: the US Army in the Gulf War* (Washington, DC: Brassey's, 1994), 223, 238.

5. Stephen A. Bourque, *Jayhawk! The VII Corps in the Persian Gulf War* (Washington, DC: Department of the Army, 2002). 327–31.

6. Gregory Fontenot, E. J. Degan, and David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), 52.

7. Fontenot, Degan, and Tohn, 127–31.

8. Fontenot, Degan, and Tohn, 310–11.

9. Department of the Army, Field Manual (FM) 17-95, *Cavalry Operations* (Washington, DC: 1996), 1-3.

10. William E. Stacy, *US Army Border Operations in Germany*, *1945–1983* (Germany: US Army Europe and 7th Army Military History Office, 1984), 8.

11. Stacy, 13–14.

12. Stacy, 20.

13. Stacy, 41–42.

14. Ingo Trauschweizer, *The Cold War U. S. Army: Building Deterrence for Limited War* (Lawrence, KS: University Press of Kansas, 2008), 180–81. Modernization of forces and training suffered during the long war in Vietnam. Trauschweizer discusses how the United States sought to minimize risk by increasing USAREUR reliance on tactical nuclear weapons. Additionally, REFORGER aimed to mitigate risk taken in Europe.

15. Trauschweizer, 195–229. There is significant debate on doctrine, organization, and equipment needed to defeat Warsaw Pact forces that dates to the early 1970s. Trauschweizer's Chapter 6 "The Cold War Army" summarizes the discussion and the solutions identified.

16. Department of the Army, Field Manual (FM) 3-90, *Tactics* (Washington, DC: 2023), 13-1.

17. Stacy, *US Army Border Operations in Germany*, 182–83.

18. Stacy, 85.

19. Stacy, 128.

20. Stacy, 144, 225, 228.

21. Stacy, 234, 237.

22. Stacy, 102.

23. James Gerstenzang, "Czech Jet Fires at US Copter Near Border," *Los Angeles Times*, 2 October 1985.

24. Seth Robson, "Soldiers in Germany Compete to Earn Silver Spurs," *Stars and Stripes*, 28 March 2009.

25. Matthew Morton, “We Were There; REFORGER Exercises Designed to Counter Soviet Threat,” *AUSA Magazine* (24 March 2022).

26. Jim Greer, “Preparing for Decisive Action,” *From the Green Notebook*, 20 March 2017.

27. Jen Judson, “Here Are the Winners and Losers in US Army Force Structure Change,” *Defense News*, 27 February 2024.

Chapter 9
A Logistician's Thoughts on AirLand Battle and Beyond

Kenneth L. Privratsky

I first studied AirLand Battle at the US Army Command and General Staff College (CGSC) in 1984–1986. In one class focused on the new doctrine, the instructor asked how many had been to Vietnam. Less than a quarter of us raised hands. Most if not all our tours had been toward the end of the war. Then, the instructor said something surprising. He suggested that those who served in Vietnam—particularly logisticians—might have a more difficult time understanding AirLand Battle. He explained that the new doctrine envisioned battlefields where combat units moved quickly and sought opportunities to strike the enemy throughout the depth of the battlefield. Support had to become flexible and highly mobile. I had been an infantry officer not a logistician during my Vietnam tour and did not fully appreciate what he said. A couple years after I graduated, I fully understood.

Looking back at my assignments following staff college, I am impressed by how quickly the US Army changed its approach to war after two decades of involvement in Southeast Asia. Years that followed led directly to the Army's success in the Persian Gulf, not so much because of executing doctrine in those wars but because troops had trained to succeed. Saddam Hussein's army was nothing like the Soviets'. The United States and its Allies simply overwhelmed his forces twice, backed up by massive logistics support. It was impressive. In some ways, unfortunately, the US Army has come full circle from those Vietnam days after which change became ever so important. How the Army made that change—and what still went wrong in the process from the late 1970s to the early 1990s—provides a good comparative reference for today. Assessing readiness for tomorrow's battlefields, especially for logisticians at all levels, could not be more important given even more daunting challenges ahead.

The US Army's experience over the last quarter century is not far removed from Vietnam days. The Middle East dominated military planning over this time, just as Vietnam did in the 1960s and early 1970s. It also dominated the lives of US soldiers. Many deployed repeatedly on rotational assignments, generally known well in advance, not just once ot twice like in Vietnam, sometimes four or more times. Logisticians became accustomed to unloading planes on secure runways, offloading large container ships at fixed ports with cranes, moving containers down highways, and issuing supplies from well-stocked warehouses. Most did not operate

forward in the field but from well-established base camps and installations. The Army's extended involvement in the Middle East, both in Iraq and Afghanistan, influenced other areas of logistics as well. Contractors became a major contributor to logistics success, from warehouses and maintenance facilities to dining halls and motor pools. Bottled water replaced canteens and water buffaloes. In some ways, these structured and predictable years made logisticians ill-prepared for the future, much like the instructor cautioned in that Fort Leavenworth classroom. A brief review of logistics in the Vietnam War is helpful to understanding his caution.

Review of Logistics in the Vietnam War

Vietnam was unlike other wars the United States had fought. Primary reference points had been two world wars and a war in Korea on linear battlefields. In those wars, the enemies were familiar, and it was easy to pinpoint their general locations on a map. The United States entered the world wars after its Allies had been fighting for years. Host nation facilities helped US troops build up, store, and move supplies. There was a discernible rear area behind the fighting, where division "trains" followed the action in support of combat units. Logistics started at division level, organized under separate command and control of functional battalions for supply, maintenance, transportation, and medical. Higher echelons provided support from functional battalions and brigades as well. All those units received much direction from technical service chiefs located far from the fighting.

In South Vietnam, however, US troops fought an elusive enemy on a much different battlefield from frontlines to rear areas. Enormous challenges of fighting there came as no surprise following France's 1954 defeat. The Department of Defense (DoD) took steps to improve access to and within the country. It had divided overseas construction responsibilities between the services. The US Navy gained responsibility for Southeast Asia, including South Vietnam. In 1955, it established an engineering office in Bangkok, Thailand, to supervise contractors building air bases in that country and to design and supervise military assistance projects in Vietnam. This eventually included a road network in the Central Highlands. Between 1962 and 1964, the United States funded construction of jet-capable airstrips at Bien Hoa near Saigon and another 500 miles north at Da Nang, as well as smaller runways at Pleiku and Can Tho. Small teams of engineers went to Vietnam during these years to carry out various civil action projects, and a contracting effort commenced to construct small cantonment areas. Few at high levels, however, paid attention to the

scope of engineering requirements if the United States decided to commit large numbers of troops over a relatively short period of time.[1]

Little useable infrastructure existed in Vietnam; there were no warehouses and only a single deep draft port operated by Vietnamese stevedores shared with commercial shipping. A railroad and two-lane highway spanned the country with smaller connecting roads, paved and unpaved, to interior portions of the country, all of which the enemy could easily interdict. In parts of the far south, waterways were the only supply routes. Enormous engineering improvements were needed. Complicating the situation was deployment of advisors and then combat units well before introduction of logistics and engineer units.

Military Assistance Command, Vietnam urged deployment of a logistics force and engineers as early as 1961. Four years later, with advisors and special forces reaching 25,000, the first combat units arrived. They started with a Marine expeditionary brigade to secure the airfield at Da Nang and then an Army airborne brigade to secure the airfield at Bien Hoa. Secretary of Defense Robert McNamara finally approved formation of a logistics command in March 1965 as well as the deployment of an engineer group consisting of two battalions and some separate units.[2] On 1 April, 1st Logistical Command, commonly called 1st Log Command, activated at Saigon with staffing of thirty-eight. By then, however, more combat units were on the way, initially brigades without logistics capability and eventually full divisions. In 1965, the equivalent of twenty Army, Navy, and Marine Corps engineer battalions arrived in Vietnam and came under control of 1st Log Command. As their numbers increased, a separate US Army Engineer Command developed.[3] By the end of 1965, deployed forces totaled 200,000, with 1st Log Command comprising 25 percent. The percentage of logistics soldiers nearly doubled the following year. Most arrivals were draftees with limited training. 1st Log Command found it necessary to establish its own schoolhouses to complete military occupational specialty training.[4]

Simultaneously, supplies rushed into country. At one time in late 1965, 100 US cargo ships anchored off Saigon waiting for pier space.[5] The situation deteriorated into a logistics nightmare because the first inventory control teams did not arrive until a year after 1st Log Command was activated.[6] It was not a promising beginning for supporting combat operations. The situation worsened as logisticians struggled to keep up with the continuing flow of supplies. Depots lost visibility of stocks. By 1968, no more than 30 percent of supplies were readily available due to poor accountability.[7] It would be a mistake, though, to conclude that combat units



Figure 9.1. A Navy ship being offloaded at Saigon. In late 1965, 100 US cargo ships were anchored off Saigon waiting for pier space as supplies rushed into Vietnam. Courtesy of the US Naval Institute.

suffered because of this confusion. The US military simply benefited from an endless pipeline of material from a robust American economy.

The 1st Log Command logistics plan evolved into area support by five subordinate support commands and depots spanning the country—not including aviation, engineers, and medical, which were supported by their own channels. Logistics units or personnel arriving in country were assigned to one of these commands. As tactical operations developed, support commands established logistics support areas and provisional forward support areas. Helicopters and trucks kept areas supplied with push packages. Engineers eventually developed a totally new infrastructure to support this network, including seven jet-capable airfields, seventy-five tactical airfields, six deep-water ports, twenty-six hospitals, and twenty-four permanent base facilities.[8] Most tactical operations mounted from those base facilities, often involving battalions or companies inserted into remote areas with artillery support from firebases. Logistics activities became far removed from units doing the fighting.

It is doubtful many combat troops went near massive logistics installations situated around the country. They certainly would have been familiar with rear areas for their divisions. A good example was the garrison for 25th Infantry Division established near Cu Chi in mid-1966. It covered 1,500 acres (about the size of ten golf courses) with air-conditioned buildings, clubs, swimming pools, retail outlets, and even a

miniature golf course. Thousands of soldiers and host nation employees kept the installation running with a steady stream of supply trucks from depots. This installation was duplicated in other places throughout the county. The Cu Chi garrison for the 25th Infantry, however, earned the dubious distinction of being established right on top of an elaborate Viet Cong tunnel complex. After being cleared, it became the training ground for US Army tunnel rats.[9]

Frustrations with a Garrison Approach to War

The United States has relied on contractors during war ever since colonial times, and Vietnam was no different. Private contractors helped in five major areas: construction, base operations, water and ground transport, petroleum resupply, and maintenance, including support of high-technology systems. They came from large corporations as well as from Vietnamese and third-country nationals. In 1969, when troop levels passed 500,000, there were 52,000 contractor personnel in Vietnam.[10] Years later, in 1985, the Army established the Logistics Civil Augmentation Program (LOGCAP) to plan for and regulate future use of contractors. They would play far bigger roles in future operations, with the number of contractors routinely exceeding troop levels.[11]

General William Westmoreland, commander of US forces in Vietnam from 1964–1968, approved this garrison-approach for supporting the war. Not everyone agreed. General Bruce Palmer was one of the critics:

> The most pernicious policy encountered was the base camp idea. The manpower it soaked up was appalling, not to mention the waste of material resources and the handicap of having to defend and take care of such albatrosses . . . The solution was obvious—all units should be required to live tactically in the field, avoiding any construction; and essential rear area functions, such as returning wounded or sick men to their units, should be handled by small facilities serving not just one brigade or one division but all the forces in a large area.[12]

The garrison environment in Vietnam magnified logistics both in terms of tonnages required and manpower in rear areas. Historian T. C. Thayer described the situation: "The result was a bloated logistics tail and by 1968, not more than 80,000 or 15 percent of the 536,000 personnel in theatre were actually available for sustained front-line employment."[13]

My CGSC instructor back in the 1980s probably remembered some of these installations where most logisticians operated during tours in

Vietnam. This certainly does not mean the plight of logisticians was easy. Their work was hard. Like other soldiers, they were targeted by the elusive enemy. Many lost their lives while delivering supplies or evacuating wounded soldiers; others perished during rocket and sapper attacks on installations. Two soldiers in 1st Log Command, Sgt. William W. Seay and Spec. 4th Class Larry G. Dahl, received the Medal of Honor.[14] But most generally had cots to sleep on at night after a hot meal. Robust support was readily available in all four corps tactical regions. This did not mean, however, that all field commanders were pleased with support they received.

One such dissatisfied commander was Donn Starry, a colonel commanding the 11th Armored Cavalry Regiment in 1969. His soldiers depended on their armored vehicles being ready for combat. The need for responsive maintenance support for his regiment far exceeded that for light infantry units. Starry's biggest concern was that the area support system was not able to adapt to a war of movement. As armored units moved, maintenance support from 1st Log Command remained on an area basis, requiring the maneuver unit to evacuate equipment for repair. In his book, *Mounted Combat in Vietnam*, Starry stated: "Most armored units found the US Army supply and maintenance system in Vietnam to be less than satisfactory at every level."[15] He was particularly frustrated for not receiving forward repair of his tanks:

> Logistical units, particularly supply and maintenance elements, were unprepared psychologically and in practice to live in the field close to the units they support. Although Army doctrine stressed that this support should be provided in forward areas, the practice was to centralize support facilities in built-up, well-developed, permanent base camps similar to installations in the United States.[16]

The result, according to Starry, was that support facilities often were sixty or more miles from combat units.

AirLand Battle Doctrine Brings Changes for Logisticians

The Cold War did not cease, of course, as the United States continued fighting in Vietnam. As men and women rotated in and out of South Vietnam year after year, close to a half million others remained stationed in Europe. And in 1969, NATO started the first of what would become annual Return of Forces to Germany (REFORGER) deployment exercises. These exercises were designed to demonstrate NATO's ability, and especially that of the United States, to quickly reinforce units stationed in

Europe. Spread over the next twenty years, the exercises sent a strong message to the Soviet Union. Soviets would learn that the US military not only could deploy quickly but no longer focused on strengthening a defense. The United States was going on the offense to strike Soviet forces deep in the battle area.

More than a decade of combat in Vietnam led to rethinking of how the Army should approach a fight with the Soviet Union. Soldier historian Henry Gole explains that planning for necessary change, including Army doctrine and force structure, began under the leadership of Westmoreland, who returned from Vietnam in 1968 to serve as chief of staff of the Army (CSA).[17] The Yom Kippur War galvanized the Army. General William E. DePuy, the first US Army Training and Doctrine Command (TRADOC) commanding general, led the way along with able subordinates, including Major General Starry and Maj. Gen. Paul Gorman.[18] By the end of the decade, operational and organizational concepts were approved. Eventual results became AirLand Battle Doctrine and Division 86.

Starry assumed command of TRADOC in 1977.[19] He would be the driving force behind development of both doctrine and force structure. It seems Starry never forgot frustrations with logistics support in Vietnam.

Soviet forces in the 1970s and 1980s outnumbered NATO forces and benefitted from thousands more weapons systems of all types. The vision underlying new Army doctrine in Field Manual (FM) 100-5, *Operations*, published in 1982, focused on defeating adversaries by attacks throughout the depth of the battlefield and preventing follow-on echelons from influencing close-in fights. Maneuver on the ground and in the air became paramount for maintaining initiative. Firepower, including Air Force tactical air support, would be essential to help isolate and destroy enemy forces. Division commanders gained more tanks and artillery under Division 86.

New Army logistics doctrine in FM 100-10, *Combat Service Support*, published in 1988, mirrored the new operational focus:

> To operate on this fluid AirLand Battlefield, forces must possess a higher degree of self-sustainability than ever before. They must be sustained by a support structure with mobility and speed which approaches their own. Units operating in brigade, division, and corps rear areas must be capable of great flexibility in supporting maneuver forces which will be constantly changing direction and tactics, moving from attack to defense and back in order to seize and exploit opportunities.[20]

The division structure that complemented this new doctrine became revolutionary for logisticians. Changes proved so effective that they would lead to comparable changes in higher echelon logistics organizations years later.

Under Division 86, division support commands (DISCOMs) no longer consisted of functionally oriented battalions providing transportation, supply, maintenance, and medical support. The new structure contained forward support battalions with supply and transportation, maintenance, and medical companies with a total strength of about 500. Commanders of these battalions reported both to the DISCOM commander and to the commander of the maneuver brigade they supported. The lynchpin behind synchronizing support was the new support operations section within the battalion staff. Backing up forwards was a main support battalion about twice the size. It also was organized into companies with even more capability. A division material management center rounded out the DISCOM—similar to previous division structures but with greater automation capability.[21] The new DISCOMs emerged in the mid-1980s and were an immediate success. Maneuver brigade commanders liked having a support battalion in their "hip pockets." Multifunctionality soon became a buzz word in logistics circles, seldom with favorable reactions.

Multifunctional Logistics in REFORGER 87

By the time I left the CGSC, changes to doctrine and organizations were well underway in the field. I understood AirLand Battle doctrine but had little appreciation for what that really meant for supporting mobile armored warfare. My baptism occurred in 1986 when I arrived at Fort Hood to be plans officer for 13th Support Command (COSCOM) of III Corps—nicknamed Phantom Corps in World War II for its penchant for hitting enemies where least expected. Lt. Gen. Crosbie Saint commanded at that time. The soon-to-be COSCOM commander was Col. Johnnie Wilson, who was relinquishing command of a DISCOM in Germany. Both would become full generals. Also new to the COSCOM staff as security, plans, and operations officer was an armor colonel named Joseph Gross, a smart logistician as well as warfighter who had experience as a division G4. He became the energy behind many changes as our unit prepared for REFORGER 87. I had no idea what a learning experience awaited.

REFORGER 87, dubbed Certain Strike, became the nineteenth and largest such exercise to date. It took place from August to September 1987, differing from its predecessors in many ways. It was the first REFORGER confined exclusively to NATO's Northern Army Group (NORTHAG) and as such fell under direction of the NORTHAG commander. There

were no US facilities in the exercise area, which led to an extensive real estate scramble the year before. REFORGER 87 witnessed the first deployment of an intelligence brigade and a corps aviation brigade with its much-heralded Apache helicopters. About 30,000 Phantom Warriors participated, approximately 4,000 from the COSCOM, which also received nearly a thousand augmentees from in-country units. About 30 percent of the COSCOM total came from reserve components. Its major subordinate commands included a transportation brigade, medical brigade, ordnance group, and two corps support group headquarters.[22]

Although 13th COSCOM was established in 1965, it is unlikely the headquarters had trained in the field recently. In fact, rumors circulated that whenever the command was involved in exercises away from the installation, senior staff stayed in hotels. Gross was appalled by the command's lack of field training. He directed the Corps Materiel Management Center (CMMC) to set up expandable vans next to the headquarters to practice operations in a field-type setting. The experience was quite an eye-opener. Few soldiers had ever operated from such vans. Later, other staff set up beside the CMMC to work in vans as well. The headquarters had never packed up and moved to a different location either. Wilson and Gross deemed this training essential as well because they envisioned the COSCOM relocating to support the battle during the upcoming REFORGER. The corps coordinated with local authorities so that the COSCOM could practice. What resulted was a nearly 100-mile tactical road march cross-country from Fort Hood to Brady, Texas.[23]

Certainly, the most innovative part of 13th COSCOM's support plan was how it intended to task-organize to sustain the corps advance across Northern Germany. Tables of Organization and Equipment did not provide for multifunctional corps support groups at this time. Unlike the new division structure in Division 86, the corps structure in Corps 86 had retained functional support. Support group headquarters arranged combat service support in coordination with functionally aligned COSCOM brigades. The command's plan called for supply and service, maintenance, transportation, and medical battalions as well as an ordnance battalion headquarters to be detached from functional brigades and attached to the two corps support groups—the 43rd from Fort Carson and the 172nd from the Oklahoma National Guard.[24] The arrangement produced quite an uproar. Functional brigade commanders became upset. The corps G4 disagreed with the approach as well as all logistics branch chiefs. This decision to create self-sustaining, multifunctional support groups offered considerable flexibility and improved responsiveness to the corps and division com-

manders, particularly in situations where success hinged on agility and decentralized control. Command leadership believed this was exactly what was needed on the AirLand battlefield.

Three ground maneuver divisions—1st Cavalry Division, 2nd Armored Division, and 45th Separate Infantry Brigade (SIB)—and the 6th Cavalry Brigade provided punch for the corps. After arriving in Europe, drawing equipment from storage areas, and readying itself in staging areas, the corps would travel six different routes to the Aller River, covering distances of more than 100 miles to link up with West German I Corps as prelude to an attack. Meticulous movement control became necessary because 11,000 wheeled and tracked vehicles would travel over these routes.[25] The distance mandated that the divisions' M1 Abrams tanks and M2 Bradley Fighting Vehicles needed refueling before the start of the attack.

Tasks for the COSCOM were demanding. The command had to arrive in the staging area early in the deployment flow to manage buildup of essential stocks and sustain III Corps units. The unit had to relocate logistics units before the attack to top off combat units and position others to sustain them as the attack commenced. Supplies other than petroleum originated from host nation warehouses. Bulk petroleum came from central European pipeline locations. About 2,500 lines of repair parts as well as major assemblies arrived in the staging area on trailers so they could remain mobile and support the force during the attack. The 13th COSCOM headquarters monitored initial phases from a fixed facility in the historic town of Münster, its five-ton expandable vans parked outside ready to move.[26]

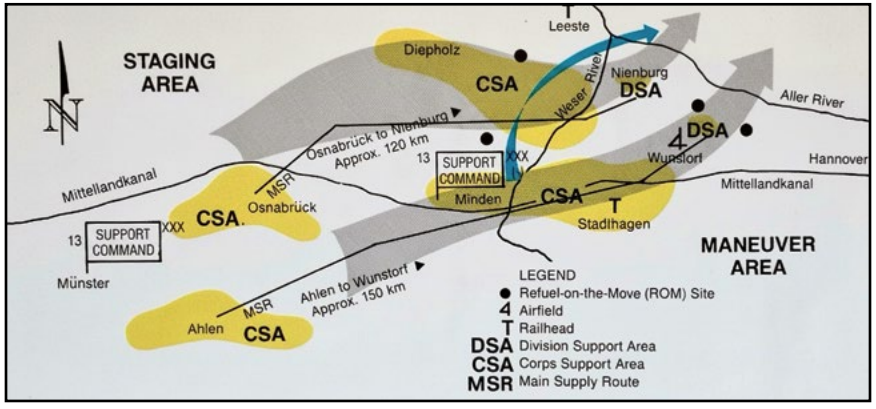


Figure 9.2. REFORGER 87 was confined to NATO's Northern Army Group. There were no US facilities in the exercise area. This schematic shows the plan of attack and logistics support areas. Courtesy of the US Army.

Training to Support AirLand Battle in REFORGER 87

The two corps support groups first provided support on an area basis, backed up by the functional brigades that had provided them battalions. The mission for each group was to provide dedicated support to one of the two heavy divisions. These support relationship changes were to ensure that each division would have a self-contained multifunctional logistics group capable of following and providing support. The plan called for two supply trains to move into forward locations to supply the corps during the attack. Terminal transfer, supply, maintenance, and medical units moved forward as well so that combat power would not be victimized by a sustainment system needing to catch up. The plan worked. Before most combat units left assembly areas for lines of departure, corps support group logisticians were already forward, ensuring supplies and services were in place by H-Hour.[27] Petroleum resupply was especially important. The



Figure 9.3. COSCOM support groups established Refuel-on-the-Move "gas stations" to top off tanks before the attack started. Courtesy of the US Army.

support groups established tactical Refuel-on the-Move (ROM) "gas stations" near approach routes. Each ROM consisted of 5,000-gallon tankers connected to 350-gallon-per-minute pumps. The attack started in the early morning of 16 September with 45th SIB conducting a combat assault to seize an important objective and pave the way for the other two divisions attacking across the Aller River.[28]

The size of the exercise area in Northern Germany restricted actual distance of the attack. Those constraints, however, did not limit logistics training for a deeper strike. The COSCOM practiced what it would do in a real scenario. The operations center listened closely to progress of the fight and coordinated movement of fuel by barge and rail, providing interoperability training with host nation systems. Nearly 300,000 gallons of fuel were offloaded from rail and 130,000 gallons from a barge. The support command also received ten US Air Force C–130 "bladder birds" configured to hold 3,000-gallons of fuel internally. These planes offloaded fuel into 5,000 gallon-tankers. Supply battalions remained ready to establish additional ROM sites to resupply units as needed. Peacetime exercises provide few opportunities to practice resupply of real ammunition, which would be expended in large quantities during such an attack. To practice, the corps support groups established ammunition transfer points and used rations as a substitute. The corps also coordinated with the Air Force to practice aerial delivery. Both the Container Delivery System and Low Altitude Parachute Extraction System provided rations and water.[29]

As this was happening, 13th COSCOM headquarters put into practice what it had learned in its road march across Texas, moving its mobile command post from Münster about 100 miles east to the town of Minden. Moving the twenty expandable vans took about twenty-four hours. Sustainment operations continued uninterrupted during that time. By the end of that week, 1st Cavalry and 2nd Armored Division had achieved their objectives. At that point, 13th COSCOM received orders to conduct reconstitution of a battalion task force, which necessitated a rapid search for suitable facilities. According to a prearranged schedule, the support command would assist the task force commander by distributing new supplies, conducting maintenance, providing medical care, and establishing an area for soldiers to rest.[30] In a real war, reconstitution presents challenges with coordinating many activities without disrupting support for the ongoing battle—challenges that require anticipation, coordination, and training.

By this time, REFORGER 87 had provided countless training opportunities for 13th COSCOM. Just as it seemed the exercise was winding down, support command soldiers woke on 24 September to intelligence

reports of a nearby chemical strike. They had prepared for this extensively. In fact, all III Corps units had been wearing chemical protective clothing since leaving the staging area. Certain Strike ended with 13th COSCOM soldiers in gas masks.[31]

To say REFORGER 87 was an experience for me would be quite an understatement. It provided tremendous training opportunities for logisticians at all levels in the corps. As plans officer, I felt the US Army provided opportunities for units to train on many of the activities important for providing sustainment under AirLand Battle doctrine. General Saint described the broad benefits of the exercises: "There weren't many areas in logistics that we didn't mess with big time."[32] The command's efforts garnered a lot of attention, to include that of Lt. Gen. William Tuttle, Combined Arms Support Command (CASCOM) commander. What I could not predict was how the US Army's decision to form multifunctional corps support groups would influence future Army logistics organizations.

Continued Focus on Deployability and Readiness

At the conclusion of REFORGER 87, General Saint asked Colonel Wilson and me to brief senior logisticians about our command's support plan for the exercise. On our first visit with senior logisticians, the deputy chief of staff for logistics (DCSLOG) made it clear he had no interest in our multifunctional initiative. The DCSLOG at Forces Command in Georgia offered similar comments. The preference was to maintain functional stovepipes with brigades of transportation, quartermaster, ordnance, and medical at corps level. General Tuttle, however, viewed the world differently. He adamantly believed the Army needed to reorganize corps support groups multifunctionally as our command had done. His tenacity overcame parochialism that ran deep in functional logistics branches. Just two years later on 25 August 1989, CSA General Carl Vuono chaired a decision brief on COSCOM command and control.[33] He approved reorganizing COSCOMs to incorporate multifunctional units. The 13th COSCOM began implementing the new structure immediately.

Impact of this change went beyond logistics support flexibility on battlefields. It improved deployability of logistics units at corps level. The annual logistics exercise at Fort Lee in June 1989, Logistics Exercise (LOGEX) 89, revealed that COSCOM's Time Phased Force Deployment List would not get forces into theater in a timely manner.[34] The decision to proceed with multifunctional corps support groups helped improve the flow because the COSCOM could rely on functional battalions as building blocks rather than functional brigades. This became an important step in

confronting the problematic flow of a logistics tail to an overseas theater. Logistics building blocks in the later modular Army became companies rather than battalions, an even bigger step forward to enabling a tailorable, more deployable support force.

About this time, VII Corps in Europe conducted simulations focused on corps rear areas which identified other issues. One was congestion as maneuver units moved forward for deep attack. If road networks were not intensively managed, the deep attack force would come to a standstill. Movement control of main supply routes needed to be combined with terrain management as the battlefield expanded and logistics moved forward to resupply and then return for more stocks. The simulation concluded: "If the highway network is not intensively managed, the deep attack force will come to a standstill before reaching the FLOT [Forward Line of Troops]."[35] Because of traffic and terrain constraints, it was difficult to identify this issue during REFORGER exercises. Movement control and terrain management are not restricted to movement for deep attacks. They also are very important for preventing congestion of forces arriving in theater and moving to staging areas.

Training for deployment remained a constant focus for III Corps units. The first task on every battalion's Mission Essential Task List was always "deploy." Units briefed their status and training objectives at quarterly training briefs to division commanders. Many supporting tasks were involved, including notifications to assemble units, processing for deployment, final preventive maintenance checks on equipment, moving equipment to railheads or airfields, and loading equipment onto railcars or into airplanes. Support battalions inevitably assisted supported maneuver battalions, especially for maintenance. Such training proved essential for units and installations that supported the deployment process. Emergency Deployment Readiness Exercises (EDREs) became common—part of the broader Army Test and Evaluation Program focused on performance-oriented training from squad to battalion levels. For an EDRE, a battalion commander might receive an early morning no-notice alert to muster units and prepare to move them to an airfield or railhead later that day. Alert rosters would kick into effect, instructing units to form up and begin a series of timed checks to demonstrate readiness to deploy. Army units also participated in a half dozen Sealift Emergency Deployment Readiness Exercises in the early 1990s that brought together units with their equipment at ports to practice loading on Military Sealift Command ships.

Smaller training events proved essential as well to ensure individual III Corps soldiers were fully trained. General Saint expected every

corps unit to provide focused training for soldiers every Thursday morning. Sergeants major, in coordination with first sergeants, would develop "Sergeant's Time" weekly plans and supervise implementation by platoon sergeants and squad leaders.

In 1988, I was fortunate to take command of a 2nd Armored Division forward support battalion. Thursdays became valuable time for me and my officers. To ensure that our soldiers were prepared for Sergeant's Time, I called battalion officers together every Thursday morning for pre-training. Each week we discussed different topics such as Airland Battle or combat service support doctrine. Then supply, maintenance, or medical company commanders would educate others in their companies. Sometimes, we talked about the status of training and shortfalls after reading books and discussing what we had learned. We examined battles from history and assessed implications for logistics. These weekly sessions probably had the most lasting influence on my officers and battalion performance. As months went by, junior officers just got better and better. When time came to prepare for REFORGER 90, I decided only lieutenants would accompany me and my S3 to Germany for reconnaissance of key areas before the actual exercise. It was a big responsibility for them since most had never been overseas, let alone represented their companies or staff. That REFORGER included picking up equipment at the Port of Antwerp and road-marching 500 miles south to a village in Bavaria. Those young



Figure 9.4. Military vehicles and equipment line the port area during REFORGER 90. Courtesy of the US Army.

officers shared what they learned when they returned and performed magnificently during execution. I had no doubt they could have filled battalion command or staff positions in a pinch. I attribute their high performance to those Thursday officer professional development discussions.

Other Training Programs

Professional reading was widely encouraged in the Army in the late 1980s. Our military has always had a lot of well-read officers—probably few better read than General James Mattis, a well-known Marine commander and former secretary of defense. A voracious reader, Mattis supposedly owned a personal library of more than 7,000 books. In preparation for a fight in the Sunni Triangle of Iraq, he circulated more than a thousand pages of reading material to his commanders. One writer surmised that Mattis provided the most concise course in insurgency warfare anywhere. The general required all battalion commanders to certify that their subordinates had read and understood the material. Mattis later commented: "While learning from experience is good, learning from others' experiences is even better."[36] That remains good advice for all in the military.

Unfortunately, finding logistics information to read in the 1980s was not that easy. Those interested in the subject had to be satisfied with titles like *Pure Logistics: The Science of War Preparation* (1917), *For the Want of a Nail: The Influence of Logistics in War* (1948), *Logistics in the National Defense* (1959), *Supplying War: Logistics from Wallenstein to Patton* (1977), or perhaps *Alexander the Great and the Logistics of the Macedonian Army* (1978). The only other choices were a two-volume history on logistics in the Second World War and the bi-monthly *Army Logistician*. That has changed over the years. Today, many publications cover military logistics. The Army's Harding Project is revitalizing branch journals and promoting professional discourse. Harding Fellows help stimulate writing across the ranks by establishing relationships with prospective authors and providing editorial assistance. The "Line of Departure" central hub provides easy access to all Army journals. Complementing the project is the Lt. Gen. (Ret) James M. Dubik Writing Fellow Program to improve scholarship and writing by authors who contribute to Army University Press and other professional platforms. CSA General Randy George sent monthly recommendations of articles to read. These efforts focus on the future and will have a profound impact in years ahead.

Another great training program to prepare units for AirLand Battle occurred in California for heavy units and later in Louisiana for light units. In 1979, the Army identified Fort Irwin as the National Training

Center (NTC) and also approved AirLand Battle doctrine and Division 86 concepts. This massive 1,000-square-mile NTC training area on the edge of the Mohave Desert provided a unique opportunity for brigades to train against an opposing force (OPFOR) patterned after Soviet units. Brigade battle teams would deploy from home stations, loading much of their equipment onto rail and unloading it in an NTC area called the "Dust Bowl," then prepare to fight this OPFOR for two-week periods. Forward support battalions deployed as part of their supported brigades. Main support battalions deployed as well but did not relocate after arrival. The forwards routinely displaced at least three times before training ended, practicing tasks for surviving on the battlefield while maintaining support to the brigade. Training at NTC became the culmination of extensive exercises at home stations.

My experience in 1988 as a forward support battalion commander in 2nd Armored Division was no different; however, it was not without surprises. During one train-up exercise at Fort Hood, my supply company tipped a 5,000-gallon tanker and tractor on its side next to a creek during a night road march down a narrow trail. Both remained intact, but fuel started dripping from top-of-the-tank fill caps that now faced downward. The driver was shaken but not injured. Quick reaction in the dark prevented fuel from contaminating the water. Righting the full tanker and attached trailer at daybreak became a nerve-wracking learning experience. Later, at NTC, the company created tank ditches to protect entrances into our brigade support areas (BSAs). One night a tank crew failed to follow instructions and drove their tank into the ditch. No one was injured thankfully, but the errant move ruined the tank's main gun. While instances like these might have affected careers at some locations, that was not the case at Fort Hood in the 1980s. Senior commanders there always encouraged innovation.

Survival was constantly on soldier minds when training. Our unit's forward support battalion built a model foxhole for all soldiers to see. It was simple, just a piece of plywood and a couple dozen sandbags. Constructing such foxholes became first priority when arriving in BSAs, aided by a backhoe provided by the engineer battalion. Another priority for the maintenance company was to orient guns downrange of any fighting systems under repair. Morale skyrocketed when one of those M1s popped an OPFOR tank at NTC after a breakthrough. Our soldiers pushed out forward support teams during battalion fights whether they were needed or not. All of it was great training.

Some Shortcomings in Desert Storm

To my personal chagrin, I found myself in the wrong desert when Saddam Hussein invaded Kuwait. I had just arrived at NTC as senior observer-controller of the Goldminer team to continue helping logistics battalions prepare for combat. By then, dozens of brigade battle teams had benefited from training there. Logistics units that deployed to the Gulf demonstrated new flexibility to support maneuver warfare in the desert.

The force designed to fight AirLand Battle did so brilliantly in Desert Storm. Early in the deployment flow, General Norman Schwarzkopf recognized the need for a smart, take-charge logistician in theater. He appointed Maj. Gen. William G. Pagonis as commander of the extemporaneous 22nd Support Command. Pagonis would be promoted to lieutenant general by the end of the war. The Army logistics system proved adequate for the evolving conditions. Most issues that developed were solved with agility, initiative, money, or simply brute force.

Although the Army of Excellence organized logistics formations to support conventional operations at scale, the Army assumed risks in structure. To lessen administrative and logistics burdens in units, the Army reduced fresh food, called "A" rations, and instead used tray meals, "T" rations prepared in special mess trailers. This saved preparation time and manpower but proved hard on morale.[37] The Army also shifted logistics units in the active force to the National Guard and Reserve. This stemmed from CSA General Creighton W. Abrams's intention to prevent the Army from going to war without mobilizing Reserve components; the change also produced budget savings by reducing active-duty end strength. By 1990, 56 percent of logistics formations, including everything from maintenance to medical, resided in Reserve components. Army units could not be manned at 100 percent strength. This was particularly the case in Europe, where German civil servants filled substantial portions of corps and theater army service support units.[38] LOGCAP continued to play a major role when war broke out. About 14,400 contractors supported operations.[39]

Both active-duty and Reserve logisticians performed admirably. Large combat formations such as VII Corps in Desert Storm required enormous support. Air and maritime logistics played crucial roles. Forward support became the standard. Support commands met demands for fuel, food, and ammunition—but barely. Prior to the ground attack, the 22nd Support Command "dumped" massive amounts of supplies in forward logistics bases. Once the attack commenced on 24 February 1991, VII Corps daily fuel requirements skyrocketed to two million gallons. To

satisfy the higher-than-anticipated requirements, its 2nd COSCOM established Log Base Nellingen nearly forty miles inside Iraq the following day. To appreciate the scale of this effort, the daily requirement for VII Corps alone was twice as much as the Red Ball Express delivered on its best day during World War II.[40] Logisticians repeated this impressive performance again during the 2003 invasion of Iraq.

Distribution of some supplies, unfortunately, plagued units during Desert Storm, just as in Vietnam. VII Corps experienced delays receiving repair parts and major assemblies well before the attack. Once again, there were plenty of supplies in theater. The problem became automation shortfalls for ordering, locating, issuing, delivering, and tracking requisitions. Units resolved shortfalls by scrounging, just as they have always done. Although supply requisitions improved during Operation Iraqi Freedom, these procedures warrant continuous review given rapid changes and threats to technology.[41]

Ammunition use during Desert Storm became a major eye opener for a much different reason. Stockage levels far exceeded expenditures. The 22nd Support Command had positioned enough ammunition forward to last for forty-five days.[42] The command's after-action report indicated 450 trucks would be needed to move daily requirements. There were 17,145 rockets for the Multiple Launch Rocket System (MLRS) on hand when the attack started as well as 206,075 120-mm rounds for the Abrams tank. Only 6,604 rockets were fired, or 39 percent, and only 14,061 tank rounds, or 7 percent. Use of other types of ammunition—TOW (tube-launched, optically tracked, wire-guided) tank missiles, Hellfire missiles, 2.75-inch rockets, 25-mm and 30-mm ammunition—each was less than 7 percent of quantities on hand. One study concluded that transportation to move ammunition could have been reduced by 349 trucks, or 78 percent of the planned amount. Expenditure of ammunition during Iraqi Freedom was even lower. Only 6 percent of MLRS rockets were used and 2 percent of tank rounds, with other categories of ammunitions ranging from 5 percent to less than 1 percent.[43]

Estimating logistics for war can never be a precise science because conditions on battlefields change. Such variance between anticipated and actual requirements, however, underscores the importance of continually reassessing planning factors. Differences impact many areas, starting with requirements for deployment.

Back at NTC in 1990, major flaws appeared in overall training and readiness for the total Army. When active-duty units rushed to the Gulf to

confront Hussein, Reserve units also activated in anticipation of deploying, including the 48th Infantry Brigade from Georgia National Guard, which is the roundout brigade for 24th Infantry Division. The brigade came to NTC in January 1991 to prepare for deployment while two other Guard brigades went elsewhere for training. Readiness for all fell short of expectations. The logistics battalion of the 48th had not been in the field training with maneuver battalions. In fact, many of its soldiers had never been to the field, let alone in winter. The brigade spent two months in the desert at NTC, four times longer than any deployment there by an active unit. For the first time, the support battalion found itself supporting battalion task forces while trying to train itself. By the time the brigade was certified as ready to deploy, the war had ended. The preparation delay became a major black eye for the US Army.

The Government Accounting Office (GAO) investigated training of the three National Guard roundout brigades, including the 48th. Its September 1991 report to the secretary of the Army concluded the "Army has not adequately prepared its National Guard roundout brigades to be fully ready to deploy quickly."[44] The delays were caused by a host of issues, including medical conditions, poor leadership skills, insufficient individual and unit training, and shortage of or lack of familiarity with authorized equipment. One glaring shortfall for the support battalion was lack of training with the Unit Level Logistics System, a key logistics tool used for supply requisitions and maintenance management throughout the Active Army. Guard units obtained supplies through a different Guard system. Supply personnel in the 48th were so unfamiliar with how to requisition parts that they ordered M60 tank parts for the brigade's newer M1 tanks.[45]

While the GAO report findings were frustrating, the 48th and many other Reserve units maintained readiness for the future. Elements of that brigade deployed to Bosnia and Herzegovina in 2001 to join the stabilization force there and also deployed to Iraq in 2005 and Afghanistan in 2009.

Strategic Lift Issues and the Mobility Requirements Study

Multifunctional logistics units had permeated the Army by this time. Changes continued to meet new demands on the battlefield and force structure limitations. A modular Army leveraging the new Stryker came into existence in the summer of 2002. Three types of self-contained brigade combat teams—infantry, armored, and Stryker—were expected to provide more flexibility to counter multidomain threats. The DISCOM vanished. Brigade commanders gained an organic, much more capable support battalion. Back-up support came from multi-functional battalions and

brigades at higher echelons under centralized Army Materiel Command control. Under Army 2030, however, logistics support at the division level is changing again. A division sustainment brigade (DSB) is replacing the old DISCOM to back up support battalions organic to maneuver brigades. The new DSB will have a special troops battalion to handle administrative functions and another support battalion to exercise command and control of additional companies normally found at higher echelons.[46]

Although it is unclear how this redesign will increase deployment requirements, it is very clear that the Army should be concerned about getting to a future fight. Again, some reflection is helpful, this time on deployment. As troop and cargo movement was in full swing in 1990 and 1991 for Desert Shield/Desert Storm, US citizens watched television broadcasts showing the transportation "miracle" of moving the equivalent of a good-sized city across oceans. Behind the scenes, however, several problems developed. Significant shortfalls surfaced in readiness of the strategic lift to deploy US forces. One of the eight Fast Sealift Ships carrying equipment for 24th Infantry Division broke down at sea and had to be towed to Rota, Spain, where its cargo was loaded onto a sister ship. Activation of the Ready Reserve Fleet (RRF) took twice the time expected. This fleet consists of groups of ships to be ready for movement at various



Figure 9.5. A C-5 is loaded for an airlift to deliver cargo to troops in the desert during Desert Storm. A large percentage of the C-5 fleet routinely was unavailable due to mechanical issues. Courtesy of the US Air Force.

times. Ships scheduled for five-day breakouts took an average of eleven; those scheduled for ten averaged sixteen. Military Sealift Command (MSC) started chartering ships from industry. Over the next nine months, the command chartered 177 foreign vessels from 34 nations to make up shortfalls. Twice the US Transportation Command (TRANSCOM) even tried to charter Soviet ships, but the Soviet Union declined.[47]

Airlift was better but still not as good as expected. Lynchpins for movement were 110 C–5s and 234 C–141s. Performance of the C–141s proved impressive. The normal peacetime mission rate for the C–141 fleet was about 500 per month. By December 1990, that rate had increased to 1,041. On average, missions for both plane types, however, were delayed 10.5 hours with logistics problems. A third of the C–5 fleet routinely was unavailable. At times, unavailability rose as high as 50 percent. Mission delays were not always because of mechanical issues. There was a chronic shortage of 463L pallets, cargo nets, chains, and straps for cargo.[48]

Despite such shortfalls, TRANSCOM was deservedly praised for getting units and cargo to the Middle East. President Ronald Reagan had formed the command in 1986 with a mission to "provide global air, sea, and land transportation to meet national security needs."[49] One of eleven unified commands, TRANSCOM quickly proved transportation is a key logistics enabler. Desert Shield/Desert Storm also demonstrated the wisdom behind America's Afloat Prepositioning Force consisting of twenty-five ships stationed around the world and divided into three maritime prepositioning squadrons. Two of these squadrons received alerts on 7 August 1990 to move into theater. One arrived a week later. The other closed the first of September.[50]

After the war, DoD convened a mobility requirements study to address deployment shortfalls during Desert Shield/Desert Storm. The subsequent Army Strategic Mobility Program (ASMP), published in March 1993, provided an action plan for implementing fully funded recommendations from the study. Key components were to build 120 new C-17 aircraft; acquire 19 (later 20) large, medium-speed roll-on/roll-off ships (LMSRs); and expand the RRF roll-on/roll-off fleet from 29 to 36 ships. The LMSRs would be self-sustaining lift-on/lift-off ships to operate instream or pier-side. The first five would be purchased from industry and rebuilt; the others would be built from the keel up.[51] Additionally, the program focused on forts to ports by improving infrastructure at installations, railheads, airheads, and seaports to help unit deployment from home stations. It included purchase and positioning of railcars for staging at installations to reduce the number of cars to be repositioned when deployments started.[52]



Figure 9.6 Mobility Requirements Study after DESERT STORM led to the construction of LMSRs (left) and C-17s (right) to improve strategic mobility. Courtesy of the US Navy and National Guard.

Why was this an Army program with all these ships and planes? CSA General Gordon Sullivan had feared that other services might have different priorities; the Army was completely dependent on the Navy and Air Force for deployment.[53] He wanted his staff to track implementation of the new program. Sullivan had a good bit of trust in the Air Force but always suspected the Navy might "steal" monies to buy warships instead. A separate budget line held monies for Navy acquisition of LMSRs. DCSLOG assumed responsibility for tracking progress because mobility is a logistics function. An Army project officer remained onsite with the Navy during conversions about the first five ships. These ships would be cut in half lengthwise and widthwise, then rebuilt as roll-on/roll-off ships for tanks and other equipment. Sullivan was never happy with the 24-knot speed of LMSRs, even though they were much faster than most cargo ships. He wanted ships twice that fast. There was no bigger proponent for big, fast ships than General Sullivan.

Thoughts about the Future

Nothing has changed about the Army's total reliance on other services to get to a fight. Today, those "new" LMSRs are nearly a quarter century old. The much-touted SL-7 Fast Sealift Ships are more than fifty years old. The bulk of the RRF is older than that. During recent RRF exercises, only 40 percent of ships were ready to sail, complicated further by a shortage of 2,000 seafarers in the US Merchant Marine.[54] Aging and potential unreliable strategic lift begs for another MRS. The redesigned Army will be able to do many things but might find itself sitting at home when the next balloon goes up if it cannot get to the fight.

Threats that today's US military faces from port to foxhole have never been greater. This has tremendous implications for logisticians at all

levels. Not since World War II has our country been challenged at sea or in the air. Although US forces might never see another Battle of the Atlantic, where more than 4,000 merchant ships were sunk, there is no question that troops will have to fight for dominance if the United States ever takes on a major combatant. Shipping will require protection. The US Navy was ill-prepared to provide this in the early World War II years. In fact, Admiral Ernest King, head of the Navy at the time, refused to provide escorts for merchant ships. Britain eventually shifted escorts to help, but a dozen German U-boats sank 495 Allied ships off the eastern seaboard in the first six months of 1941—many right offshore from Allied ports.[55] Another reminder is what Britain encountered in the Falklands in 1982, even after it scared the Argentine Navy back to port. The highest tech weapon used against them was a limited supply of Exocet missiles. And yet 25 of 113 ships were attacked—some multiple times—and 6 were lost. Ten of 43 Harriers were destroyed along with two dozen helicopters. Nearly 70 percent of 253 men killed lost their lives at sea, all in a low-tech war that lasted just 74 days from invasion to surrender.[56]

Attacks like Houthi drone strikes on shipping in the Red Sea and Ukrainians sinking Russian ships in the Black Sea should remind the US military about risks at sea today and the difficulty of getting cargo into any port. The enemy does not need to attack convoys like before. It only needs

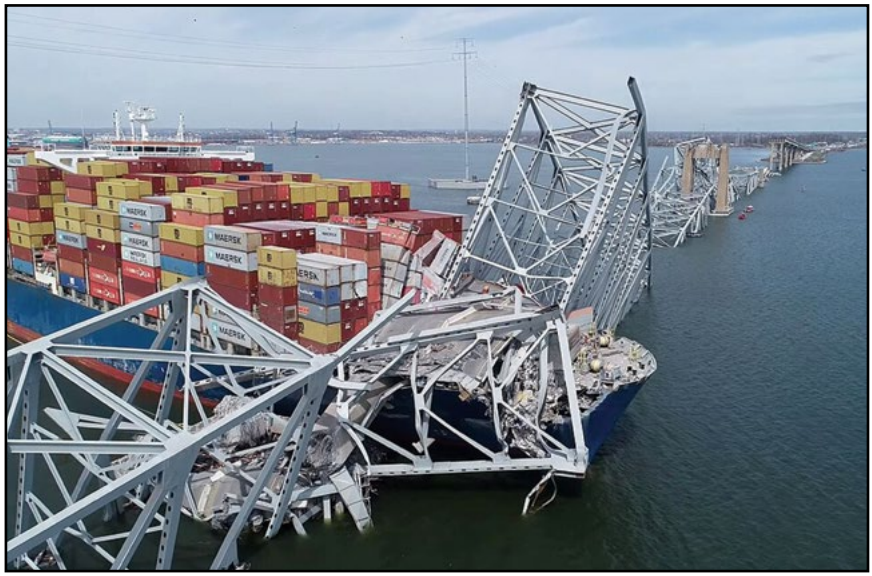


Figure 9.7. After a container ship struck the Francis Scott Key Bridge on 26 March 2024, the Port of Baltimore remained closed for nearly three months. Courtesy of the National Transportation Safety Board.

to concentrate attacks on specific platforms and places to halt the flow of forces and supplies. Even third-world countries and surrogates understand this and have that capability. It is doubtful with satellite surveillance today that any country will be able to hide movements. Recent closure of the Francis Scott Key Bridge after it was struck by a powerless container ship should cause specific concern. Many strategic US seaports are situated behind bridges like the port of Baltimore. A country like China could easily seal off ports by directing their merchant ships to hit bridges.

US support bases have never faced serious threats in previous wars either. During Iraqi Freedom, unanticipated resistance from Iraqi irregulars forced a pause in the advance to secure rear areas. Once the threat was recognized, security for lines of communication required as many forces in the V Corps sector as those advancing to Baghdad.[57] The Falklands War provides another good reference for logisticians. The British BSA was never threatened by ground forces, but its logistics ships anchored nearby in Ajax Bay suffered repeated air attacks that killed many on ships and shore. The buildup on land became seriously delayed as a result.[58] Rear area operations in future wars will present a completely new domain for consideration—far more complicated than fighting an occasional OPFOR breakthrough at NTC. Linear concepts of fronts, frontlines, and rear areas are outmoded notions according to some senior officials in Europe. One general cautioned that it is no longer the last tactical mile which should concern us but the last thousand miles.[59] In other words, the notion of operating out of large logistics bases within a thousand miles of the fighting simply will not work on battlefields against an enemy like Russia with the will and wherewithal to target key logistics operations. The world has seen repeated damage to rear areas in the war in Ukraine.

Likely attacks make it even more important for logistics units to train for disruptions wherever they occur. They must learn to adapt quickly. The situation will be like an Army football team starting a game with Navy then discovering that midshipmen have stolen its playbook. Prior practices will become pivotal at that point so that teams know multiple playbooks and become adept at calling audibles. The near-continuous training conducted in the 1980s helped the US military prepare for surprises. Soldiers seemed to roll from one training event to another, some very big and others quite small. All became important additions to individual playbooks.

I raise such issues because they require rethinking of how the US Army will train. There is no question that logistics in the future *will be contested*. Army Materiel Command recently established the Contested

Logistics Cross Functional Team to assess implications for the future, but the US Army need not wait on assessments to start thinking and training toward the eventuality. How units train—all units not just logistics units and including contractors—can help them adjust to what happens on battlefields. The Army has come to rely heavily on contractors. They might not be able to help in remote areas. Is the Army prepared to operate without them? When is the last time units trained for reconstitution? That difficult process will become necessary in any sustained fight. Does training ever force supply constraints on units? Do US soldiers, for example, ever practice fire discipline while training because of simulated shortage of ammunition? Do US Army mechanics know which parts in key fighting systems are interchangeable or how, heaven forbid, to cannibalize so they can keep critical equipment operating in drastic situations? I remember in Ranger School when instructors caused us candidates to "miss" a resupply occasionally. In the Falklands, if something essential was needed, it took a minimum of forty-eight to seventy-two hours to receive resupply from ships at sea, assuming ships even stored the item. The next support base was 4,000 miles away at Ascension Island, about the same distance as Hawaii to Guam. In the Falklands, the British lost four of five CH–47 Chinook heavy-lift helicopters (as well as all repair parts) and five medium-lift Wessex helicopters when an Argentine Exocet sank *Atlantic Conveyor*. The impact was significant because in addition to having no port they could use, the Falklands offered no airfield and or roads outside of Stanley. Transportation constraints and attacks at Fitzroy delayed forward buildup for the final attack by a week. The British used Band-Aid fixes to keep that lone Chinook flying virtually around the clock for two weeks.[60] Do US soldiers know how to quick-fix equipment anymore? The US military has been blessed with robust supply inventories forever. Some of those supplies simply will not get to the next battlefield when units need them. There is much to consider before that happens.

Tough training opportunities like the US Army enjoyed during the 1980s remain essential. This is particularly true for logisticians because they more than others have come full- circle from days in Vietnam when support came out of robust ports, airfields, and packed warehouses onto good roads, just like they experienced in the Middle East. Having such facilities could happen again if the US Army ends up fighting somewhere on the European continent but certainly would not be as available in the Pacific. Logistics units need to train in the field with those they support, relearning defensive measures and survival skills. This is especially true for Reserve components with limited training days. Too often in the past,

logistics units have sacrificed their own training to support others. Today at NTC, training for logistics is much improved from when I served there and main support battalions remained in the Dust Bowl. Now, higher-echelon sustainment battalions, both active and Reserve, routinely deploy to support brigade battle teams. Not only do they deploy, but they move into "the Box" and relocate at least once during rotations. This is a huge improvement for training echelons above brigades. Units also recently started to undergo EDREs, also a major step forward. The US Army can ill afford a repeat of what happened at NTC during Desert Shield/Desert Storm.

The overall challenge that US Army logisticians face goes beyond what I have already discussed. They will be expected to deploy to Europe or to the Pacific. If wars erupt in those different theaters, requirements will become quite different. The US Army has never deployed quickly. Nor has it fought an expeditionary war recently, even though many units today designate themselves as expeditionary. There is much difference between being expeditionary in terms of deployment and fighting expeditionary in terms of the environment. Army leaders need to start thinking about that. US soldiers must be ready to do both, which is a very tall order. Ramifications for logisticians could not be greater. For one, they can anticipate some facilities and host nation support; for the other, they cannot. The US Army should not expect soldiers to succeed if it did not prepare them to understand the difference.

I hope this discussion of how the US Army trained and adjusted during the Cold War proves helpful in some way. Throughout my career, I have been blessed to support commanders who invited me into their fold and valued my suggestions. I have also participated in many simulations where those running the shows waved away logistics challenges so they would not interrupt war games. My message is simply this: Logistics might not be exciting, but it will impact the US Army's destiny on a battlefield. It will determine whether US soldiers get to the fight. It also will determine whether the United States wins—now more than ever before.

Notes

1. Adrian G. Traas, *Engineers at War*, Vietnam Studies (Washington, DC: US Army Center of Military History, 2010), 2, 6, 8, 10.

2. Traas, 19.

3. Traas, 48, 313.

4. Lt. Gen. Joseph M. Heiser Jr., *Logistics Support*, Vietnam Studies (Washington, DC: US Army Center of Military History, 1974), 9, 33.

5. Charles R. *Shrader, United States Army Logistics 1775–1992*, Volume 3, (Washington, DC: US Army Center of Military History, 1997), 694.

6. Heiser, 19.

7. Shrader, *United States Army Logistics 1775–1992,* 692.

8. N. S. Nash, *Logistics in the Vietnam Wars 1945–1975* (Barnsley, UK: Pen & Sword Military, 2020), 179.

9. Nash, 167–68.

10. Charles R. Shrader, "Contractors on the Battlefield" (essay, AUSA Institute of Land Warfare Landpower, May 1999), 8.

11. Number of contractors in Afghanistan peaked at 112,092 in March 2010 compared to troop level of 79,100. Number in Iraq peaked at 163,446 in September 2008 compared to troop level of 146,800. "Department of Defense's Use of Contractors to Support Military Operations: Background, Analysis, and Issues for Congress," Congressional Research Service, 17 May 2013, Appendix A, Tables A-1 and A-2, 24–25.

12. General Bruce Palmer Jr., *The 25 Year War: America's Military Role in Vietnam* (Lexington, KY: University Press of Kentucky, 1984), Kindle, Chapter 3.

13. T. C. Thayer, *War Without Fronts: The American Experience in Vietnam* (Boulder, CO: Westview Press, 1985), 94.

14. Congressional Medal of Honor Society, https://www.cmohs.org/recipients.

15. General Donn A. Starry, *Mounted Combat in Vietnam*, Vietnam Studies (Washington, DC: US Army Center of Military History, 1978), 181.

16. Starry, 182.

17. Henry G. Gole, *General William E. DePuy: Preparing the Army for Modern War* (Lexington, KY: University Press of Kentucky, 2008), 214.

18. Gole, 214.

19. Lewis Sorley, ed., *Press On: The Selected Works of General Donn A. Starry,* vol. 1 (Fort Leavenworth, KS: Combat Studies Institute Press, 2009), xii.

20. Department of the Army, Field Manual (FM) 100-10, *Combat Service Support* (Washington, DC: 18 February 1988), 1-6.

21. See John L. Romjue, *The Army of Excellence: The Development of the 1980s Army* (Fort Monroe, VA: Office of Command Historian, US Army Training and Doctrine Command, 1993) for discussion of different division organizations.

22. Kenneth L. Privratsky, "The Phantom Warriors of 'Certain Strike,'" *Army*, (March 1988): 43.

23. Col. Joseph Gross in discussion with the author, 27 April 2024.

24. Privratsky, "The Phantom Warriors of 'Certain Strike,'" 43.

25. Privratsky, 44.

26. Privratsky, 45.

27. H-Hour is the hour when an operation or attack is scheduled to commence.

28. Privratsky, 46.

29. Privratsky, 46, 49.

30. Privratsky, 49.

31. Privratsky.

32. Privratsky.

33. Personal For Msg, Cdr USALOGC Ft Lee Va to Cdr 13th COSCOM, Ft Hood, Tx, 21 August 1989, subj: Concept Decision Briefing (Log C2) Concept.

34. Gross in discussion with the author.

35. Shrader, *United States Army Logistics 1775–1992,* 744–45.

36. Jim Prosser, *No Better Friend, No Worse Enemy: The Life of General James Mattis* (New York: Broadside, 2018), 191–92.

37. Frank N. Schubert and Theresa L. Kraus, *The Whirlwind War: The United States Army in Operations Desert Shield and Desert Storm* (Washington, DC: US Army Center of Military History, 1995), 65–66. MREs were the alternative to T-Rations. There were insufficient rations of any kind to begin with. Contracting with Saudi Arabian caterers bridged the gap. Even so, T-Rations were consumed for months in the forward areas. CSA General Creighton W. Abrams reorganized the force to ensure the US Army could not go to war without the country committing its reserves. Footnote 21, 34, *The Whirlwind War.*

38. Schubert and Kraus, 36. The Regular Army was only forty-six percent of combat forces and a mere 42 percent of combat support forces.

39. Lt. Col. Steven G. Woods, "The Logistics Civil Augmentation Program: What is the Status Today?" Strategy Research Project, Carlisle Barracks, Pennsylvania, 3 May 2024, 3.

40. The Red Ball Express operated in France in the summer of 1944 and managed about 800,000 gallons of fuel per day. Fuel consumption extrapolated by Gregory Fontenot from data reported by Headquarters, 1 ID (M) DISCOM, "Desert Shield/Desert Storm Support Operations," Annex O, Robert R. McCormick Research Center, Cantigny, Wheaton, IL. See also Maj. James B. Martin Personal Journal, 26 February 1991, loaned to Gregory Fontenot.

41. "VII Corps Desert Campaign After Action Repot," vol. 6, part 3, Documentation Tab D: Planning Update, 9 February 1991, Courtesy of Gregory Fontenot; and Gregory Fontenot, *The First Infantry Division and the US Army Transformed: The Road to Victory in Desert Storm, 1970–1991* (Columbia, MO: University of Missouri Press, 2017), 178, 380–81. See also Col. Gregory Fontenot, Lt. Col. E. J. Degan, and Lt. Col. David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004), 409.

42. Lt. Gen. William G. Pagonis, *Moving Mountains, Lessons in Leadership and Logistics from the Gulf War* (Boston: Harvard School of Business Press, 1992), 147.

43. Maj. William K Freeman Jr., *A Study of Ammunition Consumption* (monograph, School of Advanced Military Studies, Fort Leavenworth, KS, 2005), 32, 37.

44. US General Accounting Office Report to the Secretary of the Army, "National Guard: Peacetime Training Did Not Adequately Prepare Combat Brigades for Gulf War," September 1993, 3.

45. US General Accounting Office Report, 19.

46. Maj. Nate McDermott, "Sustainment 2030: New Armor Division Plan Impacts Sustainment Force Structure," *Army Sustainment* (Fall 2022): 52–55; and "U.S. Army's Way Forward: 5 New Division Organizations," *Battle Order,* 8 April 2023, https://www.battleorder.org/amp/waypoint-divisions.

47. James K. Matthews and Cora J. Holt, *So Many, So Much, So Far So Fast: United States Transportation Command and Strategic Deployment for Operation Desert Shield/Desert Storm* (Washington, DC: Joint History and Research Center and US Transportation Command, 1992), 118–23.

48. Matthews and Holt, 37, 70, 75.

49. Matthews and Holt, 3.

50. Matthews and Holt, 118.

51. Most of these ships now comprise the US Army's prepositioning program and remain key to the military's mobility. Offloading is limited to fixed ports unless the Army can afford weeks to offload a single ship onto temporary piers.

52. Maj. Angela R. Phelps, "Strategy Mobility," *Army Logistician* (May–June 1996): 26–28.

53. Col. John R. Dabrowski, "An Oral History of General Gordon R. Sullivan" (Carlisle Barracks, PA: US Army Military History Unit, 2002), 283–87.

54. Ben Werner, "Report: U.S. Sealift Lacks Personnel, Hulls, National Security" *USNI News* (14 February 2020), https://news.usni.org/2020/02/14/report-u-s-sealift-lacks-personnel-hulls-national-strategy.

55. Kenneth L. Privratsky, *The Norwegian Merchant Fleet in the Second World War* (Barnsley, UK: Pen & Sword Maritime, 2023), 124–25.

56. Lawrence Freedman, *The Official History of the Falklands Campaign*, vol. II (London: Routledge, 2005), 771–77, 787–89.

57. Eric Peltz et al., "Sustainment of Army Forces in Operation Iraqi Freedom: Major Findings and Recommendations" (Santa Monica, CA: RAND Corporation, 2005), 2, 107.

58. Kenneth L. Privratsky, *Logistics in the Falklands War: A Case Study in Expeditionary Warfare* (Barnsley, UK: Pen & Sword Military, 2016), 111–21,124,133–35.

59. Christopher Kinsey and Ronald Ti, "Combat Logistics in the Twenty-First Century: Enabling the Mobility, Endurance, and Sustainment of NATO Land Force in a Future Major Conflict," in *Advanced Land Warfare*, eds. Mikael Weissmann and Niklas Nilsson (Oxford: Oxford University Press, 2023), https://academic.oup.com/book/45784/chapter/400597938.

60. Privratsky, *Logistics in the Falklands War*, 115.

Chapter 10
Built for Purpose: Special Forces and the Global Fight to Free the Oppressed

Charles T. Cleveland

Time brings perspective to how America waged political warfare and won. Maturing from a humble start, the Army Special Forces represents a unique US Army capability that would threaten the hold that at-risk authoritarian enemies had on their populations. It would eventually be America's best military asset in aiding friendly countries in their fight to remain outside the enemy's influence. As a result of its contributions, the Army's irregular warfare "maneuver force" earned its place on the victor's stand alongside America's nuclear forces and conventional Army and Navy formations in winning America's first global struggle with a hostile competing ideology.

Created seven years after World War II ended and at the direction of Army leadership, US Army Special Forces was designed to address a gap in America's capabilities that emerged early in the Korean War and became further apparent after the uprisings in Eastern Europe in the early 1950s.

General war plans included unconventional warfare (UW) annexes, and for the 10th Special Forces Group (10th SF) during the war in Europe, the missions were behind the Iron Curtain. In the last decade of the Cold War, US European Command (USEUCOM) modified the group's mission to the front of nine NATO corps on the central plains to include strategic or special reconnaissance that would be followed by UW. It also conducted selected direct-action missions, to include the employment of "backpack" nuclear weapons.[1] Thankfully, those plans never had to be executed, though they were rehearsed every year across Europe.

Special Forces' indispensable and essential contribution was made to the hundreds of missions executed around the world over the course of the Cold War. Often alongside civilians from the US government, the countless interactions in the countryside and capitals of friendly nations would build trust in America. Special Forces is the one US Army combat arm created in response to the ideological threats of the Cold War, and it became one of the key instruments in America's ultimate success in ending the Cold War.

President John F. Kennedy would shepherd a rapid expansion of Special Forces and a push to create an intellectual foundation from which

to respond to what he called "another kind of war."[2] His premature death removed the most powerful champion for what the US Joint Chiefs of Staff called irregular warfare. Given US irregular warfare failures in the sixty years after Kennedy's died, it is natural to speculate on how America would have done if he had the chance to finish what he started.

My generation of Special Forces was a product of President Kennedy's vision. Helping those who were seeking to free themselves from oppression, *De Oppresso Liber* was the Special Forces creed. It is what drew us in and animated us once there. If deterrence held, then to win we had to ensure that Soviet influence and ideology would not be allowed to spread. That meant having credible, honorable, and lethal men in the places that mattered—in numbers small enough not to disturb the indigenous political ecosystem yet large enough to get the job done. It meant adapting, task-organizing small teams of experts who could survive and work to counter the threat from the "inside-out." A 1962 *Saturday Evening Post* article called them "Harvard PhDs of the Special Warfare Art."[3] Special Forces teams are designed to enter highly uncertain situations where knowing what mission success will entail is impossible without being there. Go early, go local, go small, and go long were to become unofficial tenets in their campaigns. In the words of one retired Green Beret general officer, "We asked men to perform impossible missions . . . and they did it."[4]

What follows is a very incomplete telling of the US Army Special Forces story from its creation to the dissolving of the Warsaw Pact and destruction of the Soviet Union.[5]

A New and Unique Capability—The OSS Heritage of US Army Special Forces

The US Army officially traces the lineage of its Special Forces to the 1st Special Service Force and the Ranger battalions of World War II.[6] I proudly stood next to 1st Special Service Force veterans during a commemoration of the "Devil's Brigade" achievements and recognized the unit's legacy. The *true* lineage of US Army Special Forces, though, traces to the Office of Strategic Services (OSS), a quasi-military command created in part to conduct guerrilla warfare in occupied Europe during World War II.[7] A combat veteran of that organization, Col. Aaron Bank, was a member of the concept team that created the first permanent postwar US Army unconventional warfare capability. He was unequivocal in stating that Special Forces grew from the OSS.[8]

At the urging of William "Wild Bill" Donovan, a successful New York lawyer and World War I Medal of Honor recipient and friend, Pres-



Figure 10.1. Office of Strategic Services training during World War II. Courtesy of the US Army Special Operations Command.

ident Franklin D. Roosevelt established the office of the Coordinator of Information (COI) early in World War II. Donovan proposed that the organization combine the functions of strategic intelligence collection and analysis with a means to conduct subversion, sabotage, and psychological operations. In June 1942, the president issued an executive order redesignating the COI as the Office of Strategic Services, or OSS, and placing it under the direct jurisdiction of the Joint Chiefs of Staff (JCS).[9]

America's capability in this field benefitted greatly from a close collaboration with the British, whose more experienced Special Operations Executive (SOE) tutored their American Allies in this unorthodox form of warfare. Either in combined operations with the British or unilaterally, the OSS unconventional warfare capability matured during the war with operations being carried out around the world (seven countries in Western Europe, one country in North Africa, three in the Balkans, two in Scandinavia, five in Southeast Asia, and China).[10]

While many of these efforts were economy-of-force operations, others were executed in direct support of large Allied ground campaigns. They proved invaluable in disrupting enemy transportation, communications, and logistics. In France during the weeks following the Normandy invasion, Allied unconventional warfare operations succeeded in significantly delaying the movement of German combat divisions to the Normandy bat-

tlefield. According to Allied records, the French Resistance—aided and enabled by OSS and SOE—prevented six German divisions from reaching the battlefields of Normandy during the critical three weeks following D-Day; General Dwight D. Eisenhower estimated that the French guerrilla forces were equivalent to fifteen Allied divisions.[11]

Conversely, in Yugoslavia, OSS and SOE operatives worked with large resistance forces to tie down several German divisions, thus preventing them from being employed elsewhere. According to British Prime Minister Winston Churchill, "No fewer than twenty-one German divisions were held in the Balkans by Partisan forces."[12]

President Harry S. Truman deactivated the OSS at war's end, with its various intelligence and special activities transferred to the State Department or the Army.[13] Then in 1947, the US government established the Central Intelligence Agency (CIA) and began rebuilding capabilities many military and civilian leaders had mistakenly thought were necessary only when a nation's army and navy were in active combat.[14]

Global Containment: Supporting War Plans, the Korean War, and War in Europe (1952–61)

America's Cold War containment strategy determined nearly everything the country did in the US military, and to which Special Forces contributed so much. This strategy derived from an influential essay written by statesman George F. Kennan—published in the July 1947 issue of *Foreign Affairs*—in which he described "The Sources of Soviet Conflict."[15] That strategy drove American foreign policy for the following four decades, commencing with President Truman's doctrine of providing military and economic assistance to countries fighting communist expansion and continuing through President Ronald Reagan's doctrine of rolling back communism.

When war erupted in Korea in late June 1950, the gap in America's special warfare capability quickly became apparent. With Communist North Korean forces overrunning South Korea, hundreds of anti-communist citizens from the north fled to islands off North Korea's west coast. Eighth US Army began preparations to build an anti-communist partisan force from this refugee population. With the Eighth Army providing arms, explosives, radios, medical supplies, and rations, the Korean partisans began conducting mostly seaborne raids to interdict North Korean lines of communication. But US officers and noncommissioned officers (NCOs) with knowledge and experience in this type of warfare—needed to in-

struct, advise, and even lead such partisans—were rare. Shortcomings in the Army's ability and expertise in this unorthodox type of warfare were soon evident. As a result, in 1951, Chief of Staff of the Army (CSA) General J. Lawton Collins directed Brig. Gen. Robert A. McClure, Eisenhower's chief of psychological operations in Europe during World War II, to develop a concept for a permanent and ready capability to support partisan or guerrilla warfare.[16]

General McClure had already been campaigning within the Army for permanent psychological operations and unconventional warfare capability to face another threat. In April 1949, the United States became a member of NATO, pledging to stand alongside its allies in deterring and, if necessary, defending against a Soviet attack on Western Europe. Now, two years later, the conflict in Korea and his own knowledge of the European theater and the threat to NATO forces convinced McClure to advocate for a standing capability to support resistance groups inside the Soviet Union's growing sphere of influence. The work of further developing the concept fell to a small group of men in General McClure's Office of the Chief of Psychological Warfare in the Pentagon. Joining McClure in this working group were OSS veteran Col. Aaron Bank, former Philippines resistance leaders Col. Russell W. Volckmann and Col. Wendell Fertig, and Merrill's Marauders veterans Lt. Col. Melvin Russell Blair and Lt. Col. Marvin Waters.[17]

The concept team quickly discarded ranger and airborne reconnaissance units as models for the new force, instead preferring to pattern any new unit after OSS structure and capabilities used primarily in the European Theater of Operations. In Bank's words, small OSS teams of the kind he had served with during World War II, supporting French resistance groups deep behind enemy lines, were "the building blocks upon which SF [Special Forces] was founded" and served as a model for what would become today's Special Forces Operational Detachments "Alpha" (ODAs or A-Teams).[18]

Cold War competition for influence between competing worldviews began immediately following World War II. The United States and the Soviet Union sought to manipulate political outcomes in China (unsuccessfully for the United States) and Greece (successfully for the United States). Similar contests emerged in Asia (e.g., Korea, Tibet, Vietnam), Africa (Algeria, Kenya), and Latin America (Bolivia, Cuba). These smaller conflicts or interventions sought to decrease the likelihood of conventional war on the plains of Europe, an imperative made near existential in 1949 when the Soviet Union demonstrated it had broken the American

monopoly on atomic weapons. The conflicts or interventions increasingly involved wider arrays of national security tools, many in agencies other than the Department of Defense. The goal was to outlast and eventually reverse the spread of communism.

The 10th Special Forces Group: The Originals (1952–91)

The US Army established the Psychological Warfare Center at Fort Bragg, North Carolina, in May 1952. Its subordinate 10th Special Forces Group (Airborne) was activated the following month with Col. Aaron Bank as its first commander. The center and the group were the result of the work of McClure's concept team. The new Special Forces unit was to prepare for and conduct unconventional warfare behind enemy lines in the event of a Soviet invasion of Western Europe.[19]

American ground, naval, and air forces came under the newly formed USEUCOM in 1953. One of the command's responsibilities was to "coordinate and direct intelligence, unconventional warfare, and psychological warfare" in the European theater.[20] Owing to building unrest in Soviet-occupied eastern Europe, specifically in East Berlin in June 1953, the JCS directed the US Army to forward deploy Special Forces to West Germany.[21] The group at Fort Bragg was divided that fall, with half the force departing for Germany and retaining the 10th Special Forces Group designation while the other half remained at Fort Bragg to become the nucleus of the newly activated 77th Special Forces Group. Upon their arrival in Germany, the 10th Group settled into facilities at Bad Tölz and Lenggries in the scenic Alpine region of southern Bavaria.[22]

The Lodge-Philbin Act Seeks to Recruit Refugees (1950–59)

Critical to the evolution of forces to counteract insurgency, the 1950 passage of Public Law 597 provided a lasting national capability to focus human resources onto military capabilities. Commonly referred to as the "Lodge Act," the law provided authorization for the US Army to enlist up to 2,500 men (later expanded to 12,500) from among the refugee populations in Europe. Most were people who had fled Eastern Europe and the Baltic countries during or after World War II.[23] The US government would award US citizenship under the program to aliens in return for five years of military service. Several Lodge Act soldiers from Eastern Germany, Czechoslovakia, Finland, Poland, Hungary, and Bulgaria were recruited into the new 10th Special Forces Group. Given the group's mission of conducting unconventional warfare in occupied Eastern Europe in the event of war, their native language skills and first-hand knowledge of potential

areas of operations of the Lodge Act volunteers were of tremendous value.[24] As population control evolved in the Warsaw Pact area, fluency and familiarity with the region where unconventional warfare efforts would take place became even more desirable, even necessary. This recently arrived pool of military-age manpower with such fluency was a windfall for the intelligence services and the US Army. The new recruits played an outsized role in building confidence in Special Forces ability to survive and effectively support a general war from behind the lines in Eastern Europe.

Detachment A: A Tool for Unconventional Warfare (1956–84)

In August 1956, six Special Forces detachments—each composed of a master sergeant and five men—moved from Bad Tölz to the American occupation zone in West Berlin, deep within communist East Germany, to prepare for "stay behind" unconventional warfare in the event of a Soviet invasion. The element, led by a major with a captain as executive officer, officially became the 7761st Army Unit, though it would later be redesignated the 39th Special Forces Operational Detachment. Attached to the 6th Infantry Regiment of the US Army's Berlin occupation force, members of the command referred to it as the "Security Platoon." In April 1958, the unit was reassigned to Headquarters, US Army Garrison Berlin and officially became Detachment A, Berlin Brigade, US Army Europe (USAREUR) in April 1962. It would keep this title until its deactivation on 30 December 1984. Over the course of twenty-five years of extensive operations and the development of sophisticated intelligence tradecraft and unconventional warfare techniques—training in West Berlin, the unit was a foundry for UW against a sophisticated enemy. Detachment A demonstrated that UW was not only possible but could be highly effective if time and special care were taken to build, nurture, and maintain it. In the spring of 1980, members of the unit successfully infiltrated Iran to conduct clandestine reconnaissance and facilitate the April 1980 rescue attempt of fifty-two American hostages in Operation Eagle Claw. One former Detachment A member reported that a post-Cold War review of old East German intelligence files indicated the unit's cover and the security of its sensitive activities held up remarkably well given the length of time it was active, and the intense scrutiny paid to all Americans in West Berlin.[25]

President Kennedy's Vision for Special Warfare (1961–63)

In November 1960, Senator John F. Kennedy was elected as the thirty-fifth president of the United States. As a member of the Senate Foreign Relations Committee and a World War II naval hero, he already under-

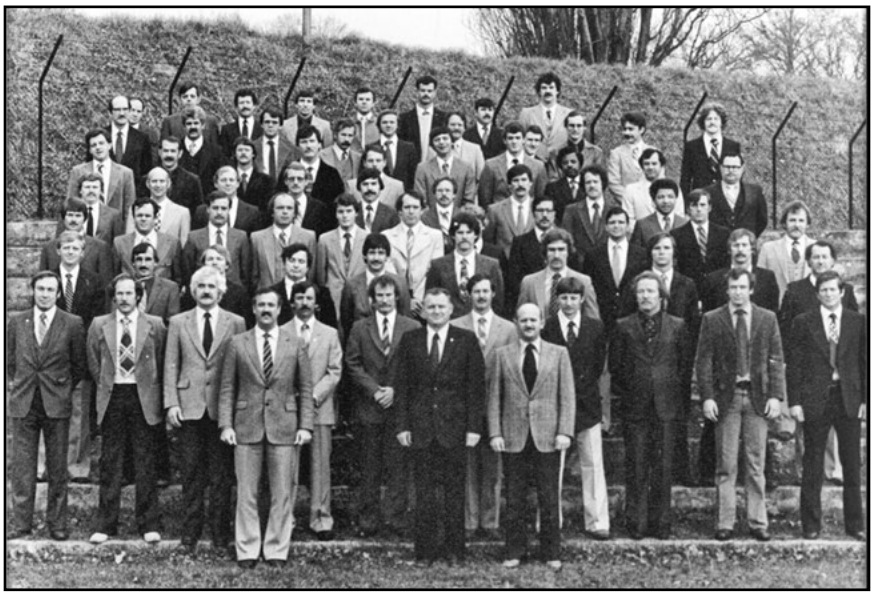


Figure 10.2. Detachment A Berlin Special Forces come of age. Courtesy of Wikimedia Commons.

stood the growing threat from communism's aggressive efforts to exploit instability in developing countries. The new president had a vision for how to confront the communist threat, an intellectual curiosity, and, at forty-three years of age, the energy to make difficult changes in the Department of Defense and other agencies to implement his vision.

In a speech on 6 January 1961, two weeks before Kennedy's inauguration, Soviet Premier Nikita Khrushchev stated that supporting wars of national liberation in the world's underdeveloped countries represented the greatest opportunity for political gain in the Soviet Union's global competition with the West. With the premier's strategy on his mind, President-elect Kennedy was compelled to assess whether current US military formations and other government agencies could counter Soviet support to a growing number of insurgencies. The armed threat the nation faced, he believed, was not the nuclear clash so many had feared throughout the fifties. Instead, it was conflicts of a different sort—subversion and insurgency, guerrilla warfare, and propaganda—a kind of conflict he did not believe America was prepared to fight.[26]

From his work in the Senate, Kennedy knew he was inheriting several foreign affairs crises from the previous administration. In 1959, Eisenhower had approved Army Special Forces and Air Force special operations

personnel to conduct training to support the Royal Lao Army and begin developing a secret guerrilla force among the ethnic Hmoung population of Laos.[27] In Africa, unrest began in the Congo as it gained independence on 30 June 1960, and various factions began competing to assume power. When Belgium withdrew its troops from the country, teams from the 10th Special Forces Group in Germany conducted an operation to evacuate missionaries and other personnel from the country. Finally, during the waning days of the Eisenhower administration as the Central Intelligence Agency (CIA) began developing plans for a rebel invasion force to be landed in Cuba, the president approved a CIA request for three dozen Special Forces personnel to train the rebel brigade at a secret base in Guatemala.[28]

These were all symptoms of an increasingly turbulent world. Kennedy was certain the United States needed a better, more sophisticated means to deal with challenges posed by insurgencies, internal conflicts that he referred to as "subterranean" wars. As he took office on 20 January 1961, Kennedy was determined the United States needed a more vigorous special warfare capacity in the military and other branches of government. He read widely on the subject of guerrilla warfare and discussed the subject at length with presidential aide Roger Hilsman, an experienced OSS veteran.[29] Hilsman informed the president that the kind of guerrilla warfare he was engaged in during World War II was today conducted by the US Army's Special Forces.[30]

Like the OSS, Special Forces was prepared to organize, train, and lead native irregulars in guerrilla warfare against enemy forces. Kennedy's intent, however, was to use Special Forces in a counter-guerrilla warfare, or counterinsurgency role. Who better to lead the campaign against communist-backed guerrillas, he reasoned, than some of the world's experts at promoting and facilitating guerrilla warfare? Kennedy envisioned an integrated counterinsurgency strategy, with political, military, economic, and informational dimensions. He needed an innovative military force, steeped in irregular warfare, to serve as the campaign's vanguard. The Army's Special Forces became his chosen force.[31]

In a four-page letter to the president in February 1962, CSA General George Decker provided an overview of current Special Forces organization, functions, and capabilities.[32] He described how Special Forces were organized and where they were based, with groups located at Fort Bragg and in West Germany and Okinawa. The 7th Special Forces Group at that time had thirteen detachments operating in Laos on a mission that began in July 1959. Meanwhile, Pacific-based detachments were training forces in Vietnam, Korea, Taiwan, and Thailand.[33]

Decker informed Kennedy that Special Forces were "overextended for the performance of current and projected tasks and for overseas emergency deployment in support of contingency plans."[34] Consequently, Kennedy ordered a 500-man increase in the force. Finally, Decker took steps to disabuse the president of the notion that the priority for all Special Forces could be shifted to the counterinsurgency role. He cautioned Kennedy to keep in mind that Special Forces were established to carry out unconventional warfare with resistance forces in an enemy's rear area in the event of war, and that existing war plans still called for them to fulfill that role.[35]

With Kennedy's backing, America's special warfare capability experienced a period of remarkable progress and expansion. The president continued to press for updates on the progress of expanding and improving the capacity of the force. Within two years, four additional active duty and four reserve component Special Forces groups were added to the force. Soon detachments were deployed to many countries throughout the world—Europe, Asia, Central and South America, and Africa. Kennedy took personal pride in the Special Forces, according to aide Ted Sorensen, overseeing their growth fivefold in his less than three years in office.[36]

President Kennedy's grasp of the subject of irregular warfare was evident in his stirring and timely June 1962 speech to the graduating class at the US Military Academy in West Point. His determination to organize an integrated political, economic, and military response to the communist political warfare was clear as he spoke of "another type of war, new in its intensity, ancient in its origins—war by guerrillas, subversives, insurgents, assassins" and described a need for "a whole new kind of strategy, a wholly different kind of force, and therefore a new and wholly different kind of military training."[37]

Vietnam: Changing Roles for Special Forces (1961–75)

From its inception, US Army Special Forces worked with or for other agencies and departments. In 1961, early SF medical support missions to Vietnam grew into the successful CIA-SF-run Civilian Irregular Defense Group (CIDG) program. Eventually, the program ran eighty CIDG camps totaling more than 30,000 irregular soldiers. Additionally, Special Forces conducted long-range reconnaissance, reaction force, and direct-action operations with nearly 6,000 indigenous troops as part of projects Delta, Sigma, and Omega. Including their advisory support to regional and popular forces, the fewer than 3,000 soldiers of the 5th Special Forces Group trained, advised, and in some cases led a total of roughly

60,000 armed irregulars during the war. This represented a 20-to-1 force multiplication factor.[38]

From November 1962 through 1963, Special Forces experienced mixed results from a Defense Department initiative known as Operation Switchback. President Kennedy no longer trusted the CIA because of the April 1961 Bay of Pigs fiasco in Cuba. By late 1962, he was impatient with the Agency's lack of progress in conducting unconventional warfare operations that he had directed in North Vietnam. As a result, the president shifted responsibility for some major CIA projects in Vietnam to the Pentagon. This included not only the North Vietnam UW operation but the CIDG project, as well. To orchestrate the UW mission, the Defense Department established a classified joint command—innocuously called the Military Assistance Command, Vietnam, Studies and Observation Group (SOG)—in April 1964. Under Operation Plan 34A, SOG implemented four distinct missions. The first involved continuation of the CIA's established efforts to insert, by sea or by parachute, South Vietnamese agents into North Vietnam to covertly build intelligence-gathering networks and organize resistance. The second mission, a successful psychological operation, was to fabricate a fictitious home-grown resistance movement within North Vietnam. Third was to conduct operations aimed at maritime interdiction along the coast in the north, while the fourth studies and observation group mission—the one that proved most successful—involved cross-border strategic reconnaissance operations into Laos.[39]

SOG's politically and militarily high-risk cross-border reconnaissance operations, carried out by small teams of irregulars led by Americans, provided valuable intelligence as well as opportunities to direct air strikes against the Ho Chi Minh Trail, the route the North used to infiltrate troops and supplies into South Vietnam.[40]

In the spring of 1970, intelligence reports indicated that the North Vietnamese held American prisoners of war in a small prison camp at Son Tay, just outside the North Vietnamese capital of Hanoi. At the Pentagon, Brig. Gen. Donald D. Blackburn, a veteran of the World War II guerrilla warfare campaign in the Philippines, planned a raid on the camp to rescue the prisoners. In November of that year, Joint Contingency Task Force Ivory Coast was activated under the command of General Blackburn, and the raid was carried out by US Army and Air Force special operations forces on 20–21 November 1970. The ground assault force was a team of hand-picked Green Berets led by Col. Arthur D. "Bull" Simons. The well-conducted raid failed, however, because the prisoners had been moved earlier due to threatened flooding of a nearby river.[41]

Special Forces Resident Detachments and the Security Action Forces (1956–91)

In addition to Detachment A in West Berlin, the Army established Special Forces "resident" detachments in Taiwan and Korea; the Korean unit has served continuously from 1957 to today. To better support operations in Southeast Asia, the Army also forward based a larger permanent presence in Thailand, the 46th Special Forces Company. Army sections in Military Assistance or Advisory Groups around the world had Special Forces personnel assigned to provide a permanent counterinsurgency advise-and-assist capability.[42]

To operationalize President Kennedy's counterinsurgency strategy, the Army established four regional Special Action Forces (SAF), each task-organized around a Special Forces group with attached civil affairs, engineer, medical, military intelligence, and Army Security Agency detachments. Additional attachments, as needed, might include aviation, psychological operations, military police, signal, and electronic warfare elements. Primarily engaged in civic action work, all operations were coordinated with US embassies in the target region to ensure that activities complemented interagency development programs. The SAFs also managed security assistance training teams throughout their region. These organizations included SAF Latin America, formed in 1963 around the 8th Special Forces Group based in Panama—then under the command of SF legend Col. "Bull" Simons—and SAF Asia, built around the 1st Special Forces Group in 1964 and based in Okinawa. The remaining two—SAF Middle East, formed on the 3rd Special Forces Group, and SAF Africa, based on the 6th Special Forces Group—were stationed at Fort Bragg.[43] From 1967 to 1968, the 6th SF Group was under the command of Merrill's Marauders and OSS veteran Col. Samuel V. Wilson, who later served both in Special Forces and intelligence assignments to the rank of lieutenant general. The multi-lingual Wilson was viewed by many as a Special Forces elder statesman and mentor. All SAFs were dissolved by 1970, when assistance programs were cut and US diplomatic missions reduced because of the approaching end of US involvement in Vietnam. On average, special operations forces conducted seventy mobile training team missions to third-world countries per year from 1963 to 1970.[44]

In Latin America, for example, Green Berets provided training and conducted counterinsurgency operations in Bolivia, Venezuela, Guatemala, Colombia, and the Dominican Republic throughout the 1960s. In a little known but remarkable 1968 operation, Bolivian rangers who had

been trained by US Army Special Forces killed Che Guevara, the notorious Cuban revolutionary.[45]

In September 1968, the 10th Special Forces Group in Europe—minus the 1st Battalion—was restationed to Fort Devens, Massachusetts. The 1st Battalion remained in Bad Tölz, Germany, until being relocated to Panzer Kaserne in Böblingen near Stuttgart, Germany in July 1991; the battalion remains there today.[46]

The 10th Special Forces Group, still imbedded in the war plans for general war in Europe would survive the lean years following the US withdrawal from Vietnam. Between 1969 and 1975, US Army Special Forces funding was cut by 90 percent and the force that had enjoyed presidential top cover a decade before was reduced to its smallest size since 1955.[47] The Army deactivated the 3rd Special Forces Group in 1969, the 6th Special Forces Group in 1971, the 8th Special Forces Group in 1972, and the 1st Special Forces Group in 1974. The 7th Special Forces Group narrowly missed being the next in line for deactivation.[48]

Army Special Forces leadership looked for ways its inherent unconventional warfare tasks could become a relevant part of the new AirLand Battle doctrine. Immediately, command and control questions surfaced, and the Army began embedding Special Operations coordination or command and control elements within the operations staff at conventional Army corps and above headquarters.



Figure 10.3. A US Army Special Forces paratrooper (a Green Beret) conducts a high-altitude low-opening military freefall jump with an MK–54 Special Atomic Demolition Munition (SADM), part of the Cold War "Green Light" Teams. Courtesy of the US Army.

The 10th Special Forces Group (Airborne) (1979–91)

The storied 10th Special Forces Group (Airborne) had grown some deep roots in New England by 1979 when I signed in; the unit had moved from Germany to Fort Devens, Massachusetts, only eleven years prior. The winters and mountains—though not the Alps—were outstanding training grounds, and the New Englanders proved to be excellent "partisans," actively supporting the 10th Group's unconventional warfare stateside training. This seemingly quick cultural and social adaptation to a new basing location would repeat itself in the mid-1990s when the unit moved again as part of a Base Realignment and Closure plan to Fort Carson, Colorado. Because of unit turnover, the collective memory soon lost knowledge of winter warfare in Vermont, reveling instead in skiing and winter warfare among the "fourteeners" of Colorado.

In 1979, the 10th Group had a healthy number of officers and senior NCOs who were Vietnam veterans, with some true legendary SF operators and one future sergeant major of the army among them. SF had survived a devastating reduction in force a few years prior that had pink-slipped enough officers that the shock still echoed in the ranks.

Though I came to the 10th Group as an SF-qualified second lieutenant, that possibility would go away in the early 1980s with the creation of the SF warrant officer program. Army organizational documents changed and reflected warrants replacing lieutenants as the team executive officer. The creation of the SF warrant officer program, development of SF Assessment and Selection as a prerequisite to attending the qualification course, and creation of combat arms branches for officers and enlisted were seminal changes most responsible for today's US Army Special Forces.

The mission of the military intelligence support team was to work alongside area specialist teams (AST) to support the SF team from prep through redeployment. The AST had a unique role, essentially that of "case officers" or handlers for the team. They safeguarded the mission's compartmented and sensitive information (e.g., identities, mission specifics, and escape and evasion plans).

Unconventional warfare in eastern Europe and Russia would mean conducting resistance operations, gathering intelligence, facilitating the movement to safety of downed pilots, and interdicting strategic targets, such as key enemy air defense nodes. Such missions could last the duration of the war and required deep knowledge of the team's operational area, the language and culture, as well as the anticipated population control measures. Such operations demanded strict compartmentation.

Because destabilization operations could draw hostile intelligence service attention, it was decided to avoid this intervention.

In October 1979, I went on temporary duty to USEUCOM and SOTFE (Special Operations Task-Force Europe) headquarters at Patch Barracks in Stuttgart, West Germany, to support scenario development for Exercise Flintlock, the 10th Special Forces' annual unconventional warfare exercise conducted with key NATO and interagency partners across Europe. This Flintlock iteration was a change from the past as strategic reconnaissance became a primary mission with unconventional warfare as a follow-on if possible.

In 1981, NATO Supreme Allied Commander General Bernard Rogers made it clear that he wanted Special Forces to be NATO's eyes and ears because if "war should come, he wanted to know when and where the Warsaw Pact units were moving, preferably as it was happening."[49] By 1982, when I left 10th Group, strategic reconnaissance had become SF's main role in the war plans.

The 10th Group's assumption of this reconnaissance role can be traced to a 1974 decision to create a second US Army ranger battalion. Two companies of the 1st Ranger Battalion had been missioned to support the V and VII Corps as long-range recon units. SF leadership made the case that Rangers did not have the training, skill set, or support to conduct the mission. In-



Figure 10.4. This image from a US Army Special Operations Recruiting Team Europe video shows Special Operation forces operating in Europe during the Cold War. Special Forces were fully integrated into USAREUR War Plans. Courtesy of the US Army.

stead, SF leadership argued that SF units could perform the mission—likely an effort to protect SF force structure and gain new relevance. The Ranger units never returned to the mission, and the 10th Group conducted deep strategic reconnaissance through the dissolution of the Warsaw Pact in 1991.

The concept was to create hide sites behind the first echelon of Warsaw Pact formations or ahead of Soviet advances in "stay behind" positions. Considerations included infiltration, hide site selection, hide site construction, site camouflage and spoil camouflage, communication camouflage and security, optics, winter clothing, food, human waste disposal, ammunition, physical conditioning in hide sites, anticipated mental stress, language and area study for survival.

In 1986, the Army reactivated the Corps' Long Range Surveillance Units (LRSUs). I was at the end of my tour in the VII Corps MI Battalion that was to be the LRSU higher headquarters when they began forming the unit. Six years earlier, I witnessed the strategic recon mission eclipse the UW mission in 10th SF Group and then saw the Army turn to building an organic capability with the LRSUs.

As a footnote, the 10th SF teams were the first American units to deploy to the former Warsaw Pact countries, their former target countries, this time to build relations. Because of their success in building relations with their special operations counterparts from across the former Warsaw Pact, many of those countries would join in America's War on Terror a decade later. Special operations troops from Poland, the Baltic countries, Romania, and even the Republic of Georgia operated under US-led international coalitions assembled for Iraq and Afghanistan. The Central Asian states allowed US access for operations in Afghanistan in part because of the relationships created by diplomats aided by small SF deployments after the Berlin Wall fell.

Under Presidents Reagan and George H. W. Bush, Special Forces missions outside Europe accelerated as SF groups came back online and money became available to the four-star regional combatant commanders. The Reagan-inspired strategy to win the Cold War resulted in needed funds, programs, and authorities to train foreign forces and conduct partnered operations, most often to combat communist insurgencies. These operations were designed to promote stability in young democracies and inoculate them from outside hostile influence. America purposely set out to thicken the lines of conventional and nuclear deterrence and, more importantly, to go on offense to win the irregular war that the Soviet Union

had determined was its best strategy against the United States and the West. It would also be a nod to JFK's vision from two decades prior.

The Army followed my VII Corps tour with a functional area assignment back to SF in 1987 with an inter-theater posting to 3rd Battalion, 7th Special Forces Group, in the Republic of Panama. There, I would command an SF team, an SF company, and finish out as the battalion operations officer through Operation Just Cause, the 1989 invasion of Panama to oust President Manuel Noriega. Throughout my three and half years overseas, the 7th Special Forces Group was fully engaged supporting the war in El Salvador, conducting State Department-funded counterdrug support operations. Over the last five years of the Cold War, the unit deployed teams to every country in Central and South America. The Cold War would end in 1991while I was attending the Command and General Staff College.

The Rise of Counterterrorism and the Creation of USSOCOM (1979–91)

By the late 1970s, terrorism was increasingly becoming an area of concern to national leaders as a growing number of commercial airliner hijackings resulted in hostage situations. The United States sought to learn from two highly successful foreign hostage rescue operations: a 4 July 1976 effort by Israel Defense Force commandos to free 102 hostages from Air France Flight 139 at the Entebbe Airport in Uganda and another on 18 October 1977 by West German commandos at Mogadishu, Somalia, to free eighty-six Lufthansa Flight 181 hostages. Efforts to establish a US counterterrorism and hostage rescue capability began in November 1977 when the 5th Special Forces Group organized a force known as "Blue Light" that served as an interim capability until the Army activated a permanent special mission unit the following year. While several units created in this period drew heavily from US Army Special Forces, they were not by design a part of the Special Forces Regiment.[50]

On 4 November 1979, Iranian radicals stormed the US Embassy in Tehran, taking fifty-two Americans hostage. An attempted 24 April 1980 rescue of the hostages by a special operations task force—Operation Eagle Claw—ended in disaster at a refueling site in the Iranian desert known as Desert One. The unsuccessful rescue proved the nation's leaders had not done enough to build the US counterterrorism and global surgical strike capability. With Congressional and presidential emphasis, what was to follow was development of an unparalleled ability to project America's power and kill those who would do the country harm.[51]

In 1985, Congress passed the Goldwater-Nichols Act to help fix problems identified at Desert One and from the 1983 operation in Grenada. It would reshape the military by forcing more joint training and education. But it was 1986's Nunn-Cohen Amendment that would create today's special operations command enterprise, which includes a new civilian assistant secretary of defense and the four-star US Special Operations Command (USSOCOM) as well as a dramatic resourcing shift toward unilateral special operations capabilities. The result would be the capability to strike targets, conduct raids, and execute rescue and recovery operations around the globe. The Department of Defense would direct the creation of specialized units, several manned by US Army Special Forces soldiers, US Army Rangers, and others recruited from across the military. Armed with its new AirLand Battle doctrine, the US Army returned to the mission of winning a conventional war in Europe, and the emerging joint special operations force would conduct global counterterrorism operations. Army Special Forces would have a role in both but keep its focus on unconventional warfare and continuing to support foreign counterinsurgency programs and related combat advisory and training operations.[52]

The shift in emphasis to counterterrorism had an unintended adverse effect on the US Army's Special Forces. While the intent of these force structure changes was to ensure twin world-class capabilities—CT and Special Warfare—the true result was different. Several highly skilled Green Berets volunteered for the new specialized units, and the emphasis on more traditional special warfare skills throughout Special Forces diminished. There was a reduction in skills necessary to survive and operate in a denied area for extended periods in favor of direct action and even multi-team operations. Language and cultural orientation, once the cornerstones of a Special Forces operator's credentials, become less critical. Over the coming decades, however, this trend would be reversed. Special Warfare skills were again sharpened to become decisive elements in the irregular part of the Cold War. The timing of the special operations pivot to counterterrorism (and direct action) coincided with the US Army's post-Vietnam drawdown and intellectual shift from counterinsurgency to AirLand Battle. For the US Army's Cold War force created for unconventional warfare and counterinsurgency, this meant lean times until the Reagan buildup of the 1980s. Manning levels would be questioned, SF units deactivated (ten SF Groups to six), and inventories of units allowed to drop. Dramatic Reductions in Force culled the forces to ultimately smaller authorization levels.

Path to Victory: Special Forces—the Irregular Warfare Maneuver Force of Choice (1975–91)

What followed was an inspired effort by Congress to address an evident shortfall in US military capabilities. The US counterterrorism enterprise was borne out of the failure at Desert One. Specialized capabilities—many drawing on the manpower found in the SF groups—were created to address a growing terrorist problem. Congress also intended to improve the low-intensity conflict or irregular warfare side of the special operations capability. CSA General Edward C. "Shy" Meyer called for a review of the entire special operations community strength and disposition. As a result of the review, the 1st Special Forces Group was reactivated at Fort Lewis, Washington, in 1984 and the 3rd Special Forces Group in 1990, bringing the number of active groups to five.[53]

While US Army Special Forces would support the national counterterrorism mission, their focus returned to training, advising, and in some cases fighting alongside indigenous groups and military units as well as allied commando and special operations forces. Each Special Forces group established a specially designed counterterrorism in-extremis force (known as the theater CINC In-Extremis Force, or CIF) capability for



Figure 10.5. Special Forces troops were central players in the evolution of Special Operations. SF continued to evolve training and operating skills. Courtesy of the US Army Special Operations Command.

their supported combatant commander. By the time the Cold War ended, these globe-spanning small teams would become units of choice for peacetime competition and small wars intervention. The CIF mission actually drew on the strength of the core Special Forces function by sharing US CT knowledge with partner indigenous commando units, thus making them more effective and increasing the partnership CT capability. Missions and activities throughout Africa, Southeast Asia, the Caribbean, and Latin America expanded to include counterinsurgency, counternarcotics, demining, conflict prevention, and humanitarian assistance operations.[54]

President Reagan approved the establishment of USSOCOM on 13 April 1987. The US Army Special Operations Command (USASOC) was provisionally established at Fort Bragg on 1 December 1988 and formally activated a year later. The new command became the senior headquarters for all active-duty and Reserve soldiers formerly assigned to 1st SOCOM, thus becoming the Army component of USSOCOM.[55]

The JFK Special Warfare Center and School (SWCS) implemented a new Special Forces assessment and selection program to improve the quality of those accepted into the qualification course. On 1 October 1984, Special Forces was established as a separate career field for NCOs, and the Special Forces warrant officer career path added in 1985. Finally, on 9 April 1987, the Army established a new Special Forces career branch for officers. Lastly, the Army transferred the SWCS from the US Army Training and Doctrine Command to USASOC in 1990, making it uniquely responsible for special operations doctrine and schooling as well as special operations forces "man, train, and equip" functions.[56]

Special Forces: The Unacknowledged Main Effort Outside of Europe (1980–91)

With most of the Defense Department refocused on AirLand Battle and deterrence, US Army Special Forces missions on the "flanks" and in economy-of-force theaters continued apace. Funding improved after Reagan was elected in November 1980, and with it came more training opportunities in theater. The president's strong stance also led to active US support for counterinsurgency and counterdrug operations. His determination ultimately would lead to America winning the Cold War.

In the early 1980s US Army Special Forces became engaged in an anti-communist special warfare campaign in Central America that featured highly successful foreign internal defense operations in both Honduras and El Salvador. A continuous rotation of Special Forces detachments conducting foreign internal defense operations in Honduras throughout

the 1980s helped the Honduran government shut down Cuban-backed insurgent groups before they advanced beyond the nascent stage.[57]

In a controversial campaign in El Salvador, a small number of Green Berets joined other government agencies in the early 1980s in supporting a pro-United States government that was suspected of being corrupt and guilty of human rights violations against its own people. The SF advisers' mission was to improve the professionalism and effectiveness of the El Salvador Armed Forces, on and off the battlefield, while at the same time significantly reducing their civil rights abuses. Special Forces officers and NCOs on one-year assignments or six-month temporary duty tours lived on their unit's base. In the course of providing training and advisory support, they befriended their Salvadoran counterparts and worked to be role models—helping to reduce human rights abuses over time. Ultimately, improved El Salvador Armed Forces relations with the population and performance on the battlefield brought the leftist guerrillas to the negotiating table.[58]

As a result, FMLN insurgent leader Joaquin Villalobos described how the drop in human rights abuses caused the rebels to lose the support of the people. During negotiations after fighting terminated, Villalobos surprisingly asked that the Green Berets remain in the country temporarily, knowing that their presence would help ensure that Chapultepec Peace Accords provisions would be implemented because of their positive human rights influence on the Salvadoran military.[59] In the fall of 1991, in response to an FMLN request, three 7th Special Forces Group officers, a US Embassy representative, and a USSOUTHCOM staff officer met in San Salvador to design a twenty-four-month rotational SF detachment plan. When the last member of the Extended Training Service Specialist (ETSS) program left El Salvador in late 1994, ending twelve years of support to the Armed Forces of El Salvador, US Ambassador to El Salvador Alan H. Flanigan conveyed his gratitude to all who had participated in the program. "The legacy of the ETSS," he wrote, "is the Armed Forces of El Salvador that exists today, a professional military institution, supportive of democratic institutions and respectful of human rights."[60]

Special Forces also executed a successful coercive unconventional warfare operation against Nicaragua's Sandinista government by training Nicaraguan Resistance members both in Honduras and in the United States. This training assistance effort, along with other forms of US support, resulted in leftist President Daniel Ortega agreeing to negotiations and free elections in that country.[61] Ultimately, the regime lost in a 1991 national election to a US-backed candidate; however, Ortega later returned to power. During this same period, Special Forces teams carried

out a long-term program to upgrade the competence of the Colombian military in its counterinsurgency campaign against the *Fuerzas Armadas Revolucionario de Colombia* and a number of drug cartels.[62]

Conclusion

The US Army Special Forces motto, *De Oppresso Liber* (to free from oppression), succinctly captures the group's role in the Cold War. Its premise is that people of all cultures yearn to be treated as individuals and with respect from their government. Furthermore, as demonstrated in the American Revolutionary War, they will fight to be free. In the existential struggle that was the Cold War, countries destabilized by communism and the peoples of the Warsaw Pact and Russia were no different. Foreign support to revolutions is an age-old practice that, if properly executed, leads to desired change. A fundamental strength of the American way of irregular war is linked to the American experiment of freedom for all.

During World War II, the OSS, the predecessor of today's Special Forces, worked with indigenous resistance forces in support of Allied armies and as the main effort in critical economy-of-force theaters. When the US Army created its Special Forces in 1952, planners conceived of a combat capability similar to that employed in occupied Western Europe in World War II.

President Kennedy's insight was that America had to go on the offensive against adversaries waging Kennan's political warfare while purposely avoiding direct confrontation with the United States. He determined that a credible military deterrence was essential but insufficient if America was going to win. Kennedy recognized the power of the American narrative and of the promise that America's very existence held out to the rest of the world. He was cognizant of the power of sending Americans abroad to help alleviate suffering through an organization like the Peace Corps and sending US Army Green Berets to support those willing to risk all to defeat communism.

The Cold War was a global struggle. This traditional war would be fought on the plains of Europe and that is where conventional deterrence had to work. It was in the rest of the world, as Khrushchev announced, where communism would seek to demonstrate its superiority, and it was there that America would have to defeat the ideology behind the threat on the European plains and set the conditions for ultimate victory.

Created for the Cold War fight, the Green Berets were a remarkable US Army innovation. Special Forces would bring together the "PhDs who



Figure 10.6. The Special Forces link its contributions for the past eight decades to the formation of Detachment A Berlin, pictured here in September 1962. This link connects the Office of Strategic Services (OSS), a quasi-military command created in part to conduct guerrilla warfare in occupied Europe, to the modern Special Forces. Courtesy of the US Army Special Operations Command.

can win a bar fight" in small teams designed to build resistance within authoritarian regimes. Instead of depending on the physics of traditional war, success required mastering the subjective social sciences. American mass and firepower had to be replaced by influence, innovation, and rapid adaptation in risky, uncertain situations. Security would depend on trust, respect, and the fighting skills of local partners, from the *campesino* to the town doctor to the head of state. Language and cultural understanding were and continue to be critical to Special Forces success and survival. Just as they did during the Cold War, Green Berets today deploy around the world to help allies and friends prepare for aggression by assertive authoritarian neighbors or where developing countries struggle with subversion, subterfuge, and exploitation by these nations and their proxies. Currently, US Army Special Forces are present in more than seventy countries.[63]

Green Berets are selected not only for their warfighting potential but also their intelligence and psychological suitability to work with foreigners in sometimes-austere environments. Their "special warfare" mission requires them to be "population specialists"—culturally aware, linguistically proficient, and knowledgeable of local conditions. When forward deployed in areas they have grown familiar with, they can sense political, military, or social trends in a population group or detect threats to that group.

Through repetitive engagements such as training deployments, combined exercises, and combat advisor missions, Special Forces personnel nurture longstanding relationships with counterparts in partner nation security forces and governments. The resulting reservoir of friendship and goodwill toward the United States can be drawn upon when most needed. US Army Special Forces can execute sophisticated commando operations unilaterally or train and advise an indigenous raiding force. They are equally capable of acting to de-escalate tensions, improve local governance, and serve as a bridge to outside support that mitigates instability.

The Special Force experience in the Cold War offers lessons for confronting today's adversaries, a threat arguably threefold that of the past. To compete and win in places where China, Russia, Iran, North Korea, and their partners will seek to impose their will, America will once again have to actively engage and likely reestablish an enduring presence with Special Forces who can convey by word and deed America's superior ideal. The Cold War demonstrated that persistence, resolve, and risk-sharing on the part of the thousands of US government military and civilian professionals could blunt the advance of communism across the globe. They bought America and its allies time so internal inconsistencies in its ideology would eventually lead the Soviet Union to collapse. US Army Special Forces' small, self-sustaining footprint presence was a critical component of the West's winning strategy and emerged as the centerpiece of America's irregular warfare campaigns. While nuclear and conventional deterrence was holding the Soviet Union in check, America was engaged in irregular warfare campaigns around the world throughout the forty years of the Cold War.

While the nuclear threat was existential during the Cold War, that possibility today extends to conventional and irregular wars. It is no longer a single ideology championed by one great power but several forms of autocracy from three—soon to be four—nuclear-armed states that openly seek to destroy the United States and the international system it built. Therefore, America's nuclear and conventional deterrence must again hold, and its irregular warfare campaigns must once again blunt and eventually defeat the axis of authoritarians led by the Chinese Communist Party and China. To do so this time, the US government, led by the US Army, must field unique military and civilian commands capable of Irregular Warfare campaigning to match the dominance demonstrated in America's conventional and nuclear forces. The United States must never forget that *De Oppresso Liber* is at the core of its strength and a uniquely American advantage in the ideological struggle that is only now taking shape.

Notes

1. Michael G. Vickers, *By All Means Available: Memoirs of a Life in Intelligence, Special Operations, and Strategy* (New York: Alfred A. Knopf, 2023), 36–37.

2. Roger Hilsman, *To Move a Nation: The Politics of Foreign Policy in the Administration of John F. Kennedy* (Garden City, NY: Doubleday & Company, 1967), 413.

3. Joseph Kraft, "Hot Weapon in the Cold War," *Saturday Evening Post, 28* April 1962.

4. Richard W. Potter Jr., telephone interview with the authors, Charles T. Cleveland and Will Irwin, 9 June 2024.

5. The authors would like to acknowledge and thank Maj. Gen. (Retired) Geoffrey Lambert, Brig. Gen. (Retired) Richard W. Potter Jr., Col. (Retired) Hy Rothstein, and Chief Warrant Officer 4 (Retired) James Stejskal for their time and input; more of their input will be included when the definitive history is written. The author also thanks Dr. Daniel Egel of RAND, coauthor of *The American Way of Irregular War*, from which a part of this chapter is derived. Lastly, Lt. Col. (Retired) Will Irwin, a noted author, historian, and career Special Forces officer, researched and wrote a good part of this chapter.

6. Department of the Army Center of Military History, Lineage and Honors website, Special Forces Branch, accessed 21 January 2022, https://history.army.mil/html/forcestruc/lineages/branches/sf/defaultSF.htm.

7. Alfred H. Paddock Jr., *U.S. Army Special Warfare: Its Origins*, revised edition (Lawrence, KS: University Press of Kansas, 2002), 21–23.

8. Aaron Bank, *From OSS to Green Berets: The Birth of Special Forces* (Novato, CA: Presidio Press, 1986), 155–59.

9. Franklin D. Roosevelt, "Military Order, Office of Strategic Services," 13 June 1942, File: ETO X-2 War Diary Basic Documents vol. 7, War Diary, X-2 Branch, History of OSS in London, Entry 91, Box 32, Folder 82, RG 226, National Archives and Records Administration.

10. Will Irwin, *Support to Resistance: Strategic Purpose and Effectiveness*, Joint Special Operations University Report 19-2 (MacDill Air Force Base, FL: JSOU, 2019), 186.

11. Department of the Army, Field Manual (FM) 31-21, *Organization and Conduct of Guerilla Warfare* (Washington, DC: 1951), 6.

12. Winston S. Churchill, *The Second World War*, vol. 5 (Boston: Houghton Mifflin Company, 1951), 324.

13. Richard Harris Smith, *OSS: The Secret History of America's First Central Intelligence Agency* (Berkeley, CA: University of California Press, 1972), 364.

14. Smith, 365–66.

15. X (George F. Kennan), "The Sources of Soviet Conflict," *Foreign Affairs* (July 1947): 566–82.

16. Paddock, *U.S. Army Special Warfare*, 124.

17. Paddock, 119.

18. Aaron Bank, letter to the author, Will Irwin, 19 July 1990; and Hogan, *U.S. Army Special Operations*, 55–61.

19. Paddock, *U.S. Army Special Warfare*, 153.

20. David E. Hilkert, "The History of SOCEUR, 1954–2004: Fifty Years of Special Operations Forces in the European Command Theater" (unpublished manuscript, Office of Army Reserve History, US Army Reserve Command, Fort McPherson, GA, December 2004), 5.

21. Donald A. Carter, *Forging the Shield: The U.S. Army in Europe, 1951–1962*, CMH Publication 45-3-1 (Washington, DC: US Army Center of Military History, 2015), 116, 118.

22. Bank, *From OSS to Green Berets*, 190.

23. Public Law 597, "An Act to provide for the enlistment of aliens in the Regular Army," 2nd Session, 81st Congress, 30 June 1950.

24. Charles K. Dalgleish, "A New 'Lodge Act' for the U.S. Army: A Strategic Tool for the Global War on Terrorism" (white paper, National Defense University, Washington, DC, 2004), 1.

25. James Stejskal, *Special Forces Berlin: Clandestine Cold War Operations of the U.S. Army's Elite, 1956–1990* (Philadelphia: Casemate, 2017), 280–89.

26. Hilsman, *To Move a Nation*, 413.

27. Rod Paschall, "The Making of a Clandestine Army," in *War in the Shadows* (Boston: Boston Publishing Company, 1988), 107.

28. Jack B. Pfeiffer, *Official History of the Bay of Pigs Operation, Volume II: Participation in the Conduct of Foreign Policy* (Langley, VA: Central Intelligence Agency, 1979), 62, 65–73, https://www.cia.gov/readingroom/docs/DOC_0001237696.pdf.

29. Hugh Sidey, *John F. Kennedy, President* (New York: Crest Books, 1964), 68; Hilsman, *To Move a Nation*, 52–53, 427; and Roger Hilsman, *American Guerrilla: My War Behind Japanese Lines* (Washington, DC: Brassey's, 1990), 115–27, 213.

30. William P. Yarborough, "General Yarborough Reflects," in Special Forces Association, *Special Forces: The First Fifty Years* (Tampa, FL: Faircount LLC, 2002), 142.

31. Theodore C. Sorensen, *Kennedy* (New York: Harper & Row, 1965), 632–633; William E. Colby, interview in Deborah Hart Strober and Gerald Strober, *The Kennedy Presidency* (London: Thistle Publishing, 2015), 370; Hilsman, *To Move a Nation*, 415, 426, 578; and Sidey, *John F. Kennedy*, 231.

32. George H. Decker, chief of staff, US Army, memorandum for the president, subject: "U.S. Army Role in Guerrilla and Anti-Guerrilla Operations," n.d. [February 16, 1961], 1–3, Box 279, Department of Defense, National Security Files, Kennedy Presidential Library.

33. In June 1957, the Army activated a third special forces unit, the 1st Special Forces Group (Airborne), forward-based on Okinawa. In June 1960, the 77th Special Forces Group at Fort Bragg was redesignated the 7th Special

Forces Group, regionally oriented on South and Central America. The 5th Special Forces Group was activated at Fort Bragg in September 1961. As a parent organization to the Special Forces groups, the Army chartered the 1st Special Forces Regiment.

34. Decker, memorandum subject: "U.S. Army Role in Guerrilla and Anti-Guerrilla Operations."

35. Decker.

36. Sorensen, *Kennedy*, 632–33.

37. John F. Kennedy, "Remarks at West Point to the Graduating Class of the U.S. Military Academy," 6 June 1962, https://www.presidency.ucsb.edu/documents/remarks-west-point-the-graduating-class-the-us-military-academy.

38. Stewart H. Bornhoft, "Force Multiplier: Useless Cliché or Useful Concept?" *Military Review* (January 1983): 5.

39. Richard H. Schultz Jr., *The Secret War Against Hanoi: Kennedy's and Johnson's Use of Spies, Saboteurs, and Covert Warriors in North Vietnam* (New York: HarperCollins, 1999), x–xiii.

40. Schultz.

41. David Tucker and Christopher J. Lamb, *United States Special Operations Forces* (New York: Columbia University Press, 2007), 95.

42. Eugene Piasecki, "Building Generational Relationships," *Veritas* 13, no. 1 (2017): 69–72.

43. Eugene Piasecki, "Special Action Force Asia," *Veritas* 13, no. 1 (2017): 2–3.

44. William J. Flavin, *Concept for the Strategic Use of Special Operations Forces in the 1990s and Beyond* (Carlisle Barracks, PA: US Army War College, 1991), 67.

45. Felix I. Rodriguez and John Weisman, *Shadow Warrior* (New York: Simon and Schuster, 1989), 156–72.

46. US Army Special Operations Command, "10th SFG(A) History," accessed 21 January 2022, https://web.archive.org/web/20220321162650/https://www.soc.mil/USASFC/Groups/10th/history.html.

47. John Prados, *The U.S. Special Forces: What Everyone Needs to Know* (New York: Oxford University Press, 2015); https://www.509thgeronimo.org/soldieryarboroughwp/soldieryarboroughwp.html.

48. Geoffrey Lambert, email message to the author, Charles T. Cleveland, 4 July 2024.

49. Stejskal, *Special Forces Berlin*, 196.

50. Charlie A. Beckwith and Donald Knox, *Delta Force* (New York: Harcourt Brace Jovanovich, 1983), *passim*; and Isaiah Wilson III and Will Irwin, *The Fourth Age of SOF: The Use and Utility of Special Operations Forces in a New Age*, JSOU Report 22-1 (MacDill Air Force Base, FL: Joint Special Operations University Press, 2022), 36, https://jsou.edu/Press/PublicationDashboard/2.

51. Beckwith and Knox; and Wilson and Irwin.

52. Wilson and Irwin, *The Fourth Age of SOF*, 36–47.

53. USASOC, US Army Special Operations Forces Timeline, entries for 1984 and 1990, accessed 21 January 2022, https://arsof-history.org/arsof_timeline/index.html.

54. Carl W. Stiner, "Prime-Time Players in the Third World Network of Conflict," *Army*, October 1990, 192.

55. USASOC, US Army Special Operations Forces Timeline, entries for 1987 and 1988.

56. USASOC, entry for 1990.

57. Wilson and Irwin, *The Fourth Age of SOF*, 42–45; and John D. Waghelstein, *Reading the Tealeaves: Proto-Insurgency in Honduras*, CIWAG Irregular Warfare Studies 4 (Newport, RI: US Army War College, 2012), https://digital-commons.usnwc.edu/ciwag-case-studies/1/.

58. Wilson and Irwin; and Waghelstein.

59. Wilson and Irwin; and Waghelstein

60. Geoffrey Lambert, email message to the author, Charles T. Cleveland, 20 July 2024, with entire text of US Embassy Message R191713Z Dec 94 to the JCS, all Services, and all Combatant Commands. Then Capt. (later Maj. Gen.) Geoff Lambert of the 3rd Battalion, 7th Special Forces Group in Panama, played key roles in planning and executing both the initial SF Mobile Training Teams to El Salvador in 1979—the beginning of a decade-long mission that ultimately saved the 7th SF Group from deactivation—and the post-war rotational deployment of SF teams to aid in securing the peace.

61. Geoffrey Lambert, email message to the author, Charles T. Cleveland, 30 June 2024; and Will Irwin, *Support to Resistance: Strategic Purpose and Effectiveness* (MacDill Air Force Base, FL: Joint Special Operations University, 2019), 132–37.

62. Lambert; and Irwin.

63. Fact Sheet, 1st Special Forces Command (Airborne), accessed 4 August 2024, https://www.soc.mil/USASOC/documents/1SFCFactSheet.pdf.

Chapter 11
Reorganizing the Army: The Decade of Force Structure Transformation from the Vietnam Era to the Cold War

Henry G. Franke III

Although I was a company-grade officer in the early years of the post-Vietnam War period, my unique circumstances led to insights on how the US Army labored to adjust to the demands of the Cold War in Europe and the threat of the Soviet Union. I was commissioned in the Chemical Corps just months after the branch was reestablished and worked to adjust from unconventional operations in Vietnan to conventional war missions against an enemy extremely capable in nuclear, biological, and chemical (NBC) offensive operations. In those years, the Chemical Corps had the smallest force of active-duty officers of any branch. I was there as the US Army Chemical School established the first new force designs and fundamentally reoriented the focus of its officers and noncommissioned officers (NCOs).

Then serving at the brigade and division levels in the 101st Airborne Division (Air Assault), 2nd Infantry Division, and 82nd Airborne Division, I gained first-hand insights on how new Army doctrine, organizations, equipment, and training regimes succeeded or failed to meet the requirements of assigned operating force missions, war plans, and military strategy. Years later, these insights helped me assess the viability of new ideas when I was responsible for combat developments—concepts, organizations, and materiel—for three Army branches, and charged in various assignments with developing Army operating concepts for future forces.

A foundational insight from those early years—still true today—is the link between organizations, doctrine, and military strategy. Armies fight as organizations arrayed into combined arms, support, sustainment, and special operations teams at echelon. The performance of units depends on successfully amalgamating organizational design, manning, leadership, individual and unit training, equipment, and doctrine. The most critical relationship is between doctrine and organizations, the ways and means to accomplish assigned missions, face priority threats in key operating environments, and implement military strategy.

While the Vietnam War was a component of the broader Cold War, the growing scope of the Southeast Asia conflict diverted funds, manpower, and the Army's focus from the Soviet threat and the defense of Europe. Meanwhile, the development of new warfighting concepts and organi-

zational designs bogged down in the 1960s.[1] In the late 1950s and early 1960s, before the expansion of the Vietnam War, the Army had developed the pentomic Army concept and force structure to ensure the force remained relevant when operating on nuclear battlefields. However, pentomic designs were soon deemed unsatisfactory, and the Army reoriented its combat development efforts to more conventional operations. This 1960s work on concepts, doctrine, and organizations slowed considerably until the end of Vietnam War, when the Army reoriented on a different national strategy, the Soviet threat, large-scale combat operations (especially in Europe), and more relevant doctrine, organizations, and equipment. Army leadership recognized the need to rapidly revolutionize the force, even while war weariness, spending cuts, and societal changes became roadblocks.

The path to a more effective post-Vietnam War Army saw uneven synchronization between the development and release of the ends, ways, and means—military strategy, concepts and doctrine, and organizational designs—over a period of twenty years. Shortfalls in both manpower authorizations and budgets added to the challenge of rapid change. That the Army fielded an extremely capable force—resilient enough to operate during this extended transition—is a testament to the vision and tenacity of leaders and the talents of Army officers, NCOs, and civilians.

Initiating the Transformation

The year 1973 marked the start of a comprehensive push to reorient the Army to better support a renewed emphasis on the Cold War and large-scale conventional operations after the US military's departure from Vietnam. That same year, the Yom Kippur War provided critical evidence of expanding Soviet Union and other Warsaw Pact forces capabilities while the United States was focused on the Vietnam War, slowing its own weapons modernization. The Yom Kippur War, instigated by Egyptian and Syrian forces equipped with Soviet equipment and applying Soviet doctrine, underscored how lethal a conventional war would likely be in Central Europe. However, it took up to four years to fully assess the implications of this war on the requirements to transition to a more capable conventional force. Efforts to expand force structure and field new organizational designs aimed at large-scale conventional combat were hampered by post-Vietnam budget and manpower cuts, as well as a fundamental change in sourcing personnel. The Army experienced major reductions in authorized end-strength starting in 1972 as it withdrew from Vietnam. Finally, with the elimination of the draft followed by the inauguration of the

All-Volunteer Force in July 1973, the Army faced post-draft recruitment and retention challenges.

Army senior leadership recognized the need for critical modernization and reform to realign the service to defend NATO nations in Europe against possible attack by the Soviet Union and its satellites. To best transform the Army, the service's institutional organizations were themselves a critical start point. However, organizational restructuring of the Army was much more difficult than expected, with numerous delays as senior leaders sought to design and field the most effective force possible despite budget shortfalls.

Based on outcomes of the 1972 Operation Steadfast study process, Chief of Staff of the Army (CSA) General Creighton W. Abrams Jr. approved the reorganization of key senior Army commands to improve efficiency and span of control.[2] On 1 July 1973, the Army activated the US Army Training and Doctrine Command (TRADOC). The new organization was responsible for training, doctrine, and combat development, which included concepts, organizational designs, and materiel requirements. The CSA tasked TRADOC's first commander, General William E. DePuy, to rapidly develop the foundation to transform the Army. DePuy and his team produced a cohesive set of doctrine, training, and modernized equipment initiatives, along with concerted attempts to develop new force redesigns.

Training, materiel, and organization initiatives progressed concurrently and were frequently entwined. Occasionally they preceded concept and doctrine development efforts, which normally would be the start point for combat developments. Major weapon-system programs to advance modernization had already begun and remained largely on course throughout this period. Individual and collective training programs started under DePuy continued, but with modifications.[3] The design, approval, and fielding of new Army organizations lagged behind other efforts, to the point that the service issued doctrine before the operating force was fully capable of applying it.

Those of us in the institutional and operational sides of the Army witnessed firsthand the progress being made through the unique lens of our particular assignments.[4] My early years in the Army coincided with this "decade of transformation," bookended by the 1976 and 1986 editions of Field Manual (FM) 100-5, *Operations*, which presented significant changes to keystone doctrine focused on large-scale conflicts. Given the time needed to field new weapon systems and reorganize units, during much of

this decade the Army relied on instituting doctrinal and training initiatives to transform the force in order to meet the nation's strategic aims.

My professional milestones paralleled landmarks in Army doctrine, individual and collective training, weapon systems fielding, and organizational redesigns after the Vietnam era. In addition, my father and two younger brothers all served in Army divisions at the same time, which broadened my awareness of how the Army was changing. During those years I learned how and why new doctrine, organizational designs, and equipment helped or hindered operating forces in carrying out assigned missions. These first-hand experiences would directly inform my later work in combat developments, concepts, experimentation, deep futures studies, and force transformation.

Need for Transformation—the Chemical Corps as Exemplar

Work on revising Army doctrine began in earnest in 1974. General DePuy established a team at TRADOC headquarters to develop a new doctrinal framework. The efforts of the team, which reported directly to him, led to the publication of FM 100-5, *Operations*, on 1 July 1976. The new doctrine focused on a specific theater and threat, with missions and tasks aligned to specific organizations. FM 100-5 emphasized tactical operations at the frontline, where Army units were fighting outnumbered on a highly lethal battlefield against an invading Soviet threat and conventional fighting might extend to nuclear, chemical, and electronic warfare. The manual's operational concept was dubbed Active Defense.[5] It furnished the authoritative foundation for subordinate doctrine, force design, materiel acquisition, professional education, and individual and unit training.

DePuy aimed for rapid Army-wide dissemination of this keystone doctrine—delivered by a person—to ensure leaders at all levels read it and the force quickly adopted FM 100-5 in training and exercises. The manual was published in an eye-catching format likely to encourage reading. An integrated and nested family of "How to Fight" field manuals—each written using a standardized outline—quickly followed as supporting doctrine. These included functional and organization-based publications, along with "How to Support" manuals. Officers and NCOs, eager for clear guidance on conducting large-scale combat operations, largely embraced the new doctrine.

My August 1977 commission in the Chemical Corps coincided with the end of a near-five-year odyssey for the branch. On the day he was sworn in as CSA on 16 October 1972, General Abrams directed a study group to explore options to consolidate the Chemical Corps into other branches of

the Army. On 15 December, Abrams approved the group's recommendations to parcel missions between the Quartermaster Corps, the Engineer Corps, and the Ordnance Corps, with the latter taking over primary NBC responsibilities. Following the Secretary of the Army's endorsement, the formal announcement to disestablish the Chemical Corps came on 11 January 1973. Later, Abrams stated he dismantled the branch because it focused too much on technical aspects of NBC warfare and not enough on combat operations.[6] In May 1973, the Army asked Congress for legislative authority to discontinue the Chemical Corps as a separate branch.

The decision was ill-timed. The Yom Kippur War was fought in October 1973. Captured Soviet and Warsaw Pact equipment confirmed significant NBC defense and offense capabilities. Despite this, the Army continued with its plan to administratively close down the Chemical Corps, although it could not formally abolish the branch because year after year Congress would not act on the Army's request.[7]

When I submitted my choices for a branch assignment in late 1976, I had to request "Ordnance Corps (Chemical Specialty)," even though NBC matters were now a priority with the Army as highlighted by the 1976 decision to establish an NBC Defense Company in each division that would address Soviet Union chemical warfare capabilities. Meanwhile, officers and enlisted soldiers had left the Chemical specialty in large numbers following the Army's decision to eliminate the branch. This adversely affected force readiness. The Soviet Union had interpreted the Army's actions on the branch as a signal of declining interest in NBC readiness. Recognizing these detrimental consequences, the Secretary of the Army reversed course in July 1976 and formally authorized the continuance of the Chemical Corps as a branch that retained more centralized NBC capabilities oversight. By the time of my commissioning in August, the Chemical Corps had been reestablished as a combat support branch, and I would attend the second Officer Basic Course (OBC) class conducted by the revitalized US Army Chemical School.

The new cohort of young officers and NCOs entering service at the time fully understood the significance of the Chemical Corps' reemergence, as this was driven by the primacy of the Soviet Union threat. Our formal instruction, however, showed us that doctrine, organizations, and equipment for NBC defense and large-scale smoke operations (both Chemical Corps missions) were woefully behind in terms of supporting large-scale combat operations. Much of it was still influenced by capabilities required in Vietnam. Chemical unit designs and capabilities were

largely unchanged since the Korean War, despite growing emphasis on armored and mechanized formations.[8]

The new Chemical Corps experienced serious shortfalls in doctrine, unit capabilities, and materiel. I had firsthand knowledge of this from my time at the Chemical School before OBC, awareness of brigade and division leader views of NBC readiness from my infantry brigade-level assignments in three divisions, and my key role in activating the 101st Airborne Division's NBC Defense Company (one of the first in the active force). In those years, a division usually had only six or so authorized Chemical Officer positions (ten after the activation of the divisional NBC Defense Company), which limited the sharing of lessons learned. Officer slots often were filled below authorized grade, as were the Chemical NCO positions at brigade and battalion echelons. Our link with the Chemical School was tenuous, as the school was still in transition and also being relocated to Fort McClellan, Alabama. It took many more years to realize the emphasis for Chemical personnel to "blend in" with combat soldiers had caused the branch to greatly reduce its emphasis and training on technical skills. Chemical soldiers knew how to carry out NBC defense field tasks, but did not always fully understand what physical phenomena drove the design of these tasks. This limited their ability to advise leaders on why, when, and where these tasks had to be carried out on the battlefield.

In August 1977, the Chemical Corps was still in the process of splitting off from the Ordnance Corps; as a result, the Ordnance Center and School taught a major part of my Chemical OBC class. Greeting me at the front gate of Aberdeen Proving Ground, Maryland, was the chassis of an XM-1 main battle tank on display. The Ordnance School gave me a grounding in logistics and a theater-wide view of sustainment at all echelons, from battalion to theater army—something that few second lieutenants learn. This turned out to be the most valuable OBC training for me, as I gained early insights on organizational structures across a theater of war. It proved useful for my next assignment in the 101st Airborne Division (Air Assault) with both its conventional-war and rapid-deployment missions.

With only one active-duty NBC Defense Company at the time (more about the origin of this company later), the lowest echelon that Chemical officers could be posted was at the brigade level; captain was the lowest rank in the active operating force outside that one company. Responding to the continued threat of chemical and nuclear warfare, the size of the Chemical Corps increased significantly beginning in 1980 with the addition of junior-grade NCO slots at the combat-arms company level and lieutenant-grade positions at the maneuver-battalion level.[9]



Figure 11.1. This XM1 prototype of the M1 Abrams main battle tank was at the US Army Ordnance Museum in Aberdeen Proving Ground, Maryland. Courtesy of Wikimedia Commons.

Starting on the "Back Foot"

The Chemical branch's reemergence because of Cold War demands provides a case study on the chaotic swirl with major force transitions related to restructuring and realignment of functions, organizational redesigns, or end strength changes.[10] The Army worked through these challenges and more following the Vietnam War, including end-strength cuts and reprioritized missions. Mandated end strength would be the most impactful restraint on the Army's aim to transform the force.

Anticipating its reduced role in Vietnam, the US Army's active-duty assigned strength dropped from more than 1,512,000 to just under 811,000 between 1969 and 1972. After a final reduction of 313,000 between 1971 and 1972, the Army's active end-strength cap began to stabilize in 1972.[11] Even though authorized active spaces were set at only 785,000 in 1975, the Army aimed to expand the number of divisions in the total force, increase relative combat power, and improve unit readiness to meet strategic requirements.[12] In 1975, the Army began expanding to a twenty-four-combat-division force structure, with sixteen divisions in the Active Component (1965 was the last time the Army had fielded sixteen active divisions)

and eight in the Army National Guard.[13] Army leadership expected Congress to recognize the need to expand the force both in manpower and budget, with the Department of Defense as its champion. But year after year, this failed to happen. The Army, however, continued to plan based on gaining greater resources. The 1976 Department of the Army Historical Summary succinctly stated the strategic drivers for force structure and readiness efforts:

> Because the United States may have to react to aggression more rapidly than ever before, the Army must be able to make a swift transition from peace to war. Its forces must be capable of carrying out commitments in Europe, of engaging in any possible small contingency elsewhere, and of still retaining a strategic reserve. . . . It has placed new emphasis upon mechanized and armored divisions with increased mobility and firepower.[14]

Additional divisions would also support deterrence and reduced reliance on battlefield nuclear weapons.[15] The Army even accelerated fielding of the three new divisions, to be complete by the end of Fiscal Year 1977.[16] These units, however, still used force designs from the early 1960s and Vietnam-era equipment. Increasing combat effectiveness relied on doctrine, training, and manning.

My first assignment was with the 101st Airborne Division (Air Assault), from February 1978 to July 1981, at Fort Campbell, Kentucky. I initially served as the Brigade Chemical Officer—graded as a captain slot—in 2nd Infantry Brigade headquarters. I was in a unique position as a newly minted officer to see how the division was adapting to its post-Vietnam role in the Cold War, fighting in a large conventional war in Europe that could expand to chemical, biological, and nuclear warfare.

Before my arrival, the division had deployed to West Germany in 1976 as part of the annual Return of Forces to Germany (REFORGER) exercise. In theater, the division applied the new Active Defense doctrine. The 101st Airborne Division learned first-hand the challenges in applying this doctrine on the ground, especially with the weapon systems in the division at the time. The 1976 edition of FM 100-5 focused on tactical defensive operations in which Army units would attrit attacking armored and mechanized formations at the maximum range of their anti-tank weapons, then reposition to repeat this process again and perhaps again.

The division's infantry units relied on a limited number of TOW (tube-launched, optically tracked, wire-guided) anti-tank missile systems mounted on M274 half-ton Mule utility platforms (routinely plagued with

maintenance problems). Small units would move to new defensive positions via UH-1 utility helicopters; however, payload restrictions might require a two-helicopter split-lift to transport both a TOW crew and the TOW-mounted Mule with basic ammunition load, the latter by sling load. On a highly lethal battlefield with large numbers of air defense and electronic warfare systems, such operational limits required a nearly impossible level of coordination in tactical force movements. Survivability of these air assault operations as required by Active Defense doctrine was problematic. In large part due to Army end-strength shortfalls, many divisional units were coded below authorized level of organization (ALO) rating 1, even though the division was a high-priority combat force required in NATO war plans. This meant that they were assigned less than 100 percent of their full authorized complement of personnel and equipment as posted in their Tables of Organization and Equipment (TOE), and by default would always be below full readiness levels. ALOs below 1 were a necessity to field more unit flags and guidons while dealing with the realities of Army end strength and funding. At the same time, personnel turnover in the division's infantry brigades was 125 percent per year, causing significant turmoil, reduced unit cohesion, and limited unit-level training readiness. While I was on 2nd Brigade staff, half of the brigade's sixteen companies were commanded by first or second lieutenants. Brigade and battalion commanders were very concerned about the lack of depth and experience among junior-grade leaders and staff members, as well as the very high turnover rates that interfered with annual training cycles designed to ensure cohesive units capable of no-notice deployments. No matter how effective the unit design, an under-resourced organization lacks designed-for combat power, mass, flexibility, and depth even before suffering a single casualty.

The 101st, like the 82nd Airborne Division, was also tasked to provide rapid-response contingency forces, with one infantry company ready to deploy with two hours' notice and an infantry task force ready to deploy within eighteen hours. The primary force package for both was the Division-Ready Brigade (DRB), a brigade task force built around an air assault infantry brigade complemented with a complete set of aviation, combat support, and sustainment enablers that were aligned with that brigade at all times, ensuring a cohesive team. The DRB task was rotated between the three infantry brigades and their designated enablers. The entire division operated around the DRB rotation cycle, influencing the very culture and mindset of the division and installation while driving annual readiness, training, manning,



Figure 11.2. Vehicle-mounted TOW (tube-launched, optically tracked, wire-guided) anti-tank missile system. Courtesy of the US Army.

equipping, and budgeting plans. Units with the DRB-1 mission would draw on other units to bring up their personnel and systems numbers.

The Challenge of Division Laydowns in Peacetime

The DRB approach shaped the planning and exercising of rapid force deployments, thus complementing REFORGER training. Long before the Army fielded brigade combat teams as a foundational force structure design in the early 2000s, DRBs made brigade-level task forces standard for a significant part of the Army's operating force, improving combined arms operations at the brigade level and below in those divisions. However, instituting the DRB cycle and what was a de facto permanent brigade task force laydown underscored a potential shortfall in the division design philosophy. The division base, even with planned corps and theater enablers, lacked sufficient depth. In theory, the division would align assets to weigh the main effort, operate and protect the rear area, sustain forces, furnish security and covering force units, and provide a reserve. Doctrinally, a division would task-organize combat brigades to free up units for such operational requirements, as well as expect units from corps and above to expand functionalities. However, peacetime divisions, with their trian-

gular brigade design, were not robust formations, and rapidly deploying forces would often "fight as they trained."

As the first person assigned to the division's NBC Defense Company in December 1979, I experienced such a unit design shortfall when the company was formally activated in 1980. Doctrinally, this was a division-level asset and the only assigned unit with Chemical branch functionality. But the company had just three platoons, each habitually linked to an infantry brigade. This reduced training opportunities with other divisional assets, and made it clear there were no elements remaining to support the division behind the brigade rear areas.[17] Division leadership decided to place the company in the Division Support Command's Supply and Services Battalion, ignoring Army doctrine and placing it two echelons below the division. There was no evidence that the US Army Chemical School had met with division leaders before unit activation to review the company's operational concept, nor that the school sought detailed feedback as the unit stood up.

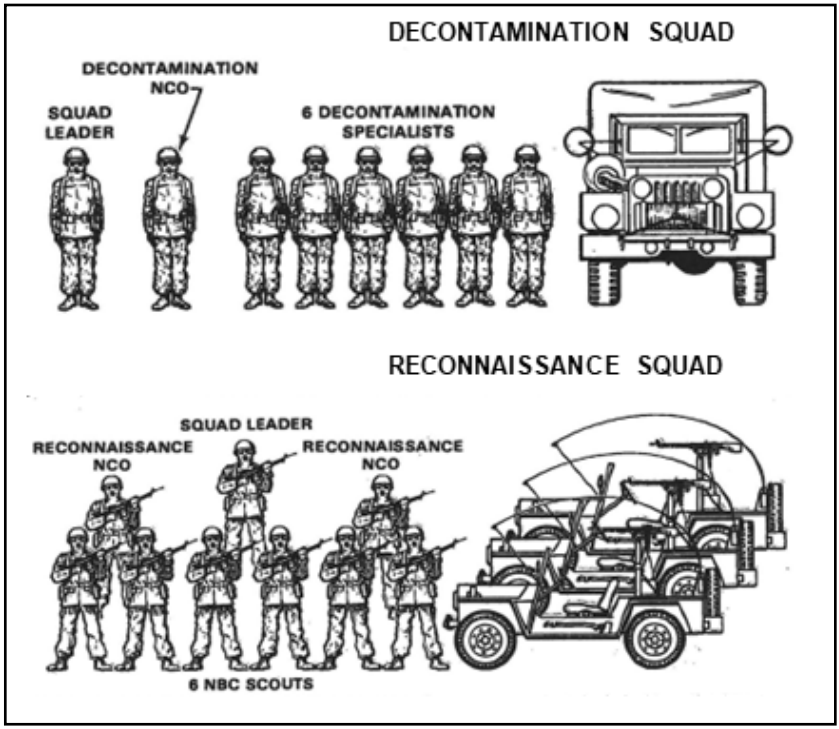


Figure 11.3. The 63rd Chemical Company was activated in 1980 as the 101st Airborne Division (Air Assault)'s divisional NBC Defense Company. From Field Manual (FM) 3-87, *Nuclear, Biological, and Chemical (NBC) Reconnaissance and Decontamination Operations*, 2-3.

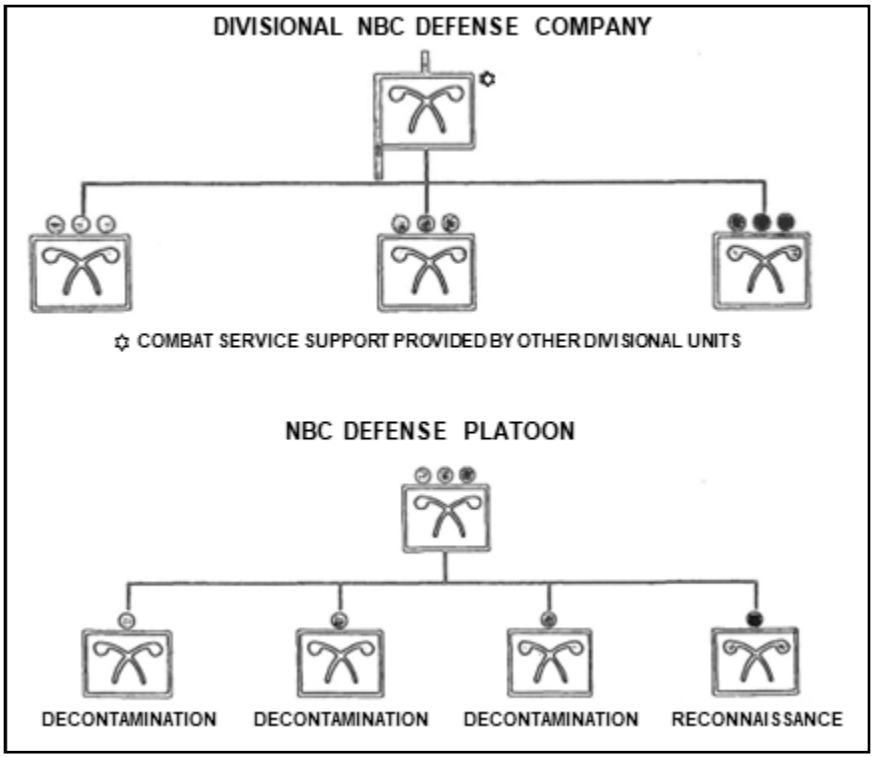


Figure 11.4. NBC Defense Company structure. From Field Manual (FM) 3-87, *Nuclear, Biological, and Chemical (NBC) Reconnaissance and Decontamination Operations*, 2-2.

Before the start of OBC, I had read the school's original doctrinal manual for the company, understood the lean structure of the unit, and discussed its operational concept with senior school leaders. It was clear to me during unit activation that none of these topics were priority considerations in the division, including establishing divisional oversight of the company. No copy of the operational and organizational manual was made available. Commanders did not consult with their Chemical staff officers. It took several years for the division to correct operational shortfalls due to the way activation was carried out, as I observed when I later led a formal assessment of the company, using the standards described next.

Training Requirements to Transform Unit, Soldier Readiness

To guarantee a common set of standards to train and assess the readiness of organizations and personnel, unit leaders at echelons from division to squad had an integrated toolkit of published resources. These

were refined over time based on input from the proponent schools and centers and from field organizations. The Army Training and Evaluation Program (ARTEP) was a foundation for performance-oriented collective training, providing guidance centered on the "most critical combat-related tasks" on the modern battlefield described in the 1976 FM 100-5. ARTEP documents enumerated key tasks, conditions under which they were performed, and minimum standards to be met. The goal was to publish an ARTEP for each type of organization, released when possible with their corresponding doctrinal manuals. Each ARTEP applied to both the Active and Reserve Components. Units were encouraged to use ARTEPs as "tactical laboratories" to experiment with different situation-based tactics and play scenarios not feasible in field exercises.[18]

Even with ARTEPs, Army guidance on the level of collective NBC readiness training was—and still is—lacking. Often the quality of such collective training programs depended wholly on local commanders at different installations who established clear training guidelines and standards. In 1978, the 101st Airborne Division's assistant division commander for support established Exercise Masked Eagle, initially an annual requirement for infantry companies to train in individual and collective NBC defense tasks. Company commanders took advantage of Masked Eagle to train on key missions, notably movement to contact. Fort Campbell was the first Army installation with prime training areas dedicated to unit NBC training, placed under the control of the Division Chemical Section. Division leadership soon expanded this training program to many other company/battery/troop-size units on the post. Subsequent senior division leaders ended the program with the belief that an annual requirement would serve as an excuse to forego NBC training for the remainder of the year. Instead, senior leader-directed NBC collective training of this caliber soon evaporated. Commensurate programs have been rare in the Army since then.

Venues for collective training on installations went well beyond field training exercises. When available training land, funds, and time limited the deployment of large formations and opposing forces, commanders turned to command post exercises and tactical exercises without troops. Board wargaming, battle simulations, and computer-based simulations were all readily available in the late 1970s. These included Dunn-Kempf at the company and platoon levels; Pegasus for maneuver brigades and battalions; First Battle for division commanders and staffs; War Eagle, a two-sided free-play game for corps and division headquarters; the Combined Arms Tactical Training Simulation for maneuver battalions; and the



Figure 11.5. Pegasus was a computer-assisted wargame used to train command groups. Administered by a control group, the training system included supporting manuals, such as a rulebook for the control staff, a booklet for control group instructions, combat results tables (covering conventional, air, chemical, and nuclear weapons), and an evaluation guide to rate performance. From Graphic Training Aid (GTA) 71-2-1, *Rules*; GTA 71-2-15, *Control Group Instructions*; GTA 71-2-16 *Evaluation Guide*; and GTA 71-2-17 *Combat Results Tables*.

Computer-Assisted Map Maneuver System at the brigade and battalion levels. Computer-based simulations soon expanded to train higher echelons. Most division and corps installations had a dedicated computer simulations facility with permanent manning beginning in the 1970s.[19] In addition to providing the most affordable alternative to costly field training at division and above, they offered the most effective means to understand how to apply new doctrine, organizational designs, and equipment in operations. Both human and automated external adjudicators reduced subjective judgments. Leaders and staffs made computer-assisted events one centerpiece of annual training.

Established in 1980, the National Training Center at Fort Irwin, California, provided instrumented, force-on-force training of armored and mechanized brigade formations. Beginning in 1987, the Joint Readiness Training Center provided a comparable live training venue for infantry brigades. Along with such collective training programs, new individual training initiatives aimed to standardize soldier skill requirements in both institutional and organizational environments. Most prominent, starting in the mid-1970s, were Soldier's Manuals for specific military occupational specialties, expanded Soldier Training Publications that combined the Soldier's Manual and Training Guide, and Job Books to help junior leaders track the training status of their people. Soldier's Manual of Common Tasks for Skill Level 1 (May 1981) established requirements across the force. Skill Qualification Tests, integrated with these training publications, independently assessed individual soldier readiness.[20]

Enabling Organizations with More Capable Equipment

The Army developed, programmed, and fielded dozens of new equipment items in the late 1970s and throughout the 1980s which fundamentally improved the Army's capability. I had noted earlier that the 101st Airborne Division was significantly hampered while equipped with the UH-1 helicopter as its primary utility aviation platform. Then in June 1979, the division received the first UH-60 Black Hawks; the selection of the Black Hawk as the Army's medium-lift utility helicopter was based on the earlier operational test at Fort Campbell with my division as the test unit. I observed first-hand how this new platform helped change the 101st Airborne Division from an airmobile-capable force to an actual air assault force. Now a TOW vehicle with ammunition load and crew could be easily airlifted by a single UH-60 with greater speed and range. My younger brother, also wearing the "Screaming Eagle" shoulder patch at the time, recalled that a Black Hawk could transport an M101A1 105-mm artillery piece with ammunition bag and crew in a single lift; previously a CH-47 medium-lift helicopter was needed.

My youngest brother's first assignment was in 1981 with the 2nd Armored Division at Fort Hood. He was a platoon leader in a mechanized infantry battalion, the first unit in the Army assigned the M2 Bradley infantry fighting vehicle. Senior Army leaders directed the accelerated field-



Figure 11.6. Infantrymen prepare to fire during qualifications tests on an M2 Bradley Infantry Fighting Vehicle on a firing range, 1983. The vehicle is equipped with an M242 25-mm chain gun and a 7.62-mm M240C machine gun. Courtesy of the National Archives and Record Administration.

ing of the platform, willing to fund major corrective actions afterward. My brother remembers that his battalion submitted well over 150 product improvement recommendations, such as adding a bustle rack and fixing deficiencies in the stabilized target tracking. Budget shortfalls in the division at the time curtailed fuel for training, keeping many vehicles in motor pools and slowing the operational assessment of the M2 in formations.

Setting the Stage to Redesign the Force

Throughout this period—and despite the major changes in doctrine, new training initiatives, and the beginning of modernized equipment fielding—the operating force continued to be structured largely around unit designs that originated in the 1960s. TRADOC had planned by 1976 to create new designs optimized to operate on a highly lethal battlefield, enable revised doctrine, and employ new weapon systems. For reasons that will be explained, the restructuring of the Army would take many more years.

Beginning with the 1917 fielding of the American Expeditionary Forces, the division was the basic tactical organization capable of sustained operations. The division has been the focus of tactical force structure since then. The primary driver of reorganizations was the perception that contemporary designs would not operate effectively with changing battlefield conditions. Eight major infantry division reorganizations took place between World War I and the major Army restructure in the mid-1980s, inclusive, along with several other major organizational studies and unrealized redesigns.[21]

The first of these was a "square" division with two brigades of two regiments each, numbering 28,000 personnel. This was the design used during World War I. Soon after war's end, the strength of the square design was dropped to 22,000. A triangular layout emerged in 1935 with three infantry regiments but no brigade headquarters. Following adjustments based on testing, this version wound up with just over 14,000 positions. It was the basic divisional design in World War II. In 1948, the division strength increased to 18,800 with the reorganization of the nine infantry-battalion laydown and the addition of a tank battalion, an antiaircraft battalion, and other elements. This was the standard design in the Korean War.[22]

The "pentomic" division emerged in the late 1950s, with five battle groups to allow for unit dispersion on likely tactical nuclear battlefields. The infantry version had 13,700 personnel. But organizational studies in the late 1950s and early 1960s replaced the pentomic concept with a divisional structure based on brigades and battalions. The resulting Reorganization Objective, Army Division (ROAD) force structure was fielded

between 1962 and 1964, including a 15,500-space infantry division. While revisions would be made to the TOEs of ROAD units over the years, this basic structural approach remained for the next twenty years despite the desire for a substantive overhaul. This would finally happen when the first new heavy division design began fielding in 1982–83.[23]

Starting the Redesign of the Force

Under General DePuy, TRADOC began planning in mid-1975 for an analysis of the current division to determine its capability to meet the demands of the high-intensity battlefield. Even while the Army was starting to add active divisions to its force structure, new weapon systems were in development and new doctrine emerging that exceeded the possible adaptation of the current division structure.[24] DePuy decided that fundamental restructuring was necessary. He notified the CSA, General Frederick C. Weyand, on 7 October 1975: "We must base proposals to change tactical unit organization on the two fundamental ingredients of battle effectiveness—weapon systems and tactics."[25] In May 1976, the Division Restructuring Study (DRS) Group was established at TRADOC headquarters under General DePuy's direct control to "develop the optimum size, mix, and organization of the US Army division for the 1980–85-timeframe."[26] Given the Army leadership's emphasis on armored and mechanized formations to counter Soviet-style forces, the study focused on the heavy division. FM 100-5 was about to be published, providing the doctrinal foundation for the division's operations. DePuy had placed both doctrinal and organizational development efforts in the hands of small groups stationed at his headquarters and reporting to him.[27]

DePuy's primary design principle aimed to maximize the effectiveness of new systems programmed for fielding: weapon systems and their best mode of employment would be the driving rational for structure.[28] The study effort led to an organizational concept that included single-system units; smaller companies and battalions to better manage firepower, but with more battalions organic to each brigade; more artillery; more engineer capabilities; aviation assets consolidated in an aviation battalion; administrative functions moved from company to the battalion level to unencumber junior commanders; added electronic warfare and chemical units; and system-oriented logistics and forward maintenance.

This concept for the restructured division and a proposed test and evaluation plan were briefed to General Weyand in July 1976. Testing would start in 1977 with the 1st Cavalry Division at Fort Hood. A full division test and reorganization would be carried out between 1980 and

1985, as new weapon systems were fielded. Weyand had the DRS Group brief the concept extensively across the Army through summer 1976. He also recommended that the Division Restructuring Evaluation start early.[29]

Late in 1976, TRADOC oversaw several preliminary tests of parts of the DRS concept; with results included in the DRS Phase I Report in March 1977.[30] My father recalled being the only enlisted member in a 1976 classified test at West Fort Hood, although it is not known if this related to elements of the DRS concept.

Whether to accelerate or slow down the speed of testing remained contentious. Changes in CSAs and TRADOC commanders reoriented the objectives of this work more than once. In late January 1977, the new CSA, General Bernard W. Rogers, aimed to keep up the momentum on this effort. He approved the DRS concept for testing, confirmed the 1st Cavalry Division as the primary test unit along with a testing schedule that would support a final decision on the concept in late 1979 or early 1980, and endorsed incremental implementation of selective improvements if testing outcomes warranted them. He also wanted studies on echelons above division, light infantry divisions (LID), and command, control, and communications. Restructuring of the first 1st Cavalry Division units started on 1 July 1977, along with activation of a divisional NBC Defense Company designed with combined NBC reconnaissance and decontamination assets in each of three platoons.[31]

A New Conceptual Framework to Drive Force Design

General Donn A. Starry took command of TRADOC that same day. He previously commanded V Corps in Europe, where he studied the application of Active Defense doctrine through wargames, simulations, analyses, and field exercises. A primary concern was the echelonment of Warsaw Pact forces that would bring wave after wave of engagements at the frontline. He determined that delaying, disrupting, and reducing the combat power of follow-on echelons before they arrived in the main battle area would change the "battle calculus."[32]

After Starry arrived at TRADOC, the Division Restructuring Evaluation continued with battalion and brigade phases. The CSA approved a new test schedule on 22 September 1977, aiming for his final review in October 1979. But Starry quickly became concerned about the DRS concept and the testing program. He assessed that the team which developed the concept had been too small, was too narrowly focused, and lacked a broader operational context. The systems-based design approach did not account for

the full range of functions required on the modern battlefield. The weapon systems to enable the new division were years away from fielding, even though the intent was to field the new design sooner rather than later. Testing and evaluation lacked rigor, producing questionable results.

General Starry determined that a more expansive and deliberate study effort was necessary to assess operational concepts and develop an objective force, underpinned by extensive analytics. He expressed these views at his TRADOC Commanders' Conference at the end of August and start of September 1977, suggesting that the DRS would be a stepping-stone to further work. Earlier in August, Starry already had his planners outline a comprehensive development effort, soon dubbed the Battlefield Development Plan (BDP).[33]

The BDP was an encompassing analysis of the modern battlefield, forecasted out to ten years in the future. From his V Corps experience, Starry appreciated the corps' central function to enable the "central battle," defined as "that part of the battlefield where all aspects of firepower and maneuver came together to produce a decisive action."[34] As planning continued for the remainder of 1977, the challenge was to deal with follow-on forces beyond the frontline by applying longer-range intelligence and attack capabilities; this led to another corps central function, "force generation." Starry envisaged a functional rather than weapon-systems approach to address central battle and force generation. The five critical tasks identified for central battle, principally the responsibility of battalions and brigades, were target servicing; air defense; suppression and counterfire; command, control, communications, and electronic warfare; and logistic support. The critical tasks for the mutually supporting function of force generation, which increased in importance from division through theater levels, were interdiction; command, control, and communications; force mobility; surveillance and fusion; and reconstitution.[35]

The first BDP, developed through most of 1978, was completed in November of that year. It was a threat- and scenarios-based study focused on a division operating as part of a corps in Europe. It also incorporated Starry's desire for a battlefield technology plan. The TRADOC commander characterized the BDP as "the road map to the future."[36] Starry wanted it to serve as a basis to establish priorities and influence Army planning, programming, and budgeting. In some cases, recommendations would accelerate fielding, relying on product improvements to resolve issues. The BDP was an iterative process—first annually and then biennially after the two-year budget was adopted—that TRADOC continued through 1987.

The Battlefield Development Plan fostered the evolution of operational concepts to support battlefield functions and tasks; concepts were a critical requirement of the BDP process. Conceptual ideas were developed, gamed and analyzed, reexamined, and matured. General Starry was not wedded to his original ideas when he assumed command of TRADOC, recognizing that more study through broader collaborative efforts would produce more effective doctrine, capabilities, and forces. As Starry reported, "While that development was under way, the Army's operational concepts evolved through a succession of changes known as the Corps Battle, the Central Battle, the Integrated Battle, the Extended Battle, and, finally, the AirLand Battle."[37] Starry filmed a number of presentations on iterations of these operational concepts to keep leaders across the Army informed as to the most current thinking.[38]

In August 1978, as the BDP effort was nearing completion and the next TRADOC Commanders' Conference was weeks away, General Starry turned to a formal approach on force structure, again focused on the heavy division while applying BDP analysis and recommendations. He directed work on an operational concept for a new heavy division and the plan to develop force designs. This study would involve a major collaborative effort across most of TRADOC, including its schools and integrating centers, along with task forces oriented on the BDP's battlefield functions. Each task force wrote an operational concept for its function. The command's Combined Arms Center coordinated this effort. Starry announced Division 86 at the 1978 Commanders' Conference, with the aim to brief the CSA on the proposed division restructuring in October 1979. The DRS and Division Restructuring Evaluation work had informed the BDP, and so many DRS ideas continued into Division 86.[39]

Division 86 would be the first of four organizational and operational concept studies under the Army 86" rubric. Starry selected 1986 as the target year to most effectively marry up doctrine, organization, and training with major equipment fielding, in line with his earlier suggestion to develop an "objective force." He had decided that eight years was as far as intelligence estimates could reliably forecast Soviet threat capabilities.[40] Major weapon systems were also programmed for fielding in quantity by 1986.

The Division 86 study absorbed the Division Restructuring Evaluation, including three planned division wargames, to support testing. For planning, the ceiling for the heavy division was 18,000 personnel. To compare alternate structures, the base case was a set of C-series TOEs that modified the H-series TOEs of current ROAD organizations with equip-

ment expected to be fielded by 1986. DRS units, updated with the same programmed equipment to establish T-series TOEs, were the second option. The objective Division 86 structure was the third.[41]

General Edward C. Meyer, who assumed the duties of CSA in June 1979, approved in principle the recommended objective heavy division at 19,855 personnel in October 1979. Along with decisions regarding Division 86, new studies were initiated for Infantry Division 86 (aimed at a standard infantry division, not to be confused with the later LID), Corps 86, and Echelons Above Corps 86, all applying the framework of the Division 86 study. The study period was November 1979 to December 1980.[42] Later, after the addition of light force studies, the Separate Brigades 86 study began in 1982 to work on heavy and light units, with operational concepts in draft in early 1983.[43]

Until late 1979, the Army had planned to mechanize all infantry divisions except the airborne and air assault divisions.[44] However, General Meyer as CSA ended that plan. The Army's ability to respond to possible worldwide contingencies was a key component of the nation's security strategy, and Meyer was concerned that the Army was not addressing this requirement. An advocate of light forces, Meyer believed that applications of advanced technologies would significantly increase the combat power of standard infantry units while retaining their ability to rapidly deploy. Thus, he envisioned a dual-mission set of rapid deployment: one to reinforce forward-stationed forces in Europe, and the other to quickly respond to contingencies worldwide. This requirement was fundamental to the Infantry Division 86 study.[45]

In August 1980, TRADOC added light force studies on Contingency Corps 86 and Echelons Above Contingency Corps 86 to its force structure efforts.[46] Analyses to modernize the airborne and air assault divisions were pursued in 1981 and 1982. Light force design efforts would stumble a number of times in trying to provide units light enough to be rapidly deployable around the world yet still have significant combat power to deal with the Soviet threat if sent to Europe. The expanded focus on light forces with concomitant restarts in studies delayed work on echelons above corps (EAC). Gaps in EAC and theater army structure would plague the Army over the years, in part due to resourcing shortfalls and a lack of approved doctrine. The Army had eliminated key field army and theater army headquarters in Europe in the 1970s to reap their manpower spaces, creating a vacuum in organizations that could have informed this developmental requirement.[47]

The proliferation of operational concepts developed through these studies led General Starry to codify his perspective on concepts in "TRADOC Commander's Notes No. 3: Operational Concepts and Doctrine," published 20 February 1979. To Starry, concepts were key in addressing near-term challenges and determining requirements, so discipline was necessary in their development. His note clearly presented his vision on what a concept was in general and an operational concept in particular.[48] He wrote:

> Concepts are military in nature, relating to ideas, thoughts, general notions about the conduct of military affairs. . . . [An operational concept is] a description of military combat, combat support and combat service support systems, organizations, tactical and training systems necessary to achieve a desired goal. Concepts are and must be the first agreed upon part of any project. They must also be dynamic—changing as perceptions and circumstances change.[49]

After establishing this framework, Starry directed the focus of TRADOC concepts work—operational concepts and others—on the Central Battle idea, honed with thorough testing:

> For our purposes, TRADOC concepts must be tested in the Central Battle; effects on and interaction with other concepts—tactical, organizational, training and materiel concepts—must be defined. . . . Once formed, an operational concept is evaluated. This can be done in a variety of ways: by one of several battlefield simulation processes, by field testing and evaluation, or perhaps by routine staffing.[50]

AirLand Battle Becomes the Foundation

As operational concepts matured through different sets of studies, modeling and simulations, and analyses, TRADOC formalized key operational concepts in a series of publications to ensure consistency among all TRADOC organizations. The foundational concept document at the time was TRADOC Pamphlet 525-5, *The AirLand Battle and Corps 86*, dated 25 March 1981. This document presented the umbrella The AirLand Battle concept informed by the Army 86 studies and the derivative concept of Corps Operations 1986. The focus on the corps indicated the growing importance of the operational level of war.[51]

Pamphlet 525-5 was clearly meant to address near-term battlefield challenges and frame emerging doctrine. Starry wrote in his foreword that

operational concepts like this one "may also be used by the operating forces of the Army in the conduct of training and other preparations for combat operations pending incorporation of the concept into doctrinal and training literature." The concept was also the basis for broader combat development work: "The focus of the two concepts is to realize the full potential of the US forces."[52] Starry underscored that Pamphlet 525-5 would form the basis for fielding, improving, and modifying the Army 86 generation of organizations, systems, and equipment for the remainder of the decade into the 1990s.[53]

Nor was this fundamental idea focused only on Europe, although the threats the document addressed shared a common origin. "This concept primarily deals with war in areas of the world where there are large numbers of relatively modern, well-equipped forces who use Soviet style operational concepts and tactics. Quite naturally, therefore, the threat against which the concept is designed is typified by the Warsaw Pact in Central Europe, the larger aggregations of mechanized forces in the Middle East, or the threat from the north in Korea."[54] Thus deep attack was a necessity, requiring new capabilities, force structure, and cooperation between the services, with emphasis on "the range of assets figuring in the AirLand Battle is extended toward more emphasis on higher land Army and sister service acquisition means and attack resources."[55] Thus AirLand Battle was implicitly a multi-service concept, although developed only by the Army.

This concept was mature enough to immediately direct doctrine, organizations, and equipment, while operating forces could use it as the basis of training: "The AirLand Concept is not a futuristic dream to remain on the shelf until all new systems are fielded. For instance, with minor adjustments, corps and divisions can and must begin to learn and practice fighting the AirLand Battle now—during 1981. The payoffs in readiness for combat will be enormous; and implementing the concept today means that we are building the receptacle into which every new system can be plugged immediately, minimizing the build-up time to full capability."[56] Inculcating the concept into operating forces would speed up adoption of new doctrine and fielding of new equipment.

The term AirLand Battle underscored the importance of air and ground force cooperation in order to see deep and then attack enemy formations long before they arrived at the frontline, forcing the separation of echelons in time and space. General Starry recognized that US Air Force capabilities were critical to deep attack, but understood the challenge in dealing with service concerns over roles and missions, especially with

the Army's desire to shape the application of air reconnaissance and interdiction. Starry found a like-minded colleague in General Bill Creech, commander of the US Air Force's Tactical Air Command (TAC). Creech not only agreed fully with Starry's ideas on the "extended battlefield," as the TRADOC commander called it at the time, but championed Air Force support. Creech was vital in overcoming service resistance. TAC-TRADOC agreements on battlefield air interdiction and offensive air support led to Air Force endorsement of the latter; in 1981, the Air Force adopted the agreement on offensive air support as service doctrine. Starry underscored Creech's role in establishing Army-Air Force cooperation in a later oral history: "We would not have an AirLand Battle had it not been for General Bill Creech. We would not have it because we were at a Mexican standoff with the Air Force guys."[57] The Air Force partnership shaped the doctrine, systems, and organizations pursued by the Army. Continuity of thought between a series of Army and Air Force service chiefs helped to keep Army modernization on track.

While the BDP and Corps 86 study informed the evolution of operating concepts that led to TRADOC Pam 525-5, General Starry had already initiated a separate effort in March 1980 to review current doctrine presented in FM 100-5. General Meyer, installed as CSA in June 1979, also desired an update to the keystone manual. Leaders at all echelons who had tested Active Defense in training and exercises had seen challenges in effectively implementing the doctrine. The original intent was to revise the 1976 edition by correcting assessed deficiencies, notably on Active Defense; however, the extent of new ideas maturing at the time instead led to a new manual. The US Army Command and General Staff College helmed the writing effort, distributing an initial coordinating draft for comment in January 1981. Further collaboration and revisions to the publication continued over the next year and a half. The doctrinal operational concept called AirLand Battle framed the new edition of FM 100-5, published on 20 August 1982.[58]

In late 1979, General Meyer established a cap of 14,000 for the manning of Infantry Division 86; however, meeting the dual-mission requirement of TRADOC's alternate designs would exceed this maximum, and Meyer dropped his manning constraint. In September 1980, he approved planning and testing of a 17,773-person design with three brigades commanding eight motorized battalions and two mobile protected gun battalions. To explore technology-based options that might improve mobility and combat power, a "high technology test bed" was established using

the 9th Infantry Division. For a variety of reasons, this test bed faced challenges throughout its existence.[59]

By late 1981, following further adjustments to the Division 86 structure, the armor division and mechanized infantry division designs had grown to 20,802 and 21,091 spaces, respectively. Following Department of the Army Headquarters direction, TRADOC undertook the Division 86 Restructuring Study (not to be confused with the earlier DRS) in 1982 to reduce manpower while retaining key designs and combat power. General Meyer ultimately decided in March 1982 on a 19,024-person structure that even at reduced strength kept most of the original elements, including four-company maneuver battalions, with ten battalions in heavy divisions in Europe and nine in the United States, the latter rounded out with a Reserve Component battalion.[60] The most mature and tested of the proposed new unit designs, the first heavy divisions began reorganizing from the ROAD structure to Division 86 TOEs in 1982–83. Coincidentally, fielding of new weapon systems ramped up significantly starting in 1983.

When General John A. Wickham Jr. became CSA in July 1983, he immediately shifted from Army 86 to the Army of Excellence (AOE) as the new framework to modernize force structure. His intent was to finalize designs as quickly as possible to move forward with fielding across the force while dealing head-on with active end-strength constraints. For years the Army had expectations that the Department of Defense would endorse and Congress would approve end-strength increases. They did not. Wickham acknowledged that the Army would remain at 780,000 authorized active spaces through Fiscal Year 1990, which directly influenced his force design guidance and decisions.

Wickman's goal was to increase the Army's combat strength, despite static end-strength authorizations, by adding combat units and taking risk in support structure. With AOE redesigns and related fielding decisions, the Army would eventually add two more active divisions (for a total of eighteen) and two more Army National Guard divisions (totaling ten). Wickham had indicated this plan while vice chief of staff of the Army in early 1983, but after his nomination to CSA; the plan was formally initiated in August. This would be a comprehensive effort affecting nearly every unit in the Active and Reserve components. At his request, TRADOC presented an estimate of "the proper force for the '80s" at the Summer Army Commanders' Conference in mid-August.[61]

At the conference and in a subsequent 1 September directive, General Wickham set the course for AOE. While fielding of Division 86 designs

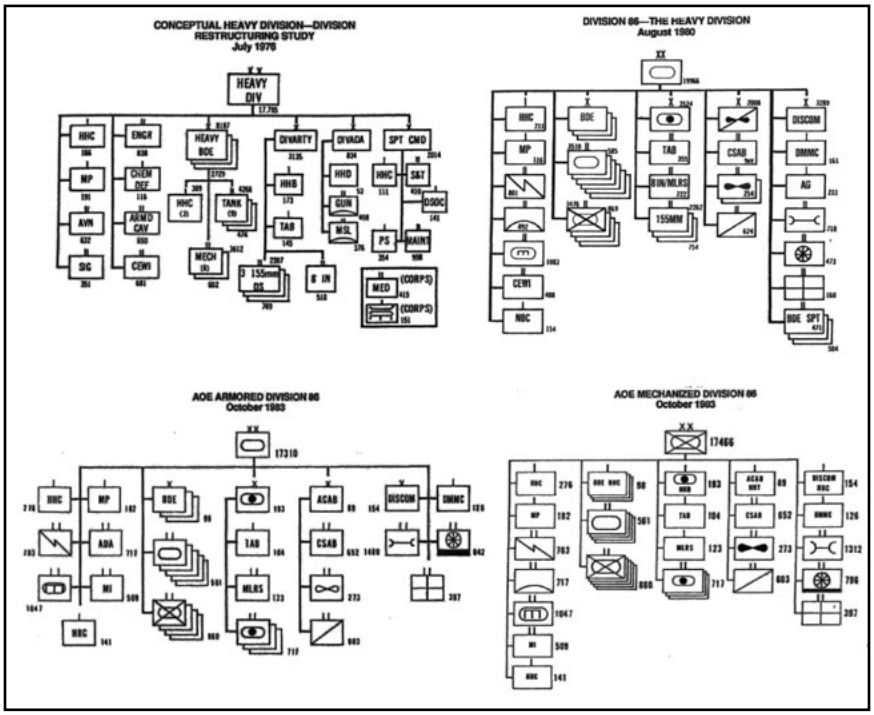


Figure 11.7. This graphic compares the heavy division design in the 1976 Division Restructuring Study under General DePuy, the 1980 Division 86 design under General Starry, the 1983 Army of Excellence armored division design, and 1983 Army of Excellence mechanized division design under General Wickham. From US Army Center of Military History Publication 69-4-1, *The Army of Excellence*, 134, 135, 173, 174.

would continue for the time being, TRADOC would explore ways to reduce the size of heavy divisions, including consolidating some capabilities at corps such as aviation, the combat electronic warfare and intelligence battalion, and Multiple Rocket Launch System assets, while downsizing division direct support artillery units. Combat service support might be moved to corps or higher. The Active/Reserve mix would consider strategic requirements, with early-deployment forces that emphasized light units in the Active force, while the Reserves would take on more of the later-deploying units, notably heavy forces.

The LID concept, which focused squarely on rapid force deployment for contingency operations, capped the division at 10,000 soldiers and required no more than 500 C-141B air transport lifts for strategic movement of the unit. To increase standardization and reduce size, Wickham asked

TRADOC to look at designs for air assault and airborne divisions with 15,000 and 10,000 personnel, respectively. The high technology light division development effort with the 9th Infantry Division would continue. Special operations forces designs would be revised with an eye to specific threats and theaters, while the already planned increase in Special Forces units would move forward.[62]

TRADOC would present a proposal for all Army forces, including divisions, corps, and EAC, aligned by theater, at the Fall Army Commanders' Conference in the second half of October. This would also recommend the light and heavy mix and the Active and Reserve balance, all accounting for the factors of supportability, deployability, threat, and manpower ceiling.[63] The CSA expected to make major decisions on proposed AOE designs, including modifications to Division 86, which gave TRADOC only two months to develop these designs.

It appears that the term "Army of Excellence" was adopted from the logo "Force Design for an Army of Excellence" on briefing slides by the Force Design Directorate in TRADOC's Combined Arms Combat Developments Activity. The official Army theme for 1983 was "Excellence," which appeared in various slogans across the service. The Department of the Army's 1 September 1983 message to TRADOC on "Force Structure and Design Initiatives for an Army of Excellence," with the CSA's endorsement, made the AOE label official.[64]

As planned, General Wickham made decisions at the commanders' conference on the majority of AOE issues, although he deferred a number pending further study. He approved the 10,000-person LID and directed the first conversion with a limited certification test. Wickham viewed the LID as an elite force epitomized by the Army's Ranger units. Eventually all standard infantry divisions in the Active and Reserve components would move to the LID design, while the 2nd Infantry Division in the Republic of Korea would retain its hybrid structure. The light infantry template was approved to restructure the air assault and airborne divisions but had to account for XVIII Airborne Corps' operational requirements.[65] Resolution of heavy corps and light corps packages, critical to fully enable AirLand Battle, depended on multiple determinations. Key was changes in logistics planning factors that reduced combat service support requirements.

TRADOC's follow-on briefing to the CSA on 10 November addressed open issues with a revised AOE structure. The CSA subsequently endorsed this structure for planning, then formally directed implementation of the AOE on 23 November. To ensure high readiness for early de-

ployment, LIDs would be manned at ALO 1. For the AOE heavy division, Wickham approved recommended manpower cuts, including reductions in the size of the mechanized infantry squad and the 155-mm howitzer crew, as well as elimination of the brigade scout team, but retained ten maneuver battalions. The air attack combat brigade kept two attack helicopter battalions, while forward support battalions stayed. The use of Reserve round-out maneuver battalions continued. The objective AOE armor division's strength was 16,924, while the objective AOE mechanized infantry divisions was 17,203. The Department of the Army published the first implementation guidance on 10 January 1984.

Changing from Army 86 to the Army of Excellence

Restructuring of nearly the entire Army, beginning in mid-1984, would be phased over many years out to around 1990. Unit designs completed in 1984 were for the LID, air assault and airborne divisions, heavy division, hybrid 2nd Infantry Division, separate infantry brigade, and units at echelons above division, as well as numerous modifications across the force. The final LID design had 10,843 spaces; three maneuver brigades with a total of nine infantry battalions; a division artillery with three towed 105-mm batteries and one towed 155-mm battery, a combat aviation battalion with two lift companies, one attack company, and one reconnaissance squadron; a division support command with a maintenance, supply and transport, and medical battalions; and division troops (signal, air defense, engineers, military intelligence, military police, and band, but no chemical company). The air assault division dropped from 18,900 to 14,900 spaces, and the airborne division from 16,500 to 13,200. The 101st Airborne Division and 82nd Airborne Division converted to new designs in 1986 and 1987. The training and employment of heavy/light mixes, driven in part by the availability of forces in the Army inventory, would continue to be a major operational concern.[66]

The original 1984 plan was to program and budget the AOE force through the five-year Total Army Analysis process in three annual cycles, with each cycle devoted to combat, combat support, and combat service support, in order.[67] However, documentation of TOEs was manpower-intensive. The first were published starting in July 1984, with the light infantry division, followed by heavy divisions and the separate heavy brigade. The Army finally completed the last of the 1,262 AOE TOEs in 1988.[68]

The sheer complexity of the Army's restructuring created a certain amount of turmoil for the rest of the decade. Force designs required for-

mal documentation, resourcing, and programming, with implementation synchronized to modernized equipment fielding, which itself took many years. M60A1 and M60A3 tanks and M113-series armored personnel carriers were found in some Active and Reserve maneuver units through the end of the decade. Those heavy divisions already changing to Division 86 in 1982 and 1983 experienced an in-stride transition to the AOE design. The CSA directed further studies on heavy division structure in 1984, but the earlier design survived.

In addition to formalizing AirLand Battle, the 1982 edition of FM 100-5 established a new warfighting approach, supported by a growing family of field manuals that expanded on AirLand Battle. At first this was aspirational doctrine for many Army formations before they were fully capable of carrying out all essential tasks, but these operating forces, already proficient in the new doctrine, were prepared to employ new systems as they were fielded.

Illustrative of this speedy reorientation to prepare for and train new organizational designs is FM 6-20-1 (J) Coordinating Draft, *Field Artillery Battalion*, with the date of August 1983 handwritten on the title page. Photocopies of type-scripted pages were distributed to units. This barebones publication presented organizational doctrine, command and control, and common tactics for the battalion as organized under a J-edition TOE. It listed numerous changes to the organization, along with several items of new equipment to be fielded. The manual noted, "This equipment, when combined with changes in TTPs [tactics, techniques, and procedures], will provide the commander with enhanced capabilities and increased flexibility."[69] Additionally, the field manual explicitly stated that it was compatible with AirLand Battle doctrine in the 1982 FM 100-5.

The AOE redesign fundamentally altered the roles and balance of capabilities between the heavy division and corps as compared to Army 86. In many ways, the focus of combat operations shifted from the division to the corps. The corps gained additional organic combat and combat support assets—notably rotary-wing attack aviation, field artillery and long-range missiles, air defense, and long-range surveillance—to more effectively carry out tasks at the operational level of war, including deep attack; weighting the main tactical effort; and exploiting tactical success in support of campaign objectives. The division was fully oriented on waging the tactical fight. While the heavy division was reduced in size from the Division 86 design, its combat power remained substantial. Pat O'Neal, a former maneuver battalion commander, reported that his division gener-

ated 30 percent more combat power and a dramatic increase in lethality at the edge of the battlefield with the new AOE designs.[70] He noted that it also could regenerate combat power without burdening tactical units, as he experienced with the regeneration of his own battalion during a REFORGER exercise. Organizational designs gave the commander new degrees of freedom in moving command and control downward.[71]

AOE's realignment of capabilities improved the conduct of campaigns at the operational level and contributed to revision of the 1982 edition of FM 100-5. The new edition, released on 5 May 1986, refined AirLand Battle doctrine. It clarified the roles and interaction of corps and heavy divisions, and introduced the term "operational art."[72]

While tactical combat formations had grown in number and relative combat power, the Army had sacrificed a significant amount of combat support and sustainment capability, starting with divisions and moving up through corps and echelons above corps.[73] Although many units were identified as required in the force structure database, they identified as COMPO 4, a unit category with no assigned equipment or personnel. Army leadership assessed these and other risks in force structure, driven by the 780,000 active end-strength cap, as acceptable in light of its strategic requirements.

I returned to the XVIII Airborne Corps in summer 1992 to serve as a corps war plans officer after graduating from the School of Advanced Military Studies. The Cold War was considered over and won by the United States and its allies; Presidents George H. W. Bush and Mikhail Gorbachev formally declared its end on 3 December 1989. But just months later, Iraq's invasion of Kuwait triggered a massive deployment of forces and a major air-land campaign that included units from several NATO nations. Several months before my arrival, the corps, its divisions, and its enablers had returned from Kuwait and Operations Desert Shield and Desert Storm, where AirLand Battle doctrine had proven its efficacy and Army of Excellence units their unparalleled capabilities. As a war planner, I would become more familiar with the full range of Army units from battalion to theater. I was also mindful of the compromises required to field the AOE Army.

I had been a member of both the 101st Airborne Division and the 82nd Airborne Division before their conversion to AOE designs. At that time, I considered them to be "medium weight" semi-motorized divisions. Their maneuver units had organic ground mobility able to rapidly move infantry and combat support units by tactical wheeled transport. These platforms

could be air-assaulted by helicopter or air-dropped by parachute. If the mission called for dismounted forces or if air transport simply was not available, ground vehicles would be left behind. Otherwise, they were available, with units trained and equipped to maintain, employ, and adapt them to specific missions. The subsequent LID design of the two divisions eliminated in very large part the ground mobility of their maneuver units and options for unit employment. The divisions were now very light at one end and very heavy in terms of Army aviation at the other, but lacked capability in the middle. More recent reassessment of organic ground mobility for light forces underscores the importance of regularly reexamining the Army's force structure in terms of threat, scenarios, missions, and resources.

The US Army has gone through more sweeping organizational reforms since the end of the Cold War in response to changes in national security requirements, threats, and technology. The plunge in post-Cold War authorized strength of the Active force was followed a decade later by extended land-based wars characterized by unconventional warfare operations. With the national security focus back to more conventional near-peer threats starting in the mid-2010s, the Army initiated a reform and modernization effort with many parallels to the "decade of transformation" after Vietnam, including an organization-based conceptual approach to how the Army should operate. The framework for this was the Multi-Domain Operations (MDO) concept, primarily developed from 2016 to 2018.[74]

Insights and Recommendations

Enduring insights from the development and fielding of the Cold War Army after the Vietnam War are many; five are highlighted here. First, senior Army leaders are THE drivers of major change in the Army. Most important are the CSA and the commander of the Army Transformation and Training Command (activated in 2025, it subsumed TRADOC missions when TRADOC was disestablished).[75] They establish formal initiatives to determine the objectives for change, set the path forward, identify the integrated transformation process, name and resource the primary change agents, schedule critical decision points, keep the Army informed, and formally document the work. To achieve success, they must share a vision and collaborate regularly to maintain momentum and keep the service on course. Given the time required to fully implement change due to extended budget, force structure, and equipping cycles, their successors must continue what their predecessors started. Partnerships with sister service chiefs have proven especially productive, although difficult to forge. The Joint Force, Combatant Command commanders, multina-

tional partners, and Congress will be interested in how the Army thinks about change, and must be kept informed along the way. With this philosophy, the Army has repeatedly led the way in conceptual and doctrinal advances in the US military.

Second, concept development efforts, whether for near-term, mid-term, or far-term change, require sufficient time to think, collaborate, debate, experiment and test, document, revise, and assess alternatives. Curtailed timelines often lead to poorly informed decisions. Concept documents, tailored to the specific effort, should be the start point to frame ideas on doctrine, organizations, equipment, training, and personnel. Skipping this initial step has regularly led senior leaders to suspend a developmental effort when they realize a concept document is necessary after all. Rapid adaptation and innovation efforts benefit from investing the time in this approach. Concept documents are foundational to wide collaboration and shared understanding. Any organization may submit a concept for consideration, from agencies exploring "deep futures" to elements of the current operating force, such as division and corps force development staff sections.

Third, generic conceptual frameworks usually lack utility in setting a course for change. Most successful concepts clearly state the problem to solve, the timeframe, assumptions, threats, the operating environments, proposed organizational structures at echelon with their key tasks, and operational methods. Experimentation venues must include a wide array of simulations, wargames, and live-force tests. Resourcing these will always be a challenge, but untested conceptual ideas are risky. Experimental force structures are a foundation to conduct a learning campaign and foster comparability of testing outcomes. Significant doctrine or organizational structure changes should be grounded in a conceptual document, such as an operational and organizational concept. In nearly every case where a new idea, technological application, system, training approach, or organization is proposed, a concept document should establish the framework for its study and evaluation. This is not always the case today, even with elements of the Army charged with developing the future force.

Fourth, the idea of US Army general-purpose forces should not be an automatic force design approach. One longstanding debate has been whether to weight organizational designs for general-purpose forces or for tailored forces. Given that the Army is made up of hundreds of functional unit designs at echelon, this question is more about maneuver units. A common perspective is that general-purpose forces can be readily adapted

to a range of missions, threats, and environments, while tailored forces limit the Army's flexibility. A threat- and scenario-based approach, on the other hand, may suggest that more tailored maneuver units are needed. Critical are informed and well-crafted experimental unit designs and related operational and organizational concepts for live and virtual testing.

Finally, deciding when to pursue change is a fundamental challenge that demands proper resourcing supplemented by the judicious application of information-age tools. In his 1983 "To Change an Army" article, General Starry recommended an enduring institutional approach for the Army. Since then, organizations charged with concept and capability developments and learning regularly experienced reductions in manpower and resources. Meanwhile, the quantity of lessons learned, threat assessments, studies, experimentation results, historical analyses, technological opportunities, and conceptual proposals grow daily. They are published at every level of security classification by a wide variety of individuals, formal organizations, and informal entities on many information platforms, while encompassing different timeframes, threats, and scenarios. Few Army organizations are dedicated to continuous analyses to assess trends, identify possible inflection points, and pinpoint opportunities or the need for change; fewer still have ready access to senior leaders. Here is an excellent application of artificial intelligence as a game-changing tool to monitor thousands of efforts, aggregate otherwise disparate information, apply assigned research questions, and recommend decision points. Military historians can use artificial intelligence tools to help mine the thousands of references before taking over research and writing chores. The increasing power of affordable computing offers expanded access to simulations, modeling, and gaming. But information technology is an enabler, not a substitute, for the effective resourcing of organizations charged with developing and testing operational concepts, unit designs, and materiel; this requires proper manning, budgeting, and facilities. None of this will be effective, however, without ready access to senior leaders for guidance and to present outcomes.

The "decade of transformation" as the Army reset from the Vietnam era to the Cold War forty years ago is a valuable and extended case study on best practices to change the Army in the future.

Notes

1. Mark M. Turner, "U.S. Army Concept Programs During the Vietnam War Era: A Road Map for Further Study" (presentation, US Army Command and General Staff School, 27 August 2024. Arguably, the Army experienced similar challenges during the Afghanistan and Iraq wars, even while more conventional threats such as Russia and China were becoming more capable.

2. Jean R. Moenk, *Operation STEADFAST Historical Summary: A History of the Reorganization of the U.S. Continental Army Command (1972–1973)* (Fort Monroe, VA: US Army Forces Command, 1974).

3. Each TRADOC commander who succeeded General DePuy would review, revitalize, and revise individual and collective training programs, but DePuy's original efforts provided much of the backbone after he left TRADOC. Even the concept for the national training centers emerged during the DePuy years. See Anne W. Chapman, *The Army's Training Revolution, 1973–1990: An Overview* (Fort Monroe, VA: Office of the Command Historian, TRADOC, 1994), 9, 11, 17, 27.

4. This chapter includes the author's personal experiences as a context and perspective for the series of US Army actions in its decade-long post-Vietnam transformation. Memory has its shortcomings in matching up with documented events but does reflect enduring impressions made by events in those momentous times. The author's father and two brothers also served in the US Army during the post-Vietnam decade. His father was drafted at the end of the Korean War, serving his first tour in Cold War Europe, with two more assignments in West Germany between 1959 and 1980. His younger brother was commissioned in the Field Artillery in 1979 and had his first tour in 1980 with the 101st Airborne Division (Air Assault), a unit that provided the division's tactical nuclear capability. His next tour was in West Germany. The author's youngest brother was commissioned in the Infantry in 1980. His first tour was in a mechanized infantry company in the 2nd Armored Division at Fort Hood, serving as a platoon leader in the first mechanized infantry battalion in the Army to be assigned the M2 Bradley infantry fighting vehicle. He would serve two tours in Germany. To highlight continuity and change in senior Army leadership during the post-Vietnam decade, these were the serving Chiefs of Staff of the Army: General Creighton W. Abrams Jr., 12 October 1972 to 4 September 1974 (died in office); General Frederick C. Weyand, 5 September 1974 to 30 September 1976; General Bernard W. Rogers, 1 October 1976 to 21 June 1979; General Edward C. Meyer, 22 June 1979 to 21 June 1983; General John A. Wickham Jr., 23 June 1983 to 23 June 1987; General Carl E. Vuono, 23 June 1987 to 21 June 1991; and General Gordon R. Sullivan, 21 June 1991 to 20 June 1995. The first five TRADOC commanders were General William E. DePuy, 1 July 1973 to 30 June 1977; General Donn A. Starry, 1 July 1977 to 31 July 1981; General Glenn K. Otis, 1 August 1981 to 10 March 1983, before serving as Commander-in-Chief, US Army Europe, 1983 to 1988; General William R. Richardson,

11 March 1983 to 29 June 1986; and General Carl E. Vuono, 30 June 1986 to 11 June 1987, before he became CSA. General Vuono is a case study in progressive assignments which fostered thinking about the force that he could bring to bear as he moved up.

5. Paul H. Herbert, *Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100-5, Operations*, Leavenworth Papers no. 16 (Fort Leavenworth, KS: Combat Studies Institute, July 1988).

6. Al Mauroni, "The U.S. Army Chemical Corps: Past, Present, and Future," The Army Historical Foundation, Fort Belvoir, VA, accessed 8 October 2024, https://armyhistory.org/the-u-s-army-chemical-corps-past-present-and-future/.

7. Karl E. Cocke et al., *Department of the Army Historical Summary: Fiscal Year 1976* (Washington, DC: US Army Center of Military History, 1977), hereafter cited as DAHSUM 1976, https://permanent.fdlp.gov/lps53115/lps53115/www.history.army.mil/books/DAHSUM/1976/index.htm.

8. The stagnation in force designs and capabilities is seen with a comparison of Chemical Corps doctrinal manuals. See, for example, Department of the Army, Field Manual (FM) 3-50, *Chemical Smoke Generator Battalion and Chemical Smoke Generator Battalion* (Washington, DC: 1959), and Department of the Army, Field Manual (FM) 3-101, *Chemical Staffs and Units* (Washington, DC: 1987).

9. The Army programmed the addition of more than 3,600 Chemical Corps officers and noncommissioned officers to active Army units at company and battalion levels beginning in Fiscal Year 1980. These included lieutenants in the position of battalion assistant S-3/chemical officer. Carl E. Cocke et al., *Department of the Army Historical Summary Fiscal Year 1980* (Washington, DC: US Army Center of Military History, 1983), 14–15, https://permanent.fdlp.gov/lps53115/lps53115/www.history.army.mil/books/DAHSUM/1980/index.htm.

10. A ready means to track US Army development over time starting in Fiscal Year 1969 is the Department of the Army Historical Summary (DAHSUM), which provides "an overview of the successes and problems of major Army programs during a given Fiscal Year." The history is published by the US Army Center of Military History, https://permanent.fdlp.gov/lps53115/lps53115/www.history.army.mil/html/bookshelves/collect/dahsum.html.

11. David Coleman, "US Military Personnel 1954–2014," History in Pieces, accessed 1 September 2024, https://historyinpieces.com/research/us-military-personnel-1954-2014.

12. Karl E. Cocke, *Department of the Army Historical Summary: Fiscal Year 1975* (Washington, DC: US Army Center of Military History, 1978), https://permanent.fdlp.gov/lps53115/lps53115/www.history.army.mil/books/DAHSUM/1975/index.htm, 5.

13. Karl E. Cocke, *Department of the Army Historical Summary: Fiscal Year 1976* (Washington, DC: US Army Center of Military History, 1977), https://permanent.fdlp.gov/lps53115/lps53115/www.history.army.mil/books/DAHSUM/1976/ch02.htm, 5.

14. DAHSUM FY1976, Introduction, https://permanent.fdlp.gov/lps53115/lps53115/www.history.army.mil/books/DAHSUM/1976/ch01.htm, 3. Rapidly available combat power was critical: "The Army has also sought to reach its goal of twenty-four combat-ready divisions that will dissuade any enemy from the use of force. Although much has been achieved, much remains to be done. Since the initial and probably most intense phase of a conflict will be fought with the troops and equipment on hand, both the active and reserve components of the Army must be designed to provide early combat power and the necessary support forces to sustain that power. The lengthy periods of mobilization that the nation once enjoyed will no longer be possible since the standby Selective Service will not be able to deliver its first recruits for training for at least three months. Thus, balanced forces, both combat and support, must be ready from the outset of hostilities." (3–4).

15. DAHSUM FY1976, https://permanent.fdlp.gov/lps53115/lps53115/www.history.army.mil/books/DAHSUM/1976/ch02.htm, 5.

16. DAHSUM FY1975: In fiscal year 1975, the Army decided to accelerate the fielding of active divisions: "The ratio of combat to support forces increased considerably as the Army moved ahead with its plan to increase the number of active Army combat divisions from thirteen to sixteen. Implementation of the sixteen-division structure, originally scheduled for completion by fiscal year 1978, was advanced to the end of fiscal year 1977 due to the success in reducing the size and number of Army headquarters and eliminating combat support spaces in Europe to meet the dictates of Congress and the Department of Defense." (5).

17. Due to limits in authorized personnel space allocations for Chemical force structure in the late 1970s, the fielding of Active component Chemical companies required restricted force designs. At the time, the Army lacked capacity in Active-duty corps- and theater-level Chemical units to provide support at these echelons or backstop divisional operational requirements. Even in late 1977, with the reestablishment of the Chemical branch, the Army's organizational approach to NBC defense lacked Chemical branch personnel at company and battalion levels. Instead it relied on extra-duty teams in companies and battalions with no Chemical branch personnel; Chemical branch personnel at brigade and higher headquarters; small TOE Chemical teams, most in the Reserve components, that could be assigned down to separate brigades and regiments, divisions, and corps; and TOE Chemical platoons in Field Service Companies, as described in Department of the Army, Field Manual (FM) 21-40, *NBC (Nuclear, Biological, and Chemical) Defense* (Washington, DC: 1977), 2-1–2-5.

18. See, for example, Department of the Army, Army Training and Evaluation Program (ARTEP) 6-105, *Field Artillery, 105mm Howitzer, Towed, Infantry, Airmobile, Airborne Divisions and Separate Brigades* (Washington, DC: 1976).

19. ARTEP 6-105.

20. Early assessments of the integrated application of Soldier's Manuals, Job Books, and Skill Qualification Tests to improve individual training in operating units starting in the 1970s was assessed in *The Army Training Study: Concepts of the Army Training System* (Fort Monroe, VA: US Army Training

Study Group, TRADOC Deputy Chief for Training, 8 August 1978); and *The Army Needs to Improve Individual Soldier Training in Its Units* (Washington, DC: General Accounting Office, 31 March 1981), https://www.gao.gov/assets/fpcd-81-29.pdf. Implementation of the Enlisted Personnel Management System (EPMS) in the 1970s included release of MOS-based Soldier's Manuals, Job Books, and Skill Qualification Tests. For the Field Artillery career management field, see Sam A. Brown, "EPMS and the Field Artillery," *Field Artillery Journal* 45, no. 3 (May–June 1977): 29–33.

21. John J. Romjue, *The Army of Excellence: The Development of the 1980s Army,* CMH Pub 69-4-1 (Fort Monroe, VA: Office of the Command Historian, US Army Training and Doctrine Command and Center of Military History, 1997. "The design and development of the Army of Excellence, popularly termed the AOE, was a major component of the Army's decade of modernization and reform. That period, lasting from the mid-1970s to the late-1980s, saw significant physical and intellectual change to the tactical Army—in materiel, organization, and doctrine." (2).

22. Romjue, 4.

23. Romjue, 23.

24. Romjue, 23.

25. John L. Romjue, *A History of Army 86,* Development of the Heavy Division, 1978–79, vol. I (Fort Monroe, VA: Historical Office, US Army Training and Doctrine Command, unclassified version, June 1982); hereafter cited as Army 86, vol. I.

26. Army 86, vol. I.

27. Army 86, vol. I.

28. Army 86, vol. I, 4.

29. Army 86, vol. I, 7–8.

30. Romjue, *A History of Army 86 Volume I*, 9.

31. Army 86, vol. I, 9, 64. In 1977, the US Army Ordnance and Chemical Center and School produced a coordinating draft publication describing the divisional NBC defense company to support fielding and testing, as a speedy alternative to a formal doctrinal manual.

32. Army 86, vol. I, 12; and From Active Defense to AirLand Battle, 70. General Starry's goal was an analytical description of the "Central Battle" using a "battle calculus" to account for measurable variables.

33. Army 86, vol. I, 13.

34. Army 86, vol. I, 12.

35. Army 86, vol. I, 14.

36. Wilson Blythe Jr., David Farrell, Tim Jacobsen, and James Owens, "The Battlefield Development Plan: A Holistic Campaign Assessment to Inform the Army Modernization Enterprise," *Military Review* (July–August 2020): 138–50.

37. General Donn A. Starry, "To Change an Army," *Military Review* (March 1983): 95–101, 99.

38. Lewis Sorley, ed., *Press On! Selected Works of General Donn A. Starry, Volume II* (Fort Leavenworth, KS: Combat Studies Institute Press, September 2009).

39. Army 86, vol. I, 17.

40. Army 86, vol. I, 17; and Frank Jones, "War on the 21st Century Battlefield: Revisiting General Starry's Conceptual Framework," War Room, Army War College, 16 May 2024, https://warroom.armywarcollege.edu/articles/conceptual-framework/. General Starry's extension of the development period out eight years went beyond General DePuy's closer-in focus (Army 86, vol. I, 13).

41. Army 86, vol. I, 24.

42. Army 86, vol. I, iii; John L. Romjue, *History of Army 86, Volume II (Development of the Light Division, Corps, and Echelons Above Corps, November 1979 – December 1980*), TRADOC Command History Publication ADB074962 (Fort Monroe, VA: Historical Office, US Army Training and Doctrine Command, June 1982).

43. Romjue, *The Army of Excellence*, 14–15.

44. Romjue, 15.

45. Romjue, 16.

46. Romjue, 15–21.

47. Romjue, 12–13, 123.

48. The development of the AirLand Battle concept and publication of the 1982 edition of FM 100-5 focused on the near-term challenge of an Army engaged in the Cold War and in the expeditious fielding of a modernized Army. Less attention is paid to General Starry's efforts starting in 1980 to develop a concept and a requirements determination process with a longer-term focus. The AirLand Battle 2000 concept aimed at the Army of the late 1990s out to 2000, linked to a new material acquisition strategy called Concept-Based Requirements Strategy to identify long-term materiel needs and technology-based investments. This strategy would also provide future needs in force structure, doctrine, and training. In establishing this process, Starry planned for eight functional operating concepts based on the overarching one. He was moving from the battlefield functional concepts used in the BDP effort to new mission areas that aligned more closely with Department of the Army and Office of the Secretary of Defense mission areas. In his 30 January 1981 message titled "Concepts-Based Requirements Strategy," Starry wrote, "Army 86 brought about concepts and force structure to best use the equipment already under development. If we do it right, the concept-based acquisition strategy will guide investments in today's tech base that will result in materiel that fits a concept of how our Army should fight in the 90s." (Lewis Sorley, *Press On! Selected Works of General Donn A. Starry, Volume I* (Fort Leavenworth, KS: Combat Studies Institute Press, 2009), 528.

49. Sorley, 338–39.

50. Sorley, 338–39.

51. Lt. Col. John S. Doerfel, "The Operational Art of the AirLand Battle," *Military Review* (May 1982): 3–10; John L. Romjue, *From Active Defense to*

AirLand Battle: The Development of Army Doctrine, 1973–1982, TRADOC Historical Monograph Series (Fort Monroe, VA: Historical Office, TRADOC, June 1984), 61; and Army 86, vol. I, 13.

52. TRADOC Pamphlet (TP) 525-5, *The AirLand Battle and Corps 86* (Fort Monroe, VA: Headquarters, TRADOC, 25 March 1981), Foreword

53. TP 525-5, Foreword.

54. TP 525-5, 2.

55. TP 525-5, 3.

56. TP 525-5, 4.

57. James C. Slife, *Creech Blue: Gen Bill Creech and the Reformation of the Tactical Air Forces, 1978–1984* (Maxwell Air Force Base, AL: Air University Press, October 2004), 33–39. The Army/Air Force partnership fostered by the development of the AirLand Battle concept led to formal agreements to pursue a range of capabilities. Most impactful were the "31 Initiatives," a mutual force development effort with cross-Service budgeting and programming procedures; see Richard G. Davis, *The 31 Initiatives: A Study in Air Force–Army Cooperation* (Washington, DC: Air Staff Historical Study, Office of Air Force History, 1987).

58. Romjue, *From Active Defense to AirLand Battle*, 42–43. General Glenn K. Otis, TRADOC commander, directed the inclusion of the term AirLand Battle and the operational level of war in the 1982 edition of FM 100-5.

59. Romjue, *The Army of Excellence*, 16–18.

60. Romjue, 14.

61. Romjue, 31–32.

62. Romjue, 36–37.

63. Romjue, 37.

64. Romjue, 23 (footnote 1).

65. Romjue, 53.

66. Romjue, 112–23.

67. Romjue, 101.

68. Romjue, 107.

69. Department of the Army, Field Manual (FM) 6-20-1 (J) Coordinating Draft, *Field Artillery Battalion* (Washington, DC: August 1983).

70. Pat O'Neal, e-mail to the author, 16 August 2024.

71. O'Neal.

72. General William R. Richardson, "FM 100-5: The AirLand Battle in 1986," *Military Review* (March 1986): 4–11.

73. Two analyses of the impact on combat service support cuts in the Army of Excellence structure are Lt. Col. Arthur P. Dupay,"The Army of Excellence: At What Price to Combat Service Support?" (study project, US Army War College, Carlisle Barracks, PA, 11 April 1988); and Edward L. Andrews, "The Army of Excellence and the Division Support Command" (essay, Army War College, Carlisle Barracks, PA, 21 May 1986).

74. Multi-Domain Operations itself was rooted in AirLand Battle. In the mid-2010s, Deputy Secretary of Defense Robert O. Work even suggested to the defense community the development of "AirLand Battle 2.0." Tony Bertuca,

"Work Envisions Third Offset Strategy Supported By 'AirLand Battle 2.0,'" *Inside Defense*, 8 April 2015, https://insidedefense.com/daily-news/work-envisions-third-offset-strategy-supported-airland-battle-20. The general parallels in the developmental approach between AirLand Battle and Multi-Domain Operations were noted in Lt. Gen. Eric J. Wesley and Chief Warrant Officer 5 Jon Bates, "To Change an Army: Winning Tomorrow," *Military Review* (May–June 2020): 6–17.

75. The Army Futures Command (AFC) was activated on 24 August 2018 with the mission to transform the Army by building future war-winning readiness through the development of transformational concepts, research, experimentation, and requirements, while leading the service's future force modernization enterprise. Many capability development tasks, including concept development, moved from TRADOC to AFC. On 2 October 2025, the Army Transformation and Training Command (T2COM) was activated, merging the functions of AFC and TRADOC, which were both inactivated. T2COM now leads Army concept development.

Chapter 12
Demonstrating Rapid Reinforcement of NATO: Return of Forces to Germany (REFORGER)

Gregory Fontenot

Introduced in 1969, Return of Forces to Germany (REFORGER) was a joint and combined exercise with European allies that demonstrated America's intention to participate in the NATO ground defense and to deter the Soviet Union. REFORGER also practiced strategic and tactical mobility of committed forces that would demonstrate to Europe and the Soviet Union alike that defending Europe was not only possible but that the United Sates and NATO could and would do just that. With REFORGER, the United States visibly confirmed its NATO commitments and worked to address several issues:

- The US strategy of massive retaliation was not sufficiently credible to deter Soviet adventurism.
- Interest was growing to reduce US Treasury costs of maintaining a large force in Europe.
- The Federal Republic of Germany was evolving from an occupied power to a major independent contributor to alliance defense.
- The Soviet Union and other Warsaw Pact countries were becoming more threatening, as evidenced by the 1956 Soviet occupation of Hungary, the 1961 Berlin Crisis, and the dramatic 1968 invasion of Czechoslovakia, which produced growing unease within the alliance.

The evolution of this thinking was impeded by the US war in Vietnam, then accelerated by the realization that the US military's ability to fight a continental land war had eroded.

REFORGER grew to involve allied forces, special operations troops, and always-significant support from the West German government. From 1969 to 1993, German citizens tolerated thousands of foreign troops maneuvering across their land and causing "maneuver damage," a euphemism for tanks and other equipment tearing up their fields, roads, and towns. The largest REFORGER occurred in 1988 when 125,000 soldiers participated in Field Training Exercise (FTX) Certain Challenge.[1]

Both civilians and soldiers lost their lives in REFORGER-related accidents—unsurprising when thousands of soldiers and airmen take the field in hundreds of armored vehicles and aircraft. One of the most tragic occurred on 13 October 1973, when a US Air Force fighter-bomber crashed into the back of an M-113 armored personnel carrier—killing both crew members in the plane as well as two soldiers and the farmer who owned the field where the accident occurred. Considering the inconve-



Figure 12.1. US soldiers, aboard an M113 armored personnel carrier, cross the Rhine River in a West German landing craft as part of the Confident Enterprise exercise during REFORGER 83. Each REFORGER deployment included a two-week embedded field training exercise. Courtesy of the Department of Defense.

nience and actual danger created by these exercises, the patience displayed by the great majority of Germans deserves respect.[2]

Recognizing REFORGER's Value Based on Personal Experience

The Army graduated my Armor Officer basic course at Fort Knox on the afternoon of 3 September 1971, Friday of Labor Day weekend. Assigned to the 1st Battalion 63rd Armor Regiment (1-63 AR) at Fort Riley, Kansas, I left immediately after graduation for Manhattan, Kansas, and the small apartment I shared with my wife, arriving about three in the morning Saturday. A few days later, I arrived in Germany to play a miniscule role in REFORGER III and FTX Certain Forge.[3]

There I began my education in strategic deployment and multi-echelon field exercises. REFORGER III was the first of six in which I participated. My last was REFORGER 88, the largest ever held. That year V Corps played the role of Blue or NATO forces against VII Corps, which was the Orange or aggressor forces. Each corps fielded two US divisions and a German Panzer division. The 4th Canadian Mechanized Brigade Group (CMBG) served with VII Corps, and German Territorial Command South supported river crossing operations on the Rhine. Some 125,000 troops went through their paces for two weeks along with American, Canadian, French, and German air force units.[4]

During the early days of REFORGER, and for many that followed, 1-63 AR only approached full strength during REFORGER preparation and execution. As a consequence, my role during REFORGER III was rare—an extra lieutenant assigned as "assistant" battalion motor officer (BMO), a job not found on the US Army's table of organization and equipment but one that afforded a great learning experience in Germany.

I flew to Germany like most of the troops on a C-141 Starlifter aircraft from Forbes Air Force Base in Topeka, Kansas, to Rhein-Main Air Force Base near Frankfurt, Germany. From there our unit was bussed to various Prepositioning of Materiel Configured in Unit Sets (POMCUS) sites where individuals would draw their equipment. Other flights landed at Ramstein Air Force Base and Echterdingen Airport near Stuttgart. During this era, most POMCUS sites were in the German state of Rhineland-Palatinate in the corridor running roughly from Kaiserslautern to Pirmasens, though later sites were established elsewhere.[5]

Getting to Germany by C-141 challenged not only the Military Airlift Command but also the 1st Infantry Division and the garrison staff at Fort Riley who were responsible for deploying the division. Each soldier

wore or carried gear and had packed two footlockers (duffel bags eventually replaced footlockers) in accordance with an explicit packing list. Each was stenciled with the soldier's name, unit, and a red ball with TAT [To Accompany Troops] stenciled on it. Given that each C-141 carried 106 troops, 212 footlockers, and other light dunnage, the transport requirement was not insignificant. On arrival, only those soldiers absolutely required to draw equipment went directly to POMCUS sites. Others moved to initial assembly areas.

US Army Europe (USAREUR) was responsible for reception, staging, and onward movement of arriving soldiers. Reception included getting those troops who would draw equipment and their baggage to POMCUS sites. Although most featured climate-controlled warehouses, POMCUS equipment was stored in a variety of places and under a variety of conditions. Everything needed was available at POMCUS sites, from tanks to ambulances and generators. There was a lot to do on site: batteries were stored separately and had to be installed, engines needed to be started, precombat checks completed, and basic issue items inventoried.

Generally, the standard for POMCUS required that a unit draw, prepare, and inventory a battalion-sized formation in six hours. Brig. Gen.



Figure 12.2. Troops draw POMCUS equipment in a simulated chemical environment during REFORGER 79. During several REFORGER deployments, troops were required to draw equipment while wearing chemical protective gear. Courtesy of the Army Heritage and Education Center.

Stan Cherrie recalled, “There was a stop watch on everything that you did.”[6] Afterward, the units moved to initial unit assembly areas, associated with the planned FTX, where they staged for onward movement. In the staging areas, units assembled, fueled equipment, and prepared for onward movement to the exercise area. USAREUR support command logistics units, movement control centers, and military police, handled staging and supported preparation for onward movement.[7]



Figure 12.3. A unit convoy on the Autobahn as part of REFORGER 75. Courtesy of the US Army.

Reception and staging for REFORGER III began on 27 September 1971 as the first units arrived and concluded on 4 October when units began moving into their initial unit assembly areas near Heilbronn and Karlsruhe. Bavaria enjoyed glorious weather that fall. The nights were cold but the days clear and sunny. Thanks to mild weather, troops did rather less maneuver damage than usual. Staging concluded when the units were prepared to move onward to the exercise area east of Munich, some 200 miles away. In these FTX assembly areas, the 1st Infantry Division, including 1-63 AR, joined VII Corps, which served as the Blue Force. The two brigades of the 1st ID and the 4th Canadian Mechanized Brigade Group composed the combat units of the Blue Force. The opposing Orange Force included the German 35th Panzer Brigade and the 1st Brigade 1st Armored Division. Both sides had artillery and other combat support and service support units.[8]

Getting to the assembly areas was not an easy process. Riding in the trail vehicle in the 1-63 AR maintenance platoon convoy, which included everything from shop vans to wreckers towing broken-down vehicles, I experienced first-hand just how challenging disciplined convoy movement could be. Part of the convoy made the correct exit from the Autobahn and part missed it. I was with in the trail vehicle so in the part that missed the exit. Those of us who missed that turn learned that the four-lane Autobahn ended abruptly on a two-lane street in the old University Town of Heidelberg. I caught up and got the mess turned around with no more than a bent tow bar; the Germans were, justly, not amused.

When our last vehicles finally made it to the assembly area, I heard from the battalion commander at some length about missing the turn. I had hidden from the German police, but they made their irritation known to the US authorities and could easily identify our unit from the bumper markings on our vehicles if we got off track again. The old man said his piece and sent me away. I knew that I was forgiven by the tone of his voice but had learned an important lesson in convoy discipline.

The battalion motor officer and I, his trusty assistant, had only the radios in our two jeeps to control a long convoy. Traffic control points would have helped, but so would maintaining planned intervals. The motor officer should have alerted me that he was nearing the turn so I could run the length of the convoy to assure all vehicles were closed up before executing. Finally, the battalion motor officer could have issued strip maps so the troops knew where to turn. In any case, I learned from that experience and over time became quite good at running convoys.

I learned even more when I replaced our liaison officer (LNO) to brigade—likely dismissed because he had trouble finding the brigade each time we moved. The morning the exercise began, I inherited my predecessor's roll of maps and the grid coordinates to the 1st Brigade command post with no instructions except to get there immediately. After I arrived, the brigade executive officer came out of the command post looking for the LNO from 1-63 AR. Then he patiently explained that my purpose was not only to act as a courier but also to know what the battalion was up to and how it intended to carry out orders. My ignorance of the battalion's intentions was profound. In any case, I survived. I learned what the battalion meant to do and actually "liaised" during Certain Forge, the field exercise associated with REFORGER III. Certain Forge ran from 11 October through 15 October 1971 in the terrain corridor from Ingolstadt to Amberg, Germany. Ironically, our simulated fight began just east of Ulm, the same location where Napoleon outflanked the Austrian Army in 1805. While Napoleon went on to his great victory at Austerlitz, our "battle" concluded in the Grafenwöhr training area.[9]

At "Graf," we test-fired POMCUS weapons and prepared to return equipment to storage. Thus, REFORGER practiced deploying, operating,



Figure 12.4. At Ramstein Air Force Base, West Germany, all baggage and equipment carried by departing REFORGER 79 personnel was inspected for contraband by highly trained man and dog teams before being loaded on aircraft departing for the United States, 1979. Courtesy of the US Army.

and exercising prepositioned equipment—helping to ensure that stored equipment was rotated and maintained. Maintenance of POMCUS equipment proved rewarding since repair parts were available. At Fort Riley, tanks and other vehicles remained inoperable for months at a time for the lack of repair parts. This phase ended on 31 October. The last troops began leaving Germany via Rhine Main on 13 November.[10]

I learned a lot during my first REFORGER but had a great deal more to learn about why REFORGER existed and just how it applied to the 1st Infantry Division's part in the NATO General Defense Plan. Most of this learning came later. What I discovered in the fall of 1971 was plenty for a rookie second lieutenant. During my first tour at Fort Riley, I made REFORGER twice more. I did two REFORGERS in 1973—first as a tank platoon leader and then as a tank company executive officer. Later, while stationed in the 3rd Armored Division in Germany, I commanded a tank company and maneuvered it in REFORGER 77. Subsequently, I served as 1st Infantry Division plans officer in REFORGER 86 and as the executive officer of 1st Brigade 1st Infantry Division in REFORGER 88.

As the 1st Infantry Division plans officer, I came to understand fully perhaps the most important benefit of REFORGER for Army units and joint forces. REFORGER enabled the joint forces to exercise emergency deployment from CONUS to Europe. Crunching the numbers with Military Airlift Command proved onerous but essential both for getting it right and understanding what it took to move a division. That year the National Guard 32nd Separate Infantry Brigade shipped all its equipment to Germany. Attached to the 1st ID, the 32nd demonstrated that a Guard brigade could mobilize and deploy strategically, albeit with warning. I worked closely with the 32nd and learned lessons on working with the National Guard that served me well.[11] Moreover, within limitations of weather and maneuver rights, once deployed, REFORGER enabled the Army in Europe to maneuver large forces in Germany's compartmented terrain. REFORGER permitted learning at echelons ranging from platoon to service component, joint and combined command, as well as exercising strategic air and sea lift components of the armed forces. Finally, REFORGER demonstrated America's commitment to NATO and supported readiness to deploy forces worldwide.

Long Thrust and Big Lift as Prologue

President John F. Kennedy ran for election in 1960 in part on a defense platform of "Flexible Response," a rejection of the Eisenhower administration policy of massive retaliation that posited maximum nuclear

response to a Soviet attack. The 1961 Berlin Crisis alarmed the United States and NATO and uncovered serious issues in plans for defending western Europe. In A Military History of the Cold War; 1962–1991, soldier historian Jonathan House argued that readiness issues in the reserves revealed during the Berlin Crisis and the subsequent 1962 Cuban Missile Crisis led Secretary of Defense Robert McNamara, with the support of Congress, to reduce the number of National Guard and Army Reserve divisions from thirty-seven to twenty-one. Eight National Guard Divisions and thirteen Army Reserve divisions remained. The reserve divisions gave up any combat role and instead would focus on "training draftees in the event of mobilization."[12] McNamara believed that fewer, better resourced units would prove more effective than the low readiness that had been an issue during the early months of the Kennedy administration.[13]

In the spring of 1961, a simmering crisis over Berlin produced strong reactions among the NATO allies. In a private 4 June 1961 meeting, Soviet Premier Nikita Khruschev delivered what President Kennedy perceived as an ultimatum to remove US troops from Berlin. Kennedy and his advisors immediately considered how to respond, including reinforcing Europe with stateside units. On 9 June 1961, General Thomas D. White, US Air Force chief of staff, wrote a memorandum to Secretary McNamara entitled "Berlin Deterrent." White shared the opinions of the service chiefs regarding deterrent options, including to mobilize reserves and move units to Europe.[14]

The crisis worsened in August when East Germany began building a wall around Berlin to stem the outflow of its citizens to West Germany. In September, President Kennedy received Congressional approval to mobilize 148,000 reservists, including two Army National Guard divisions, the 32nd Infantry and the 49th Armored. To hasten future reinforcement from CONUS, the US Army Europe commander in chief ordered in October 1961 that personnel and equipment for CONUS-based 2nd Armored Division (AD) and 4th Infantry Division (ID) as well as ten combat support units should be prepositioned in Europe.[15]

If required, 2nd AD and 4th ID would join five other US divisions and the two Seventh Army corps that were forward-based in Europe. Twelve German, four British, two Belgian, and three Dutch divisions plus a Canadian brigade group rounded out the NATO order of battle in western Europe. Greek and Turkish units along with reserve formations raised the total NATO order of battle to sixty active and thirty reserve divisions.[16]

The Soviet Order of Battle varied between 140 and 175 divisions during the 1960s and 1970s.[17] That daunting number was offset somewhat in that Soviet divisions were manned and equipped in tiers. Category three divisions were manned and equipped at very low levels. Soviet satellite armies fielded another fifty-six divisions. By 1980, the Soviets had 230 divisions. Demonstrating the means to reinforce Europe quickly was a necessary component to deterring the Soviet Union.[18] The US Department of Defense conducted a series of exercises to prepare in case a major reinforcing effort would be required. This Long Thrust operation, one of ten conducted from late 1961 through the fall of 1964, was intended to test the prepositioning concept.

Long Thrust revealed the efficacy of the concept as well as problems. Each exercise deployed a body of troops, some of whom returned after a few weeks and others who remained in theater for three months or more. Long Thrust II in January through February 1962 was typical of the effort to anticipate what a Big Lift of 2nd AD or 4th ID would require. The Military Air Transport Service (MATS) moved three 4th ID battle groups from McChord Air Force Base to Rhein-Main Airforce base near Frankfurt. MATS flew 5,431 troops and 194 tons of cargo using 104 C-135B aircraft. The three battle groups deployed forward using equipment stored at various West Germany sites then concluded their redeployment on 16 February 1962.[19]

The original exercise regime for stored equipment required that each vehicle move "one space forward and return" biweekly.[20] Space limitations in the storage sites drove the process rather than any grand plan. Exercising equipment properly meant using it for long enough to demonstrate readiness or produce failure. Significant maintenance failures occurred during Long Thrust exercises, arguably due to inadequate operation and a shortage of repair parts. During preparation for Big Lift, crews spot-checked 690 uncorrected deficiencies and learned about two-thirds had been delayed for indefinite periods because parts were not available.[21]

Exercise Big Lift, conducted in 1963, reinforced the benefits of pre-positioned equipment. The Military Airlift Command moved some 14,000 2nd AD troops from Fort Hood to Germany in 63 hours. Big Lift demonstrated the United States could respond to provocation, an important assurance to NATO given heightened tension with the Warsaw Pact.[22]

Without theater logistics infrastructure in place, reinforcing units arriving from CONUS could not be effectively sustained. The "Study of the Prepositioning Concept Prior to BIG LIFT," concluded: "An adequate

amount of support materiel, the type and quantities to be determined by study, would be necessary to allow rapid response envisioned in the concept."[23] Supporting rapid reinforcement of NATO depended on having the means, including manpower, to maintain stored equipment.[24]

The Long Thrust exercises provided data to quantify the problem and determine maintenance requirements, resulting in solutions that would enable Preposition of Materiel Configured in Unit Sets, or POMCUS. Operation Big Lift would provide the proof of principle.

In the weeks preceding Big Lift, some 700 mechanics and drivers augmented the preposition storage sites and logged 619,000 man-hours to prepare equipment. Originally, logistics and maintenance detachments from the two reinforcing divisions were responsible to maintain stored equipment; however, there were too few soldiers assigned, facilities were inadequate, and parts were not available. Subsequently, Seventh Army assumed the responsibility and established units to maintain stored equipment. In June 1963, Seventh Army Support Command activated three discrete maintenance groups: two in Germany—the Infantry Maintenance Group at Spinelli Barracks, Mannheim, and an Armored Maintenance



Figure 12.5. This photo of the POMCUS from which 1-63 AR drew equipment during REFORGER 1984 demonstrates how Combat Equipment Group Europe squeezed the equipment into a very limited space. Courtesy of the US Army.

Group at Kleber Kaserne near Kaiserslautern—and the Combat Support Maintenance Group organized at Chenevieres, France.[25]

During Operation Big Lift, which took place October–November 1963, the US Army used more than 200 flights to move 15,000 soldiers and 500 tons of equipment, simulating "a US response to a Warsaw Pact incursion into Central Europe."[26] The Military Air Transport Service demonstrated that it could do what was asked. In contrast, ground force struggled with equipment that was obsolescent or obsolete. General Paul Freeman Jr., US Army Europe commander, referred to the exercise as the "Big Hoax." In the years following the 1963 operation, the Army worked to improve its posture—in spite of competition with a hot war in Vietnam. By 1970, the system was well-developed, with nine battalions storing equipment. The capacity grew so that in the early 80s, four heavy divisions worth of equipment were in storage. The Army's new organization, named Combat Equipment Group Europe, benefitted from well-developed procedures for storing, maintaining, and issuing equipment.[27]

REFORGER: Reducing Risk at Least Cost

REFORGER became a necessity because the United States simply could not afford to sustain five combat divisions and a cast of supporting units in Europe. Deputy Secretary of Defense Roswell Gilpatrick noted that the benefits of Big Lift included the ability "to make useful reductions in its [US] heavy overseas military expenditures without diminishing its effective military strength."[28] The Germans were thoroughly alarmed. Gilpatrick walked back the notion of removing US troops from Germany but set the expectation that the United States might do that.[29]

Eventually what the Germans feared came to pass. Defense expenditures in Europe and the cost of the war in Vietnam, coupled with the costs of Great Society programs, ramped up the national debt during President Lyndon Johnson's administration. Accordingly, in 1968, the Army withdrew about 28,000 soldiers with 24th ID, 3rd Armored Cavalry Regiment, and some combat support units. To maintain its commitment to Europe, the United States agreed to return these forces to Germany each year for training, leading to the REFORGER—Return of Forces to Germany—acronym.[30]

Although expanding POMCUS and running-large scale multi-echelon exercises each year brought other costs, REFORGER was cheaper than forward-basing 28,000 soldiers and their families. Additionally, the exercise had genuine benefits, ranging from air crew training to improved

mobilization and war planning. For that reason, REFORGER continued through 1993.

Generally, REFORGER occurred in the late fall or winter. For the first REFORGER in 1969, the supporting Carbide Ice field training exercise took place from 29 January through 4 February. Carbide Ice involved some 17, 000 US troops from the 24th ID and 3rd ID operating in mud and ice. By REFORGER V in 1973, the supporting field training exercise grew to 51,000 troops. The size of the exercises varied but remained around 40,000 to 50,000 troops; at least two divisions and supporting arms participated, with one of the divisions and support units deploying from the United States. Participation by other NATO forces became the norm. German units routinely joined in, as did the 4th CMBG. In REFORGER 1980, the bulk of 2nd AD deployed to NATO's Northern Army Group area, reflecting NATO decisions to bolster its northern flank The units maneuvered with British forces in exercise Spearpoint 80. In REFORGER 1985, even tiny Luxemburg provided a light infantry battalion to the Blue



Figure 12.6. German FeldJäger and their American military police counterparts discuss the best and safest way to get an Armor unit to a river crossing during the Carbine Fortress field training exercise of REFORGER 82, September 1982. Courtesy of the US Army.

Force.[31]The largest REFORGER exercises occurred during the 1980s, combined with significant participation by NATO allies. In REFORGER 1982, the US Army's III Corps led the Orange force against Blue led by V and VII Corps. Some 72,500 troops maneuvered. German, Belgian, and Luxemburg troops along with the ubiquitous 4th CMBG joined in. NATO allies played a large role in Exercise Certain Strike as part of REFORGER 1987, with US III Corps as the Blue Force Headquarters. That force included 1st Cavalry Division (CD), three brigades from 2nd AD, 6th Cavalry Brigade (AH 64), 1st German Panzergrenadier Brigade, and the 3rd German Panzer Brigade. Orange forces included 4th Netherlands Division, 43rd Netherlands Mechanized Infantry Brigade, 4th UK Armoured Brigade, and a Belgian brigade. I Belgian Corps, I German Corps, I UK Corps, I Netherlands Corps, US 4th ID, and several artillery brigades participated at command post level. Exercising with NATO forces had multiple benefits, especially developing interoperability, building trust, and exercising at scale.[32]

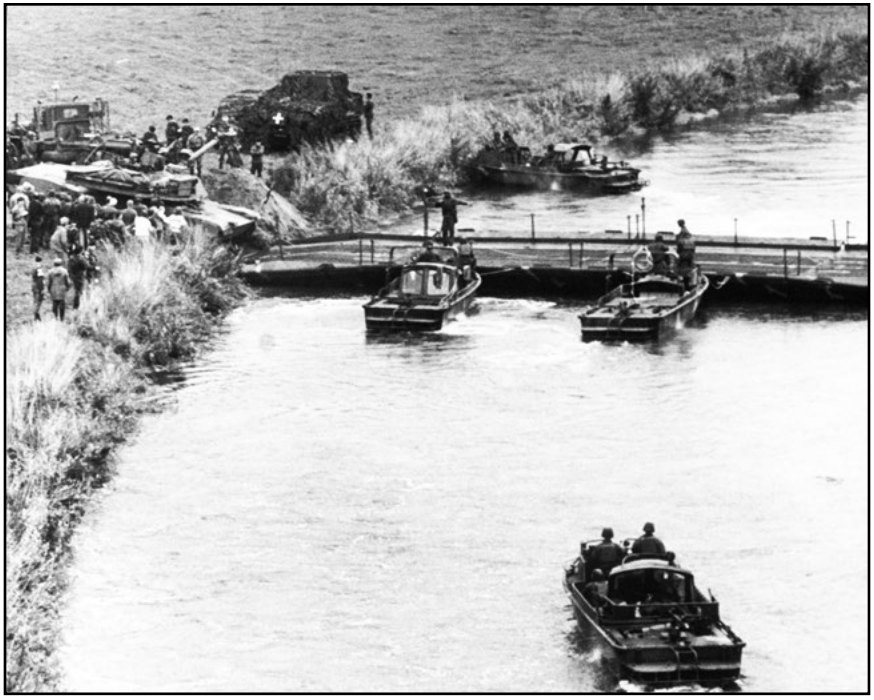


Figure 12.7. An M-1 Abrams tank from the 2nd Armored Division crosses an Aller River bridge built by the 902nd Engineer Company from Fort Belvoir, Virginia, during exercise Certain Strike, Weinhausen, West Germany, September 1987. Courtesy of the US Army.

The Army used REFORGER for more than returning REFORGER units (units earmarked to reinforce Europe such as 1st ID, successor to the 24th ID, 2nd AD and 4th ID). In REFORGER 1976, the 101st Airborne Division (Air Assault) shipped the bulk of its helicopter fleet and participated in two exercises, one in the US V Corps area (included as a player for the first time), and one in the VII Corps area. In REFORGER 1982 1,200 3rd Brigade 82nd Airborne Division paratroopers jumped into the maneuver area.[33]

Special forces and psychological warfare units premiered special operations participation in exercise Certain Trek in 1975. In REFORGER 1976, a Ranger battalion—1st Battalion 75th Infantry Regiment (Ranger)—participated. Medical units participated from the outset, playing an increasing role in subsequent years. In REFORGER 1984, the 332nd General Hospital (US Army Reserve) deployed. Deploying a general hospital is a big project, as such large facilities are designed to provide long-term care. The Army National Guard debuted in REFORGER 1979, and their role increased as well. In REFORGER 1986, the 32nd Separate Infantry Brigade deployed with its equipment. This experiment along with others proved useful during Desert Storm and in later years.[34]

Did Useful Training Occur?

Opinions differed about the value of REFORGER field training exercises. Lt. Gen. Ron Watts participated in REFORGER at several echelons of command, from CONUS and Europe—as a mechanized infantry battalion commander then later First Infantry Division commanding general. As commander of a heavy brigade at Fort Hood, he rotated battalions forward to reinforce USAREUR. Later as VII Corps commanding general, he was on "the receiving end of REFORGER units."[35] Watts described REFORGER as a great training opportunity:

- Helped develop a "sense of purpose" focus on training for a specific emergency/wartime mission.
- Allowed leaders at all levels to apply space, time, and distance factors while moving various size formations over terrain. Learning that events do not happen immediately is difficult to duplicate in home station training.
- Forced leaders to appreciate and address all factors related to operations—and pay as much attention to logistics as they did to tactical operations.

- Gave units an opportunity to move over the German countryside; a learning experience they would not have at home station training.[36]

Lt. Gen. Don Holder, who deployed 1st Squadron 3rd Armored Cavalry Regiment (ACR) from Fort Bliss in both 1982 and 1983, shared a similar view of REFORGER's training value. As G-3 Operations of 2nd AD at Fort Hood, he planned the division's participation in REFORGER 1987 and commanded 2nd ACR in REFORGER 1988. Holder found that deploying from CONUS was more difficult and took more preparation time than moving out of Kasernes in Germany. But troops deploying from the US also had advantages. Holder's cavalry squadron succeeded against Europe-based units in 1983 "in part because we could train for maneuver at Fort Bliss with far fewer restrictions than USAREUR units had to observe."[37]

Although few questioned the benefit of training at the division echelon, not everyone agreed regarding training value at the lower echelons. Brig. Gen. Bill Mullen, who participated in three REFORGERS, commented that the FTXs had "great value for logistics and coordination" but "wasn't particularly valuable" for maneuver troops.[38] Col. Bob Killebrew,



Figure 12.8. A 155-mm howitzer battery laid out in a "lazy W" outside the town of Odmiesbach, West Germany, during REFORGER 86, known by the troops as the Ice REFORGER. Courtesy of the National Archives and Records Administration.

who participated in REFORGER II and III 1970 and 1971, recalled that the weather during REFORGER II was uncooperative so his mechanized infantry company "mostly drove down the German highways in column."[39] REFORGER 1986 became known as the Ice REFORGER. The weather was so bad that after the 1st ID finally reached its assembly areas, the troops sat in the snow while only command posts exercised.[40]

At the brigade, division, and corps echelons, three things made the FTX valuable. First, units received the same kinds of reports they would in combat or a command post exercise. Second and more important, these echelons had to manage movement of large bodies of troops in compartmented terrain often through medieval villages. Finally, the FTX stressed logistics. Support units had to keep fuel, food, and repair parts moving on a scale that could not be replicated in garrison.

Limitations on REFORGER FTXs, however, reduced the training benefit. Chief among the limitations was that there was—and still is—



Figure 12.9. A German soldier (left) and an American soldier work together in a defensive position overlooking a suspected aggressor avenue of approach during REFORGER 74. German and American cooperation was the theme of REFORGER 74, which required the airlift of more than 12,000 1st ID soldiers. Courtesy of the US Army.

no means to simulate combat operations at the scale necessary. Although Multiple Integrated Laser Engagement System (MILES) became available in the 1980s, there were too few to mount them on the hundreds to thousands of combat vehicles that took part in the REFORGER FTXs. Allied formations would have first required training to use them, even if the necessary number of MILES kits existed. Moreover, no system existed then or now to integrate air power, field, or anti-aircraft artillery effectively.

Accordingly, umpires or controllers adjudicated combat results. To that end, detailed rules were developed to produce reasonable combat outcomes. On 1 August 1977, VII Corps published Regulation 350-7 "Field Exercise Umpiring Directive." The 157-page directive was pithy but no easy read. It included detailed tables on how to determine direct fire and indirect fire outcomes as well as reducing obstacles and just about anything else that might occur in combat, including managing prisoners of war.[41]

Despite all the rules and effort to account for every possibility, the directive also spelled out that controller/umpires should apply "sound tactical principles" and "professional judgment" to adjudicate outcomes, including arbitrating outcomes in the face of angry player unit commanders. Worse still, sometimes controllers had to intervene to mitigate outright cheating or gaming the administrative pauses in the exercise. The VII Corps authors understood this problem, directing that units "play the game" and abide by outcomes decided upon.[42]

Still with all its limitations, the FTXs certainly provided training benefit for small unit leaders and up. Although benefits for a loader on a tank crew are harder to see, even loaders learned how to live in the field, watching for air threats, and other lessons. If foul weather limited maneuver, training benefit waned accordingly. On balance, the FTX helped demonstrate intent and, therefore, contributed to deterrence. This alone made the FTX valuable.

REFORGER also afforded opportunities to train and/or test other vital capabilities. During one REFORGER, Holder's squadron drew its basic load of ammunition—tons of ammunition, including hundreds of tank rounds as well as missiles for helicopters. In 1988, Lt. Col. Lynn Rolf's 1-34 AR drew its equipment while in MOPP 4 (Mission-Oriented Protective Posture-4), which required the soldiers to wear full chemical suits, masks, gloves, and boots in the warm September weather. Wearing chemical gear during the draw was physically and mentally challenging.[43]

Implications for the Contemporary Force

The Army and the joint force particularly appreciated REFORGER's value during Operation Desert Shield. Army units deploying from both the United States and Germany had shared the experience of deploying at scale during REFORGER, though Desert Shield dwarfed the scale of anything done during the FTX. In *So Many, So Much, So Far, So Fast,* US Transportation Command (TRANSCOM) historians James K. Matthews and Cora J. Holt detail the challenge of moving some 500,000 passengers (mostly service members), equipment, cargo, and petroleum products to Saudi Arabia during Desert Shield/Desert Storm. They describe how TRANSCOM achieved this amazing feat using all available strategic airlift as well as 252 aircraft from the Civil Reserve Air Fleet, or just under half of the fleet.[44] During the 1990 Desert Shield deployments, TRANSCOM had thirteen afloat prepositioning vessels, twelve prepositioning ships, and eight fast sea lift vessels assigned to the Maritime Sea Lift Command. The



Figure 12.10. US Army 3rd Brigade, 2nd Armored Division vehicles move by rail from the marshalling area to the staging area near Lengerin, West Germany, for Certain Strike exercises during REFORGER 87, September 1987. More than 78,000 soldiers from the United States, the United Kingdom, Belgium, Germany, and the Netherlands participated in Certain Strike. Courtesy of the US Army.

Maritime Administration activated the ninety-six Ready Reserve Force ships to support the deployment. Despite these resources, still more vessels had to be chartered.[45]

The 1st Infantry Division (Mechanized) and other Fort Riley units moved 15,180 soldiers from Fort Riley, Kansas, on 110 aircraft. Fifty-one C-141 transports and twenty-eight Boeing 747 airliners accounted for just over half the airplanes used. Canadian airline pilot Joe Oakley described the stream of airliners as so dense that he thought you could across the Atlantic on them.[46] During the REFORGER 87 exercise, some 6,000 pieces equipment from Fort Riley headed to the port of Beaumont, Texas, on 34 trains composed of 1,900 US Army cars. Equipment and dunnage amounted to 66,000 short tons. At the port, soldiers and stevedores loaded thirteen ships that then sailed for southwest Asia.[47]

No one expects another effort on the scale of Desert Shield/Desert Storm, but such an effort cannot be ruled out, especially considering US security interests in Europe and the US Indo-Pacific Command (INDOPACOM). Being unable to mount such an operation would have its own costs. The Department of Defense, TRANSCOM, and the Department of Transportation's Maritime Administration understand what might be required. Although current heel-to-toe rotations of Army brigades help maintain training and support deterrence worldwide, these are far smaller than most REFORGER exercises. For example, the May 2023 Griffin Shock exercise featured a single US heavy brigade deploying from Germany to Poland in less than a week. The United States has the capacity to support current operations, but the means to operate at larger scale is less certain. Exercises that rotate units to Poland and elsewhere in NATO clearly help prepare units to deploy but do not demonstrate the ability to scale up readily.[48]

In his 5 March 2025 obligatory statement to the Senate Armed Services Committee, TRANSCOM commander General Randall Reed reported the Ready Reserve Force had forty-six Roll-on/Roll-off ships, fourteen of which were more than fifty years old.[49] The Ready Reserve Force bears the burden of strategic surface lift for the Military Sealift Command. The force subsequently acquired two more vessels and expects to acquire as many as ten more in Fiscal Year 26.[50] But, as the TRANSCOM commander put it, "capacity will remain constrained because thirty ships are scheduled to retire between 2026 and 2034."[51] This is not a new problem, and it will not go away.

The US Civil Reserve Air Fleet retains 533 aircraft, but few have the lift capacity of the Boeing 747s which are declining in numbers as they are retired. US Air Force lift assets include 52 C-5s, 223 C-17s, and 271 C-130 aircraft.[52] These amount to half of what was available in the 1990s. Air Force capacity is in decline, with only the C-130 still in production. Current capacity seems adequate but may not be adequate in the future.[53]

Given these very real limitations, conducting exercises approaching the scale of REFORGER would seem prudent as the means of testing strategic lift; reassuring allies by bringing larger forces into Europe, the Pacific, and elsewhere; and assuring that the US Army can mount movement at the scale of two or more divisions. The Defender Europe exercises maintain the capability but not necessarily the needed capacity. With fewer forward-based forces, strategic lift needs to be a high priority.

Notes

1. Tankograd Publishing, n.d., https://www.tankograd.com/cms/website.php?id=/en/REFORGER-88-Certain-Challenge.html. In addition to the troops, 15,000 vehicles were on German roads and fields.

2. Gregory Fontenot, *The 1st Infantry Division and the US Army Transformed; Road to Victory in Desert Storm 1970–1971* (Columbia, MO: University of Missouri Press, 2017), 20.

3. There is distinction between REFORGER and its associated field training exercise (FTX). REFORGER includes the deployment process, drawing equipment, post-FTX gunnery, and finally returning equipment to storage.

4. Walter Böhm, *REFORGER, Vehicles of the US Army during Exercises, "Return of Forces to Germany"* (Erlangen, DE: Tankograd Publishing, 2008), part 3, 25.

5. Böhm, 21.

6. Brig. Gen. (Retired) Stan Cherrie in discussion with the author, 11 February 2014.

7. Cherrie; and Ed Aymar, "Caring for POMCUS, a Continuous Job," *Fort Riley Post,* 6 October 1981. Standards for draw varied over time based on equipment. The point was to get out of the site as quickly as possible.

8.Böhm, *REFORGER* part 1, 21.

9. Böhm, part 1, 21; and David H. Zook, Jr. and Robin Higham, *A Short History of Warfare* (New York: Twayne Publishers, 1966), 155.

10. Böhm, part 1, 21.

11. Böhm, part 3, 2.

12. Jonathan M. House, *A Military History of the Cold War; 1962–1991* (Norman, OK: University of Oklahoma Press, 2012), 4.

13. House, 4.

14. General Thomas D. White, Memorandum for Secretary of Defense, "Temporary Reinforcement as a Berlin Deterrent," June 1961, 1. See https://ng.wi.gov/news/21112 as well as https://www.texasmilitaryforcesmuseum.org/49ad/49division.htm. Dr. Donald A. Carter, "The U.S. Military Response to the 1960–1962 Berlian Crisis," n.d., 1, https://www.archives.gov/files/research/foreign-policy/cold-war/1961-berlin-crisis/overview/us-military-response.pdf.

15. Ralph A. Hafner and Carl F. Blozon, "Study of Prepositioning Concept Prior to Big Lift," Research Analysis Corporation, McLean, VA, April 1965, 1. For details on 32nd Infantry Division and mobilization totals, see https://ng.wi.gov/news/21112. For details on 49th Armored Division, see https://www.texasmilitaryforcesmuseum.org/49ad/49division.htm.

16. House, *A Military History of the Cold War*, 4.

17. Regarding the number of Soviet Divisions in 1970, see C. N. Trueman, "The Soviet Army," The History Learning Site, 25 May 2015, https://www.historylearningsite.co.uk/cold-war/the-soviet-army/.

18. “Some Soviet and Warsaw Pact Military Facts and Figures,” NATO Archives, 13 February 1981, https://archives.nato.int/uploads/r/null/1/3/137737/0226_Some_Soviet_and_Warsaw_Pact_Military_Facts_and_Figures_1980_ENG.pdf, 7.

19. Hafner and Blozon, “Study of Prepositioning Concept Prior to Big Lift,” 3; and JCS Memorandum for Major General C. V. Clifton, Situation Report LONG THRUST II A, DJSM, 9 January 1962, 1.

20. Hafner and Blozon, 5.

21. Hafner and Blozon, 5.

22. Hafner and Blozon, 5.

23. Hafner and Blozon, 2.

24. Hafner and Blozon, 2.

25. Hafner and Blozon, 5.

26. Douglas I. Bell, “Just Add Soldiers: Army Prepositioned Stocks and Agile Force Projection,” US Army Heritage and Education Center, US Army War College, Carlisle Barracks, PA, 6. Bell’s work is essential reading for those seeking to understand the genuine benefit of POMCUS—and, by extension, REFORGER—ultimately shown in Operations Desert Shield and Storm, https://issuu.com/chacr_camberley/docs/in-depth_briefing_us_army_force_projection. See also GAO Report B-256845, 11 August 1994. During the rapid downsizing following the end of the Cold War, Combat Equipment Group Europe, had trouble maintaining equipment in storage.

27. Bell, 6.

28. Allan R. Scholin, “Big Lift, Boon, Boondoggle or Bust,” *Air Force*, December 1963, 33. See also Andrew Feickert and Kathleen J. McInnis, “Defender Europe 20 Military Exercise, Historical (REFORGER) Exercises, and U. S. Force Posture in Europe,” Congressional Research Service, 14 January 2020, 1–3, https://crsreports.congress.gov/product/pdf/if/if11407.

29. Scholin, 33.

30. Bell, “Just Add Soldiers,” 6–7. Bell does not address expenditures associated with President Johnson’s domestic agenda, but those expenditures certainly added the need to reduce the gold flow. See also Feickert and McInnis, “Defender Europe 20 Military Exercise, 1.

31. Böhm, *REFORGER,* part 1, 26, part 2, 11 and 56.

32. Böhm, part 2, 26, part 3, 15.

33. Böhm, part 1, 43, 47.

34. Böhm, part 1, 28, 34, 43, part 2, 46, part 3, 2.

35. Lt. Gen. (Retired) Ron Watts, email message to author, 24 May 2023.

36. Watts.

37. Lt. Gen. (Retired) Ron Watts, email message to author, 16 May 2023.

38. Fontenot, *The 1st Infantry Division and the US Army Transformed*, 15.

39. Fontenot, 15.

40. Fontenot, 15.

41. Headquarters VII Corps, VII Corps Reg 350-7, "Field Exercise Umpiring Directive," 1 August 1977, see table of contents and Annexes A-O.

42. Headquarters VII Corps, 3. The author can attest to the fact that player units did not always "play the game."

43. Leonard D. Holder, email message to author, 16 May 2023, 15.

44. James K. Matthews and Cora J. Holt, *So Many, So Much, So Far, So Fast: United States Transportation and Strategic Deployment for Operation Desert Shield/Desert Storm* (Honolulu: University Press of the Pacific, 2002), 12. See also Tables II-1–II-3.

45. Mathews and Holt, 44 and Table III-5, 118–23.

46. Fontenot, *The 1st Infantry Division and the US Army Transformed*, 114–15.

47. Fontenot, 114–15.

48. Adrian Bonenberger, "Griffin Shock Sends 'Clear Message' on NATO Strength Amid War in Ukraine," Military.Com, 1 June 2023, 1, https://www.military.com/daily-news/2023/06/01/armys-v-corps-shows-it-could-deploy-brigade-poland-days.html.

49. "Statement of General Randall Reed, United States Air Force Commander, United States Transportation Command Before the Senate Armed Services Committee on the State of the Command," 5 March 2025, https://www.ustranscom.mil/cmd/docs/Gen.%20Reed%20Written%20Statement%20to%20SASC%20March%205,%202025%20(as%20prepared).pdf.

50. "Statement of General Randall Reed;" Military Sealift Command, "Ship Inventory," accessed 13 August 2025, https://www.msc.usff.navy.mil/ships/ships-inventory; and US Department of Transportation Maritime Administration, "The Ready Reserve Force (RRF),"30 June 2025, https://www.maritime.dot.gov/national-defense-reserve-fleet/ndrf/maritime-administration's-ready-reserve-force.

51. "Statement of General Randall Reed."

52. "Civil Reserve Air Fleet Fact Sheet," US Air Force, July 2014, https://www.af.mil/About-Us/Fact-Sheets/Display/Article/104583/civil-reserve-air-fleet/. This site does not provide an inventory of aircraft committed by the various airlines. See also "Air Force Under Pressure as Airlift Capacity Falls," *National Defense* (3 June 22), https://www.nationaldefensemagazine.org/articles/2022/6/3/air-force-under-pressure-as-airlift-capacity-falls.

53. Defender Europe 2024 demonstrated the means but at a low scale. Defender Europe 2024 brought several units to Sweden, including an artillery battalion. For details, see "DEFENDER 24 Strengthens Transatlantic Cooperation," *US Army News*, 8 May 2024, https://www.army.mil/article/276111/defender_24_strengthens_transatlantic_cooperation.

Chapter 13
Generals Sullivan, Franks and Army Transformation: Innovative Leaders in Action

John S. Brown

When I first met one-on-one with General Gordon R. Sullivan, he was the Association of the United States Army (AUSA) president and I was the Army's chief of military history. The subject of our meeting was the National Museum of the United States Army (NMUSA), a fledgling project mobilizing public and private funds to build a world-class museum on Fort Belvoir, Virginia. The US Army Center of Military History, which I commanded, was responsible for selecting and conserving artifacts and facilitating interpretation and design for the project. The Army Historical Foundation (AHF)—under the aegis of but distinct from AUSA—had the mammoth task to raise and eventually commit the private funds necessary for completion.[1]

Well before this 1999 meeting, I knew of Sullivan's passion for and thoughtful use of history. A historian myself, I had been impressed with and inspired by the historical metaphors he drew upon to direct the Army's energies as chief of staff. Two in particular come to mind. First, "No more Task Force Smith's" was his admonition to maintain readiness despite plummeting funding—recalling the US Army's sorry state prior to the Korean War.[2] Second, his Modern Louisiana Maneuvers and resultant Louisiana Maneuvers (LAM) Task Force harkened back to the massive exercises that helped enable the Army's preparations for World War II.[3] My doctoral dissertation followed the 88th Infantry Division through its World War II mobilization and deployment, so I knew how transformative this experience had proven to be.[4]

Sullivan's passion for history was lifelong, and supported facilitating still-to-be-written history as much as using history already on the shelf. When the time came to write a history of the Army's transformation from the forward-deployed Cold War behemoth to the nimbler digitized expeditionary Army that followed, he was a huge supporter of the project. As I was writing *Kevlar Legions: The Transformation of the US Army, 1989–2005*, Sullivan was happy to review and comment on my draft chapters.[5] He also ensured access to people I needed to correspond with. He assisted in every way he could without ever attempting to influence the narrative. Fittingly, the book's "coming out party" was at an AUSA convention in front of many who were part of the events chronicled. Of all who were

there—or not there—no one had been more instrumental in the transformation the book described than General Gordon R. Sullivan.

The Need for Transformation: A New Era

Shortly after the Berlin Wall came down in November 1989, I was en route home to Garlstedt with the battalion I commanded after a training exercise. As our convoy pulled into a rest stop along the Autobahn, we were swamped by crowds of Germans, many emerging from sputtering East German-made *Trabant* automobiles. The jubilant Germans showered us with praise and blew kisses, apparently thanking us for sticking with them through the long night of the Cold War.

It was a good time to be an American soldier in Germany. Someone else, even a stranger, often bought your beer at a *gasthaus*. Soldiers standing in line to pay for gasoline could find a German in front of or behind them had already paid their bill. Partnership and other German-American events invariably included grateful acknowledgements of "our American friends." The Cold War was over. Democracy had triumphed. The world was amidst a tectonic shift.[6]

Even as I was figuring out how to gracefully get our convoy back on the road, Sullivan was leading deliberations at the highest levels to come to grips with the paradigm shift the US Army was witnessing. He was the



Figure 13.1. Fall of the Berlin Wall. Germans stand on top of the Wall in front of the Brandenburg Gate before this section was torn down on 9 December 1989. Courtesy of Wikimedia Commons.

Army's deputy chief of staff for operations (DCSOPS) and soon would become vice chief of staff. His purview included hands-on management of Army Staff efforts to anticipate the mammoth adjustments necessary.[7] By the time Sullivan became chief of staff in 1991, the required changes were even more mammoth. In the interval, the rest of Central Europe and the Balkans liberated themselves, Germany reunited, the United States fought an unexpected war in the Persian Gulf—shocking itself and rest of the world with the effectiveness of its military technology—and the Internet came into being. Within months, the Soviet Union itself would collapse.[8]

Sullivan was prepared to manage change. He certainly had seen it. Commissioned from the Reserve Officer Training Corps (ROTC) at Norwich University as an Armor officer in 1959, he served one tour in Korea, two in Vietnam, and four in Europe. As Sullivan rose through positions of increasing rank and responsibility, he witnessed the downward spiral into the Hollow Army of the 1970s then the Renaissance that carried it back through ever-increasing levels of effectiveness in the 1980s. In concert with General Carl E. Vuono, his predecessor as chief of staff, Sullivan envisioned a framework for change broader than a single-minded focus on technology. Vuono promoted this framework as the six Army Imperatives of Doctrine, Force Mix, Modernization, Training, Leader Development, and Quality People, which will be discussed later in this chapter.[9] For Sullivan, the specific changes he had witnessed during the Cold War and Post-Vietnam Renaissance would be less important than having an approach to change that could adapt to varying circumstances.

Sullivan needed a partner to help champion the changes he envisioned. He chose his longstanding colleague and friend Frederick M. Franks Jr. to command US Army Training and Doctrine Command (TRADOC). Franks's previous TRADOC assignments and his exploits commanding VII Corps in Operation Desert Storm prepared him for his upcoming role leading change within the institutional Army and guiding change within the Army at large. Franks additionally had served on the Army Staff, as J-7 Training on the Joint Staff, and in positions of command from platoon through corps. He was an ideal choice in this undertaking.[10]

If Franks was Sullivan's ideal partner for the Army's transformation, TRADOC was the ideal organization to shepherd the process over the long haul. Established in 1973, TRADOC was instrumental in the Army's Post-Vietnam Renaissance and combined the mission of anticipating and enabling the Army's future with broader responsibilities to train, educate, and develop its soldiers. Its school system provided Army training and education conducted outside of units, cycling through soldiers to prepare them

for both near and long-term developments. Each school wrote doctrine and established standards within its area of purview. From recruitment and initial entry through career development and retirement, TRADOC shaped the professional experience of every soldier. Its responsibility for doctrine and doctrinal development shaped the Army as a whole.[11]

The new era featured vast geopolitical changes. The Soviet Union had collapsed. Most of its Cold War allies and several former constituent states were attempting to "escape West," shedding Russia's shadow in favor of closer ties to the European Union and NATO. Even the Russian people were attempting democratic governance. China had crushed domestic dissent but embraced economic reforms and Western investments. Only North Korea, and perhaps Cuba, retained Cold War-vintage hostility.[12]

As the existential threat posed by the Soviet Union and nuclear Armageddon receded from view, a new dawn of arms control and disarmament seemed possible. This inspired the United States and most of its allies to radically reduce defense expenditures. While Sullivan was chief of staff, Army budgets and active-duty strengths dropped to two-thirds of their previous highs.[13] Unfortunately, as Sullivan presciently opined in his change-of-command speech, there would be "no time-out from readiness."[14] Deployments tripled, and America's smaller Army was busier than ever.[15]

Globalization scattered Americans and American interests more widely than ever before. The disappearance of the leviathan Soviet threat led, ironically, to a proliferation of lesser threats elsewhere. As Soviet-vintage discipline collapsed, pent-up ethnic hostilities in the Balkans, Caucasus, and Central Asia exploded back into view. Additionally, rogue states and insurgencies—flush with bargain basement arms and sensing opportunity as the rest of the world disarmed—tried their chances. Meanwhile, humanitarian crises and failed governance continued to bubble up. In remediating these, the United States remained as indispensable as ever.[16]

The forward-deployed US forces of the Cold War era were out of position for the smaller and more scattered threats that followed. Downsizing concentrated on the forward forces, and US Army Europe ended up as a shadow of its former self. Combat-ready forces became increasingly concentrated in the United States, as were the reserves intended to reinforce them. This reconfiguration was easier to sustain—and more agreeable to Congress members in whose districts the forces were located. However, ensuring forces could quickly deploy wherever they were needed would require radical improvements in the Army's expeditionary posture.[17]

Operations Just Cause in 1989 and Desert Storm in 1991 had been impressive, if imperfect, demonstrations of what it takes to move large forces somewhere fast. Sullivan drew on lessons learned from these deployments to prepare for the new era. He also absorbed lessons concerning the equipment that had been employed. As breathtakingly impressive as America's technological performance had been, further improvement seemed necessary.

Both Sullivan and Franks realized that modern weapons were able to precisely engage targets at ranges greater than their operators could reliably identify those targets. Below the division level, the communication of battlefield situations still relied on venerable and vulnerable mixes of radios, land lines, and grease pencil-facilitated graphics. Satellite-based global positioning systems (GPS) appeared in the last weeks before Desert Storm but were too few to sustain clear battlefield pictures below the company level. During intermingled combat, units too often found themselves involved in harrowing episodes of fratricide.[18]

Managing logistics in Desert Storm—like managing tactics—also superimposed a veneer of modernity atop a base of approaching obsolescence. No one had enough confidence in the supply situation to replace the mountainous depots and lengthy truck fleets dictated by just-in-case logistics with more nimble just-in-time logistics. Overcompensation was preferrable to potential underperformance.[19]

America's Desert Storm Army operated on the verge of the Information Age. Microchips, precision-guided munitions, and advanced sensors



Figure 13.2. "Desert Storm" by Frank Thomas. Courtesy of the US Army Center of Military History.

had introduced a technological revolution, but constituent components had not yet been adequately networked. On a grander scale, the Information Age needed the fledgling Internet to fully develop. Between 1989 and 1991, HTML, HTTP, URLs, and practical browsers made their debut. Within a dozen years, hundreds of millions of Internet users would be canvassing millions of web sites for thousands of reasons supported by ever-expanding arrays of servers and digital infrastructure. This proved as big a leap forward as the printing press or telephone. As Sullivan mulled over reasons why the Army needed to transform, none seemed more pressing than to bring it into the Information Age.[20]

Digitization and the Information Age

As an assistant S-3 brigade training officer in 1980, I was astonished by my first encounter with a Wang word processor. For the first time I knew of, a typist could edit text without retyping whole pages. This would have saved me considerably on my dissertation, for which I paid typists by the page, given the rewrites my prose required. A little more than a decade later, I assumed responsibilities as a division G-3. Wangs were out, PCs (personal computers) were in, and both were still foreign to me. I asked the office staff to print attachments sent to our office so I could read them. Worse, I asked them to type and print e-mails that I had handwritten—then marked edits on the printed drafts. Gently and over time, they taught me how to open and read attachments on my own PC with no paper involved. I also could save everybody, including myself, considerable time by handling my own e-mails—typing recklessly since it was so easy to fix mistakes.

During this time when Sullivan undertook to move the Army into the Information Age, I believe my digital skills—or lack thereof—were typical of Army officers in my age cohort. Presumably, officers older than me would have been even worse off in this regard. The transformation Sullivan envisioned could not wait for digital talent to bubble up from the bottom over time. The Army needed to move decisively. Most of the change necessary would have to be driven from the top.[21]

The Army experimented with computers as early as the thirty-ton Electronic Numerical Integrator and Computer (ENIAC) it sponsored during World War II. Subsequent evolution gave artillerymen their Tactical Fire Direction System (TACFIRE) and similarly provided air defenders, air traffic management controllers, logisticians, personnel managers, and others with hardware and software specific to their needs. Within each "stovepipe," development progressed independent of what was going on in the others.[22] The Institutional Army witnessed a similar proliferation of

hardware and software. TRADOC schools developed capacities for electronic simulation useful for both training and experimentation.[23]

Sullivan and Franks had witnessed dramatic advances in electronic simulations over the course of several assignments. As they brainstormed what the Modern Louisiana Maneuvers should consist of, they settled on distributed interactive simulation (DIS) as a promising early initiative. Building on existing capabilities of TRADOC schools such as Forts Leavenworth, Benning, and Knox, they organized an expansive system of interconnected Battle Labs. Each institution drilled concepts and issues within its own specialty, but also linked with others for broader effects. TRADOC and US Army Forces Command (FORSCOM), responsible for the Army's deployable forces in the United States, cooperated in exercises that linked schools, tactical headquarters, and units maneuvering "in the dirt." Soldiers hundreds or even thousands of miles apart participated in these sprawling exercises.[24]

Distributed interactive simulations proved valuable for exercising and training headquarters at all levels. They also aided in concept development and experimentation. Units and equipment that otherwise could not have been pulled together participated together in simulations. Proposed combinations could be tested in simulation first, weeding many out and continuing with the more promising. "Spiral development" saw concepts developed in simulation, tried out "in the dirt," adjusted, further refined in simulation, then returned to "the dirt" for further testing. Ideally, each cycle came closer to the desired goal.[25] Hybrid initiatives evolved that mixed simulations, physical equipment, Tables of Organization and Equipment (TOE) and Tables of Distribution and Allowances (TDA) units, hardware, and software.[26] These included Advanced Technology Demonstrations (ATDs), Advanced Concept Technology Demonstrations (ACTDs), Advanced Warfighting Demonstrations (AWDs), and Advanced Warfighting Experiments (AWEs).[27]

Sullivan leaned heavily on existing Army organizations as he pursued transformation, but also established the LAM Task Force—forty-plus members led by a brigadier general—as a temporary agency to assist in coordination. He based this initially at Fort Monroe, Virginia—co-located with TRADOC—where the emphasis was on deliberations and innovation and then moved it to Washington, DC—co-located with the Army Staff—and shifted the emphasis to synchronizing execution.[28] Sullivan routinely assembled General Officer Working Groups (GOWG) drawn from across the Army to brainstorm digitization issues and had them report to his four-star "Board of Directors." This leveraged a broad range of professional

experience and encouraged digital competence at the highest levels—with trickle-down effects.[29] When my division commander began sending personal emails to me, his G-3, it proved a powerful incentive to tune into the Information Age.

Individuals throughout the Army began to recognize that digitization could add value to communications, simulations, activities of the Institutional Army, and command and control at upper echelons. Less obvious was the role it could play at lower levels on tactical battlefields. Certainly, GPS had proven useful and greatly facilitated Desert Storm's sweeping "Left Hook."[30] Another promising possibility was more and better linked GPS that would provide an accurate battlefield picture, but no one knew for sure how such a system might work.[31]

Desert Storm's horrific experiences with fratricide provided a powerful incentive for research and improvement. A high-powered Army task force assigned to address these issues would home in on problems with target identification and situational awareness. The task force designed a live-fire test scenario evoking the darkness, dust, smoke, featureless terrain, and intermingled combat associated with most of the fratricides that had occurred and invited corporate America to propose and test technical responses. The Army Materiel Command (AMC) mustered support from the defense industry. The response was impressive; within less than a year more than a dozen different systems had been prepared for field testing in a giant technology demonstration. Test scenario observers likened the range complex to the mix of weird alien creatures during the bar scene in *Star Wars*.[32]

The overwhelming majority of the proposed solutions focused on target identification and attempted some version of identification friend or foe (IFF): laser interrogation, multispectral beacons, reflector arrays, GPS feedback, millimeter wave transmission, laser-activated thermal identification, or other technologies to notify a potential shooter that a potential target was friendly. Of the solutions proposed at the technology demonstration, one focused on situational awareness rather than target identification—the Enhanced Position Location Reporting System (EPLRS) shepherded by Unisys. It depicted transmitter locations on a visible grid with frequent updates. If every friendly vehicle in a sector had a working transmitter, their locations could be known to everyone who had access to the system.[33]

For Sullivan and Franks, the EPLRS approach addressed two critical problems at once. Improved situational awareness would help reduce fratricide and also improve battle command and battlespace management. As mentioned earlier, the Army of Desert Storm relied on a venerable mix



Figure 13.3. Blue Force Tracking. Courtesy of the US Army.

of radios, land lines, and grease pencil-facilitated graphics to keep abreast of tactical situations. During National Training Center exercises with the Inter-Vehicular Information System (IVIS), a successor to EPLRS, vehicle crews were able to monitor the locations of their comrades on small screens with elegant precision. With digital communications, information could be aggregated and shared. Commanders could zoom in and zoom out via blue force tracking to construct a battlefield picture with as much or as little detail as they cared to have. Further, this coverage could theoretically be extended to individual dismounts, although this would have been a stretch at that time.[34]

With respect to fratricide, none of the tested IFF devices worked all that well. Technologies that could prevent multiple aircraft separated by considerable distances from shooting at each other proved less adequate when dealing with masses of intermingled vehicles in swirling dust and smoke. A combat identification panel (CIP) with a unique infrared signature visible through thermal sights did prove useful and has been widely used since. Other IFF devices were tested in the field in more limited circumstances. The eventual remediation of the fratricide problem leaned very heavily on the enhanced situational awareness afforded by EPLRS and its successors, coupled with the CIPs and extensive training.[35]

If vehicle positions could be readily shared via such systems as EPLRS or IVIS, why not vehicle fuel and ammunition status? Digitization offered logisticians an opportunity to track real-time status with exacting

detail. Bar coding of items and Conex containers could help units know where everything was, with precise information only a "click" or two away. Terms like "total asset visibility" and "just-in-time logistics" gained favor in the military lexicon. The more Army leaders learned about digitization, the more they liked it. Energized by Sullivan's General Officers Working Groups and other brainstorming sessions, exposed to recommended readings concerning "revolutions in military affairs," and observing digital technologies maturing before their eyes, they pushed digitization into virtually every aspect of Army operations.[36]

Sullivan, with Franks in the lead supported by the LAM Task Force, steered this innovative thinking into a blueprint called Force XXI. Force XXI included synchronization matrices for both the institutional and the deployable Army that extended out a dozen years. With Force XXI, existing vehicles and systems would be fitted with off-the-shelf technology via applique in most cases. Purpose-built platforms and equipment might come later. Off-the-shelf did not imply a grab bag approach. In July 1994, the Army Digitization Office was stood up to govern digitization policy, procurement, and use. A few months later, the 2nd Armored Division from Fort Hood, Texas, was designated as the experimental force for digitization. By the time General Sullivan retired from the Army in July 1995, the institutional Army was making ample use of digital equipment. Within the deployable Army, such use was experimental, prototypical, and modest; however, Force XXI did describe a way ahead for both.[37]

Achieving an Expeditionary Posture

In August 1995, Iraqi dictator Saddam Hussein again threatened Kuwait and Saudi Arabia after his son-in-law and others defected through Jordan. The 2nd Brigade, 1st Cavalry Division, which I then commanded, had the Division Ready Force 1 (DRF1) mission. Our unit was ordered to reinforce the Kuwaitis and sped through Fort Hood's recently revamped airfield to draw prepositioned equipment from Army War Reserve 5 (AWR-5) in Camp Doha, Kuwait. Rehearsed, the companies took less than six hours to inspect, upload, and roll out. They deployed into desert tactical positions and achieved Readiness Condition 1 (REDCON 1) within twelve hours of landing. A Multiple Launch Rocket System (MLRS) battery and target acquisition battery joined our unit, having been altogether lifted in by air from the United States. Such "commuter containment" into Kuwait had happened before. Resembling Return of Forces to Germany (REFORGER), the exercise program Intrinsic Action prepared Americans and Kuwaitis alike for such contingencies.[38]

This smoothly orchestrated 1995 deployment to Kuwait contrasted considerably from my experience as a battalion commander deploying to Desert Shield/Storm five years earlier. Then our unit was part of a heavy brigade in Germany moving "backward" through the system to link up with forces flowing from the United States into a theater unfamiliar to all of us. Improvisation and changes of plans were widespread, using energy and effort to make up for lack of experience and rehearsal. Our heavy equipment travelled by sea, with our troops doing most of the uploading in Bremerhaven and offloading in Saudi Arabia. For an uncomfortable two weeks, our brigade sat virtually unarmed in the desert awaiting our equipment. The first US forces to arrive for Desert Shield were referred to as "speed bumps" until tanks and other heavy equipment arrived.[39]

Sullivan regarded Operations Just Cause and Desert Storm—hasty deployments to unexpected contingencies—as harbingers of things to come in the aftermath of the Cold War. Other Department of Defense (DoD) leaders agreed. In February 1992, DoD expanded the United States Transportation Command charter to control its service components in peace as well as war.[40] This accompanied determined efforts to expand and improve sealift and airlift. The highly capable Roll-on/Roll-off Fast Sea-

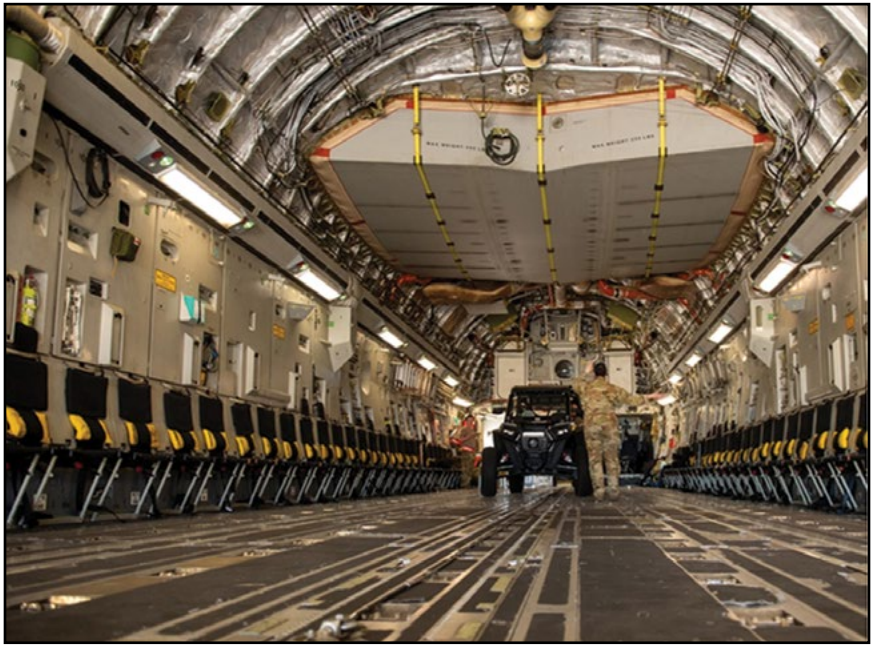


Figure 13.4. This photo of Alaska Air National Guard crew members loading mission-essential cargo into a C-17 Globemaster III illustrates the storage capacity of the massive aircraft. Courtesy of the Department of Defense.

lift Ships in the Ready Reserve Force expanded from seventeen in 1990 to thirty-six in 1996.[41] The capabilities and readiness of other shipping also received serious attention. Airlift organization was redesigned with the June 1992 establishment of the Air Mobility Command.[42] With respect to aircraft, a notable addition in 1995 was the C-17 Globemaster III, which could deliver large loads over strategic distances using short runways.[43]

The Army's role with respect to achieving strategic mobility involved more than waiting around like passengers for a bus. US installations, which housed ever-larger proportions of the deployable Army, would redesign themselves as "power projection platforms." A half billion dollars went into state-of-the art airfields, railheads, ports, and connections between them. The 1992 version of Army Regulation 210-20, *Master Planning for Army Installations*, laid out expectations in some detail.[44] The Assistant Chief of Staff for Installation Management was established as a major Army Staff agency and reinforced this effort. The 1993 version of Field Manual (FM) 100-5, *Operations*, gave much more attention to "power projection" than ever before.[45]

Sullivan ably shepherded Army efforts to enable launching faster from stateside installations, but also endeavored to reduce the tonnages that would be necessary to launch. Expanding on Prepositioning of Material Configured to Unit Sets (POMCUS) concepts that had enabled REFORGER, he deliberated with DoD to position brigade-sized AWR stockpiles around the world to be available for contingencies. By 1995, AWR-1 was in the United States, AWR-2 in Europe, AWR-3 afloat but generally in the Indian Ocean, AWR-4 in Korea, and AWR-5 in Southwest Asia—most notably Kuwait. Having such equipment overseas and close to prospective action would save time and effort, as troops could be flown in quickly to man it.[46]

Initiatives to make Army forces, whether light or heavy, more lethal also trimmed tonnages likely to be necessary to support contingencies. The fielding of the man-portable, 2,000-meter range, top attack, fire-and-forget, soft launch Javelin anti-tank missile was a major step in this regard. Light infantrymen became far less likely to be "speed bumps" in the face of armored attacks—and thus could be expected to accomplish more.[47] Improvements to the sights, sensors, and munitions available for tanks, armored vehicles, attack helicopters, and artillery promised to reduce the ammunition tonnages necessary to support those systems.[48] Desert Storm planners had overestimated the amount of ammunition that ultimately proved necessary. Fleets of trucks bearing ammunition that was never used trailed out behind



Figure 13.5. FGM-148 Javelin anti-tank missile. Courtesy of the US Army.

American armored columns. This additional logistical mass encumbered their advance; perhaps the Army could have done with less.[49]

Of course, Army planners did not want to run short of ammunition—or anything else—in pursuit of nimbler contingents. The information architecture sufficient to enable the just-in-time logistics discussed earlier could help. Another concept that became popular in the 1990's was split-based logistics. The Cold War practice was to accumulate "iron mountains" of supplies in respective theaters for envisioned contingencies. These accumulations were sufficient to support units in theater, reinforcements flowing into theater, and the time-phased force and deployment lists (TPFDLs) of support forces accompanying these reinforcements. While the practice made sense with long-established theaters, Desert Shield/Storm underscored the difficulty of transferring the model to an unexpected contingency. Sullivan faced short-notice deployments to Northern Iraq, Somalia, Haiti, Kuwait, the Balkans, and elsewhere. With split-basing, home stations were responsible for individual replacements, major end items not already in theater, repair parts to support those items, and exotic munitions or other supplies. The theater handled routine supplies such as food, water, fuel, and most ammunition. A variation on split-basing could be semi-permanent intermediate staging bases (ISBs) established outside the conflict zone. Whether

drawing on home stations or ISBs, split basing enhanced expeditionary capabilities by reducing the tonnages that had to be stockpiled in theater.[50]

"Jointness" was a critical aspect of the Army's pursuit of an improved expeditionary posture. Troops and equipment would arrive by sea and air. Beyond that, Army units relied heavily on the US Air Force and Navy for combat support and service support. Sullivan actively courted his colleagues from other services as deliberations moved forward.[51] Close air support received particular attention. Ground troops had long regarded close air support with a mixture of awe and anxiety, mindful of how helpful it could be but worried about fratricide. Most Cold War plans featured a fire support coordination line (FSCL) beyond which pilots were encouraged to drop their munitions with few if any restrictions. Inside the FSCL, air strikes were far more tightly controlled. In practice, ground commanders preferred to engage targets inside the FSCL with Army assets and rely on the Air Force for deeper targets. More than a few US troops have been lost to friendly air strikes.[52]

Expeditionary combat might not facilitate the orderly battlefield architecture an FSCL implied. Air strikes were likely to be available before sufficient artillery massed, rendering close air support even more critical during the early stages of a deployment. During Desert Storm, precision-guided munitions allayed some fears concerning fratricidal strikes but at that time were too expensive to use on other than high-value targets. Joint Direct Attack Munitions (JDAMs), developed during Sullivan's tenure, changed this paradigm. These add-on kits convert a "dumb" bomb to a "smart" one via an inertial guidance system coupled to GPS. They are cheap, precise, and not vulnerable to smoke or weather. They radically improved the safety and effectiveness of close air support, considerably enhancing the potent expeditionary posture the Army was trying to achieve.[53]

An architect and advocate of Vuono's six Army Imperatives, Sullivan invested heavily in training and leadership as well as organization and equipment to achieve the expeditionary posture he sought. TRADOC schools taught requisite skills and authored appropriate doctrine. FORSCOM's reaction forces drilled on airlift, sealift, load plans, preparations for overseas movement, and other elements of speedy deployment. Major training events often started as Emergency Deployment Readiness Exercises (EDREs). National Training Center (NTC) rotations began with units drawing their heavy equipment under tactical circumstances. Tens of millions of training dollars went into Sea Emergency Deployment Readiness Exercises (SEDREs). In these, units raced to a designated port, uploaded their equipment onto Roll-on/Roll-off Fast Sealift Ships, and

subsequently participated in an amphibious or through-port training exercise. The benefits of recurrent rehearsals accumulated. This is why the US Army's 1995 deployment of an armored brigade from Texas to Kuwait within the course of a news cycle seemed routine. Three months later, our unit was expediently relieved in place by another brigade flying out of Fort Carson, Colorado. Stateside bases had become efficient power projection platforms in this new expeditionary era.[54]

The Six Army Imperatives

As the battalion I commanded, 2-66 Armor, rolled through the night battle for Objective Norfolk during Desert Storm, I thought I had a good knowledge about what was going on—and to a degree I did. However, when I walked the battalion perimeter several days later and talked with individual crews, I noted how much information had never made it onto the battalion command radio net. Virtually every crew, and in many cases individual, had done some extraordinary unreported thing to keep the battalion as a whole beetling forward through the darkness. Using thermal sights, gunners talked their drivers through scattered minefields. Recovery crews snatched tanks from trenches and bunkers they had fallen into and sped them on their way. Tank commanders shepherded less-well-protected vehicles into the cover their own superior armor afforded. Dismounts from the combat trains fought fierce little battles to thwart bypassed Iraqis attempting ambushes. The list went on. This is not to mention that the pace of reporting could not keep up with the pace at which targets were engaged. The attack would have been paralyzed if the only actions taken were those of which the battalion commander was aware.[55]

My insight in the aftermath of the battle for Objective Norfolk was hardly novel. The US Army has long recognized its dependency on the initiative and skill of its leaders and soldiers at all levels. "Mission command" is a cherished concept that combines shared intent with decentralized execution, drawing the utmost out of all participants at the same time. Vuono and Sullivan reinforced this concept with their canonization of the six Army imperatives of doctrine, force mix, modernization, training, leader development, and quality people. Soldiers of a certain age may remember carrying a wallet-sized card listing the imperatives and definitions. As Sullivan transformed the Army, the imperatives provided a framework for change, permeating the entire organization and assuring balance and a shared vision. Transformation would not be about new equipment alone.[56]

Doctrine is the Army's way of communicating "what right looks like" with respect to making things happen and provides a baseline of under-

standing that leaders can adapt within the Mission Command framework. As already discussed, Sullivan's and Frank's rewriting of FM 100-5, *Operations*, provided a grand view that pyramided down to hundreds of other field manuals, technical manuals, training programs, and additional doctrinal literature, largely authored by TRADOC. In light of the major changes embodied in the 1993 version of FM 100-5, most of this was rewritten. Rather than driving doctrine from the top down alone, Sullivan encouraged it to bubble up from the bottom. The pre-Desert Storm "training revolution" that had given the Army the highly instrumented and realistic NTC habituated it to the egalitarian self-critique of after-action reviews (AARs). In part assessment and in part confessional, AARs encouraged soldiers of all ranks to participate in improving unit performance. In 1985, the Center for Army Lessons Learned (CALL) was established to collect, analyze, and disseminate lessons learned from NTC rotations. In the aftermath of Desert Storm, Sullivan expanded its portfolio, dispatching teams of experts to drill in on topics of interest. This provided more grist for his LAM Task Force, also organized to capitalize on insights from throughout the Army.[57]

The radically improved situational awareness enabled by digital technology did have doctrinal implications. Some opined this would "flatten" command hierarchies since so much information and guidance could pass back and forth so quickly. In practice, this did not work out so well since battle command involves much more than information alone. However, digitization did thin out the people and assets necessary to sustain accurate tactical and logistical pictures. Headquarters and command nodes could be leaner and nimbler, accomplishing more with less. "Modularity" gained popularity as a buzz word, describing units that could readily "plug in" and "plug out" with minimal assets required to sustain communications interfaces. Company clerks as such eventually disappeared, along with a fistful of other personnel involved in information management. In the institutional Army, comparable developments thinned out clerks and civilian secretaries. Captains and majors handled considerably more filing and correspondence themselves. Although this was but the tip of the iceberg with the arrival of the Information Age, it did establish a doctrinal trajectory that would make command and control increasingly less cumbersome.[58]

Force mix designs "teams of teams," gathering the assets required for one type of mission or another into units built up from small to large. Our unit's tanks on Objective Norfolk, for example, were accompanied by contingents of scouts, mortarmen, mechanics, and other support troops while being overwatched by artillery. As Force XXI emerged as a blueprint for the evolving Army, it gave due attention to the tables of organiza-



Figure 13.6. Force mix: combined arms. Courtesy of the US Army Center of Military History.

tion of future units, how they would knit together, and command relations among them. Underlying principles would remain, but force mix would change with technology and anticipated circumstances.[59]

One aspect of force mix particularly visible to Sullivan was increasing reliance on the Reserve Component. Desert Storm underscored the Army's dependence on National Guard and Army Reserve combat support and combat service support units for major operations. Recurrent deployments thereafter, despite a shrinking Army, furthered this dependence. Far from being on a "deep bench" anticipating "the big one," Reserve Component units and individual reservists routinely deployed with contingents going overseas.[60] Congress extended presidential call-up authority from 90 to 270 days, allowing sufficient time for mobilization, train-up, overseas service, and redeployment.[61] Reliance on the Reserve Component extended to combat as well as support units, given the unrelenting manpower demands. For example, the contingent activated in November 1994 to serve in the Multinational Force and Observers (MFO) Sinai was largely drawn from the Reserve Component. National Guard and Army Reserve units came to regard mobilization and deployment as likely, albeit on more extended force generation cycles than their active-duty counterparts.[62]

Modernization was an essential tenet of Force XXI thinking and, of course, a crucial aspect of the digitization being pursued. However, not all modernization was digital, such as the previously discussed develop-

ment of the Javelin anti-tank missile and JDAMs. Although the fielding of the famous "big five" (Abrams tank, Bradley infantry fighting vehicle, Apache attack helicopter, Black Hawk utility helicopter, and Patriot missile system) was largely complete, all five saw further improvements and upgrades.[63] Improvements and upgrades also were made to other systems—some dramatic. Perhaps most important, the approach to modernization drifted away from the bureaucracy of the military specifications (MILSPECs) process with its tightly supervised interplay between the Army and industry. More attention was given to quickly adapting off-the-shelf technology given the pace at which commercial technologies were advancing. One observer noted that the MILSPECs process would have brought the Army a seventeen-pound single-channel GPS that cost $34,000, whereas it was instead able to buy a three-pound multichannel commercial version that cost $1,300. In a few years, that cost dropped to $800. Digital and other technologies went onto existing platforms and vehicles via applique, which saved time and money.[64]

Training was a major concern for Sullivan and played into his metaphor concerning "No more Task Force Smiths." Amid downsizing and plummeting budgets, he aspired to keep remaining Army units well-trained for current contingencies and design training that would enable the evolving transformation he sought. Some exercises, such as the EDREs and



Figure 13.7. Modernization: Stryker ICV M1126. Courtesy of the US Army.

SEDREs, addressed both requirements. Through relentless scrimping, Sullivan kept the training operational tempo at about 800 miles per vehicle crew per year and maintained individual and crew weapons qualification. In Fiscal Year 1995, seventy-seven battalions rotated through the national combat training centers—no mean budgetary feat. Meanwhile, training programs appropriate to increasingly digitized experimental units were developed in Advance Warfighter Experiments and other exercises. In April 1994, a full-up instrumented task force took to the National Training Center. In December, the 2nd Armored Division became the experimental force for digitization. This assured ample attention to unit training as digitization progressed. Increasing numbers of personnel required individual training to use and maintain digital equipment. TRADOC, AMC, FORSCOM, and the defense industry cooperated to establish relevant programs.[65]

Leader development similarly straddled the divide between preparing for contemporary contingencies and anticipating future ones. It progressed in the institutional Army under TRADOC supervision and in the deployable Army under the supervision of FORSCOM and other major commands. The Army's post-Vietnam "renaissance" had heavily emphasized leader development and paid particular attention to establishing ascending scales of education and experience for noncommissioned officer professional development (NCOPD). The investment proved invaluable



Figure 13.8. Training: an after-action review. Courtesy of the US Army Center of Military History.

in Just Cause and Desert Storm, which was amply demonstrated by the professionalism and performance at all levels of participating US units.[66] Digitization added a new dimension to leader development as "traditional" military knowledge ran alongside digital savvy. Younger soldiers were often more proficient with digital equipment than their older superiors, and career paths that developed digital sophistication were not necessarily the same as those that developed traditional combat leaders. Cyber Warfare was not yet a "thing" for the Army, but LAM Task Force brainstorming was anticipating it. Requirements to develop both tactical and technical leadership—and establish balances between them—were not new to the Army. Digitization made these perhaps more important than ever.[67]

Another aspect of leader development that received particular attention in the early 1990s was family readiness. Recurrent deployments increased the stress on Army families. Studies reinforced the believable notion that the number one reason soldiers left the Army was that their spouses and/or families didn't like it. Family support groups had done yeoman service during Desert Storm, but performance and expectations with respect to supporting families had nevertheless been mixed. In 1994, the Army Community and Family Support Center fielded a comprehensive array of instructional materials in pursuit of standardization. Army Family Team Building emerged as a train-the-trainer program to prepare volunteers for varying levels of responsibility. Commanders were responsible for the programs supporting their units and provided necessary resources. The term "family support group" came to be replaced by "family readiness group." The change diminished notions of dependency and reinforced notions of preparedness and resilience. The emerging expeditionary Army recognized that Army families are central to its success.[68]

Quality people are the pediment on which all other success is built. Army recruits in the 1980s were overwhelmingly high school graduates and had solid scores on armed services vocational aptitude tests. Sullivan feared reckless downsizing would hemorrhage talent and decimate units. He remembered the damage done by the dreaded "pink slips" in the aftermath of the Vietnam War. With his allies and colleagues, Sullivan convinced Congress to take an incremental approach, holding losses to less than 50,000 a year. This and incentives such as the Voluntary Early Release/Retirement Program (VERRP) and Voluntary Selective Incentive Program (VSIP) enabled separations to remain overwhelmingly voluntary and attritional. In Fiscal Year 1995, for example, enlisted personnel were involuntarily separated only for cause. In that year, the active Army reenlisted 104 percent of first-termers and 100 percent of the mid-termers

it sought, and attracted 105 percent of the separating soldiers it sought to the Reserve Component.[69] More than 95 percent of new recruits were high school graduates. Complicated wrangling with Congress and the Joint Staff did much to enable this. So did the Army's image as dynamic, capable, and busy—an image encouraged by high states of readiness in the units Sullivan was able to retain.[70]

Sullivan and Franks took a broad approach when acting in the present and planning for the future. Doctrine, force mix, modernization, training, leader development, and quality people featured prominently in every major undertaking. Sullivan's sense of history served him well. The Army imperatives had longstanding roots that would extend deep into the future.

Sustaining Momentum over the Long Haul

The Eisenhower Luncheon at AUSA's 1999 annual meeting in Washington, DC, was a glittering affair. Hundreds of tables mixed uniformed soldiers, corporate and political leaders, and invited guests in a grand ballroom. An elevated table running the length of one wall seated four-star generals, AUSA illuminati, and selected guests of honor. The keynote speaker was new Army Chief of Staff General Eric K. Shinseki. His subject was Army Transformation, now spelled with a capital "A" and "T." Fittingly, given the topic, he was introduced by General Gordon R. Sullivan, AUSA president.[71]

Sullivan's successor as Army chief of staff, General Dennis J. Reimer, had served as Sullivan's vice chief of staff (VCSA) and FORSCOM commander. Reimer's successor, Shinseki, had served as Reimer's DCSOPS and VCSA.[72] Each man was familiar with and supportive of the direction his predecessor had been taking the Army. Similar continuity extended into the depths of the Army. Project officers and noncommissioned officers (NCOs) thoroughly mastered the concepts, hardware, and software involved in the ongoing transformation and passed their knowledge to their successors. TRADOC schools kept the tenets of anticipated transformation in view even when most of their students had little firsthand experience with the advancing hardware and software involved. Agencies and "elevator speeches" morphed over time, but underlying concepts remained the same. The vision and direction of transformation remained consistent, although funding was not yet sufficient to achieve closure.[73]

As AUSA president, Sullivan was uniquely positioned to further his previous work. Among many other roles, AUSA promotes dialogue, education, and cooperation concerning land warfare. It has a seasoned staff, prestigious trustees, and interlocking advisory committees serving a mem-

bership that includes soldiers of all ranks, retirees, and representatives of relevant industries. Its conventions bring together key leaders and broad audiences in fora that home in on critical issues. US Congress members and presidential advisors listen to the counsel and advice of AUSA's resolution committees. In this dynamic environment, Sullivan played a key role in keeping transformational ideas and actions vibrant and relevant.[74]

I attended the 1999 Eisenhower Luncheon as Shinseki laid out his vision for Army Transformation. Several months earlier as chief of military history, I had served on Shinseki's transition team as he prepared to become chief of staff. His speech took a long time to compose and drew on numerous sources. It was as thorough, meticulous, and well-thought out as Shinseki himself. As he addressed his prestigious audience, I knew much of what was coming and was gratified to see how well it went over.[75] What I did not know was that in less than two years' time, terrorists would crash airliners into the Twin Towers and the Pentagon, precipitating the Global War on Terror. Transformational ideas that had been on a long timeline with little funding suddenly became imperatives on a short timeline with ample funding. The Army budget almost doubled between 2000 and 2005.[76]

In 1995, Sullivan had left the Army with a capable expeditionary posture, considerable digitization in its institutions, and prototypical or experimental digitization in its units. Reimer pushed transformation forward, adjusting as necessary. Deployments to the Middle East, Balkans, and elsewhere continued unabated. Indeed, the daily average number of soldiers deployed from home station increased by half during Reimer's tenure.[77] He completed the conversion of stateside installations into effective power projection platforms while presiding over what amounted to a revolution in military contracting. Seeking to preserve its "teeth" amidst radical downsizing, the Army found ways to turn over more of its "tail" to civilian contractors—often heavily populated by former service members. This imperative became even more necessary because of cuts to the number of Department of the Army civilians, reduced from 488,000 in 1989 to 225,000 in 1999.[78]

With respect to digitization, Reimer and his TRADOC commander, General William W. Hartzog, pushed ahead with special attention given to reliably answering three questions: Where am I?, Where are my buddies?, and Where is the enemy? With sure knowledge of these, the rest of America's vast panoply of military technology could be effectively brought into play. Recurrent exercises steadily enhanced the ability to acquire and manage this requisite knowledge. Reimer accumulated the means to field a brigade fully equipped with Force XXI applique technology. He field-tested Force XXI equipment through the division and corps level. Better yet,

Force XXI technologies became sufficiently mature to spread across the Army when funding permitted.[79]

Shinseki envisioned Army Transformation as tripartite, consisting of a Legacy Force, an Interim Force, and an Objective Force. The Legacy Force, the deployable Army as it then existed, was to be sustained and recapitalized. Shinseki regarded Force XXI's applique technology as a feature of the Legacy Force that would trundle on in vintage vehicles with modern digital equipment. The Objective Force was futuristic, using a distant target built around vehicles and technologies that did not yet exist. New with Shinseki was the idea of an Interim Force: highly mobile, of middling weight, and sporting the most advanced technologies available.[80] Shinseki mustered the leadership, equipment, and focus to develop this Interim Force with astonishing speed. When he retired from the Army in June 2003, the first Stryker Brigade Combat Team was ready to deploy—and none too soon.[81]

Between the 9/11 attack in 2001 and the 20 March 2003 invasion of Iraq, Shinseki assured the forces that would participate in Operation Cobra II had applique Force XXI technology and enjoyed every possible advantage with respect to manning, logistics, and leadership. The deployment progressed far more smoothly than Desert Shield, largely because of prepositioned equipment, improved sealift and airlift, and training for such a contingency.[82] Satellite-facilitated communications, networked computers, advanced sensors, ubiquitous GPS, Blue Force Tracking, unmanned aerial vehicles (UAVs), JDAMs, and other innovations came into play once combat commenced. The ponderous phalanx of Desert Storm was replaced by nimbler maneuvers such as the five simultaneous V Corps attacks of 31 March or the subsequent Thunder Run into Baghdad, the latter conducted by a brigade that had two of its other battalions attacking in a different direction. Generals Tommy R. Franks and David D. McKiernan, the US Central Command (CENTCOM) and Land Component commanders respectively, were confident enough in the qualitative advantage they enjoyed that they attacked from a "rolling start" with minimal preparatory bombardment. They followed through with relentless aggressiveness thereafter.[83] In Desert Storm, a million-strong Allied force overwhelmed 540,000 Iraqis and overran 24,000 square miles in a forty-three-day campaign.[84] In Cobra II, half as many Allies overwhelmed twice as many Iraqis and overran 170,000 square miles in about half as much time. In both cases, American forces were at peak training and preparedness. The Cobra II enhanced performance can be readily explained: US forces made striking qualitative advances in the intervening dozen years, whereas the Iraqis did not.[85]



Figure 13.9. Cobra II. Courtesy of the US Army Center of Military History.

As units rotated into Afghanistan, Iraq, and elsewhere for the Global War on Terror, pre-deployment preparations rendered them increasingly modernized and digitized. Shinseki's successor, General Peter J. Schoomaker, enhanced agility and expeditionary posture by shifting to a modular brigade-based Army and unit manning. This evolution had been underway, as Force XXI capabilities enabled brigades to be as potent as divisions had been in many respects and modern communications thinned out the personnel required in command nodes. Within a few years, ample funding, large rotations, and continuing innovation completed the transformation to the digitized expeditionary Army Sullivan had envisioned.[86]

The US Army's overwhelming dominance in conventional operations did not entirely transfer when Afghanistan and Iraq devolved into insurgencies, but US forces nevertheless gained important advantages from the Army's transformation. Time and again, American units swept away opponents who dared to confront them; dominant knowledge can be an ingredient for success at the lower end of the combat spectrum as well as the upper.[87] Insurgents learned to eschew direct combat with US forces, and more than half of US casualties were caused by improvised explosive devices (IEDs). Even IEDs proved susceptible to American training and technical innovation. In one two-year period, the number of IED attacks that produced casualties remained unchanged even though the number of attacks quadrupled.[88] Dissatisfaction with results in Afghanistan and Iraq must find reasons other than the quality of the US forces that fought there.

While US forces were there, they were dominant; when they withdrew, they were not. Using a fraction of the force structure that historical experience would recommend, US forces kept the lid on in two difficult countries for a long time with minimal casualties. They left because their countrymen no longer believed the prospective results were worth the cost.[89]

Concluding Thoughts

The US Army changes daily but transforms rarely. True transformation is a paradigm shift from one posture to another that is altogether different. Examples include the transformation from a frontier constabulary to the "Army for Empire" following the Spanish-American War or the creation of the mammoth national mobilization-based Army that fought World Wars I and II. The most recent transformation was from the forward-deployed giant of the Cold War to today's nimbler digitized expeditionary Army. Given the collapse of the Soviet Union, the rise of the Information Age, and technologies such as precision-guided munitions, microchips, and advanced sensors, adaptation short of transformation would have been an inadequate response.

No single person was more responsible for this latest transformation than General Gordon R. Sullivan. A thoughtful student of history, careful listener, and avid observer, he processed myriad ideas into meaningful actions. He perceived and acted on dramatic strategic, socio-economic, and technological changes and developed expeditionary capabilities and Information Age assets within a framework that addressed doctrine, force mix, modernization, training, leader development, and quality people. Force XXI emerged as his blueprint, and he advanced it through a prototypical phase. As AUSA president, he sustained focus and momentum, assisting his successors' transformational efforts with the considerable assets his new position could muster. After 9/11, the Army's budget almost doubled, and it had good ideas about how to use the money. Within a few years, America fielded a truly digitized expeditionary Army.

The Army may now need another transformation. China's rise and the aggressiveness of Russia, Iran, and North Korea have altered the strategic situation. Greying populations put a socio-economic limit on the young manpower available to the United States, most of its allies, and many likely adversaries. Robotics and artificial intelligence are serving up yet another technological revolution. The authors of the Army's next transformation might be wise to take notes from General Sullivan and those who worked with him to achieve the last one.

Notes

1. “About Us,” Army Historical Foundation, accessed 25 April 2024, https://armyhistory.org.

2. General Gordon R. Sullivan, “No More Task Force Smiths,” *Army* (January 1992), 18.

3. General Gordon R. Sullivan, “Louisiana Maneuvers 1994,” in *The Collected Works of the Thirty-Second Chief of Staff, United States Army* (Washington, DC: US Army Center of Military History, 1995),103–5.

4. John Sloan Brown, *Draftee Division: The 88th Infantry Division in World War II* (Lexington, KY: The University Press of Kentucky, 1986).

5. John Sloan Brown, *Kevlar Legions: The Transformation of the U.S. Army, 1989–2005* (Washington, DC: US Army Center of Military History, 2011).

6. The anecdotes and sentiments featured here are based on the author’s personal experience or conversations with fellow soldiers in Garlstedt, Germany, 1989–90.

7. “General Gordon R. Sullivan,” in William G. Bell, *Commanding Generals and Chiefs of Staff, 1775–2005: Portraits and Biographical Sketches of the Army’s Senior Officers* (Washington, DC: US Army Center of Military History, 2005).

8. Brown, *Kevlar Legions,* 46–56.

9. General Carl E. Vuono, “Guided by Six Imperatives: The U.S. Army in the 1990s,” in *Army 1990–1991 Green Book,* October 1990, 20. See also General Carl E. Vuono, “Remarks to the Conference of Army Historians 29 March 1990, *Army History* 15 (Summer 1990) for a listing of the six imperatives and his remarks in their entirety.

10. General Franks served in Joint and Army Staff billets as well as in concepts and education assignments at TRADOC and as executive officer to General Donn Starry when he commanded TRADOC.

11. Anne W. Chapman, *The Army’s Training Revolution, 1973–1990: An Overview* (Washington, DC: US Army Center of Military History, 1994); and “About Us,” US Army Training and Doctrine Command, accessed 30 September 2024, https://www.tradoc.army.mil.

12. William Echikson, *Lighting the Night: Revolution in Eastern Europe* (New York: William Morrow, 1990); and George Bush and Brent Scowcroft, *A World Transformed* (New York: Knopf, 1998).

13. Brown, *Kevlar Legions,* 73–76.

14. General Gordon R. Sullivan, “Arrival Ceremony,” in *The Collected Works of the Thirty-Second Chief of Staff,* 3–4.

15. Stephen L. Y. Gammons and William M. Donnelly, *Department of the Army Historical Summary Fiscal Year 1995* (Washington, DC: US Army Center of Military History, 2004), 3–7, 46–48.

16. Dan Smith, Kristan Ingstad Sandberg, Pavel Baev, and Wenche Hauge, *The State of War and Peace Atlas* (Oslo, NO: International Peace Research Institute and Penguin Books, 1997).

17. L. Martin Kaplan, *Department of the Army Historical Summary Fiscal Year1994* (Washington, DC: US Army Center of Military History, 2000), 124–29; and Department of the Army, Army Regulation 210-20, *Master Planning for Army Installations* (Washington, DC: 1992).

18. *Fratricide: Reducing Self-Inflicted Losses* (Fort Leavenworth, KS: Center for Army Lessons Learned, April 1992); and *Fratricide: Risk Assessment for Company Leadership* (Fort Leavenworth, KS: Center for Army Lessons Learned, March 1992).

19. William G. Pagonis with Jeffrey L. Cruikshank, *Moving Mountains: Lessons in Leadership and Logistics from the Gulf War* (Cambridge, MA: Harvard Business School University Press, 1992).

20. Janet Abbate, *Inventing the Internet* (Cambridge, MA: MIT Press, 1999); and Katie Hafner and Matthew Lyon, *Where Wizards Stay Up Late: The Origins of the Internet* (New York: Touchstone, 1998).

21. General Gordon R. Sullivan, "Maintaining Momentum While Accommodating Change," *Army 1991 Green Book: The Year of Desert Storm* (October 1991), 24–32.

22. Rebecca R. Raines, *Getting the Message Through: A Branch History of the U.S. Army Signal Corps* (Washington, DC: US Army Center of Military History, 1996), 352–74.

23. General Frederick M. Franks Jr., "TRADOC: Seeding Future Victories," *Army 1992–1993 Green Book* (October 1992).

24. James L. Yarrison, *The Modern Louisiana Maneuvers* (Washington, DC: US Army Center of Military History, 1995), 20–75.

25. Yarrison, 20–75; and "Special Digitization Task Force; Charter for the Army Digitization Office," Army Information Paper, 9 June 1994, Historians Files, US Army Center of Military History.

26. Table of Organization and Equipment (TOE) units are deployable combat, combat support, and combat service support units. Table of Distribution and Allowances (TDA) units are non-deployable and typically associated with a school, installation, or agency at a specific geographic location.

27. Brown, *Kevlar Legions,* 90–92.

28. Yarrison, *The Modern Louisiana Maneuvers,* 1–8, 49–71.

29. Brown, *Kevlar Legions,* 90–92; and "General Gordon R. Sullivan's Speech to the Association of the United States Army Louisiana Maneuvers Symposium, 25 May 1993," in *The Collected Works of the Thirty-Second Chief of Staff.*

30. The "Left Hook" was the name given the large-scale enveloping attack by US VII Corps and US XVIII Airborne Corps from west of the Wadi al-Batin that swept around the Iraqi Army in Kuwait and cut the Basrah to Kuwait City Highway.

31. Robert H. Scales Jr., *Certain Victory: The US Army in the Gulf War* (Washington, DC: Office of the Chief of Staff, US Army, 1993), 213–320.

32. Briefing, Department of the Army, "Friendly Fire Determination," 9 August 1991, in Historians Files, US Army Center of Military History; and Briefing, Combat Identification Task Force, "Combat Identification," 22 November 1991, in Historians Files, US Army Center of Military History.

33. Briefing, Combat Identifications Systems Program Office to Senior Officer Review Group, "Combat Identification Technology Demonstration Presentation," 14 February 1992, in Historians Files, US Army Center of Military History; and "Combat Identification Program Second Draft," 17 October 1991, in Historians Files, US Army Center of Military History.

34. Brown, *Kevlar Legions,* 121–24*;* and General Fred Franks Jr. with Tom Clancy, *Into the Storm: A Study in Command* (New York: G. P. Putnam's Sons, 1997), 488–511.

35. Brown, 121–24*;* and Briefing, Combat Identifications Systems Program Office to Senior Officer Review Group, "Combat Identification Technology Demonstration Presentation."

36. Lt. Gen. Johnnie E. Wilson, "Power Projection Logistics Now . . . and in the 21st Century," *Army 1994–1995 Green Book,* 137–43; General Leon E. Salomon, "At AMC the Future Begins Today," *Army 1994–1995 Green Book,* 69–75; and Lt. Gen. Paul E. Blackwell, "Winning the Wars of the 21st Century, *Army 1994–1995 Green Book,* 121–34.

37. Yarrison, *The Modern Louisiana Maneuvers,* 49–71; Message, General Gordon R. Sullivan, Chief of Staff, "Building the Force for the 21st Century—Force XXI," 7 March 1994, in *The Collected Works of the Thirty-Second Chief of Staff,* 318–21; Information Paper, DACS-AD, "Army Digitization Office Status and Future Strategy," 27 September 1994, in Historians Files, US Army Center of Military History; and Army Digitization Office, *Report to the Congress on Army Digitization,* February 1995.

38. *Desert Voice Special Edition*, Camp Doha, Kuwait, 17 October 1995; and 2nd Brigade, 1st Cavalry Division, "INTRINSIC ACTION 95-3 After Action Review," 17 October 1995, Historians Files, US Army Center of Military History.

39. Katherine McIntire, "Speed Bumps, 82nd Airborne's Shaky Line in the Sand," *Army Times,* 21 October 1991.

40. *U.S. Transportation Command: A Short History* (Scott Air Force Base, IL: US Transportation Command Office of Public Affairs, 2005).

41. *U.S. Transportation Command*.

42. *Air Mobility Command Fact Sheet* (Scott Air Force Base, IL: Air Mobility Command Office of Public Affairs, August 2007).

43. Betty R. Kennedy, *Globemaster III: Acquiring the C-17* (McConnell Air Force Base, KS: Air Mobility Command Office of History, 2004).

44. Department of the Army, Army Regulation 210-20, *Master Planning for Army Installations* (Washington, DC: 1992).

45. Department of the Army, Field Manual (FM) 100-5, *Operations* (Washington, DC: 1993).

46. Mark D. Sherry, *The Army Command Post and Defense Reshaping, 1987–1997* (Washington, DC: US Army Center of Military History, 2009), 106–12; and Joint Chiefs of Staff (JCS) 1454/161, "Service Recommendations for Sealift Package in the Persian Gulf," 8 February 1980, cited in Sherry, 112.

47. Blackwell, "Winning the Wars of the 21st Century;" and "Army Weaponry and Equipment," *Army 1994–1995 Green Book,* 233–319.

48. Blackwell.

49. Pagonis and Cruikshank, *Moving Mountains*; *Conduct of the Persian Gulf War: Final Report to Congress* (Washington, DC: Department of Defense, 1992); and Birger Bergesen and John McDonald, *Assessment of Contingency and Expeditionary Force Capabilities* (McLean, VA: Science Applications International Corporation, 1992).

50. Pagonis and Cruikshank; Bergesen and McDonald; and Wilson, "Power Projection Logistics Now . . . and in the 21st Century."

51. Memorandum for the Record of Telephone Conversation, Brig. Gen. (Retired) John S. Brown with General (Retired) Gordon R. Sullivan, 091300 May 2008.

52. Department of the Army, FM 100-5; *Fratricide: Reducing Self-Inflicted Losses*; and author's personal experience as a battalion S-3 (1985–86), battalion commander (1989–91); division G-3 (1992–93), and corps G-3 operations (1993).

53. Army Senior Leader Update, "Precision Strike: A Unique American Military Advantage . . . but with Limitations," 14 August 2001, Historians Files, US Army Center of Military History; and Peter Grier, "The JDAM Revolution," *Air Force Online: The Journal of the Air Force Association*, September 2006.

54. Brown, *Kevlar Legions*, 102–6.

55. John S. Brown, "The Battle for Norfolk," in *Leaders in War: West Point Remembers the 1991 Gulf War*, ed. Frederick W. Kagan and Chris Kubik (New York: Frank Cass, 2005).

56. Vuono, "Guided by Six Imperatives;" and John J. Romjue, *American Army Doctrine for the Post-Cold War World* (Washington, DC: US Army Center of Military History, 2001).

57. Sullivan, "Maintaining Momentum While Accommodating Change;" Anne W. Chapman, *The Army's Training Revolution, 1973–1990* (Washington, DC: US Army Center of Military History, 1994); Briefing, "Center for Army Lessons Learned for the Chief of Military History," 20 January 2000, in Historians Files, US Army Center of Military History; and Yarrison, *The Modern Louisiana Maneuvers,* 7–25.

58. *Army Command, Leadership and Management: Theory and Practice, A Reference Text, 1992–93* (Carlisle Barracks, PA: US Army War College, 1992); Yarrison, 33–71; Lt. Gen. Gordon R. Sullivan to the Army's General Officers, "Force XXI," 5 March 1994, in *The Collected Works of the Thirty-Second Chief of Staff*, 316–17; and Army Digitization Office, *Report to the Congress on Army Digitization*, February 1995.

59. Message, General Gordon R. Sullivan, Chief of Staff, "Building the Force for the 21st Century—Force XXI," 7 March 1994, in *The Collected Works of the Thirty-Second Chief of Staff,* 318–21.

60. James T. Currie and Richard B. Crossland, *Twice the Citizen: A History of the Army Reserve, 1908–1995* (Washington, DC: Office of the Chief, Army Reserve, 1997), 521–80; and Michael D. Doubler, *I Am the Guard: A History of the Army National Guard, 1636–2000* (Washington, DC: Department of the Army, 2001).

61. *Public Law 103-337, Section 673b.*

62. Maj. Gen. John R. D'Araujo Jr., "Army National Guard: The Nation's Strategic Insurance," *Army 1994–1995 Green Book*, 91–95; and Maj. Gen. Max Baratz, "Army Reserve: Committed Force of Citizen Soldiers," *Army 1994–1995 Green Book*, 97–99.

63. Brown, *Kevlar Legions*, 38–41.

64. Brown, 127–28; and Salomon, "At AMC the Future Begins Today," 69–75.

65. Maj. Gen. Joe W. Rigby, "Digitizing Force XXI: A Team Effort," *Army*, May 1995, 36–44; and Gammons and Donnelly, *Department of the Army Historical Summary Fiscal Year 1995*, 11–22, 37–48.

66. Command Sgt. Maj. David R. Davenport, "Where the NCO Professional Development System Began," *Army*, 27 February 2017; and Franks and Clancy, *Into the Storm*.

67. Yarrison, *The Modern Louisiana Maneuvers,* 49–71; Information Paper, DACS-AD, "Army Digitization Office Status and Future Strategy," 27 September 1994, Historians Files, US Army Center of Military History; and Army Digitization Office, *Report to the Congress on Army Digitization,* February 1995.

68. *What We Know About Army Families* (Arlington, VA: Army Research Institute for the Behavioral and Social Sciences, 1993); Eric K. Shinseki, *The Army Family: A White Paper* (Washington, DC: US Army Center of Military History, 2003); and Brown, *Kevlar Legions*, 341–83.

69. Gammons and Donnelly, *Department of the Army Historical Summary Fiscal Year 1995,* 23–36; and Maj. Gen. Wallace C. Arnold, "The Army's Most Valuable Resource: People," *Army 1994–1995 Green Book*, 151–57.

70. Gammons and Donnelly, 23–36; and Arnold, 151–57.

71. The author attended this Eisenhower Luncheon; and General Eric K. Shinseki, "Address to the Eisenhower Luncheon, Association of the United States Army," 12 October 1999.

72. "General Dennis J. Reimer" and "General Eric K. Shinseki" in William G. Bell, *Commanding Generals and Chiefs of Staff, 1775–2005: Portraits and Biographical Sketches of the Army's Senior Officers* (Washington, DC: US Army Center of Military History, 2005).

73. Brown, *Kevlar Legions*, 453–83.

74. General Gordon R. Sullivan, "Relevant and Ready: AUSA Supports Soldiers and Families," *Army 2006–2007 Green Book*, October 2006, 9; and Briefing, Army General Staff, "Army Strategic Communications, America's

Army: One Team, One Fight, One Future," 14 January 1999, Historians Files, US Army Center of Military History.

75. The author attended this Eisenhower Luncheon; and Shinseki, "Address to the Eisenhower Luncheon."

76. W. Blair Haworth Jr., *Department of the Army Historical Summary Fiscal Year 2000* (Washington, DC: US Army Center of Military History, 2011), 10–24; and Brian F. Neuman, *Department of the Army Historical Summary Fiscal Year 2005* (Washington, DC: US Army Center of Military History, 2013), 3–6.

77. Connie L. Reeves, *Department of the Army Historical Summary Fiscal Year 1996* (Washington, DC: US Army Center of Military History, 2002), 72–79, 97; and Jeffrey A. Charleston, *Department of the Army Historical Summary Fiscal Year 1999* (Washington, DC: US Army Center of Military History, 2006), 8–12, 48–54, 74–76.

78. Vincent Demma, "Contractors on the Battlefield: An Historical Survey from the Civil War to Bosnia," n.d., Historians Files, US Army Center of Military History; "Supplementary Report on Army Contracting," Historians Files, Center of Military History; Vincent Demma, *Department of the Army Historical Summary Fiscal Year 1989* (Washington, DC: US Army Center of Military History, 1998), 11–12, 109–10, 133–39, 191–96; and Charleston, 3–13, 32–35, 101–3, 108–9.

79. Brown, *Kevlar Legions,* 140–51; General William W. Hartzog, "A Time for Transformation: Creating Army XXI," *Army 1996–1997 Green Book*, October 1996, 53–59; and Briefing, US Army Training and Doctrine Command to the Deputy Chief of Staff for Operations and Plans, "Force XXI WFLA FY99-09 Modernization Recommendations," 31 January 1997, Historians Files, US Army Center of Military History.

80. Shinseki, "Address to the Eisenhower Luncheon."

81. Nick Johnson, "First Stryker Brigade to Achieve IOC This Month, Army Says," *Aerospace Daily*, 21 May 2003.

82. *Operation IRAQI FREEDOM—It Was a Prepositioned War* (Fort Belvoir, VA: US Army Material Command, 2003); and "Iraq by the Numbers," *Army Times,* 22 March 2004, 28–29.

83. Col. Gregory Fontenot, Lt. Col. E. J. Degan, and Lt. Col. David Tohn, *On Point: The United States Army in IRAQI FREEDOM* (Fort Leavenworth, KS: Combat Studies Institute Press, 2004).

84. *Conduct of the Persian Gulf War: Final Report to Congress* (Washington, DC: Department of Defense, 1992), 2–16, 292–97, 313–17, 333–46.

85. Fontenot, Degan, and Tohn, *On Point,* 99–102, 329–82, 427–36.

86. Brown, *Kevlar Legions*, 392–442; William M. Donnelly, *Transforming an Army at War: Designing the Modular Force, 1991–2005* (Washington, DC: US Army Center of Military History, 2007); and *Army Comprehensive Guide to Modularity* (Fort Monroe, VA: US Army Training and Doctrine Command, 8 October 2004).

87. Brown, *Kevlar Legions*, 413–33.

88. Joint IED Defeat Organization, "IED Trends," reproduced in *Army Times*, 27 October 2008; John T. Bennett, "Turning Point in Fight Against IEDs," *Army Times*, 1 October 2007, 34–35; and Clay Wilson, *Improvised Explosive Devices in Iraq: Effects and Countermeasures* (Washington, DC: Congressional Research Service, 2005).

89. Brown, *Kevlar Legions*, 392–442.

Chapter 14
Preparing for Large-Scale Combat Operations and Cold War Lessons Learned

David D. McKiernan

In March 2003, some 150,000 soldiers, marines, and special operators in thousands of armored vehicles and supported by hundreds of helicopters and attack aircraft crossed into Iraq and maneuvered some 1,000 kilometers in roughly sixteen days to isolate Baghdad and remove Saddam Hussein and the Ba'ath Party from power. In the process, more than fifteen Iraqi Army divisions, six Republican Guard Divisions, and numerous irregular militias were either defeated or destroyed or simply went home. The operation was sustained with monumental combat service support efforts, including 10 million gallons of fuel uploaded in everything from unit tankers to pipelines and bag farms. This was the biggest large-scale combat operation (LSCO) since Desert Storm and achieved dramatic success albeit against a largely inferior opposing force. This was also the last time the United States conducted a LSCO, though most expect it to happen again in the twenty-first century. While some believe Operation Iraqi Freedom 1 (OIF-1) succeeded simply because US forces amassed the requisite formations, I would argue that its success can be traced all the way back to the Cold War years.[1]

Brigade Combat Team and above leaders like William S. Wallace, William G. Webster Jr., James A. Marks, James D. Thurman, Claude V. Christianson, Buford C. Blount III, Lloyd J. Austin III, Raymond T. Odierno, Charles H. Swannack Jr., Arnold C. Gordon-Bray, David G. Perkins, James A. Grimsley Jr., Daniel B. Allyn, and myself all cut our teeth on and were products of the Cold War era. While many technological advances have been revolutionary, tactics, operational art, and leader development have been largely evolutionary. Junior leaders of the 70s and 80s experienced and benefited from changes that began post-Vietnam across the US Army. Furthermore, those experiences shaped how they approached training, preparation, and maneuvering of large, armored formations during OIF-1. Many of these experiences originated in Cold War Germany, and later expanded to the Army at large. Examples are plentiful.[2]

Start with a monthly event that shaped so many junior leaders who served in Germany—the Lariat Advance alert, a no-notice drill to test unit rapid response and readiness. A call of Lariat Advance, followed by electronic confirmation, initiated recall of personnel, combat loading of



Figure 14.1. Photo of 2-81 Armor 2nd Brigade 1st Armored Division during a battalion road march in the Federal Republic of Germany, 1985. Courtesy of the US Army.

equipment, and staging to depart the Kaserne and move to local deployment assembly areas. Although there were standards for each stage of the alert, leaders did not know what the end state would be. Ammunition upload, recon of General Defense Plan (GDP) locations, and other actions could all be incorporated. These drills ingrained in junior leaders—later the senior OIF-1 leaders—an appreciation for fundamental readiness actions that are just as relevant today as they were during the Cold War. Pre-combat checks, load plans, alert notification, communications and prepare-to-fire checks, and many other procedures were executed against time, and no one knew when the call would come. In both Desert Storm and OIF-1, the land formation was directed to cross the line of departure (LD) hours earlier than planned. I am convinced that senior leaders adapted to change and had a "fight tonight" mindset in large part due to their Lariat Advance upbringing.[3]

During the Cold War, unit leadership was required quarterly to rehearse their GDP fights from the actual locations they would occupy. Often there would be terrain walks, leader rehearsals where subordinates



Figure 14.2. General Donn A. Starry served as commanding general of US Army Training and Doctrine Command from 1977 to 1981, and as commander in chief of US Readiness Command from 1981 to 1983. Courtesy of the US Army.

described in great detail how they planned to fight and sustain, often to senior commanders. Anyone who rehearsed/briefed their battle plans to the legendary Lt. Gen. Donn Starry (then V Corps commander) would ever forget that "learning laboratory." As those junior leaders matured into senior leader command positions, the attention to detail, importance of rehearsals, and understanding terrain would always be part of their kit bag. As leaders, we rehearsed the attack into Iraq on a huge terrain model in early 2003, with commanders, not staff, personally articulated their intent, execution, and risk assessment on the terrain board. The crosstalk that occurred over that terrain board contributed greatly to synchronization and teamwork during the attack. I like to think that General Starry would have approved of that day.

The Cold War Army and Desert Storm

Before OIF-1, Desert Storm provided the first LSCO conditions since the Korean War. I had the privilege of serving under then Lt. Gen. Fred Franks, VII Corps commander, who had the challenge of maneuvering five heavy Divisions and all the Combat Support and Combat Service Support formations across a vast desert battlespace. The Cold War experience of annual Return of Forces to Europe (REFORGER) exercises no doubt shaped his decision-making, as it did mine in 2003. Deploying whole Divisions from CONUS, drawing equipment, maneuvering over-large German territorial maneuver "boxes," integrating air assets, and live firing all weapons systems became an annual experience from 1969 to 1993. This repetitive experience informed Desert Storm (and OIF-1) commanders on how to organize, move, and maneuver large formations. Tactical skills such as massing artillery, employing reconnaissance, refueling-on-the-move (ROM),



Figure 14.3. Troopers from the Field Artillery Support Squadron, 3rd Cavalry Regiment, support Iraqi army operations with artillery fires from their M777A2 howitzers. Courtesy of the US Army.

understanding battlefield geometry, and integrating close air support and attack helicopters were practiced and employed in 1991 and again in 2003, and will certainly be integral to future LSCO campaigns.[4]

On a personal note, I learned so much from General Franks that I could apply in 2003. His Cold War command experience—11th Armored Cavalry Regiment (ACR), 1st Armored Division, VII Corps among others—qualified him as the premier mounted warrior during the Cold War. I had the privilege of running his Forward Tactical Command Post (TAC) during Desert Storm and absorbed his tactical and leadership skills like a sponge. Commander's Intent, the innate ability to command and control five-plus Divisions, clear and concise decision making, calmness under pressure, and shared trust among VII Corps leaders were benchmarks of his command style. Franks remained a mentor to me—including during our CFLCC preparation for OIF 1—and I always strived to mirror his "Battle Command" attributes.

Training and Doctrine

Chapter 5 and other chapters in this book cover Cold War doctrine development to fight LSCO, with AirLand Battle (ALB) as its corner-



Figure 14.4. Lt. Gen. Frederick M. Franks Jr. (second from left) commanded VII Corps during Operation Desert Storm. Following the Persian Gulf War, he was appointed to command US Army Training and Doctrine Command. Courtesy of the US Army.

stone in facing a numerically larger, technically equal Soviet Union threat. Emerging from the US Army's Vietnam experience, however, also highlighted the absence of a coherent, methodical training doctrine. Young leaders in the early- to mid-seventies had to adapt dated training doctrine from Vietnam years to their particular mission, terrain, formations, and equipment. Active Defense and later Airland Battle doctrine were still in the works. Senior leaders who had been battalion/brigade commanders in the Vietnam conflict recognized this gap, and a series of training management and how-to-train literature was promulgated across the Army. The Battalion Training Management System (BTMS) was chain taught to standardize the US Army's approach to training and reinforce its doctrine. Training evolved rapidly in this era. The training revolution—from training management to improved simulations to the development of the combat training centers are addressed in Chapter 6. Coupled with the Army's cornerstone Field Manual (FM) 100-5, *Operations*, doctrinal concepts and training systems emerged that were as valid in OIF-1 as ever and will undoubtedly remain valid through the twenty-first century.[5]

The military decision-making process (MDMP) captured a commander-led, coherent planning process from mission receipt through execution. Prior to an OIF-1 line of departure, MDMP was continuously drilled—from Coalition Forces Land Component Command (CFLCC) down through battalion level—and its standardized construct provided a

commonly understood framework between echelons and across formations. Combining science, intuition, experience, and logic, MDMP also provided a framework to support resource requests and integrate joint and

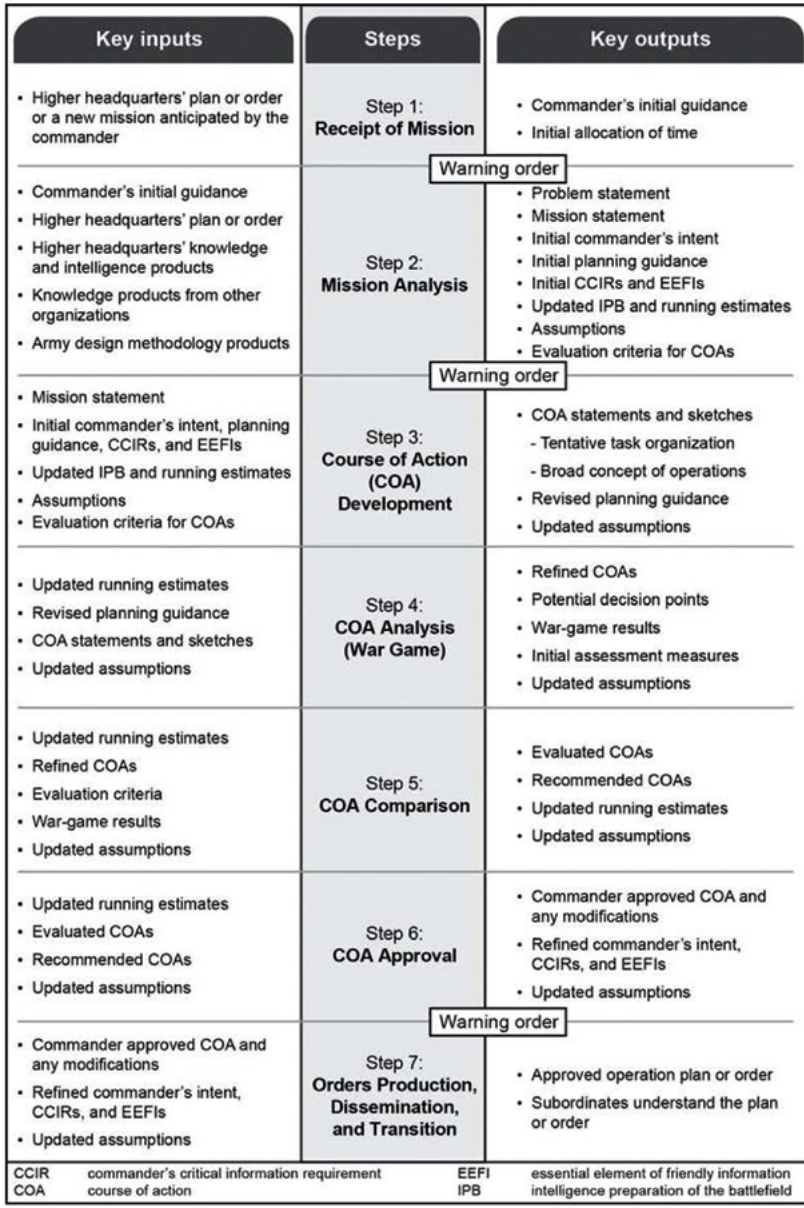


Figure 14.5. This chart provides an overview of the military decision-making process. From Department of the Army, Field Manual (FM) 6-0, *Command and Staff Organization and Operation* (Washington, DC: 2022), 9-3.

coalition partners. At a senior operational commander level as the CFLCC Commander, I found this process was critical in the command's almost daily Request for Forces (RFF) battles with the Office of the Secretary of Defense (OSD) to ensure that we would have the requisite forces and capabilities needed at ground attack day (G-Day).

One example of the Army's operational and training doctrine development from the Cold War stands out for me, the concept of wargaming a Course of Action (COA). This was used repeatedly at Brigade Combat Team through CFLCC levels of command. The iterative process of (friendly) action, (enemy) reaction, (friendly) counteraction—with an "uncooperative" enemy role player—develops a full range of contingencies and associated decision points/criteria and also validates the base COA. Looking back on OIF-1, I made a surprisingly small number of major decisions (beyond the continuous resource prioritization, people and joint collaboration decisions)—just seven. This was a testimony to the Army's MDMP efforts. Even more telling is that six of those seven decisions were previously identified through wargaming. As a result, and when the decision point criteria were identified the decision was not hard to make. That mental logic, shaped with experience and intuition, started in the Cold War years.

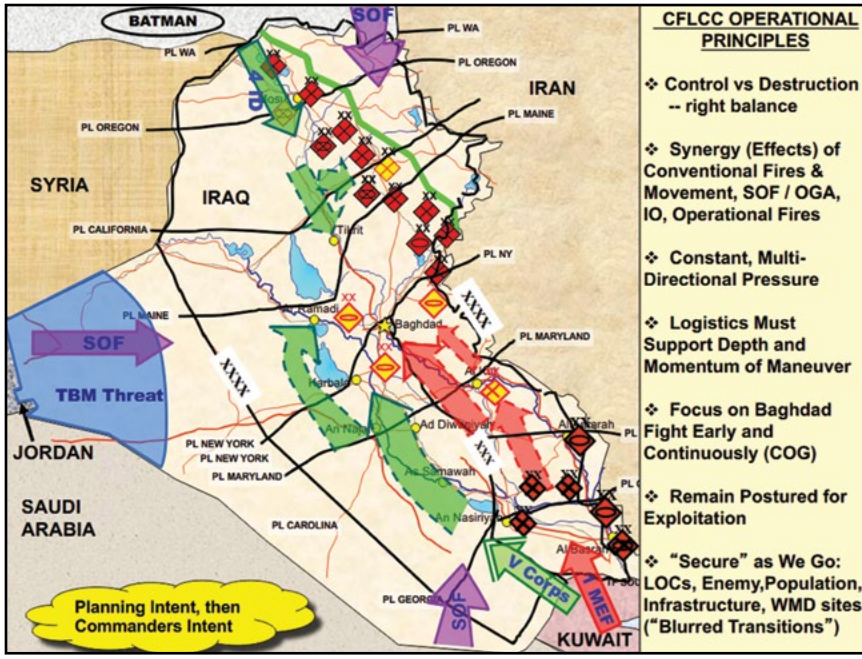


Figure 14.6. Commander's Intent diagram from Operation Iraq Freedom 1. Courtesy of the author.

Concurrently, the concept of including specific Commander's Intent in orders began in the Cold War and remains relevant today. Articulating vision, imperatives, and desired mission objectives as well as laying out risk are its key components. Commanders two levels down are expected to operate from that intent even when communications are disrupted and the "fog of war" prevails. The good Desert Storm and OIF-1 commanders put their personal imprint on Commander's Intent to great effect. In preparing for the OIF-1 fight, I personally always took my one-page graphic Commander's Intent with me during battlefield circulation and constantly reinforced that intent with all leaders I met and made sure they understood it. Leader initiative in actions and orders resulted and subordinates felt they had freedom of action.[6]

Professional Military Education

Educational initiatives begun in the Cold War years produced the leaders who fought OIF-1. Coming out of Vietnam, the US Army had no coherent, centralized, noncommissioned officer (NCO) educational path. The modern Noncommissioned Officer Educational System (NCOES) began in the 70s. Chapter 4 of this book is devoted to NCO leader development. The intent of NCOES was to educate Corporal through Command Sergeant Major as they assumed higher positions of responsibility. This had a major impact on professionalizing the force. From the Primary Leader Development Course (PLDC) for squad and section leaders to the



Figure 14.7. US Army student squad leaders are evaluated by a Noncommissioned Officer (NCO) Academy instructor during a mission preparation exercise at Camp Buehring, Kuwait. Courtesy of Wikimedia Commons.

Sergeant Majors Academy (SMA), NCOs became the backbone of US Army formations and the envy of every other army worldwide.

The 1986 Goldwater-Nichols Act had a huge impact on the Officer Corps. One element of the act required the Services to prioritize joint assignments and education, linking joint experience to promotions. This changed service-centric career paths to a much more joint (and coalition) spread of talent and experience. The senior leaders who executed OIF-1 understood joint war fighting, were very comfortable synchronizing operations with the other Services and the Special Operations Forces (SOF) world, and that azimuth shift will persist through the twenty-first century. While the joint effort in Desert Storm was frankly to deconflict battlespace, the synergy in OIF-1 after fifteen-plus years of Goldwater-Nichols resulted in shared battlespace with Soldiers, Marines, SOF, and air effects all synchronized within the same Area of Operations (AO). Again, this synergy started from the Cold War period.[7] Goldwater-Nichols also drove the creation of Combatant Commands, and the OIF-1 joint framework of US Central Command (CENTCOM) with its air, land, maritime and SOF components enabled this joint synergy and created clear and synchronized command and support relationships as well as an enhanced unity of effort.



Figure 14.8. US Army 1st Sgt. Robert Darringer (center right) with the 2nd Battalion, 151st Infantry Regiment, conducts an after-action review with soldiers following Vibrant Response 13 training in Butlerville, Indiana, 2012. Vibrant Response is a US Northern Command-sponsored field training exercise for chemical, biological, radiological, nuclear, and high-yield explosive consequence management forces designed to improve their ability to respond to catastrophic incidents. Courtesy of the US Army.

Undoubtedly one of the most impactful developments—originating from the Cold War need to refocus the Army on combined arms maneuver warfare—was the genesis of the Combat Training Centers (CTCs). Home-station training remained critical to unit readiness; however, the resource availability—the right terrain, training aids, full combined arms capabilities, live-fire infrastructure, instrumentation—between installations varied to a great degree. Starting with the National Training Center (NTC) and expanding to the Joint Readiness Training Center (JRTC) and the Combat Maneuver Training Center (CMTC) in Europe, these "dirt" CTCs provided four ingredients: maneuver space, seasoned Observer-Controllers (O/Cs), a professional Opposing Force (OPFOR), and instrumentation that facilitated realistic battlefield effects and enhanced the all-important After-Action Review (AAR) process. The seasoned cadre of O/Cs facilitated those AARs and coached their peers. During the early Cold War years, US soldiers trained without any effective means to assess battlefield effects. I remember combat vehicles "engaging" opposing combat platforms by identifying a number mounted on the target vehicle and calling that in to a neutral "umpire," called REALTRAIN. By the 1990s, the US Army had a Multiple Integrated Laser Engagement System (MILES) that provided real-time effects in a dramatically more realistic way. That instrumentation only got better over subsequent years for direct, indirect, and air-to-ground weapons effect. Combined with both offensive and defensive live-fire missions, lethality was the cornerstone of training at the CTCs.[8] Decision superiority and execution superiority over the Iraqi forces in OIF-1 is directly related to the experience gained in CTC rotations.



Figure 14.9. The 4th Infantry Division tactical command post in the field at Fort Carson, Colorado, during a November 2020 warfighter exercise. Courtesy of the US Army.

There are many reasons why US Army leaders and formations executed OIF-1 so well; soldiers and leaders often commented about how their CTC rotation prepared them well. There is a direct correlation between LSCO and the CTCs, and as the Army looks to reemphasize LSCO following its long Iraq and Afghanistan campaigns, CTCs will play a critical role. In both Iraq and Afghanistan, the initial major combat operations (MCO) were followed by years of instability, counterinsurgency operations, and irregular warfare. Quite frankly, the Army's CTCs were challenged over time to replicate the conditions that rotational forces would face in both campaigns. The CTCs (NTC, JRTC, and CMTC) adapted, however, and continue to provide the finest training environments to prepare US Army formations for current and future fights. Their environments have been threat-based and will continue to reflect twenty-first century war—urban terrain, multi-domain challenges, joint integration, shared battlespace, and the human dimension among those variables. The CTCs grew out of the Cold War and are as absolutely vital today (and tomorrow) as they were at their inception.

The Battle Command Training Program (BCTP) was developed concurrently with the "dirt" CTCs, focused on training Division and Corps commanders and their staffs. Command posts were set up in field locations, and those headquarters fought a very professional OPFOR in one of many geographic, simulated scenarios. Every OIF-1 commander—Division, Corps and CFLCC—vividly remembered their BCTP "Warfighter" experiences.[9]

Revolution of Technology

I believe that doctrine development, leadership techniques, training, and professional military education are evolutionary. What was started during the Lariat Advance/Cold War years provided the foundation for US Army preparation and execution of the two most recent LSCO events in its military history—Desert Storm and OIF-1. Adaptation to the changing environment and potential adversaries drove this evolution, just like the nature of wars in Iraq and Afghanistan resurfaced a wide range of counterinsurgency (COIN) approaches. Material and equipment, however, can be revolutionary as well. The Big 5—M1 tank, Bradley Fighting Vehicle, Apache attack helicopter, Blackhawk utility helicopter, and Patriot air defense missile system, born in the 1980s to counter Soviet capabilities—seemed revolutionary at the time.

I still recall transitioning from the M60 series tank to the M1. It was a revolutionary leap in technology, akin to going from a horse-drawn cart to an automobile. "Fighting outnumbered and winning" was one mantra from those Cold War years, and the Big 5 were all developed with that in mind.

The vision behind these systems was farsighted, and each played a central role in OIF-1. Other technological innovations have indeed been revolutionary, and sound partnering with industry can actually lead to innovation and change. Today the US Army leverages space and cyber domains, precision munitions, long-range delivery systems, unmanned aerial vehicles (UAVs), robotics, and other capabilities to change how soldiers fight. These advances are descendants of the Big 5, tailored to fit today's environment.

Battle Command

Finally, the concept of Battle Command originated during the Cold War era, a holistic framework for command and control that synergized the art of decision-making, leading, and motivating soldiers to accomplish a mission. Visualization of current conditions and their relationship to the future was also an integral component of Battle Command. The evolution to Mission Command included the critical notion of developing initiative in subordinates to execute missions. Mission command during OIF-1 proved critical as weather, intermittent communications, the fog of war, and irregular enemy capabilities all factored in. Mutual trust, in my opinion, developed and constantly reinforced, between leaders and subordinates is the key ingredient of Mission Command. That mutual trust had to be rebuilt throughout the Army following Vietnam. Resulting from all the Cold War initiatives already discussed, commanders had great faith that their subordinates would take the initiative, operate within their Commander's Intent, and exploit success. To no surprise, good leadership experience in the 70s resulted in good leadership in 2003. The junior leader who thrived under Lariat Advance alert conditions became the Battalion and Brigade Commanders who attacked into Iraq, maneuvered 1,000 kilometers, and drove into the heart of Baghdad and the Ba'ath Party.[10]

OIF-1 Planning

Allow me to shift gears to the late fall 2002–March 2003 time frame, as CFLCC prepared for the attack into Iraq, but keeping in mind that most of the US Army's LSCO foundations resulted from the Cold War lessons that senior leaders had learned. The Army's first challenge was to "set the Theater"—position and employ all the capabilities within a joint framework to set the conditions for force deployment, preparation, and execution of an attack. Extensive logistical, theater opening, force protection, communications, intelligence/surveillance/reconnaissance (ISR), and engineering assets were required; each had their own Request-for-Forces (RFF) process to deploy from CONUS or Europe. Spread across Kuwait, Saudi Arabia, Jordan, Turkey, Oman, Bahrain, United Arab Emirates, and



Figure 14.10. A portable satellite dish dominates the VII Corps command and control ramp area in the Saudi desert, February 1991. A number of communications and navigation innovations such as the global positioning system were first used in Operation Desert Storm. Courtesy of the National Archives and Records Administration.

Qatar, the Army provided an extensive footprint of capabilities. For example, some forty-one Patriot batteries were positioned in seven different countries, and while under the operational control (OPCON) of the Air Component Commander, it was the Army's (meaning CFLCC) requirement to protect, sustain, and coordinate all Patriot air defense systems. Fuel transport units, port terminal operation companies, signal companies, ground-based intel assets, vertical construction companies, MPs, . . . on and on. Thousands of soldiers deployed into the region in 2002 and early 2003 to set conditions for the arrival of combat formations. The US Army's REFORGER experience provided some insights into what was needed and in what sequence. The port terminal units operating the sea and aerial ports of debarkation (S/APODs) in Kuwait were performing basically the same duties as those type units would have done in the 1970s for REFORGER at places like Rhein-Main, Antwerp, and Rotterdam. The task of setting the theater continued throughout OIF, to include the later redeployment of forces out of theater.[11]

The second challenge was to refine operational planning (within CENTCOM's joint framework) for a ground attack into Iraq. The MDMP that was developed and refined during the Cold War was the "blueprint" for planning. I inherited a CFLCC operational plan (OPLAN) that I was very uncomfortable with, requiring a Corps-level forward passage of lines while in contact. Our unit's planning COA developed a simultane-



Figure 14.11. Graphic showing unit icons during Operation Iraqi Freedom, March–May 2003. Courtesy of the US Army.

ous V Corps/I Marine Expeditionary Force (I MEF) attack, west and east respectively, and we went into the detailed wargaming required to flesh out the plan and develop decision points/contingencies to audible from. As Army doctrine emphasized, it was a commander-led planning process, and I began each session with planners by reviewing and reinforcing my Commander's Intent. Parallel planning and coordination with V Corps, I MEF, and the various theater-level combat support and combat service support headquarters was a constant requirement. Integral to MDMP and OPLAN development/refinement was the quality of planners at each level. One of the very powerful educational developments that came out of the Cold War was the creation of the School of Advanced Military Studies (SAMS), which produced a very highly trained cadre of planners. They were by no means the only planners leading up to OIF-1, but certainly greatly enhanced the effort.[12]

Certain staples of Cold War planning regained importance. Boundaries, coordination points, reciprocal liaison, and fire support coordination measures were planned, adjusted, and coordinated vertically and laterally. Even with that generation of nascent Army Battle Command Systems (ABCS), joint systems, global positioning system (GPS), and other situational awareness enablers, the tried-and-true test of holding acetate overlays against each other showed gaps in coverage, different versions of the same graphic control measure, and other disconnects that had to be



Figure 14.12. The command and control vehicle was developed in the early 1990s but never moved to full-rate production. Prototypes that had been in storage were refurbished and successfully used by V Corps in Operation Iraqi Freedom. Courtesy of the US Army.

corrected. The Cold War analog world had to be incorporated into a growing digital world, especially when communication networks and ABCS architecture became overstretched. Even today, good leaders use analog graphic control measures and map overlays for redundancy.

Let me offer some personal experience to illustrate this last point. During Desert Storm, I operated from a Corps forward command post that had to be adapted from a European, Cold War physical configuration. Large map boards and other equipment were suited for operating out of hard sites in Germany. Our command had to transition to "lean," very-mobile command posts across the VII Corps footprint. Our capability to command and control (C2) the attack, however, was very analog. FM radio, very limited email connectivity, physical battlefield circulation by commanders, and newly provided land navigational aids (GPS) were our means to C2. Fast-forward to OIF-1 and the early years of a digital battlefield. Blue Force Tracker (BFT) enabled commanders and command posts to see their formations in real time on computer screens. Digital Army Battle Command Systems (ABCS, in fairly early stages of development, accelerated C2 decision-making, targeting, ISR, and other warfighting functions. Battle Command on the Move (BCOM) became a critical enabling capability for LSCO. That evolution to digital capabilities, improving but not replacing tried and true face-to-face and analog C2 techniques, started during the Lariat Advance learning years on how to move and maneuver large formations. Then V Corps Commander Lt. Gen. Scott Wallace commanded his Corps from a converted MLRS chassis kitted out with ABCS and Tactical Satellite (TACSAT) comms. I am sure that when Scott sat in his 11th ACR GDP defensive positions during the Cold War years, he never envisioned having that array of capabilities.

Two very different characteristics impacted OIF-1 planning and were certainly not evidenced to such a degree during Cold War planning for the defense of Western Europe against an attack by the Soviet Union. That planning was fairly consistent, with modifications made over time, and firmly left in the hands of senior military leaders. In the run-up to OIF-1, it became a very "adaptive" planning environment, politically scrutinized every step of the way:

- Constant arguments for sufficient Ground Attack Day (G-Day) forces to be in place and ready at the required time.
- An evolving shrinkage of time between Air Attack Day (A-Day) and G-Day, starting with a sixteen-day separation, but ultimately resulting in a ground attack line of departure (LD) occurring twelve hours before the A-Day Air Tasking Order (ATO).
- Political negotiations to use Turkey for a northern front (ultimately denied by the Turkish government).
- Increasing troop-to-task requirements, with no additional forces provided. For example, sensitive site exploitation of hundreds of potential weapons of mass destruction storage/lab sites was accomplished within the approved G-Day force.
- Lack of clarity on what Coalition contributions would be. Ultimately, only the United Kingdom (UK) provided land forces, a very robust and capable 1st UK Armored Division.
- Total lack of guidance for post-Baathist conditions such as responsibilities, authorities, political structure, accountability.[13]

In retrospect, I believe inadequate foreign policy decisions regarding Iraq and the region meant flawed strategy, which then resulted in inconsistent operational planning.

There were many other ambiguous areas which US Army planning faced, but the above were particularly difficult. Additionally, never before (certainly not in either Cold War planning or Desert Storm) had operational planning needed to be more jointly conducted. With the simultaneity of timing in component joint effects and the previously discussed "shared" battlespace, component commanders had to ensure their planning efforts were synchronized repeatedly. That involved lengthy discussions of risk. For example, with the compression of A-Day with G-Day, CFLCC would receive far less Close Air Support (CAS) sorties on the early ATO days in order for the Air Component to hit interdiction and strategic targets



Figure 14.13. A US Army logistics support vessel (LSV) pulls alongside the US Navy Elevated Causeway System-Modular at Camp Patriot, Kuwait, for equipment offload during continued Joint Logistics Over the Shore operations, 2003. The 275-foot-long LSV is used for military supply transport of personnel, rolling-stock vehicles, and container cargo. Courtesy of the US Navy.

as well as establish air supremacy. Likewise, SOF assets would be inserted into Iraq only hours before G-Day/H-Hour, necessitating great coordination with both V Corps and MEF battlespace owners. Prudent risk was accepted when needed. That joint coordination drove many best practices, tactics/techniques/procedures (TTP) and doctrinal changes that are fully embedded into today's warfighting environment. The third challenge was to rapidly and jointly receive/stage/onward move and integrate (JRSOI) Army, Marine, and British forces prior to G-Day. In fact, JRSOI would continue well past G-Day for follow-on forces flowing into theater. I still vividly remember being a young officer in REFORGER 1973 on the advance party responsible for drawing our Battalion's vehicles at Germesheim, Germany—equipping and testing radios, crew-served weapons, and additional basic load items; road testing; and staging unit configurations for movement to initial assembly areas. While the scale of OIF-1 JRSOI was multiplied a thousand times over, the REFORGER experience and many, many Lariat Advance alerts helped prepare senior leaders for the sequencing and myriads of details involved in JRSOI.

OIF-1 Preparation

The ports of Ash Shu'aybah and Kuwait City International Airport became almost single points of failure as the two primary locations to flow in troops and equipment for G-Day. Forces deployed from both CONUS

and Europe, US shipping supported movement of the 1st (UK) Division, and the capacity at both ports was exponentially increased. Soldiers arriving at the airport(s) of debarkation (APODs) were quickly in-processed and bussed to either the seaport or out to desert camps. Equipment, containers, and aircraft were offloaded at the seaports of debarkation (SPODs), configured and staged, assembled into march units, and onward moved out to those same desert camps. Helicopters were assembled at the port, test flown, then flown out to a large hardstand tarmac at Udairi training camp. Ammunition that had not been combat loaded on ships was brought in at Kuwaiti Naval Base, to include Air Force munitions for two major air bases in Kuwait, Al Jabbar and Ali al Salam.[14]

Units were integrated and training quickly commenced in the time available. Zeroing and test-firing weapons, moving in desert formations, establishing command posts, dissemination of plans, and rehearsals went on non-stop. My penchant for rehearsals started from those GDP terrain walks in the 1970s and never lessened at any level of command. Our major units all participated.

There was also a "fight tonight" mindset that directly traced back to US troops' Lariat Advance upbringing. Readiness must be 24/7, and the "call" could come at any time. Our soldiers were always concerned that Saddam



Figure 14.14. Fuel distribution point being prepared to receive fuel at the Victory Base Complex fuel farm, 2008. Courtesy of the US Army.

might launch a preemptive attack, long-range missile fires could target key JRSOI nodes, or chemical and/or biological weapons might be employed, in any combination. That mindset served us well when the CENTCOM commander directed us to move up LD time some twelve hours.[15]

A fourth and constant challenge was to set the conditions for LSCO. While positioning of formations, fire support assets, ISR, and command nodes were all critical, much condition- setting happened in logistics and sustainment. For example, in order to meet one of my Commander's Intent imperatives—sustainment must support the depth and momentum of maneuver—much effort went into how much bulk fuel would need to be on the ground at G-Day/H-Hour to sustain operations through the isolation of Baghdad, an anticipated 1,000 kilometers of maneuver. Additionally, from Army Support to Other Services (ASOS) agreements, the Army needed to also provide all the jet fuel for Air Force and Marine aviation. The planned requirement was more than 9 million gallons of fuel needed, uploaded in fuel trucks/tankers, fuel pipelines running from Kuwait City, bag farms, and unit fuel-carrying capabilities. In fact, more than 10 million gallons were present at G-Day, with great support and assistance from the Kuwaitis. All classes of supply were positioned in sufficient quantities for the attack, although distribution (addressed later) was always a challenge.[16]

Medical infrastructure was another condition-setting example. Casualty evacuation (CASEVAC) and medical evacuation (MEDEVAC) positioning, combat hospitals, mortuary affairs sites, coordination to utilize Kuwaiti medical infrastructure, stockage and storage of perishable medi-



Figure 14.15. Aerial view of the 47th Combat Support Hospital, Kuwait, 2003. Courtesy of the US Army.

cal Class VIII supplies—all required a huge effort on the part of planners, logisticians, and medical personnel. Likewise, the US Army's Patriot air defense coverage had to protect all the critical JRSOI nodes, Gulf State infrastructure to maintain their support, air assets (both air bases and helicopter staging sites), and command and signal nodes and also be positioned to advance into Iraq to support attacking formations. While Iraqi air support proved non-existent, their surface-to-surface long-range missiles were a threat. At the war's start, a Patriot system actually destroyed a missile that would have impacted directly on the CFLCC headquarters.[17]

Leadership, Command and Control

There were myriad other challenges in preparing the force for OIF-1, but most were overcome by soldier initiative, good use of Commander's Intent, and leadership. An important point needs to be made here. US Army communications systems in the 70s and 80s would today be called archaic, and digitization had not yet taken off. Face-to-face communication, oral orders to supplement written orders, Standard Operating Procedures (SOPs), and visual products like battle books provided the command and control means. A good Cold War leader was a good communicator. OIF-1 reflected a C2 world somewhere between analog and digital. Today's US troops are heavily reliant on digital systems, computer networks, texting, and social media. Some would argue that has detracted from the art of leadership. They believe that a soldier today—like the soldier in the 1970s—wants to see and hear his or her leader, and mutual trust is built from that chemistry. Texting is not the same as holding a formation. Today's leaders should study and adapt many of the leadership techniques that were used in the Cold War. A Lariat Advance alert was well executed only if face-to-face leadership was effective!

There were certainly challenges that US Army leaders could not relate back to Cold War experiences or lessons learned, two of which are worth noting. First, battlefield distribution of sustainment was erratic, especially when weather and rapidly extending Lines of Communication (LOCs) factored in. Material, supplies, and transportation were there in the aggregate, but getting them delivered to the right tactical unit at the needed time proved incredibly challenging. V Corps and MEF often needed to "tactically pause" before maneuvering around and into Baghdad—prompted by maintenance, resupply, and reorganization requirements as much as anything. General Defense Planning (GDP) distribution requirements, compared to a 1,000-kilometer maneuver fight, were generally less challenging thanks to caches, supply point distribution, and a German in-



Figure 14.16. A 1st Battalion, 8th Marine Regiment platoon returns fire from a rooftop in Fallujah, Iraq, November 2004. Courtesy of the US Marine Corps.

frastructure. For that reason, CFLCC maneuver formations tried to move with as much self-contained sustainment as possible in OIF-1.

Secondly, Cold War experiences did not prepare the US Army for large-scale urban combat operations. The planned fight for control of Baghdad was superficial at best. No one had experience in urban fighting at that scale; the intent was to establish "attack positions" around the city and somewhat surgically conduct unconventional and conventional combat operations to gain control of key urban nodes. Detailed graphic control measures and a boundary between V Corps and MEF zones were planned, and what everyone wanted was to avoid a Stalingrad-like block-to-block fight. Fortunately, the Baath Party and Iraqi Baghdad defense forces largely imploded by the time the first maneuver formations entered the city on the so-called Thunder Run. Even today, urban combat on a large scale—not house-to-house clearing operations—is a huge challenge and hard to train for. Observations from Ukraine and Gaza need to be closely followed.[18]

The point of this chapter is that leadership must study the past, a far different perspective from the often-heard criticism that the military is al-

ways preparing for the last war. OIF-1 was conducted more than a decade after the Berlin Wall came down and the Cold War ended; however, there is no doubt that as the US Army prepared for the attack into Iraq, its senior leaders were a product of their Cold War experiences. Every Lariat Advance alert call, rehearsal of GDP fights on the actual terrain, and reform and transformation after Vietnam collectively shaped how the US Army prepared for and conducted LSCO in OIF-1. It is absolutely imperative for today's leaders to study initiatives from those years to become better tactical and operational level leaders today and tomorrow.

Notes

1. Col. Gregory Fontenot, Lt. Col. E. J. Degen, and Lt. Col. David Tohn, *On Point: The United States Army in Operation Iraqi Freedom* (Fort Leavenworth, KS: Combat Studies Institute Press: 2004), 15–19, 31–40, 441–95. OIF-1 was the initial invasion phase of the Iraq War, which began 20 March 2003 and led to the rapid fall of Baghdad in less than three weeks.

2. This is the author's list of leaders from this time period who immediately come to mind, including Lt. Gen. David D. McKiernan, CFLCC commanding general; Lt. Gen. William S. Wallace, V Corps commanding general; Maj. Gen. William G. Webster Jr., CFLCC deputy commander Operations; Maj. Gen. James A. Marks, CFLCC C-2 (Intelligence), James D. Thurman, CFLCC C-3 (Operations); Claude V. Christianson, CFLCC C-4 (Logistics); Maj. Gen. Buford C. Blount III, 3rd Infantry Division commanding general; Brig. Gen. Lloyd Austin, 3rd Infantry Division assistant division commander; Maj. Gen. Raymond T. Odierno, 4th Infantry Division commanding general; Maj. Gen. Charles H. Swannack, 82nd Airborne Division commanding general; Col. Arnold C. Gordon-Bray, 2nd Brigade 82nd Airborne Division commander; Col. William F. Grimsley, 1st Brigade 3rd Infantry Division commander; Col. David G. Perkins, 2nd Brigade 3rd Infantry Division commander; and Col. Daniel B. Allyn, 3rd Brigade 3rd Infantry Division commander.

3. Brig. Gen. Robert H. Scales Jr., *Certain Victory: United States Army in the Gulf War* (Washington, DC: Office of the Chief of Staff, 1993) is the quick study of Operation Desert Storm from the Army level. See also Stephen A. Bourque, *Jayhawk: The VII Corps in the Persian Gulf War* (Washington, DC: Department of the Army, 2002), which is the best history of VII Corps. Regarding OIF, see Fontenot, Degen, and Tohn, *On Point*.

4. See Chapter 12 of this book for details about storage sites and general conduct of REFORGER. See also Walter Böhm, *Reforger1986–1993, Vehicles of the US Army during Exercises* (Erlangen, DE: Tankograd Publishing, 2008), Part 1-3.

5. Maj. Anthony J. Gasbarre Jr., "The Evolution of Army Training Management Doctrine, 1945 to 1988" (MMAS thesis, US Army Command and General Staff College, Fort Leavenworth, KS, 1992) is an excellent overview. See also Anne W. Chapman, The *Army's Training Revolution, 1973–1990. An Overview* (Fort Monroe VA: Office of the Command Historian, TRADOC, 1991).

6. Commander's concept has always been a part of the order process. Obviously, a commander's concept includes the commander's intention.

7. Goldwater-Nichols Department of Defense Reorganization Act of 1986, H.R. 3622, 99th Cong. (1985), https://www.congress.gov/bill/99th-congress/house-bill/3622.

8. John L. Romjue, Susan Canedy, and Anne W. Chapman, *Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command 1973–1993* (Fort Monroe, VA: Office of the Command Historian, TRA-

DOC, 1993). See also Anne W. Chapman, *The Origins and Development of the National Training Center, 1976–1984* (Fort Monroe VA: Office of the Command Historian, TRADOC, 1992); and Anne W. Chapman, *The National Training Center Matures: 1985–1993* (Fort Monroe VA: Military History Office, TRADOC, 1997). This second volume addresses the development of the Joint Readiness Training Center, and the Combat Maneuver Training Center at Hohenfels, Germany, 14–23.

9. See Priscilla Offenhauer and David L. Osborne, *History of the U. S. Army Battle Command Training Program, 1986–2003* (Washington, DC: Library of Congress Federal Research Division, 2007).

10. General Frederick M. Franks Jr. introduced Battle Command in Department of the Army, Field Manual (FM) 100-5, *Operations* (Washington, DC: 14 June 1993), 2-27–2-30.

11. Fontenot, Degen, and Tohn, *On Point*, 29–84.

12. See Col. (Retired) C. M. Benson, *Expectation of Valor: Planning for the Iraq War* (Havertown, PA: Casemate Publishers, 2024). Chapters 1 through 3 take the reader from early on with Lt. Gen. Paul T. Mikolashek through the chapter author's tenure.

13. See Fontenot, Degen, and Tohn, *On Point*, 90–95.

14. Fontenot, Degen, and Tohn, 29–41.

15. See Benson, *Expectation of Valor,* 85–86.

16. Regarding fuel storage and logistics generally, see Fontenot, Degen, and Tohn, *On Point*, Figure 14, 35, 31–32. Maj. Gen. Henry Stratman, deputy commanding general for support, oversaw the development of infrastructure to support logistics, including fuel storage and pipelines to move fuel. Stratman joined 3rd Army in 2001. He believed that in the event of a second war with Iraq, Coalition forces would not stage in Saudi Arabia. Thus, Stratman undertook to build the necessary infrastructure in Kuwait. The Kuwaiti government played an essential role in this process and did so with enthusiasm. For example, Kuwait provided fuel at no cost (Fontenot, Degen, and Tohn, 32).

17. Fontenot, Degen, and Tohn, 482–84. The 32nd Theater Air and Missile Defense Command supported the theater. Brig. Gen. Howard Bromberg, who commanded the 32nd, also served as the air component commander's deputy air defense officer (Fontenot, Degen, and Tohn, 64–67).

18. The Army did try to address the problem of urban combat by providing Battle Command Training Program Operations Group F, which conducted urban combat operations seminars for all deploying units. Topics ranged from targeting in urban terrain to sustaining operations that included joint, Army, and civilian specialists in urban combat operations. Offenhauer and Osborne, *History of the U.S. Army Battle Command Training,* 152.

Chapter 15
Conclusion: An Army of Practice

James P. "Pat" O'Neal

In this anthology, the *Lariat Advance* writing team shared our experiences during the Cold War—particularly in US Army Europe (USAREUR)—that shaped what became an "Army of Practice."[1] This Army of Practice was validated through performance in Operation Desert Storm and, a decade later, in Operation Iraq Freedom (OIF). As authors, we believe these experiences can inform future generations about the dynamics of creating a US Army that can and must both foresee and adapt to change. For more than 250 years, change has been a constant for the US Army. *Lariat Advance* is our collective perception of how a complex period, the Cold War era, led to the formation of an army that demonstrated excellence in the field.

As this anthology developed, our team discovered a conceptual formula/pattern for the US Army's revolutionary changes during the Cold War (see Figure 15.1). With Lariat Advance as the cultural catalyst, supported by a series of studies and experiences from the Vietnam War, the US Army generated changes that led to improved performance and practice at all echelons, resulting in unparalleled lethality and synchronization. Importantly, this lethality applied equally to combat, combat support, and combat service support units. All functional areas evolved to focus on creating effectiveness at the point of the spear. While the US Army certainly did not enter the Cold War with any conscious awareness of this pattern, it stood out along the path to Desert Storm and later OIF as the conceptual formula behind the service's success. Operating inside this formula, the concept of learning lubricated the US Army's increased effectiveness.

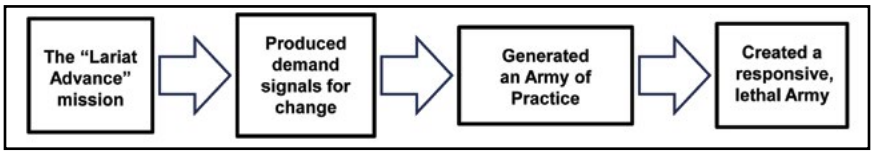


Figure 15.1. This conceptual sketch illustrates the US Army's change generation during the Cold War—a visual representation to help future generations understand the importance of mission to sequence and flow. Created by Army University Press.

During the Cold War and beyond, steered by the leadership of World War II veterans, the US Army demonstrated steadily higher levels of learning. In his 1990 book, *The Fifth Dimension: The Art and Practice of The Learning Organization*, Peter Senge described four well-recognized disciplines of a learning organization: personal mastery, mental models, building/creating shared vision, and team learning plus a fifth dimension which integrated the other four: systems thinking.[2] Reflecting on the development of the Army across the Cold War, we as authors appreciate each of these five disciplines that became integral to the US Army's learning organization. They were not developed sequentially, but rather in parallel. In hindsight, each of the disciplines germinated and then were embedded in the Army education, training, and operating milieu. In essence, the US Army became an Army of Practice.[3]

Returning from war in the Republic of Vietnam, the Army of the early 1970s was degraded, if not defeated. It confronted an American public weary of war, a formidable threat from the Soviets and the Warsaw Pact, as well as perceived weakness in its core institutional structure.[4] Soviet aggression in Czechoslovakia and later Afghanistan, coupled with significant increases in apparent Soviet capability, loomed large. This anthology recounts how the Army of the '70s retained a long-term focus on the European-focused General Defense Plan and the USAEUR alert system initiated with the code words Lariat Advance. The culture of immediate readiness permeated the Army in Europe and CONUS units whose prime mission was Return of Forces to Germany (REFORGER). The WARSAW Pact was USAEUR's "pacing threat" and drove mission and materiel requirements.

In this context, the US Army moved to reshape itself—upgrading its force in western Europe with modern equipment, organizations, training methods, and doctrine. Adjusting to the threat in the late 1970s, the US Army developed the AirLand Battle concept, which drove doctrine, organization, and training. Over time, a recognized sense of urgency produced a US Army characterized by a strong "practice" ideology. Valuing performance in every aspect, the US Army focused on tough and realistic Tasks, Conditions, and Standards (TCS) that featured performance-oriented individual training as well as unit performance evaluations using an after-action review. This performance focus resulted in systemic self-regulation. The effect was that the US Army became an Army of Practice.

The seeds of the Army of Practice evolution were planted in the late 1970s as Army leaders began to suspect the US Army could not defeat an increasingly powerful WARSAW Pact foe. After Readiness reports in-

dicated weakness in officer and noncommissioned officer (NCO) corps tactical leadership and unit training, leaders began to investigate possible causes. Anne Chapman, a US Army Training and Doctrine Command (TRADOC) historian, captures this environment and conditions in *The Army's Training Revolution, 1973–1990: An Overview*. She discusses initiatives by Generals William E. DePuy and Paul F. Gorman to gauge progress in training, equipping, and leadership.[5]

While US Army senior leaders of the era were concerned with performance evolution, mid-grade leaders were at the center of mass, internalizing and owning performance. Company, battalion, and brigade commanders realized performance-oriented training using TCS was the effective pathway to a credible force. These mid-grade leaders, many mentioned in this anthology, rose in rank to lead an Army focused on change. This continuity perpetuated performance orientation and led the US Army to victory in Operation Desert Storm and the early portion of Operation Iraqi Freedom.

The increased capabilities of Big Five weapons systems in the hands of a professional, practice-focused Army proved critical. This emerging generation of leaders came to appreciate that drills and exercises performed to identified and relevant standards, coupled with sound concepts and tactics, produced the most effective units. Drills were based on the TCS training concept, with conditions being the crucial variable. Live fire training and maneuvering on terrain were key as they led to positive solutions on the ground.

During these decades of dramatic change, the US Army created an Army of Practice. Noteworthy was that this construct, illustrated in Figure 15.2, evolved from demand signals through a lens of observing the Army response and capabilities as it was recovering from the Vietnam War. These demand signals were adopted, tuned, and reframed by seasoned and bold leaders of the era.

British author Sir John Hackett's 1979 novel, *The Third World War: August 1985,* prompted other fiction military thrillers like Harold Coyle, *Team Yankee,* and Tom Clancy, *Red Storm Rising.* These books introduced readers to Cold War technology and strategy and led to a heightened sense of the danger around the confrontation in Europe and elsewhere.

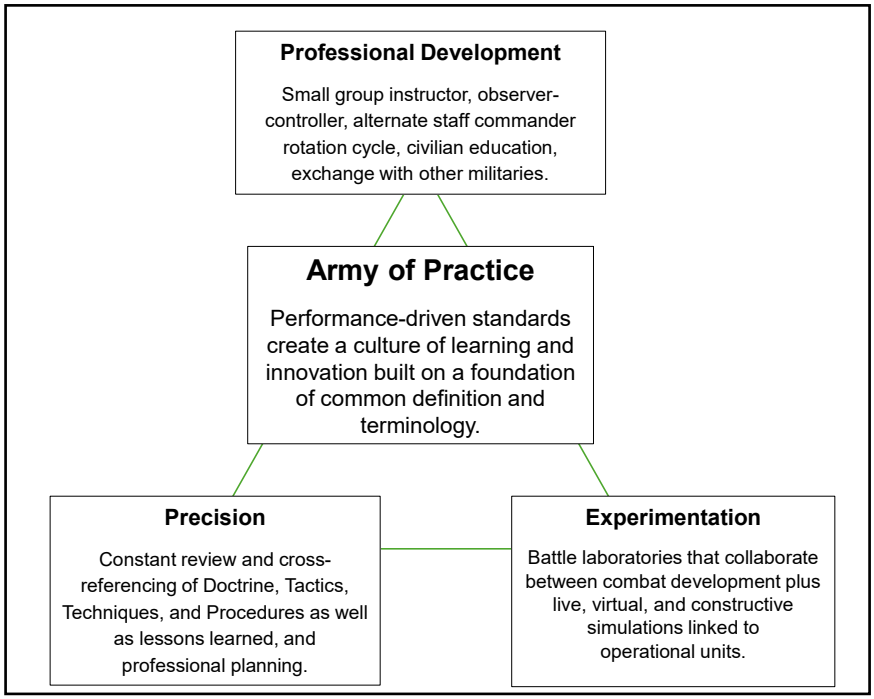


Figure 15.2. The Army of Practice evolved to become the engine powering development of the Cold War US Army. The fuel powering the engine was—and is—the after-action review. Armies across the globe sent observers to study the US Army's triangle of capabilities. At the core are leader-empowering, performance-driven standards. Created by Army University Press.

The engine in the Army of Practice was built on performance-driven standards. This TCS architecture was slaved to performance-oriented training.[6] Early in the evolution of the Army of Practice, the US Army developed the formal after-action review as the preferred method (the fuel for the Army of Practice) to power the transfer learning from unit or leader training experiences to the institutional and operational Army. Requiring constant rebalancing, these components of the Army of Practice were Professional Development, Precision in terminology, and Experimentation on operating concepts.

Professional Development: Placing Leaders in Positions Where They Can Develop

From the early 1970s to the 1990s, the US Army developed a menu of Professional Development opportunities to help focus practice and per-

formance. t the top level, the Army created small group leader instructors to facilitate deep learning during institutional training and education. In conjunction with the evolution of its combat training centers (CTCs), the Army created observer-controllers to facilitate the transfer of learning in a live training environment. This practice of selected professionals training future professionals became a model for a host of institutional programs, training exercises, and technology designed specifically to enhance and evaluate performance. Institutional programs such as Master Gunner Certification, Scout Platoon Leader Course, School for Advanced Military Studies, Pre-Command Courses, and the Center for Army Lessons Learned perpetuated the practice theme for learning. These were complemented by development of technologies such as the Multiple Integrated Laser Engagement System; Simulation Network, which morphed into Close Combat Tactical Trainer; Conduct of Fire Trainers; and other simulations designed to practice conflict resolution in both virtual and live training environments.[7] To integrate technology and institutional efforts, US soldiers engaged in exercises such as REFORGER, the Army Training and Evaluation Program, and CTC rotations. While technically not an exercise, the culture developed during Lariat Advance alerts served as a catalyst for the evolution of the Army of Practice.

Precision: Standard Terminology and Creating Foundational Standards to Ensure Uniformity in Learning

During the late 1980s, beginning with establishing the CTCs, the US Army began to create and document best practices. These tactics, techniques, and procedures (TTP) were documented in Field Manual (FM) 71-123, *Tactics and Techniques for Combined Arms Heavy Forces: Armored Brigade, Battalion Task Force, and Company/Team*.[8] This cornerstone field manual and the subsequent family of FMs became a library that linked training to performance. The library enabled units to focus training based on proven performance practices. Leaders were able to absorb specific approaches to specific training, thus making best use of their time.

With the evolution of the CTCs came the need for units to develop living standard operating procedures (SOP). Units deploying for CTC rotations were training with the procedures they outlined in their SOP. The effective SOPs were documented and catalogued to provide a resource for other units.

These links between training and performance became the core of conversations across the Army. Units preparing for collective training ref-

erenced and practiced the techniques outlined in manuals and SOPs. In professional development sessions, soldiers discussed and outlined tactics appropriate for certain missions. Institutional professional education centers created formal instructions linking the doctrine to tactics to techniques. In short, the TTP effort became the center of an Army of Practice. There was constant and sustaining formal and informal conversation about how the Army should fight.

A Bold Change: Experimentation on Operating Concepts to Improve Tactics and Lethality

Based on feedback from combat development reports originating in US Army training centers as well as from Lariat Advance alerts, the US Army recognized the need for introspection on emerging battlefield dynamics. Deeper thinking and experimentation beyond routine practice was required and encouraged to address ideas and concerns as they surfaced throughout the force. What emerged was the concept of Battle Laboratories.[9] TRADOC centers provided platforms to explore, introduce new ideas, and validate concepts.[10]

In his 2003 "What are Battle Labs—Do We Still Need Them" paper, Army War College student Lt. Col. Hugh Bell III captured the history and focus of the Battle Laboratory construct.[11] He linked the National Security Strategy to Advanced Technology Demonstrations, Advanced Concept Technology Demonstrations, and the evolution of Battle Laboratories. His paper documented the impact of the labs in creating systems such as the Airborne Command and Control System, Force XXI Battle Command Battalion/Brigade and Below, Stryker, radio frequency identification data tags, and Avenger.[12] Hill argued that the Battle Laboratories needed to be resourced to continue the development of the objective force.[13] Battle Labs were built around the combat development functions at each TRADOC branch center. At many locations, a "skunk works" grew up as commandants tinkered on the margin with hardware.

Synthetic Training: Exploring Risk and Reward Decisions without Risk

In parallel and linked to the extended Professional Development Triangle, the US Army created a formal synthetic training environment. Across the Cold War and continuing today, this environment fed and energized this triangle of professional development.

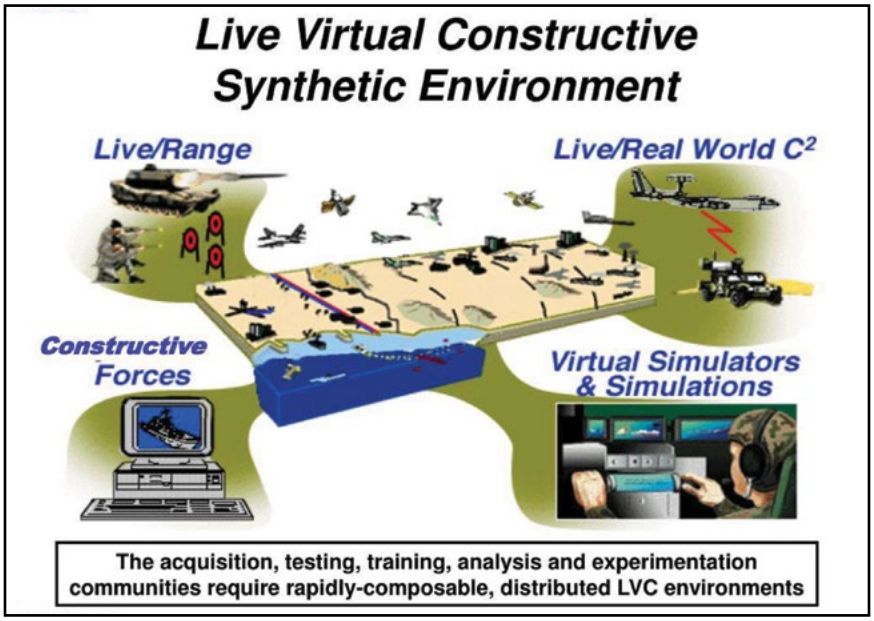


Figure 15.3. This graphic from a 1994 briefing depicts the interaction of the three components of US Army Cold War efforts to improve both training and operations. Courtesy of US Joint Forces Command.

To power this conceptual Professional Development Triangle, and in addition to the Live, Virtual, and Constructive (L-V-C) training environments, the Army required a universal capstone training strategy.

US Army Develops Combined Arms Training Strategy to Deal with Increasingly Dynamic Battlefield

The Army began developing a Combined Arms Training Strategy (CATS) starting in early 1990. While the Combined Arms concept dates back to World War II, linking individual skills, collective skills, and mission essential tasks was new. Centered in TRADOC, this was an effort to provide an Army of Practice with the necessary linkage to further focus training.[14]

Both as a foundation and central to the concept of an Army of Practice, CATS became a unifying focus for the broader Army. From national leadership to units serving across the globe, a central theme of practice prevailed. Spurred by the Lariat Advance mission, performance became a cultural edict. Leaders at all levels were expected to perform to an identified standard. In tank battalions, for example, a commander was expected

to lead the gunnery effort as well as qualify his tank (the first tank) on the qualification gunnery range. This culture of performance and demand for preparation spread throughout the force.

Reinforced by the introduction of the CTCs, the practice included preparing for the fight at home station, getting to the fight, rehearsing for the fight, and then fighting. This disciplined process drove how units viewed an Army of practice.

Battle Command for the Future: An Approach to Consolidate the US Army's Cold War Experiences

Nothing characterizes Cold War contributions more than the introduction of The Art of Battle Command. As soldiers learned, experimented, and acquired feedback though the 1980s and early 1990s, the US Army documented its approach to leading on future battlefields into a single construct—Battle Command.

In the May–June 1996 *Military Review*, General (Retired) Fred M. Franks Jr. and other Army leaders consumed the issue discussing Battle Command. Franks noted that Battle Command is defined in the 1993 US Army Field Manual (FM) 100-5, *Operations*, as "the art of motivating and directing soldiers and their leaders into action to accomplish missions. Includes visualizing the current and future state [both enemy and friendly] . . . then formulating concepts of operations to get from one to the other at least cost [to accomplish the mission]."[15]

The term Battle Command—and by inference The Art of Battle Command—was coined in field manuals beginning in the early 1990s. Initially, the phrase was metaphysical; however, as leaders better understood the potential for the ideas, they characterized the meaning. In short, the meaning came to be commanders, assisted by staff who visualized the operation, describing it in terms of intent and guidance, and directing the action of subordinates within the intent.

The introduction shifted the Army from using battle books, set piece predictable battlefields, formulas, and familiar terrain. This new thought process demanded that commanders read new battlefields, train with new tactical teams, and deal with forces neither friend nor foe. In the latter emerging battlefield component, leaders found themselves working with non-governmental organizations, local governments, tribes, and partisan organizations. While TRADOC led the way in developing the robustness of the term Battle Command, this was—and is—an Army enterprise effort.

The baseline for refreshing the Army originated with experiences by leaders in Operations Desert Shield and Desert Storm. These leaders began the renewal with battle laboratories. Experimental results from Battle Labs, operational excursions like Louisiana Maneuvers, National Training Center (NTC) Rotation 94-07 "Desert Hammer" and elsewhere were systematically consolidated and integrated into operational units in the form of Force XXI. While the Army remained ready to answer the call of the national command authority, it continued to employ a test-fix-test approach to creating more lethal and capable units. To characterize the Army's approach, General Sullivan coined what became an Army mantra: No time out!

General Franks's *Military Review* article highlights a major contribution from the Cold War Army. In describing the demands on his leadership during Desert Storm, he states "how you decide is important. How you decide means, among other things, balancing in battle the right mix of your own command guidance by giving subordinates room to use their own initiative—or at least identifying where you want tight control and where you do not. For example, during Desert Storm, in my statement of intent, I made a point of the difference between the breach, where we needed tight control, and the envelopment, where there was a need for much less control and more room for initiative."[16] This quotation goes to the concept of mission orders, another construct for discussion another day.

What Can Be Learned from the Derivatives of the Lariat Advance Experience?

As discussed previously, both top-down and bottom-up roles are crucial for continued success. Senior leaders must lead. Their lieutenants must enable and apply change. Having leaders with ideas is not sufficient; the organization must have middle-level leaders who understand the need for change at a deep level and are willing to debate and able to guide the change. Bottom-up partners must believe in the change, which means Army senior leaders must create a strong case anchored in battlefield dynamics. From the days of Lariat Advance, Donn Starry's observations from the 1973 Israeli War with his conceptual framework define the necessary logic at all echelons for change, as manifested in AirLand Battle doctrine, the Big Five, and the CTCs.[17] Professional observations such as these by senior leaders are critical to binding generations of leaders to the challenges ahead.

The senior leaders of the era—DePuy, Maxwell R. Thurman, Gorman, Starry, and others—commented repeatedly about institutional barriers to progress. The institutional Army must be troop-led through change; however, the Army's organizational foundation is predisposed to resist change.[18] Change to the institutional part of the US Army will require modifying budgets and engaging organizations outside the Army to assist in modifying organizational structures. Senior leaders must take care to shape changes that will be acceptable for Army institutions. General Gorman, at the behest of General DePuy, began what became a revolution in training within the Army. These early TRADOC leaders believed training needed to be systematic, that is, "train-evaluate-train."[19] Nothing systematic will happen in the absence of a system. In Chapter 6 of this book, Mike Shaler described the development of that system and the persistent focus on linking training to doctrine and ultimately to war plans, including the USAREUR General Defense Plan.

That system can be seen in the Army Training and Evaluation Program for units, Skills Qualification Tests, and their supporting manuals. The systems extend beyond training to education consistent with DePuy's vision: "You should train a man for the job he is going to perform, and then you educate him so that the intellectual and moral environment in which he pursues his particular job will be enhanced."[20] In Chapters 3 and 4, Jim Greer and Ken Preston addressed officer and noncommissioned officer education. Development of these systems led to lethal force that produced a rapid outcome in Operation Desert Storm. In Chapter 11, Henry Franke described how the Army of the '80s developed, and John Brown discussed in Chapter 13 how this systems approach led to Force XXI and the successful 2003 invasion of Iraq.[21]

At the core of an Army of Practice, then, is a sense of adopting change only if that change enhances battlefield performance. Soldiers have repeatedly demonstrated that they will only carry technology and tactical concepts into combat that enhance lethality. Otherwise, soldiers discard these "enhancements." The only way to determine whether technology and tactics are effective and efficient in advance of combat is to expose both to quality user groups early in the development process.[22]

Improving the Army of Practice construct will demand constant professional introspection and debate. As with the Army of the 1980s and '90s, a debate on training, future discussion, and decisions must center on quality: quality of time (the scarcest resource) to train, rigor in that training, and unabridged feedback from that training. Quality training is

the glue that holds the Army of Practice together. When leaders ignore this axiom, soldiers suffer. For example, experience in the counterterrorism environment led the US Army to modify its training architecture, truncating training in large-scale combat operations. This created a lasting deficit in combat capability as well as leader knowledge of training and training management that will take years to overcome.

Lariat Advance created a period full of exciting opportunity for generations to experiment, explore, agree and disagree, and learn about the limits of the profession.[23] During this time, the US Army faced one very real challenge: the operational and institutional Army have limited ability to accept change. Fortunately, the Army needed and found leaders who embraced change, listened to small unit leaders, and were willing to accept risk. The names of these leaders remain iconic in the memory of members of the Cold War Army.

These leaders, largely influenced by experienced leaders from World War II, the Korean War, and Vietnam, proved critical. Foremost, the leaders created leader development opportunities and lethal forces to achieve mission success in Desert Storm and the early years of Operation Iraqi Freedom and Operation Enduring Freedom. The United States fielded an army capable of adapting to change in order to defend the nation and importantly grow new generations of dynamic leaders. While this *Lariat Advance* anthology does not offer solutions for the future, we as authors believe our experiences will help inform future generations. The chapters in this book highlight the necessity for and power of honest dialogue—demonstrated by professional axioms such as "disagreement is not disrespect," "a plan never survives first contact," and "the first report is never correct." We challenge future soldiers to think and learn from the lessons shared here. Lead, train, win. "Army Strong."[24]

Notes

1. General (Retired) Fred Franks coined the Army of Practice phrase to describe the US Army during the Cold War. The term describes a sense of creating a wholistic period of revolutionary change.

2. Peter Senge, *The Fifth Discipline: The Art and Practice of Learning Organization* (New York City: Doubleday, 1990), 6–12.

3. Senge, 12.

4. In addition to a demoralized Army, the Vietnam War created an imbalance in the ranks. Gone from the ranks were a preponderance of senior NCOs. The Army of the late 1970s was rebuilding its NCO ranks, the very rank so important to enforcing performance standards.

5. Anne W. Chapman, *The Army's Training Revolution, 1973–1990: An Overview* (Fort Monroe, VA: Office of the Command Historian, US Army Training and Doctrine Command, 1991), 2–9.

6. General Sir John Hackett, *The Third World War: August 1985* (New York City: Macmillan Publishing Company, 1979).

7. Across the 1980s, there was an explosion of systems to fit into a Live, Virtual, and Constructive (L-V-C) architecture for creating training. Given the pacing resource for training was—and is—time, these systems became central to training in constrained environments.

8. Department of the Army, Field Manual (FM) 72-234, *Tactics and Techniques for Combined Arms Heavy Forces: Armored Brigade, Battalion Task Force, and Company/Team* (Washington, DC: 1992), https://www.globalsecurity.org/military/library/policy/army/fm/71-123/index.html#google_vignette.

9. Pascal Cantot, "The Battle Lab Concept," in *Simulation and Modeling of Systems of Systems*, ed. Pascal Cantot and Dominique Luzeaux (Hoboken, NJ: John Wiley & Sons, 2013), https://www.researchgate.net/publication/278312506_The_Battle_Lab_Concept.

10. While new in 1994, the Battle Labs were extensions of the "skunk works" present at each TRADOC center. These informal organizations were appendages of the combat development community. Often these organizations included representatives from the training and command and staff organizations. Focusing on taking ideas from the field and creating hardware and training solutions to challenging problems, they formed the foundation of what became the Battle Labs.

11. Lt. Col. Hugh M. Bell III, "What Are Battle Labs—Do We Still Need Them?" (research paper, US Army War College, Carlisle Barracks, PA, 2003), https://apps.dtic.mil/sti/pdfs/ADA414121.pdf.

12. Bell, 10.

13. Bell, 17.

14. Department of the Army, US Army Training and Doctrine Command Pamphlet 350-70-1, Training Development in Support of the Operational Train-

ing Domain (Fort Eustis, VA: 2019), 28, https://adminpubs.tradoc.army.mil/pamphlets/TP350-70-1.pdf.

15. Frederick Franks, "Battle Command: A Commander's Perspective," *Military Review* (May–June 1996): 4.

16. Franks, 19.

17. Frank Jones, "War on the 21st Century Battlefield: Revisiting General Starry's Conceptual Framework," *War Room Online Journal* (16 May 2024), https://warroom.armywarcollege.edu/articles/conceptual-framework/.

18. The author observed during his early 1990s tours at the National Training Center that the personnel system assigned officers with limited potential to this "experiment." The personnel system assumed that the NTC assignment was a waste of time for talented officers. A high percentage of officers and NCOs on station were passed over for promotion and elected to retire at Fort Irwin. They then became government service employees.

19. Chaplain Nathaniel H. White, "Architects of Training: Assessing How TRADOC Makes Soldiers for the All-Volunteer Force," *Military Review* (July–August 2024): 59, https://www.armyupress.army.mil/Portals/7/military-review/Archives/English/JA-24/Architects-of-Training/Architects-of-Training-UA.pdf.

20. This quote is attributed to Brigham Young: "You should train a man for the job he is going to perform, and then you educate him so that the intellectual and moral environment in which he pursues his particular job will be enhanced."

21. John L. Romjue, Susan Canedy and Anne W. Chapman, *Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command 1973–1983* (Fort Monroe, VA: Office of the Command Historian, US Army Training and Doctrine Command, 1993), 23. See also Anne W. Chapman, *The Origin and Development of the National Training Center, 1976–1984* (Fort Monroe, VA: Office of the Command Historian, TRADOC); and Anne W. Chapman, *The National Training Center Matures, 1985–1993* (Fort Monroe, VA: Military History Office, TRADOC, 1997).

22. The author taught an industry course on the importance of selecting quality users to evaluate future systems. The Army tends to roster user group members from those available and not the most experienced and critical. There is a direct relationship between the quality of the user group and the application of technology to the battlefield. More senior and experienced users are more informed for offering technology solutions to battlefield challenges.

23. The author, an organizational psychologist, has observed that the operational Army has a limited ability to accept change. Following the Cold War and during the early stages of Operation Iraqi Freedom/Operation Enduring Freedom, the US Army was consumed with deployment, employment, and adopting new technologies—and mistakenly postponed professional military education such as the Advanced NCO Course.

24. Ann Scott Tyson, "Army Debuts New Slogan In Recruiting Commercials," *Washington Post,* 21 November 2006, https://www.washingtonpost.com/wp-dyn/content/article/2006/11/21/AR2006112101295.html.

About the Authors

Kevin C. M. Benson

Col. (Retired) Kevin C. M. Benson**,** a 1977 graduate of the US Military Academy (USMA), served in the US Army for thirty years, including as a cavalry platoon leader, tank company commander (M60A1), and tank battalion (M1A1) S3 during the Cold War. He also commanded the 3rd Battalion, 8th Cavalry at Fort Hood, Texas; served as the director of plans for Third US Army and the Combined Forces Land Component Command at the beginning of Operation Iraqi Freedom (OIF); and was director, School of Advanced Military Studies (SAMS), at Fort Leavenworth, Kansas. Benson attended military and civilian schooling, including SAMS and the Massachusetts Institute of Technology Security Studies Program as a War College Fellow. He has a PhD in American history from the University of Kansas and is the author of two books: *Expectation of Valor: Planning for the Iraq War* (Philadelphia: Casemate, 2024) and *Raising the Bar* (Philadelphia: Casemate, 2026), a history of the founding of SAMS.

John S. Brown

Brig. Gen. (Retired) John Sloan Brown was commissioned from USMA in 1971. He commanded Armor units from platoon through brigade and served on staff from battalion through theater. He commanded 2-66 Armor in Germany, Desert Shield, and Desert Storm, and 2nd Brigade, 1st Cavalry Division in Texas and Intrinsic Action (Kuwait). As Supreme Headquarters Allied Powers Europe chief of programs and requirements, Brown helped design NATO force structure during a critical period as the Czech Republic, Hungary, and Poland were joining the alliance. His final active-duty assignment (1998–2005) was as chief of military history for the US Army. Since retiring, he has served as an American Battle Monuments Commission historian, written the monthly column "Historically Speaking" in *Army* magazine, and participated in further academic projects. He is the author of *Draftee Division: The 88th Infantry Division in World War II* (Lexington, KY: University Press of Kentucky, 1986); *Kevlar Legions: The Transformation of the U.S. Army 1989–2005* (Washington, DC: US Army Center of Military History); and other works of historical interest.

Charles T. Cleveland

Lt. Gen. (Retired) Charles T. Cleveland graduated from West Point in 1978 and spent the first third of his thirty-seven-year career in the last third of the Cold War. His first tour was to the 10th Special Forces Group, where he supported plans for unconventional warfare behind the Iron Curtain. In 1982, Cleveland was reassigned to US VII Corps where he commanded the Counterintelligence and Interrogation Company with elements on the Czech-West German border. He returned to Special Forces following an inter-theater transfer to 3rd Battalion, 7th Special Forces Group based in the Republic of Panama. There he participated in the El Salvador advisory effort and counterdrug operations in Bolivia and was the battalion S3 during the 1989 Operation Just Cause invasion of Panama. Cleveland attended the Command and General Staff College (CGSC) in 1991 during the dissolution of the Soviet Union. He retired in 2015 following three years as the commanding general of the US Army Special Operations Command. He co-authored *Military Strategy in the 21st Century* (Amherst, NY: Cambria, 2018) and *The American Way of Irregular War* (Santa Monica, CA: Rand, 2020). He continues as an adjunct at Rand and board member for the National Center for Narrative Intelligence, and lectures on leadership, strategy, and irregular warfare.

Gregory Fontenot

Col. (Retired) Gregory Fontenot served in the US Army for more than twenty-eight years as an Armor officer in the United States, Europe, the Balkans, and Southwest Asia. He commanded a battalion during Operations Desert Shield and Desert Storm and a brigade in Bosnia. As an educator, Fontenot taught history at USMA and served as director of SAMS. In his last assignment, he commanded the Battle Command Training Program. As an Army civilian, he served as director of the US Army Training and Doctrine Command (TRADOC) Wargaming Directorate and later as director of the University of Foreign Military Studies. Fontenot served on campaign plan assessment teams in Iraq in 2010 and Afghanistan in 2011. He is the author of numerous articles, reviews, and four books. His latest book, *No Sacrifice Too Great: the 1st Infantry Division in World War II* (Columbia, MO: University of Missouri Press, 2023), won the Army Historical Foundation 2023 Distinguished Writing Award for Unit History. Fontenot was inducted into the Fort Leavenworth Hall of Fame in 2025.

Henry G. Franke III

Col. (Retired) Henry G. Franke III served at the platoon through theater levels, including as a corps war plans officer following graduation from SAMS. He was commissioned in the Regular Army in 1977 at Texas A&M University. He deployed to Iraq in 2005 as the Multi-National Corps–Iraq chemical officer, January 2005–January 2006, and to Afghanistan in 2007–2008 as the US military's senior liaison officer to the International Security Assistance Force (ISAF), January 2007–April 2008. Franke's institutional assignments concentrated on concepts development, requirements determination, and capabilities development. He was theater missile defense development officer under the Strategic Defense Initiative; TRADOC's division chief for Army space operations; chief technology officer for the Army After Next project; and director of combat developments for the Chemical Corps, Engineer Corps, and Military Police Corps at the US Army Maneuver Support Center. In the latter assignment, he supported Army Transformation, Modular Transformation, and the Army's transition to extended combat operations in Iraq and Afghanistan. Following retirement after more than thirty-one years in uniform (1977–2009), Franke served ten years at TRADOC and then Army Futures Command as a senior leader in joint and Army concept development and experimentation/learning (2010–2020). As TRADOC's deputy director of concepts and learning, he supported the development of three iterations of the Army's Multi-Domain Operations concept. Publications of note are his SAMS tactical monograph, "The Diffuse Battlefield and the Corps Raider Brigade" (1991), and his SAMS operational monograph, "An Evolving Joint Space Campaign Concept and the Army's Role" (1992).

Frederick M. Franks Jr.

General (Retired) Frederick M. Franks Jr. was commissioned from USMA in 1959. During his active Army service, he commanded Armored Cavalry units at platoon, troop, squadron, and regimental levels in the 11th and 3rd Armored Cavalry Regiments in periods from early 1960 to 1984. Franks served in combat in Vietnam as S-3, 2nd Squadron, 11th Armored Cavalry Regiment in August 1969 until being medically evacuated in May 1970 after being wounded in action in Cambodia. Following recovery and rehabilitation after having his leg amputated below the knee, he returned to active service in early 1972. Later, in Operations Desert Shield and

Desert Storm, Franks commanded the 146,000 US and British forces of VII Corps that attacked more than 250 kilometers in 89 hours; won the tank battle of southern Iraq and northern Kuwait, the largest tank battle in Army history; and liberated Kuwait in February 1991. He concluded his active service as TRADOC commanding general (1991–94), responsible for the US Army's school system and for formulating concepts and requirements for future land warfare. He collaborated with Tom Clancy on *Into the Storm: A Study in Command* (New York City: G. P. Putnam's Sons, 1997), and served on the American Battle Monuments Commission (2001–2009).

James K. Greer

After graduating from USMA in 1977, Col. (Retired) Jim Greer was commissioned as an Armor officer and served thirty years in CONUS, Europe, and the Middle East, including combat operations in Iraq, Afghanistan, Palestine, and the Balkans. He commanded an infantry-heavy battalion task force in Bosnia, led the OIF Study Group in the invasion of Iraq, was Multi-National Security Transition Command–Iraq chief of staff and commanded 1st Armor Training Brigade. An agent of change, futurist, and concept developer, Greer played a significant role in Army transformation for Force XXI digitization and the Objective Force, was the Army's representative to the Department of Defense Revolution in Military Affairs, and led the transformation of Initial Entry Training from a Cold War paradigm to one that prepared soldiers for twenty-first century combat. An educator and trainer, he taught tactics at West Point and was the director of SAMS, where he continues to serve as a professor.

Donald L. Holder

After being commissioned from Reserve Officers' Training Corps in 1966, Lt. Gen. (Retired) Donald L. Holder commanded armored cavalry units from platoon to regimental levels in Germany, Vietnam, and the United States. He served three tours with the 2nd Armored Cavalry Regiment in Cold War Germany. In 1990–91, Holder deployed and led the regiment in Operation Desert Storm. Two years later, he commanded the 3rd Infantry Division (Mechanized), in Würzburg. While an armored cavalry squadron commander and armored division G3 in the United States, Holder planned and rehearsed missions for reinforcing three different NATO

corps. Between assignments, he helped write two editions of Field Manual (FM) 100-5, the Army's AirLand Battle doctrine, and directed SAMS. He retired in 1997 after duty as the Combined Arms Center commander and CGSC commandant. Since retirement, Holder has worked as a consultant on Joint and Army concepts and doctrine and as a senior mentor in Army training programs and future force experiments. He has a master's degree from Harvard University.

David D. McKiernan

General (Retired) David McKiernan was commissioned from ROTC in 1972. He held various command and staff positions during his thirty-seven-year Army career. From 1988 to 1990, he served as commander, 1st Battalion, 35th Armor (Iron Knights), 1st Armor Division. In 1992, he served as the 1st Cavalry Division G3. From 1993 to1995, he commanded 1st Brigade (Iron Horse), 1st Cavalry Division. In 1996, McKiernan served in the Allied Rapid Reaction Corps as the deputy chief of staff G2/G3, forward-deployed in both Sarajevo, Bosnia, and Rheindahlen, Germany. In March 2003, he commanded all Coalition and US conventional ground forces that attacked Iraq to remove Saddam Hussein from power. McKiernan next served as the deputy commanding general, US Army Forces Command, the Army's largest major command (2004–2005). He commanded US Army Europe and 7th Army (2005–2008), building partner land force capabilities and relationships across Europe and the former Soviet Union. In his final assignment (2008–2009), he commanded ISAF, a coalition of forty-two countries, and US Forces Afghanistan. Following retirement from active duty in 2009, he worked another ten years for the Army, including as a Mission Command Training Program senior mentor and a training and leader development advisor.

Daniel J. Petrosky

Commissioned through Officer Candidate School in 1967, Lt. Gen. (Retired) Daniel J. Petrosky began his career as a platoon leader flying Aerial Rocket Artillery Cobra helicopters with the 101st Airborne Division Artillery in Vietnam 1969–70. He commanded the 2nd Combat Aviation Squadron, 2nd Armored Cavalry Regiment during the height of the Cold War (1984–1987), and commanded the 4th Brigade, 1st Armored Division from 1990 to 1992 during Operations Desert Shield and Desert Storm.

Petrosky was assigned as the G3 for USAREUR, where he developed the campaign plan for the US forces piece of NATO's deployment to Bosnia. He served in a series of command and staff positions in Vietnam, Korea, Iraq, the United States, Europe, the Balkans, and Southwest Asia. In addition to serving as commander, Eighth United States Army in Korea, Petrosky simultaneously served as chief of staff, United Nations Command, Republic of Korea/US Combined Forces Command, and US Forces Korea. He also served as the Unified Ground Forces deputy commander.

James "Pat" O'Neal

Brig. Gen. (Retired) James "Pat" O'Neal commissioned from ROTC in 1969 then served thirty years in the US Army. In addition to serving from platoon to Corps echelons in the Cold War, he attended Harvard University, taught at USMA, and held key leadership positions at the National Training Center (NTC). O'Neal's career was framed by duty in Armor formations and positions defining the future structure, operations, and equipping Army formations and included duty in the Republic of Vietnam, the Federal Republic of Germany, Bosnia, Croatia, Hungary, Iraq, and the United States. Following retirement, he worked as the senior subject matter expert with the Defense Advanced Research Projects Agency on five successful programs, including Command Post of the Future, Tactical Ground Reporting System, and Personal Assistant that Learns. He also taught a SAMS elective course on "Leading Change."

Kenneth O. Preston

Sergeant Major of the Army (Retired) Kenneth O. Preston entered the Army in June 1975. Following basic training, he became an Armor crewman. Throughout his thirty-six-year career, Preston served in every enlisted leadership position from cavalry scout and tank commander to his final position as sergeant major of the Army (SMA). Additionally, he was a command sergeant major with the 3rd Battalion, 8th Cavalry Regiment, 1st Cavalry Division; 3rd "Grey Wolf" Brigade, 1st Cavalry Division; 1st Armored Division in Bad Kreuznach, Germany; and V Corps in Heidelberg, Germany. His military education includes the Basic Noncommissioned Officer Course, Advanced Noncommissioned Officer Course, First Sergeant Course, M1/M1A1 Tank Master Gunner Course, Master Fitness Trainer Course, Battle Staff Noncommissioned Officer Course, and the US Army Sergeants Major Academy. Preston has a master's degree in business administration from Trident University International. He was the thirteenth and longest-serving SMA (15 January 2004–1 March 2011).

Kenneth L. Privratsky

Commissioned from ROTC in 1969, Maj. Gen. (Retired) Kenneth L. Privratsky served initially as an infantry officer before becoming a logistician. Assignments during his career included leadership positions in four divisions and a separate infantry brigade, including as a rifle platoon leader in Vietnam. He deployed on two Return of Forces to Germany (REFORGER) exercises, first as plans officer for a corps support command and then as a forward support battalion commander. He deployed to and trained at the NTC and served there as the senior logistics observer-controller. While chief of the Strategic Mobility Division in the Pentagon, Privratsky helped manage improvements to strategic mobility following Desert Shield/Storm. As a general officer, he led organizations providing supply distribution and surface transportation worldwide for the Department of Defense before retiring as a major general. He has written multiple articles and book reviews on military matters and is the author of *Logistics in the Falklands War: A Case Study in Expeditionary Warfare* (Barnsley, UK: Pen and Sword, 2015) and *The Norwegian Merchant Fleet in the Second World War* (Barnsley, UK: Pen and Sword, 2023).

Michael D. Shaler

Col. (Retired) Michael D. Shaler graduated from Gonzaga University and was commissioned in the ROTC in 1962 as an Armor officer. During his service, he commanded three Armored Cavalry Troops (in Korea, Vietnam, and Fort Lewis, Washington). As a major, he was an assistant professor at the USMA, where he was the committee chief for the course on military leadership. Shaler next served as the executive officer for a USAREUR tank battalion and later commanded a tank battalion in the 1st Infantry Division at Fort Riley, Kansas. After completion of the National War College, he served as the 1st Infantry Division chief of staff for two years. In the Pentagon, Shaler served as the executive officer for the Army's deputy chief of staff Operations and the vice chief of staff of the Army. His last assignment was commander, US Army Research Institute for the Behavioral and Social Sciences. He has a bachelor's from Gonzaga University and a master of business administration from the Wharton Graduate School, University of Pennsylvania, and graduated from the US Army War College and the National War College. He retired from the Army on 31 December 1992, then served twelve years as director of the Strategic Leader Development Program for three successive chiefs of staff of the Army.

William S. Wallace

General (Retired) William S. Wallace was commissioned through USMA in 1969. He retired on in January 2009 after nearly forty years of active-duty service that spanned five decades. He commanded at every level from platoon to Corps. In 2003 as the V Corps commander, Wallace led the Coalition attack to Baghdad in OIF. In 1972, he served as a military advisor in Bac Lieu Province of Vietnam. His last assignment was as TRADOC commander. Wallace served as a staff officer and squadron commander in the 2nd Armored Cavalry Regiment during the Cold War and was the last Germany-based commander of the 11th Armored Cavalry Regiment. He served as the senior Armor trainer, chief of staff, commander of the Operations Group, and NTC commander during his six years of assignment at the NTC at Fort Irwin, California. Wallace also commanded the 4th Infantry Division during the integration of digital technology into a modern Army and led the operational Army during the integration of modern digital technology.