

Winning the First Battle: The Foundation of the U.S. Army's Training Revolution, 1973-
1979

Thesis

Presented in Partial Fulfillment of the Requirements for the Degree of Master of Arts in
the Graduate School of The Ohio State University

By

Geoffrey L. Earnhart, B.S.

Graduate Program in History

The Ohio State University

2010

Thesis Committee:

Peter R. Mansoor, Advisor

John F. Guilmartin Jr.

William R. Childs

Copyright by
Geoffrey L. Earnhart
2010

Abstract

Immediately following the Vietnam War, the United States Army began a two-decade period of revitalization and renewal including developments in equipment, doctrine, personnel policies and training. Based on oral histories, official studies, documents, manuals, and papers, this study examines the developments in Army training during the 1970s. These developments began with a new performance-oriented philosophy toward training that drove the production of training literature and new technologies. Together, these developments constituted a revolutionary new approach to preparing the Army for war. U.S. Army Training and Doctrine Command (TRADOC), established in 1973, stood at the center of the training revolution and key individuals within the command significantly influenced the training revolution's direction. TRADOC, which had no command authority over operational Army units, became the Army's intellectual source for changes to doctrine and training. The division of command responsibility and training developments led to conflicts between Army institutions. Developments in training reflected a tension between attempts to develop uniformed standards of training across the Army while allowing unit commanders the latitude to develop their units. Finally, the training reforms took place within a milieu of social changes that affected the Army's ability to focus on preparing for war. The 1970s constituted a decade of recovery, change, and foundation building that set the Army on a course to future combat excellence.

Dedication

To the Soldiers with whom I have served

Acknowledgement

I would like to thank my advisor Dr. Peter Mansoor and my thesis committee, Dr. William Childs and John Guilmartin, for their guidance. The archivists at the U.S. Army Heritage and Education Center in Carlisle, PA helped in my examination of their collection of official papers and documents. Elizabeth Merrifield and Aaron Higby allowed me a space in their temporary offices at the Combined Arms Library in Ft. Leavenworth, KS. Karen Lewis helped me considerably by allowing me access and workspace at the U.S. Army Training and Doctrine Command archives. I must thank General (Ret.) Paul Gorman and General (Ret.) Donn Starry for talking to me about their time at TRADOC. Finally, I would like to thank my fellow graduate students for their camaraderie and professional mentorship.

Vita

1999.....St. Francis de Sales High School
2003.....B.S. History, United States Military Academy
2003-present.....United States Army

Fields of Study

Major Field: History

Table of Contents

Abstract	ii
Dedication	iii
Acknowledgements.....	iv
Chapter I: Introduction.....	1
Chapter II: Origins of the Army’s Training Revolution	9
Chapter III: The Army of the 1970s	36
Chapter IV: Instituting the Training Revolution in Units.....	70
Chapter V: Conclusion.....	103
Bibliography	107

I: Introduction

In August 1968, Warsaw Pact forces invaded Czechoslovakia, ended the liberalizing reforms of Alexander Dubček, and sent a message that the Iron Curtain strongly cloaked Eastern Europe. Shortly after the invasion, Joint Chiefs of Staff chairman, General Earle Wheeler, received word that the units designated to respond to a Warsaw Pact offensive were unprepared for combat. The 1st and 2nd Armored Divisions needed 14 to 15 weeks to fill personnel and equipment shortages. The two brigades of the 5th Infantry Division (Mechanized) based in the United States required more than three months to achieve a combat readiness due to the division's requirement to maintain a brigade in Vietnam. The invasion of Czechoslovakia did not lead to a wider conflict, but the Warsaw Pact served notice to NATO that the Eastern Bloc could mass its forces and conduct a major operation with little warning.¹

The U.S. Army could not effectively reinforce its forces in Europe because the crisis in Czechoslovakia occurred as the American military struggled to support the requirement for combat forces in Southeast Asia. Over 330,000 soldiers and 78,000 Marines constituted the nine divisions, one armored cavalry regiment, and two separate brigades deployed in the Republic of Vietnam. In January 1968, at the beginning of the Vietnamese Tet holiday, elements of the Peoples Liberation Armed Forces and People

¹ Ingo Trauschweizer, *The Cold War U.S. Army: Building Deterrence for Limited War* (Lawrence: The University Press of Kansas, 2008), 187-188.

Army of North Vietnam attacked military and government targets throughout South Vietnam. The Pentagon deployed the 3rd Brigade of the 82nd Airborne division, to Chu Lai, and in so doing committed one-third of the Army's last strategic reserve force. In its rush to move the brigade to Vietnam, the Army ignored policies limiting individual combat deployments and returned many soldiers who recently rotated out of the combat zone. After arriving in Vietnam, soldiers' protests forced the Department of the Army to return to the United States 2,513 of the 3,650 paratroopers, 68 percent of the brigade's strength. The Tet Offensive resulted in tactical and operational failure for communist forces, but North Vietnam gained a psychological victory by damaging the credibility of U.S. military leaders with the American public.² Further events of 1968, including the seizure of the USS *Pueblo* by North Korea on January 23, demonstrated that the Army could barely respond to the crisis in Vietnam, and was decidedly unprepared to respond to aggression in Europe or potential crisis in other regions. The long withdrawal from Vietnam began the following year and the Army's declining involvement in the war ushered in a period of introspection and internal scrutiny that one senior Army leader referred to as an "inward-looking time".³

Looking inward was a natural reaction after defeat. The Germans examined their defeat in World War I and developed a different approach to warfare that they applied with success in the early stages of World War II. Egypt digested the lessons of its rout by Israel during the Six-Day War in 1967 and demonstrated improvement in the 1973 Yom

² Shelby Stanton, *The Rise and Fall of an American Army: U.S. Ground Forces in Vietnam, 1965-1973* (Novato: Presidio Press, 1985), 205, 212, 245-246, 274-276.

³ Letter, Gen. William DePuy to Gen. Frederick Weyand, February 18, 1976 in Richard M. Swain, comp., *Selected Papers Of General William E. DePuy: First Commander, U.S. Army Training and Doctrine Command, 1 July 1973* (Fort Leavenworth: Combat Studies Institute, 1994), 179.

Kippur War. The United States Army was already undertaking such self-examination when Military Assistance Command – Vietnam deactivated on March 29, 1973.⁴ The North Vietnamese offensive in 1975 provided the final act for America’s adventure in Southeast Asia, culminating when Hanoi’s tanks crashed through the gates of the Presidential Palace in Saigon and the last U.S. personnel evacuated the U.S. Embassy. That war had dominated the Army’s attention for more than eight years, and dramatically limited its readiness for other contingencies around the world.⁵ With the burden of Vietnam lifted, the Army refocused its priorities on a different kind of war in Europe, including reforms to its doctrine, weapons, and training.

Part of that reformation involved a significant reorganization of the Army. Prior to 1973, U.S. Army Continental Army Command (CONARC) controlled all Army elements within the lower 48 states, or continental United States. One can generally divide America’s Army into two parts: the operational army and the institutional army. Operational units consisted of those formations designed and designated for war fighting or for supporting units that engaged in combat operations. These units deployed overseas to conduct military operations. The Army’s basic training centers, branch school, the Army Staff, U.S. Military Academy, and other elements not employed as organizations in times of war constituted the institutional army. CONARC controlled almost all operational and institutional elements located within the continental United States, an enormous span of control. A division of that span of control occurred in 1973 when the

⁴ Richard Lock-Pullman, "An Inward Looking Time: The United States Army, 1973-1976." *The Journal of Military History* 67, no. 2 (2003), 483.

⁵ Christopher Dempsey assessed the Army’s world-wide readiness for his master’s thesis; Christopher M. Dempsey, “The Other Side of the Story: Vietnam Escalation and Global Army Readiness, 1965-1968” (master’s thesis, North Carolina State University, 2009) Available from: <http://www.lib.ncsu.edu/theses/available/etd-03252009-172131/>

Army eliminated CONARC and divided its responsibilities between two new commands. U.S. Army Forces Command (FORSCOM) took control of operational units within the continental United States. U.S. Army Training and Doctrine Command (TRADOC) assumed responsibility for most of the institutional army including branch schools and training centers. TRADOC became the headquarters responsible for the developments of new weapons, doctrine, and training techniques. This study examines the training developments produced by TRADOC during the 1970s.

Of the Army's developments during this period, changes to weapons and doctrine have received more attention than training developments. Responding to the need to modernize its forces, the Army developed five major weapon systems in the 1970s and fielded them during the 1980s. The Army's "Big Five" were the M1 Abrams main battle tank, the M2/M3 Bradley infantry/cavalry fighting vehicle, the UH60 Blackhawk medium transport helicopter, the AH64 Apache attack helicopter, and the Patriot air defense system. These more sophisticated weapon systems required more highly trained soldiers to use them and more highly skilled leaders to employ them in battle. Their high cost and sophistication also departed from the American tradition of mass-production and stood as a metaphor for the Army's larger transformation in to a smaller, higher-quality force.⁶

Since its formation, the TRADOC headquarters maintained a robust historic mindedness that produced a number of institutional histories. Each year the command

⁶ Robert Scales, *Certain Victory: The U.S. Army in the Gulf War* (Fort Leavenworth: U.S. Army Command and General Staff College Press, 1994), 19-20. See Orr Kelly, *King of the Killing Zone: The Story of the M-1, America's Super Tank* (New York: W.W. Norton, 1989) and James G. Burton, *The Pentagon Wars: Reformers Challenge the Old Guard* (Annapolis: Naval Institute Press, 1993). Home Box Office later adapted Burton's book into a satirical movie by the same name.

produced a summary of its major activities the previous year. After 1990, TRADOC's historical office developed a series of scholarly studies about the command's influence on the Army. TRADOC's historians produced a concise study of the organization in *Prepare the Army For War: A Historical Overview of the Army Training and Doctrine Command, 1973-1993* and its subsequent edition that covered 1973-1998.⁷ In *The Army's Training Revolution, 1973-1990 An Overview*, Dr. Anne Chapman provides a very brief summary of the major changes to training based largely on TRADOC's official histories.⁸ Dr. Chapman studied in more depth the development of the National Training Center (NTC), perhaps the most visible symbol of the training revolution, with *The Origins and Development of the National Training Center, 1976-1984*.⁹ While most studies of the Army during the 1970s and 1980s acknowledge the importance of the training revolution, they but do not deal with the subject in depth.¹⁰

Several studies explore the development of Army doctrine. Colonel Robert Doughty studied the development of tactical doctrine from the end of World War II to 1976. He concluded that that while a war in Europe offered the least likely scenario as

⁷ 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: U.S. Army Training and Doctrine Command, 1993); Anne W. Chapman, Carol J. Lilly, John L. Romjue, and Susan Canedy, *Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command, 1973-1998* (Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1998).

⁸ Anne W. Chapman, *The Army's Training Revolution, 1973-1990 An Overview* (Fort Monroe and Washington D.C.: U.S. Army Training and Doctrine Command and Center for Military History, 1994). Dr. Chapman's study is a 60-page summary of major training developments, not an in-depth study.

⁹ Anne W. Chapman, *The Origins and Development of the National Training Center, 1976-1984* (Fort Monroe and Washington D.C.: U.S. Army Training and Doctrine Command and Center for Military History 1997).

¹⁰ Ingo Trauschweizer's, *The Cold War U.S. Army* is the most recent study of the Army as a Cold War institution; Ernest F. Fischer's *Guardians of the Republic* studies the Army's non-commissioned officer corps, see Earnest F. Fischer, *Guardians of the Republic: A History of the Noncommissioned Officer Corps in the U.S. Army* (Mechanicsburg, PA: Stackpole Books, 1994); the Army's two-volume official study also looks at the training revolution in its second volume, Richard W. Stewart, ed., *American Military History Volume II: The United States Army in a Global Era, 1917-2003* (Washington D.C.: Center of Military History, 2005).

opposed to a limited conflict elsewhere, failure in Europe held much more significant consequences for U.S. security. Focusing its preparation for war in Europe addressed the nation's worst-case scenario and gave the Army a focused objective that allowed it to put aside the problems of Vietnam.¹¹ The development of the Army's first post-Vietnam capstone doctrine, *FM 100-5, Operations*, was the focus of a study by Major Paul Herbert. Herbert emphasized the role of TRADOC's first commander, General William DePuy, in developing a controversial doctrine known as Active Defense, which focused on defeating the Warsaw Pact threat in Europe using a firepower based defensive system in line with traditional American methods of warfare.¹² TRADOC historian John Romjue produced a concise institutional history with *From Active Defense to AirLand Battle* that looks at the organizational process leading to the development of the 1982 version of FM 100-5, the doctrine known as AirLand Battle. Romjue emphasizes the guidance of TRADOC's second commander, General Donn A. Starry, and the influence of critics inside and outside the military for motivating the re-evaluation Active Defense. AirLand battle reflected a departure from firepower centric warfare to a focus on seizing the initiative from the enemy and disrupting his attack by destroying key targets in depth. The doctrine became the basis for Army operations into the 1990s.¹³

The Army's training revolution consisted of number of symbiotic advancements in individual training, collective training, training doctrine, and training technology. Each individual development represented an evolution from its predecessor, but taken together

¹¹ Robert A. Doughty, *The Evolution of U.S. Army Tactical Doctrine* (Leavenworth Paper No. 1. Fort Leavenworth: Combat Studies Institute, U.S. Army Command and General Staff College, 1979).

¹² 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: Combat Studies Institute, U.S. Army Command and General Staff College, 1988).

¹³ John L. Romjue, *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982* (Fort Monroe: U.S. Army Training and Doctrine Command, 1984).

they constituted a revolutionary change in the Army's approach to training. TRADOC stood at the center of that revolution, and during the 1970s laid the foundation for a comprehensive approach to training that the Army fully realized during the 1980s. During the 1970s, lack of funds, turbulent personnel policies, and the legacy of Vietnam created an adverse environment that prevented the full implementation of the training reforms that took much of the 1970s to develop and distribute. The intellectual and technological work done in that decade bore fruit the following decade as Vietnam receded in memory, the all-volunteer force achieved greater success, and budgets increased. This study examines how TRADOC laid the revolution's foundation.

Training developments took place simultaneously and affected one another, so it remains impossible to fully linearize cause and effect relationships. Therefore, this thesis proceeds thematically by first looking at the military environment of the early 1970s and the reaction of Army leaders to new realities illustrated by the end of Vietnam and the 1973 Arab-Israeli War. These new realities motivated and influenced the course of training developments. The second chapter examines other factors affecting the Army during the decade including the transition to the all-volunteer force. Lastly, this study looks at how TRADOC developed new methods for training units, particularly combat organizations.

A picture emerges of an organization struggling to balance the desire to decentralize training by empowering unit leaders with the requirement to maintain uniformly high standards of readiness throughout the Army. The Army understood that micromanagement from the Pentagon led to poor training, but when the Chief of Staff of the Army ordered decentralized training in 1971 the Army lacked a framework to help

unit leaders, particularly battalion commanders, make the transition. Many of the developments during the decade focused on producing materials that established uniform standards of performance throughout the force while allowing unit commanders to exercise their prerogatives over their units' training.

The commanders of TRADOC exerted a great deal of influence during this period. General William DePuy oversaw the study that recommended the end of CONARC and served as TRADOC's commander from 1973 to 1977. He established TRADOC's organizational framework and its focus on preparing the Army to win the first battle of future wars. General Paul Gorman served as DePuy's Chief of Staff for Training and established the path for the training revolution both intellectually and technologically. TRADOC's second commander, General Donn A. Starry, commanded from 1977 to 1981. Prior to taking command of TRADOC, Starry served under DePuy as the commander of the U.S. Army Armored Center at Fort Knox, Kentucky. After the conclusion of the 1973 Arab-Israeli war, DePuy sent Starry to Israel to observe the aftermath of the armored battles in the Sinai and on the Golan Heights. Starry also commanded V Corps in Germany where he assessed the realities of the NATO defense problem and observed the early results of TRADOC's training reforms. While commanding TRADOC, Starry continued the major axes of the training revolution, including emphasizing non-commissioned officers (NCO) as the principle executors of individual training, and supported the concept for the NTC.

These officers oversaw a decade of foundation building during which TRADOC developed the key components of the training revolution. The 1970s provided the Army the opportunity to reset its organization, personnel, and equipment after the long

experience in Vietnam. The Army began a comprehensive revitalization that lasted through the 1980s and culminated with the 1991 Gulf War.

II: Origins of the Army's Training Revolution

By 1973, the year the United States deactivated Military Assistance Command-Vietnam and ended its direct combat role in the Vietnam War, America's military was beginning a period of reduction and reform. The Army also changed its organizational structure and fighting doctrine. At the same time, events in the Middle East offered Army leaders an example of modern mechanized warfare. Those realities combined with the personal experiences of the first leaders at TRADOC to form the basis for the training revolution.

At the end of the Vietnam War, the Army retained an organizational structure inherited from World War II. As the Army expanded prior to the outbreak of war in 1941, it established General Headquarters (GHQ), U.S. Army to oversee the operations of all Army forces within the continental United States. Because the Army needed to field combat divisions rapidly, new inductees reported directly to operational divisions where they underwent individual and collective training under the supervision of officers and non-commissioned officers (NCOs) drawn from the Regular Army and National Guard. Individual training sought to develop soldiers' proficiency, by providing soldiers with the necessary skills to function in their Military Occupational Specialty (MOS) and provide leaders with the knowledge necessary to employ weapon systems and maneuver combat units. Collective training prepared units for their wartime functions and stressed

teamwork and mission accomplishment. GHQ proved unable fulfill its various planning and mobilization roles, so in March 1942, the War Department transferred GHQ's operational and planning functions to the department's War Plans Division, and activated Army Ground Forces (AGF), which assumed responsibility for training and unit readiness for the duration of the war. Newly created units followed AGF's Mobilization Training Program, designed to bring divisions to combat readiness within ten to twelve months. The need to train large numbers of soldiers without sufficient professional cadres forced AGF to develop centralized, micro-managed training plans that sapped the individual initiative of junior leaders. Furthermore, the need to field more and more divisions destroyed unit cohesion by constantly transferring personnel to form new unit cadres. The Army also lacked the capability to execute realistic training exercises for small units. Exercises lacked trained opposing forces to replicate enemy tactics and techniques, dedicated observers to evaluate units and conduct after-action reviews, and instrumentation to replicate the outcomes of engagements. Because of the relative inability of the Army to effectively prepare individuals and units for combat, many units found their first combat engagement a bloody learning experience.¹⁴

Following World War II, training and command responsibilities returned to a single headquarters when in 1948 the Office of the Chief of Army Field Forces took over responsibilities for training. Army Field Forces existed as a staff agency within the Department of the Army, and lacked the authority associated with a separate Army command. Military tradition held, and continues to hold, that a commander retains the

¹⁴ Peter Mansoor, *The GI Offensive In Europe: The Triumph of American Infantry Divisions, 1941-1945* (Lawrence: The University Press of Kansas, 1999), 16-26; Mansoor points out that divisions that learned valuable lessons from their initial combat experiences went on to perform more effectively.

ultimate authority for the actions of subordinates and subordinate elements. Aligning authority with responsibility and accountability under a single commander ensures, at least in theory, that one individual and one headquarters orchestrates the various functions required to develop effective military units. Problems with the 1948 command arrangements led to further studies and the consolidation of all command functions under U.S. Continental Army Command (CONARC), which activated in 1955. CONARC remained responsible for training, combat developments, and the command of operational units within the continental United States until the 1970s when dissatisfaction within the Army compelled another reexamination of its organization.¹⁵

The early 1970s produced a major shift in the physical location and size of the Army. As “Vietnamization” reduced combat requirements in Southeast Asia, the Army shifted forces out of Vietnam and underwent a rapid reduction in force. In Fiscal Year (FY) 1968, the Army’s total active and reserve strength stood at 1.5 million, but by FY 1973, that strength had declined to 841,000.¹⁶ Active Army strength fell from a high of 462,000 in 1968 to 367,000 in 1973.¹⁷ The Army’s reduction was in line with a general trend of force reductions across the U.S. military. Between 1968 and 1974 America’s armed forces lost 46 percent of its aviation squadrons, 47 percent of its ships, and 16 percent of its combat divisions.¹⁸ The reductions created personnel turbulence as units

¹⁵ Jean R. Moenk, *Operation STEADFAST Historical Summary: A History of the Reorganization of the U.S. Continental Army Command (1972-1973)* (Fort Monroe: Historical Office, U.S. Army Training and Doctrine Command), i-ii.

¹⁶ Senate Committee on Armed Services, *Statement By The Honorable Robert F. Froehlke, Secretary Of The Army, Committee on Armed Services, Second Session, 92nd Congress, February 24, 1972*, 7.

¹⁷ Senate Committee on Armed Services, *Statement of Secretary of Defense Melvin R. Laird Before the Senate Armed Services Committee on FY 1973 Defense Budget and FY 1973-1977 Program, February 15, 1972* (Washington D.C.: U.S. Government Printing Office, 1972), 197.

¹⁸ Allan R. Millet and Peter Maslowski, *For the Common Defense: A Military History of the United States of America* (New York: The Free Press, 1994), 597.

deactivated and soldiers, officers and NCOs received reassignments or left the service. The Army would have to rebuild itself without the benefit their experience. Managing the withdrawal from Vietnam taxed CONARC's abilities to the breaking point. With the exception of Army Material Command (AMC), which supervised the development and procurement of the Army's weapons and equipment, CONARC ran the entire Army within the continental United States, and its highly bureaucratic and budget-focused structure proved incapable of effectively managing a large, U.S. based force intended to rapidly reinforce U.S. Army Europe.¹⁹

The examination began in 1969 when the Army Chief of Staff, General William Westmoreland, ordered Major General D.S. Parker to undertake a comprehensive review CONARC's functions. In its March 1971 report, the Parker Board found that CONARC's missions covered too many functional areas, and that the command structure, which placed CONARC and an army-level headquarters between operating installations and the Department of the Army, duplicated staffing and slowed command processes. Four separate continental-army headquarters interposed their bureaucracy between CONARC and its action elements: divisions, training centers, schools, etc.²⁰ In September 1971, officers from Office of the Assistant Vice Chief of Staff's (AVICE) Studies Directorate undertook a study of CONARC and Combat Developments Command (CDC). They found that CONARC oversaw 55 separate activities including active and reserve divisions, recruit training centers, and branch schools.²¹ This structure was unworkable

¹⁹ Brownlee, Romie L. and William J. Mullen, ed. *Changing An Army: An Oral History of General William E. DePuy, USA Retired* (Carlisle: U.S. Army Military History Institute), 177.

²⁰ Moenk, *Operation STEADFAST Historical Summary*, ii, 2-3.

²¹ Henry G. Gole. *General William E. DePuy: Preparing The Army Modern War*. (Lexington: University of Kentucky Press, 2008), 227, 250.

and inefficient. CONARC simply oversaw too many responsibilities to be effective. In January 1972, the AVICE, General William DePuy, recommended that the Department of the Army deactivate CONARC and divide its responsibilities between two separate commands. One command would focus on the readiness of operational forces and command of Army forces within the continental United States. The other command would take responsibility for all doctrinal development, non-unit training, training centers and schools.²² During the process, the planners determined to incorporate CDC's functions into the new training command. In theory, CDC determined the Army's doctrine (how it fought), organization (what it looked like), and equipment requirements (what it fought with). CDC maintained offices at the branch schools (Infantry School, Armor School, etc.) to facilitate cooperation between the branch centers and CDC, but the relationship remained problematic because the branch school personnel and CDC personnel operated in two separate chains of commands. This organization produced a division of responsibility between those that trained soldiers and leaders and those that developed the doctrine, weapons, and organizations those soldiers and leaders used in combat. Adding to the difficulties, a lieutenant general commanded CDC while four-star generals commanded CONARC and AMC commanders. As a result, CDC retained little practical influence on the Army's readiness, because while the Army considered the branch schools the centers of expertise for their branches, CDC remained the proponent agency for writing the doctrine and developing equipment for those branches.²³ The

²² Moenk, *Operation STEADFAST Historical Summary*, ii, 28-38.

²³ Paul F. Gorman, *The Secret to Future Victories* (Fort Leavenworth: U.S. Army Command and General Staff College Combat Studies Institute, 1992), 112 ; Letter, General Donna A. Starry to Lieutenant General Robin Carnegie", February 5, 1982 in *Press On!: The Selected Works of General Donn A. Starry*, vol. 2, Lewis Sorely, ed., (Fort Leavenworth: Combat Studies Institute Press, 2009), 936.

inclusion of CDC functions under the new training command brought combat developments together with branch schools under a unified chain of command and eliminated CDC as a separate organization.²⁴

On 1 July 1973, U.S. Army Forces Command (FORSCOM) activated at Fort McPherson. Commanded by General Walter T. Kerwin, FORSCOM took command of all operational forces within the continental United States and the Army Reserve. The command also supervised the training and readiness of the Army National Guard, which continued to report to the state governors. FORSCOM acted as the Army component to U.S. Readiness Command, the Department of Defense level command responsible for preparing all U.S. military forces for overseas operations. That same day U.S. Army Training and Doctrine Command (TRADOC) activated at Fort Monroe. TRADOC “was responsible for the development, direction, management, and supervision of individual training for the Active Army and Reserve Component, as well as for formulating and documenting concepts, doctrine, training literature, material requirements, and organization for the Army as a whole.”²⁵

The Army’s training revolution began with the establishment of TRADOC. The reorganization allowed a single command to concentrate on the critical and complementary areas of doctrine, training, and equipment development. TRADOC determined how the army fought through the development of new doctrinal literature. It disseminated that doctrine through published manuals and injected it into the institution through the curriculums of the Army school system. TRADOC commanded all Army

²⁴ Moenke, *Operation STEADFAST Historical Summary*, 225.

²⁵ Brownlee and Mullen, ed., *Changing an Army*, 177; Moenke, *Operation STEADFAST Historical Summary*, 141-142.

schools except the U.S. Military Academy and the U.S. Army War College. The command also oversaw initial entry training, equipment development, and tactical organization. TRADOC's first commander was the former AVICE who supervised the reorganization, newly promoted General William E. DePuy.

During World War II, General DePuy served as a junior officer and later battalion commander in the 90th Infantry Division, a unit that performed extremely poorly and suffered very high casualties during its first combat engagements. DePuy attributed much of the 90th Division's poor performance to the Mobilization Training Plan, and to deficiencies in the division's leadership. The plan allocated a certain number of hours for training soldiers and units in each subject, and resulted in unit commanders focusing excessively on developing training schedules rather than pursuing realistic and effective training exercises. In DePuy's assessment, the "learning function was obscured and secondary to the scheduling function. Few took training seriously."²⁶ DePuy believed that the 90th Infantry Division's inexperienced senior leaders emphasized training in written orders, road marches and truck movements, not combat tactics, because they felt more comfortable with those less critical combat tasks. Compared to DePuy's combat experiences, live fire training, conducted only up to the company level, failed to achieve a realistic representation of combat or adequately prepare soldiers. The results of the 90th Infantry Division's ineffective combat training were devastating. In its first six weeks in combat, the division suffered casualties equal to 100% of its enlisted strength and 150% of its authorized officers. DePuy witnessed the relief of two division commanders, one

²⁶ Brownlee and Mullen, ed., *Changing and Army*, 8.

regimental commander, and two battalion commanders during the war, while a third battalion commander deserted his post and ran off the battlefield.²⁷

The 90th Infantry Division performed poorly early on because it lacked combat experienced leaders and the Army's training program failed to prepare the unit and its soldiers for the realities of combat. The Mobilization Training program (MTP) sought to make the most of the limited time divisions had to prepare for overseas movement and the limited pool of experienced leaders. In his study of the combat effectiveness of U.S. infantry divisions in the European theater during World War II, Peter Mansoor argues that a division's performance was largely a function of the amount of personnel turbulence it experienced during training and the quality of the division's leadership. Mansoor uses DePuy's 90th Division to outline the factors that led to its poor initial combat performance. Established in March 1942, the division had not completed its basic training cycle before 1,300 officers and men left the division as a cadre for the 104th Infantry Division. After the War Department then designated the unit "motorized," its leaders largely neglected tactical training, maneuvering and fighting on the battlefield, in favor of training in vehicle movement, and the division's performance during maneuvers in Louisiana demonstrated its poor tactical training. DePuy believed that the division's high casualties resulted from that lack of tactical training. In fact, the division performed so badly during its first combat test in Normandy that General Omar Bradley, who commanded all American ground forces during the invasion, considered disbanding the 90th Division and reassigning its soldiers to other units as replacements.²⁸

²⁷ Brownlee and Mullen, ed., *Changing and Army*, 9-11.

²⁸ Mansoor, *The GI Offensive in Europe*, 72-77.

Not every unit performed as poorly as the 90th Division; the 104th Infantry Division showed that, given the proper leadership and personnel stability, the MTP could produce a combat-effective division. That 104th Infantry Division also underwent training according to the MTP, but benefitted from the leadership of General Terry de la Mesa Allen, who took command in October 1943. Allen had commanded the 1st Infantry Division in North Africa and Sicily and used his combat experience to ensure that the 104th Division received effective combat training that incorporated lessons the 1st Infantry Division learned through hard experience. The 104th Division also benefitted from the return of combat veteran officers and NCOs who returned to the United States as casualties, recovered, and received assignments to the 104th Division. In addition, the division's ranks remained stable and because it did not deploy overseas until August 1944, the unit missed the worst fighting in Normandy. The 104th Division acquitted itself well during combat in Holland in the fall of 1944 when it conducted several successful night attacks that earned the unit a reputation as premier night fighters.²⁹

Both the 104th Division and 90th Division underwent the Mobilization Training Program, but the 104th Division benefitted from the combat experience of its division commander and a handful of veterans that ensured its training reflected the realities of combat. Furnishing the cadre for the 104th Division seriously undermined the 90th Division's combat training, but the critical deficiency was in the division's leadership that lacked combat experiences of the 104th Division. AGF designed the MTP to provide that critical experience to all the division's soldiers and leaders, but the program failed to provide that experience. The program did not simulate realistic combat conditions

²⁹ Mansoor, *The GI Offensive in Europe*, 78-80, 196-199.

sufficiently for leaders to experience, identify, analyze, and apply the necessary lessons. The 104th Division's leadership learned those lessons from combat experience in the 1st Infantry Division, and was able to augment the MTP with additional training derived from their experiences. The flaw in the MTP was that it failed to develop combat ready individuals and units prior to exposure to combat, and was therefore ineffective as a training system. An effective training system would have produced effective units irrespective of the level of combat experience present in that unit's soldiers and leaders. At TRADOC DePuy and others would attempt to design a training and education system that prepared soldiers, leaders, and units for combat by replicating critical combat experiences during training.

Just as the Army's organization of the early 1970s showed the legacy of World War II, so too did the Army Training Program (ATP). The ATP of the late 1960s had not changed significantly from the MTP of World War II. Training remained broken into finite periods with hours allotted to each subject. Evaluations were similarly unrealistic. As of the early 1970s, the Army lacked the technology to replicate the effects of weapon systems on the battlefield, and evaluations occurred according to the Army Training Test (ATT) with umpires subjectively assessing a unit's readiness. General DePuy's experience as a battalion commander in the Germany-based 4th Infantry Division in the early 1950s demonstrated the limitations of the ATT system. His experiences in World War II had convinced DePuy that properly using terrain was the "key to survival of the [i]nfantry on the battlefield," and he developed methods of tactical movement designed to maximize the use of terrain for cover and concealment, but that deviated from established

techniques.³⁰ DePuy also developed a scheme of defensive operations, utilizing specially designed foxholes that differed from those employed during the Korean War. When DePuy's battalion executed its annual ATT evaluation, the Korean War veterans grading the unit did not accept DePuy's solution to a defensive tactical problem. Because his men had constructed low-silhouette foxholes using the available cover and concealment instead of the large sandbagged bunkers common in Korean, the evaluators failed DePuy's battalion. DePuy insisted that the evaluators consult their superiors and the regimental commander intervened and accepted DePuy's solution.³¹ The incident highlights the limitations of the training evaluation system. The evaluators had no way to evaluate the tactical problem except for the vague guidance provided by the ATT manuals and their own experience in the Korean War. When confronted by an unfamiliar solution, the umpires focused on the process of building fighting positions instead of assessing whether DePuy's system would provide an effective defense. At the time, no realistic system existed to replicate the combat conditions that would allow an opposing force to attack the battalion's position and determine its strength. As with the maneuvers during World War II, the result of the "battle" came from the subjective judgment of the evaluators.

The Army Training Program constituted a training system based on the Army's World War II experience of mobilizing from a small standing force to a large conscript army, but it failed to provide adequate training for the strategic situation the Army faced

³⁰ Major General Tarpley to General William DePuy, September 7, 1973, DePuy Papers, Box 19, U.S. Army Heritage and Education Center, Carlisle, PA; William E. DePuy, "11 Men 1 Mind," *Army* 8, no. 8 (March 1958) 22-24, 54-60 reproduced in *Selected Papers of General William E. DePuy: First Commander, U.S. Army Training and Doctrine Command, 1 July 1973*, Swain, comp. (Fort Leavenworth: Combat Studies Institute, 1994), 17-24.

³¹ Gole, *General William E. DePuy*, 97-99.

in the 1970s: to deter and if necessary defeat the Warsaw Pact in Europe. Examining the Army Training Program manual for an infantry company, ATP 7-18, shows its weaknesses. The program is a “guide for the preparation of training programs and schedules during the basic unit training phase of rifle companies of the active Army and Reserve components...”The training program was broken into three phases: Combat Basic Training (8 weeks), Advanced Individual Training (8 weeks), and Basic Unit Training (14 weeks). Among other tasks, the ATP 7-18 specifies 71 hours of platoon tactical exercises, 14 hours of physical training, and 4 hours of first aid training.³² Training managers, the commanders and staff officers responsible for matching training resources to units’ personnel, turned to the Army Subject Schedules (ASubjScd) for individual training subjects. For example, ASubjScd 7-30 gave details about the platoon tactical exercises called for in ATP 7-18. The Subject Schedule described 104-hour exercise period (ATP 7-18 acknowledged this time discrepancy) broken into 19 separate intervals delineating the number of hours for each tactical task. The manual emphasized classroom-like instruction and field demonstration rather than actual practice of tactical tasks. Furthermore, there are no standard evaluation measures to determine whether the exercise participants learned anything.³³

Just as General DePuy experienced, the Army evaluated units according to the Army Training Test. The purpose of ATT 7-18, which covered the infantry rifle company, was to “evaluate the ability of the rifle company to perform its assigned mission under simulated combat conditions.” The manual laid out in detail the tasks the

³² Department of the Army, *Army Training Program No. 7-18: Rifle Company, Infantry, Airborne, Airmobile, and Light Infantry Battalion* (Washington D.C.: HQ, Department of the Army, 1968), 2-7.

³³ Department of the Army, *Army Subject Schedule No. 7-30: Platoon Tactical Exercises* (Washington D.C.: HQ, Department of the Army, 1967), 3-14.

company's subordinate elements were required to perform, including sections on leadership procedures and vehicle maintenance that were only tangentially related to actual combat. The evaluators section consisted of a grade sheet that lacked specific performance standards and instead asked a series of questions: "Did the platoon maintain proper dispersion?" and "Did the platoon leader render the necessary reports?"³⁴ The evaluator determined based on his experience what constituted "proper dispersion" and "necessary reports." That determination might differ from evaluator to evaluator. With no way to measure the actual results of the unit's actions through simulated combat, the ATT emphasized properly applying a process and executing a sequence of pre-determined events.

General DePuy was not the only TRADOC leader frustrated with the ATT's lack of realism. General Gorman, TRADOC's first Chief of Staff for Training, found similar problems with the Army's training system throughout his career. Gorman, who after serving in the Korean War reported to an armored rifle company in Germany, considered the ATT "less a test than an operetta" where "[e]veryone had a script. Everyone spoke their parts, and things went on [a] pre-determined sequence one day after another." Units rehearsed their actions a week prior to their scheduled ATT evaluation on the actual terrain used during the test. "It was a farce," as machine gunners methodically laid out their positions and drove stakes into the ground so they could find them a week later. As far as Gorman was concerned, "the whole...thing was staged," and from this process evaluators determined a unit's combat readiness.³⁵

³⁴ Department of the Army, *Army Training Test No. 7-18: Rifle Company, Infantry Battalion* (Washington D.C.: HQ, Department of the Army, 1966), 1.

³⁵ Paul F. Gorman, interview by author, Afton, VA, August 31, 2010.

The above examples demonstrate both the benefit and weaknesses of the ATP-ASubjScd-ATT system. For a force designed to expand quickly during mobilization with limited numbers of experienced leaders, the ATP laid out a sequence of events to ensure that individuals and units possessing very little military skills received at least some exposure to skills required to achieve combat readiness. The system's weakness was the lack of mechanisms to verify whether individuals and units actually learned those skills before moving onto other, more advanced skills and ultimately into combat. The ATP provided little guidance to leaders developing training plans in a peacetime garrison environment while experiencing personnel turbulence, because the ATP assumed a neat, linear progression of all individuals and units through the training process. As the 90th Division's experience during World War II demonstrated, a linear training program was not always possible during wartime mobilization.

The deficiencies in the Army's training program became more and more apparent as the war in Vietnam stressed the Army to its limits. In 1971, General Westmoreland, then serving as the Army Chief of Staff, commissioned the Board for Dynamic Training to assess training throughout the Army. The board met for 120 days and conducted conferences, distributed surveys, and visited 148 units in the Active and Reserve Components.³⁶ Westmoreland and other leaders believed the decline in effective training resulted from a "Vietnam straightjacket." He hypothesized that junior and mid-grade officers struggled to develop and execute effective training because they possessed limited experience outside of operations in Southeast Asia. When faced with peacetime

³⁶Department of the Army, *Report of the Board for Dynamic Training Vol. I: Executive Summary* (Washington D.C.: Department of the Army, December 17, 1971), 2, U.S. Heritage and Education Center, Carlisle, PA.

requirements to train in preparation for a future war, these officers found themselves operating outside their experience. As a preemptive measure to empower the Army's junior commanders, Westmoreland abolished the previous Army policy that made training schedules official documents that were subject to audit and inspection, and prohibited excessive centralization of training above battalion level.³⁷ Prior to this decree, headquarters from the Department of the Army down through brigade headquarters published yearly lists of training requirements and inspected training schedules to see whether units met the requirements.

The Board for Dynamic Training issued its final report in December 1971, and determined that Vietnam had played a significant role in the diminution of training quality, but not because of leader experience. Rather, for “the better part of a decade, the Army base ha[d] functioned as a vast replacement training depot for U.S. Army Vietnam.”³⁸ The Army had directed money, resources, and command emphasis towards the war that was then underway, while neglecting its other units and the long-term development of its soldiers. Management, including producing training schedules, had replaced leadership in many Army units. Company commanders felt that their superiors cared more about the successful completion of administrative tasks and less about conducting effective unit training. The board concluded that, in general, brigade and battalion commanders failed to place sufficient emphasis on training and communicate that emphasis to their subordinate leaders.³⁹

³⁷ *Report of the Board for Dynamic Training, Vol. II: Final Report*, 6.

³⁸ *Ibid*, 48.

³⁹ *Ibid*, 22.

The board identified the major obstacles to effective training in the active and reserve components: personnel turbulence, manning levels, inadequate budgets, lack of qualified NCOs, discipline, and rigid training systems.⁴⁰ They recommended that the Army manage its active component units more efficiently to ensure that the maximum number of personnel were available for training, and suggested that the Army embed active duty officers in reserve units to assist in developing their training programs. The Board's suggestion for an army-wide organization tasked with developing new training techniques and procedures resulted in the Combined Arms Training Board (CATB), an organization that would profoundly affect the direction of the training revolution. The chair of the Board for Dynamic Training, General Gorman, became the head of the CATB.

As Army leaders realized the need for a better system of training, events in the Middle East offered a glimpse into the kind of battle the Army would fight. At 2:00pm on October 6, 1973 Egypt and Syria attacked Israel following an effective deception operation that produced strategic, operational, and tactical surprise. The Egyptians quickly crossed the Suez Canal and assaulted the fortified observation posts of the Bar Lev Line. Israeli tank units counterattacked the Egyptian bridgehead to relieve the observation posts without the support of the Israeli Air Force (IAF) because Israel's pilots were concentrating on repelling the much more dangerous Syrian assault on the Golan Heights. The Egyptian army fielded the modern, Soviet-made Sagger anti-tank guided missile (ATGM), rocket-propelled grenades (RPGs), and T-62 tanks. Because the Egyptian Air Force lacked the capacity to defeat the IAF, Egypt deployed radar-guided

⁴⁰ *Report of the Board For Dynamic Training Vol. I: Executive Summary*, 5.

ZSU-23 anti-aircraft guns and SA-2, SA-3, and SA-6 surface-to-air missile batteries along the canal while arming its infantry units with shoulder-fired SA-7's. This air defense system provided an umbrella of protection over the canal that rendered the IAF unable to provide close air support. On October 8th strong, but poorly coordinated, Israeli counterattacks by tank units unsupported by planes, artillery, or infantry wasted themselves against the lethal anti-tank defense.⁴¹ As one author described it, the "Israeli armor mounted what looked like old-fashioned cavalry charges."⁴² The Israelis had developed an over-inflated confidence in their air force and armored corps based on their experience in the 1967 Six-Day War that produced a bloody lesson on the banks of the Suez Canal.

The Syrian attack against the Golan Heights used Soviet tactics that combined massed artillery fire and strong armored columns to penetrate the Israeli's fixed defenses in an attempt to produce a "super-Blitzkrieg."⁴³ Although the Syrians penetrated deeply into the Israeli defenses, the Israeli Defense Force (IDF) held the Syrian advance by virtue of their tenacity and better training. Israeli tanks crews sold their lives at high cost, generally destroying several Syrian tanks apiece. That resistance gave Israel time to mobilize reserves and counterattack. Within four days the IDF rendered three Syrian divisions combat ineffective and took the offensive against Syria with a drive towards Damascus.⁴⁴ The defeat of Syria's offensive compelled Egypt to attack out of its prepared defenses to relieve pressure on its ally. As the Egyptians attacked on October

⁴¹ George Gawrych, *The Albatross of Decisive Victory: War and Policy Between Egypt and Israel in the 1967 and 1973 Arab-Israeli Wars* (Westport: Greenwood Press, 2000), 141-141, 170-172 and 186-189.

⁴² Chaim Herzog, *The Arab Israeli Wars: Wars and Peace in the Middle East from the 1948 War of Independence to the Present*. (New York: Vintage Books, 2005), 254.

⁴³ Martin Van Crevald, *Military Lessons of the Yom Kippur War: Historical Perspective*. vol. 5, no. 24 of *The Washington Papers* (Beverly Hills: Sage Publications, 1975), 14.

⁴⁴ Herzog, *The Arab Israeli Wars*, 287-293.

14, they left the protection of their SAM umbrella and encountered strong Israeli defenses supported by the IAF. After defeating the offensive, the IDF counter-attacked, crossed the canal, and surrounded the Egyptian Third Army. Fighting ceased with a United Nations imposed cease-fire on October 25.⁴⁵

The 1973 Arab-Israeli War, also called the Yom Kippur War, occurred only three months after General DePuy took command of TRADOC. The commander of the U.S. Army Armored Center and a future TRADOC commander offered perhaps the best assessment of the war's impact for the Army. Then Major General Donn A. Starry stated, "Terrible as it was for Israel, for us it was a fortuitous field trial, because there were all the lessons to learn."⁴⁶ The Yom Kippur War offered a full-scale approximation of what the Army could expect in a war with the Warsaw Pact in Central Europe. American equipment accounted for a great deal of Israelis' inventory, while the Arab armies fought with mostly Soviet equipment. Furthermore, the Syrian multi-echelon armored assault on the Golan Heights mirrored the Soviet Army's doctrine.⁴⁷

General Abrams assigned TRADOC the mission of collecting and analyzing the war's lessons. In early 1974, General DePuy sent Major General Starry, Colonel John Prillman from the Armor Center, and Brigadier General Robert J. Bear, the project manager for the Army's new tank to Israel.⁴⁸ They received a tour of the battlefields with the IDF's senior armor officer, General Musa Peled. The visit impressed on them the drastically changed pace and scope of modern warfare. Modern equipment was important

⁴⁵ Gawrych, *The Albatross of Decisive Victory*, 205-232.

⁴⁶ Donna A. Starry quoted in Saul Bronfeld. "Fighting Outnumbered: The Impact of the Yom Kippur War on the U.S. Army." *The Journal of Military History* 71, no. 2 (2007): 474

⁴⁷ "1973 Mideast War Briefing, Introduction", Orwin C. Talbott Papers, Box 1, U.S. Army Heritage and Education Center, Carlisle, PA.

⁴⁸ Bronfeld, "Fighting Outnumbered," 475.

but not decisive, as many Israeli units fought effectively with antiquated tanks or with Soviet equipment captured from Arab countries. The trip impressed on Starry that “the best tank on the battlefield is yet the one with the best crew. The best units on the battlefield are yet those that are well trained and well led and those who have trained together to a high level of excellence before battle’s onset.”⁴⁹ High numbers of sophisticated weapons systems that could fire accurately at extended ranges saturated the battlefield, and the increased tempo and lethality of battle made command and control more difficult, but also more important. Most significantly, the tempo and lethality of this relatively short war consumed material at prodigious rates. Starry noted that the “combined tank losses in the first six critical days of the Yom Kippur War exceeded the total U.S. tank inventory deployed to NATO Europe—including both tanks in units and in war reserves.”⁵⁰ The ability of each Israeli tank crew to destroy several Syrian tanks proved decisive in defending the Golan Heights.

Egypt also provided insight into the Yom Kippur War. In July 1974, a U.S. delegation headed by Lieutenant General John J. Hennessey visited Egypt, toured the battlefields, and obtained the Egyptian perspective on the war. The Egyptians believed the Israelis could not sustain their military effort in a long war and had difficulty operating on two fronts simultaneously. This was a valid critique since Israel only took the offensive against Egypt once they stabilized the Syrian front. The Israelis were also

⁴⁹ “TRADOC’s Analysis of the Yom Kippur War, The Jaffee Center Military Doctrine Joint Conference, Casarea, Israel, 16 March 1999” in *Press On!*, Sorely ed., 220-222.

⁴⁹ “1973 Mideast War Briefing, Introduction,” Orwin C. Talbott Papers, Box 1, U.S. Army Heritage and Education Center, Carlisle, PA.

⁴⁹ Bronfeld, “Fighting Outnumbered,” 475.

⁴⁹ “TRADOC’s Analysis of the Yom Kippur War, The Jaffee Center Military Doctrine Joint Conference, Casarea, Israel, 16 March 1999,” in *Press On!*, Sorely, ed., 220-222.

⁵⁰ Donn A. Starry, “Reflections,” in *Press On!*, Sorely, ed., 25-26.

very sensitive to casualties. The Egyptians admitted that Israeli tank crews possessed better training, but believed, despite the disparity in losses, that the margin was not a large one.⁵¹ The Egyptian officers seemed to miss, or did not want to admit, that better trained Israeli units out-fought the Egyptian army.

General DePuy did not wait for the completion of a comprehensive study to draw his own conclusions about the war and to begin disseminating the appropriate lessons. In his January 1973 assessment to General Abrams, DePuy concluded that the Israelis learned the wrong lessons from their 1967 war by emphasizing the preeminence of tanks supported by the IAF without accounting for other combat arms such as infantry and artillery. Israel's later offensives succeeded because the IDF began fighting as combined-arms teams that effectively countered the ATGM threat. DePuy concluded that the Soviet T-62 matched the American M-60 tank, while acknowledging that the Israelis achieved kill ratios between 3-to-1 and 6-to-1, even when using captured Soviet T-62 tanks. The difference, DePuy believed, came from Israeli tank crew training that was superior to contemporary American tank crew training. As the battle progressed, Israel's qualitative advantage overcame the Syrian and Egyptian's superior numbers.⁵² For DePuy the war demonstrated that a numerically inferior force fighting with equipment of similar quality to its enemies could leverage the quality of its training to achieve success. DePuy did not miss the similarities to the Army's situation in Europe, where NATO could expect to fight outnumbered against Warsaw Pact units using Soviet tactics under contested airspace with the Soviets in possession of the initiative.

⁵¹ "U.S. Military Visit To Egypt, 14-23 July 1974," Talbott Papers, Box 2.

⁵² General William E. DePuy to General Creighton W. Abrams, 14 January 1972, Talbott Papers, Box 2.

The war also highlighted deficiencies in the Army's officer training. American officer training prepared leaders to assume positions above their current ranks to facilitate expansion during mobilization. The officers' basic and advanced courses for lieutenants and captains, respectively, prepared officers for the jobs they would assume when promoted in conjunction with rapid mobilization. According to General DePuy, officer training focused far more on education in general military subjects than training for specific duty assignments.⁵³ In July and August 1974, the assistant commander of the Infantry School and a future TRADOC commander, Brigadier General William Richardson, visited Israel. His report highlighted the IDF's different philosophy that emphasized officer readiness and training, not education. Israeli officers demonstrated their abilities as NCOs before selection for an officer-training program that prepared them to perform duties in their assigned positions, not for future duties at higher ranks. Lieutenants trained to become platoon leaders and captains to become company commanders. Richardson noted the widespread use of realistic live fire training that lacked the safety restrictions imposed on the training conducted in the U.S. Army.⁵⁴ The whole experience of the Yom Kippur War indicated that the Army needed a massive reformation of its leader training system.

The Yom Kippur War certified what Generals DePuy, Gorman, and Starry believed based on their experience. DePuy had recognized the need for a reformed training program even before the Yom Kippur War and summarized his views on the future of combat in a speech at Fort Polk in June 1973. He believed that the Army's next

⁵³ Brownlee and Mullen, ed., *Changing an Army*, 182.

⁵⁴ Brigadier General William R. Richardson to General William E. DePuy, "Trip to Israel by Assistant Commandant, U.S. Army Infantry School, 29 July-5 August 1974," August 23, 1974, Talbott Papers, Box 1.

battle would consist of a relatively small armored force engaged in a short war against Soviet-style forces on the Cold War's periphery that, though exceptionally violent, would end quickly through diplomatic efforts.⁵⁵ Furthermore, the war convinced DePuy to reconsider the Army's fighting methods, described by its doctrine. For DePuy the Yom Kippur War confirmed these beliefs and provided "a marvelous excuse or springboard...for reviewing and updating our own doctrine."⁵⁶

General Starry also concluded that the Army had to learn to fight outnumbered and win the first battle of any conflict in Europe without resorting to nuclear weapons to offset NATO's insufficient numbers.⁵⁷ Historically, the U.S. Army performed poorly in the first battles of a conflict. The battles of Long Island (Revolutionary War), First Bull Run (Civil War), Kassarine Pass (World War II), Task Force Smith/Osan (Korea) demonstrated America's tendency to enter conflicts unprepared. The onset of a conflict usually found the United States frantically improvising to raise, train, equip, and deploy its forces.⁵⁸ The Yom Kippur War showed that the first battle of the next war would be the most critical and the Army may not have the luxury of recovering from an early defeat.

The war provided a good case study for the NATO's outnumbered military forces deployed along the intra-German Border. Israel's geographic and political situation committed the IDF to defense in the Sinai and Golan. They could not afford to defeat the Egyptian and Syrian offensives with a defense in depth in case the United Nations

⁵⁵ "Briefing by LTG DePuy, 7 June 1973, Fort Polk, Louisiana" in *Selected Papers Of General William E. DePuy*,. Swain comp., 59-61.

⁵⁶ Brownlee and Mullen, *Changing an Army*, 109.

⁵⁷ Donn A. Starry, "Reflections," in *Press On!*, Sorely, ed., 26.

⁵⁸ John Shy, "First Battled in Retrospect," in *America's First Battles 1776-1965*, Charles E. Heller and William A. Stoft, ed. (Lawrence: University Press of Kansas, 1986), 327-352.

imposed a cease-fire before Israel could counter-attack and retake lost territory. The West Germans possessed a similar disinclination to sacrifice their country as an anti-armor defensive zone, compelling NATO to defend forward along the border. Israel lost the initiative at the outset of the war by believing the effective deception operations that provided Egypt and Syria with strategic and tactical surprise. American leaders assumed the Warsaw Pact would initiate hostilities against NATO and would therefore also enjoy the initiative.⁵⁹ Despite DePuy's belief that the most likely location of the next battle was not in Europe, that is precisely where the Army focused its energies. Richard Lock-Pullman believes that the Army opted to prepare for the most dangerous potential conflict instead of more likely, but less dire, conflicts in other regions of the world.⁶⁰ The first Army doctrine developed after Vietnam reflected this unmistakable shift in the Army's focus and DePuy's strong belief in winning the next war's first battle.

The Yom Kippur War convinced DePuy that the Army's approach, its fighting doctrine, failed to address the realities of modern combat. Doctrine consists of the "authoritative fundamental principles by which military forces guide their actions," and serves as an "approved, shared idea about the conduct of warfare that undergirds an army's planning, organization, training, leadership style, tactics, weapons, and equipment."⁶¹ He believed in a back-to-basics approach to formulating doctrine that focused on fighting the Warsaw Pact in Germany. Produced under his personal supervision, the 1976 version of *FM 100-5, Operations* began with a clear statement of where the Army should expect to fight the next war: "Battle in Central Europe against

⁵⁹ Bronfeld, "Fighting Outnumbered," 473-475.

⁶⁰ Lock-Pullman, "An Inward Looking Time," 489.

⁶¹ Herbert, *Deciding What Has to Be Done*, 3.

forces of the Warsaw Pact is the most demanding mission the US Army could be assigned. Because the US Army is structured primarily for that contingency and has large forces deployed in that area, this manual is designed mainly to deal with the realities of such operations.”⁶²

General DePuy wanted FM 100-5 to clearly delineate “how to fight,” not advocate broad principles of war, as had previous doctrinal manuals. The manual focused on friendly and enemy weapon capabilities and the employment of weapon systems on the battlefield to defend against a Warsaw Pact armored attack along the intra-German border. Because of its defensive focus, and emphasis on lateral reinforcement, the doctrine FM 100-5 described earned the title “Active Defense.” DePuy saw the manual as a capstone that would drive the development of a series of “how to fight” manuals devoted to the execution of operations in each of the Army’s branches. DePuy partially blamed lack of effective doctrine during World War II for the ineffective training he saw in the 90th Infantry Division. He believed that to effectively train soldiers, leaders had to possess a clear, agreed upon fighting philosophy, and the development of this new doctrine would provide the intellectual direction for the training revolution by providing the Army a concept of war for which to prepare.⁶³

Changing national policies validated the Army’s turn towards exclusive preparation for war in Europe. The Nixon Doctrine emphasized the U.S. commitment to NATO

⁶² Department of the Army, *FM 100-5: Operations* (Washington D. C.: HQ, Department of the Army, 1976), 1-2.

⁶³ Historical Office, U.S. Army Training and Doctrine Command, *Annual Report of Major Activities FY 1974, U.S. Army Training and Doctrine Command, A History of TRADOC’s First Year* (Fort Monroe: U.S. Army Training and Doctrine Command, 1975), 102; Brownlee and Mullen, ed., *Changing an Army*, 189; Donn A. Starry, “Reflections,” in *Press On!*, Sorely, ed., 26; Herbert, *Deciding What Has to Be Done*, 6-7, 61-88.

while limiting involvement in conflicts in other parts of the world.⁶⁴ Lock-Pullman emphasizes another important reason for a Euro-centric concept for the Army. He argues that Europe offered the opportunity to focus the Army's reform efforts on a specific threat in a specific theater. The Yom Kippur War provided the model for how to meet the Warsaw Pact threat in Europe and validated the U.S. Army's preference for conventional war. FM 100-5 institutionalized this preference with its focus on the conventional, armored fight.⁶⁵

The Yom Kippur War demonstrated that the Soviets had taken advantage of America's distraction in Vietnam to reach technological parity on the battlefield through the development of modernized armored vehicles, ATGMs, and anti-aircraft weapons. American technological, doctrinal, and tactical developments had stagnated for ten years.⁶⁶ The Soviet T-62 main battle tank matched the American M60. The Soviet's infantry fighting vehicle, the BMP-1, far outstripped the capabilities of its closest American equivalent, the M-113 armored personnel carrier. The Army could not count on the U.S. Air Force to provide close air support in an environment contested by Soviet aircraft, SAMs, and anti-aircraft guns that were sure to saturate the European battlefield. The 1960s showed that the Army was simply not capable of simultaneously fighting a medium-sized war in Southeast Asia and effectively preparing for a large-scale war in Europe.

⁶⁴ Murray and Maslowski, *For the Common Defense*, 597; Richard Nixon, "U.S. Foreign Policy for the 1970s: A New Strategy For Peace," in Louis J. Smith and David H. Herschler, ed., *Foreign Relations of the United States, 1969-1976, Volume I: Foundations of Foreign Policy, 1969-1972* (Washington, D.C.: U.S. Government Printing Office, 2003), 195-203.

⁶⁵ Lock-Pullman, "An Inward Looking Time," 500-506.

⁶⁶ Donn A. Starry, "TRADOC's Analysis of the Yom Kippur War," March 16, 1999 in *Press On!*, Sorely, ed., 220.

Army soldiers in Europe at that time did not believe they could win against the Warsaw Pact. U.S. forces in Europe saw themselves as speed bumps in the path of the numerically superior Warsaw Pact. The demobilization of almost half the Army following Vietnam and the crises of the late 1960s demonstrated that rapid reinforcement was unlikely. The 1970s were a time of uncertainty between the United States and U.S.S.R. with regard to the use of nuclear weapons. Belief existed within the Army's leadership that the Soviets were developing an offensive concept for fighting in Central Europe that did not rely on using tactical nuclear weapons at the outset. This would create a scenario where NATO's reliance on tactical nuclear weapons to offset Soviet numbers could escalate a conflict into the strategic nuclear spectrum. The Army had to find a way to win without resorting to nukes.⁶⁷

The contemporary operating environment of the early 1970s offered DePuy and other Army leaders with a *fait accompli*. The Nixon Doctrine, the desire to walk away from Vietnam, and the Army's own historical proclivity towards large-scale, material-driven, conventional war all focused attention on conventional maneuver warfare in Central Europe. There was no mandate or desire from the American public or its political leaders to prepare the Army for other contingencies. The Yom Kippur War verified for DePuy and others what he already believed about the nature of the next war: a short, highly lethal affair where the U.S. would have to win the first battle.

The end of the draft transformed Army into a singularly professional force. The simultaneous implementation of the all-volunteer Army transformed the Army's mission

⁶⁷ Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (New York: MacMillan, 1973), 471-474 and Donn A. Starry, "TRADOC's Analysis of the Yom Kippur War" in *Press On!*, Sorely ed., 220-222.

from providing a skeleton for mobilization to protecting the security of the United States with the forces at hand.⁶⁸ The Yom Kippur War's tempo and lethality taught that the Army should not count on being able to mobilize once war began. A decade of stagnation allowed the Soviets to advance their technology and doctrine, and deprived the United States of a technological advantage on the battlefield. While the Army waited for new technology to provide the weapons for a smaller force, DePuy focused TRADOC's energies on developing new doctrine and better training to enable the Army to outfight the Warsaw Pact.

Critics such as Conrad Crane later chastised the Army for ignoring the lessons of Vietnam and collectively treating counterinsurgency as first an aberration and later as a mistake to be avoided. By setting a course in the early 1970s that focused the Army entirely on preparing for a large-scale conventional war in Europe, Crane argues that DePuy and others left the U.S. Army unprepared for the conflicts of the post-Cold War era.⁶⁹ The impetus for the Army's training reforms was the poor state of readiness and the threats by the Warsaw Pact or other Soviet proxies. General DePuy could not realistically expect the Army to train for every possible contingency from counterinsurgency to high-intensity mechanized warfare. DePuy focused doctrinal and training developments on the Warsaw Pact threat in Europe while acknowledging that a more likely scenario was a conventional fight against a smaller enemy using Soviet equipment and doctrine. His decision provided specificity to the Army's reforms. Innovations work best when they

⁶⁸ Lock-Pullman, "An Inward Looking Time," 484.

⁶⁹ Conrad Crane, *Avoiding Vietnam: The U.S. Army's Response to Defeat in Southeast Asia* (Carlisle: Strategic Studies Institute, 2002), v, 2; available online from: <http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubID=58>

focus on a specific problem.⁷⁰ Had DePuy and other leaders attempted to train the Army for every form of warfare, the lack of focus would have diluted the effort and produced forces familiar with a broad spectrum of conflict, but masters of none. The Army's training reformation began because of various internal and external factors, and like its technological and doctrinal development aimed at achieving victory over the Warsaw Pact in Central Europe. It was the best course of action available to fix the broken Army of the 1970s.

⁷⁰ Williamson Murray and Allan R. Millett, eds. *Military Innovation in the Interwar Period*. (New York: Cambridge University Press, 1996), 312-316

III: The Army of the 1970s

The Army of the 1970s was a force in crisis. Racial tensions, drug abuse, declining professional standards, and the requirement to transition to an all-volunteer force restricted the organization's ability to implement the critical reforms associated with the training revolution. While outside influences imposed some of these constraints, other factors remained within the Army's control. Army leaders lacked control over the organization's budget, but they could implement important reforms in individual training to improve the professional abilities of its soldiers and leaders. Ultimately by the end of the decade the state of the Army's training remained unacceptable. Like the other aspects of the training revolution, however, the reforms in individual training helped build a foundation for future improvements.

The U.S. military's discipline and effectiveness were breaking down in the early-1970s as the strain of the Vietnam War and changes in American society placed unprecedented pressures on the military as an institution. The events of the late-1960s and early-1970s influenced American ideas about authority and lessened the public's trust in government institutions, including the Army. The Army not only felt the effects of a changing society, but also faced the legacy of its performance in Vietnam. The North Vietnamese undermined the Army's professional authority when it launched the Tet Offensive in 1968 and discredited General William Westmoreland's optimistic

assessments concerning the war. The Army undermined its moral authority and tarnished the image of the American soldier when evidence surfaced about the massacre at My Lai and the subsequent cover up. Less horrific scandals also plagued the Army's image. In 1971, Command Sergeant Major William O. Woodridge, the first Sergeant Major of the Army, testified before a Senate subcommittee regarding charges ranging from skimming money from slot machines in enlisted men's clubs in Germany to being a member of a "sergeants' syndicate" that dominated the liquor business at enlisted clubs in Vietnam, receiving thousands of dollars in kickbacks in the process.⁷¹

On October 27, 1971, Army military police (MP) garrisoned a signal outpost near Dalat in the Republic of Vietnam after a second attempt by U.S. soldiers to kill the outpost's commander. The previous month, MPs resolved a standoff involving fourteen soldiers armed with automatic weapons that had barricade themselves in a bunker and refused orders to surrender. The mutinous soldiers surrendered only after the MPs blew through the rear wall of the bunker with explosives.⁷² Between 1969 and 1972, the Army reported 551 incidents of murder or attempted murder committed by soldiers stationed in Vietnam against their superiors, known colloquially as "fragging." Eighty percent of these attacks were against officers or non-commissioned officers (NCOs). Rebellion also appeared in the other armed services. In May 1971, increasing racial tensions exploded into rioting at Travis Air Force Base. One quarter of the sailors on the USS *Coral Sea* signed an anti-war petition, a fire on the USS *Forrestal* in July 1972 caused \$7 million in

⁷¹ Fischer, *Guardians of the Republic*, 346-347.

⁷² Shelby Stanton, *The Rise and Fall of an American Army*, 357.

damage, and sabotage on the USS *Ranger* delayed its deployment to Southeast Asia by more than three months.⁷³

Indiscipline and resistance plagued the ranks. By 1969, some units in Vietnam were refusing to execute combat operations and “combat refusal” entered the Army’s lexicon. Richard Nixon’s public commitment to extricate the United States from Vietnam and turn the war over to the Vietnamese confused soldiers facing the dangers of combat. The shifting strategic goals failed to impress the volunteers and draftees that executed “Vietnamization.” Asked to face death and injury on behalf of the Vietnamese people and their government, many soldiers balked.⁷⁴ One reporter witnessed the effects of Vietnamization on a company supporting South Vietnamese forces in Cambodia in 1971. When ordered to patrol outside their firebase in search of a North Vietnamese mortar team that harassed them daily, the soldiers refused and drafted a petition seeking the support of Senator Edward Kennedy.⁷⁵ Readiness and discipline declined in Army units stationed in other parts of the world. Denied access to the reserve components, the Army relied on personnel from units in Europe, Korea, and the United States to fill its needs in Vietnam, resulting in an overall decline in the readiness of those organizations.⁷⁶ Personnel turbulence increased as the Army simultaneously withdrew from Vietnam and executed a significant force reduction, with active duty strength falling from a high of

⁷³ David Cortright, “GI Resistance During the Vietnam War” in Melvin Small and William D. Hoover ed. *Give Peace a Chance: Exploring the Vietnam Antiwar Movement*. (Syracuse: Syracuse University Press, 1992), 123-127.

⁷⁴ Stanton, *The Rise and Fall of an American Army*, 293.

⁷⁵ Richard Boyle, *The Flower of the Dragon: The Breakdown of the Army in Vietnam* (San Francisco: Rampart Press, 1972), 227-239.

⁷⁶ Donn A. Starry, “Reflections” in *Camp Colt to Desert Storm: The History of the U.S. Armored Forces*, George F. Hoffman and Donn A. Starry, ed. (Lexington: University Press of Kentucky, 1999), 548. At the outset of the Vietnam War, Lyndon Johnson denied the Army the ability to augment its active duty units by mobilizing elements of the Army National Guard and Army Reserve.

1,570,000 in 1968 to 783,000 in 1974.⁷⁷ Personnel turbulence undercut many of the Army's efforts to revitalize its training and transition to an all-volunteer force. Constant movement of leaders and soldiers in and out of units hindered the formation of cohesive, well-trained teams. The challenge of constantly shifting personnel resulted from forces the Army's leaders could little affect, but other factors that undermined the Army's discipline and professional image fell well within their span of control.

The strain of maintaining forces in Vietnam, an extended conflict with unclear political objectives or measures for achieving them, resulted in a force confused about its mission and unsure about its role in American society. Westmoreland inherited this institutional problem when he served as the Chief of Staff of the Army from July 1968 to July 1972. Responsible for maintaining the fitness and readiness of the entire Army, not just the portion fighting in Vietnam, he sought to "re-orient, revitalize, and otherwise prepare the Army for meeting future roles in support of national policy" while simultaneously supporting Army operations in Vietnam.⁷⁸ As part of that effort, Westmoreland ordered the U.S. Army War College (USAWC) to study the state of professionalism in the Army's officer corps.

A group of War College students completed the *Study of Military Professionalism* in June 1970 and briefed the results to Westmoreland. Based on interviews, surveys, and seminars involving 415 officers attending various Army service schools, the study found the ideal of military professionalism, as embodied in the concept of "Duty-Honor-Country", remained strong within the officer corps. A vast chasm, however, existed

⁷⁷ *Report of the Secretary of Defense James R. Schlesinger to the Congress on the FY 1976 and Transition Budget, FY 1977 Authorization Request and FY 1976-1980 Defense Programs, February 5, 1975.* (Washington D.C.: U.S. Government Printing Office, 1975), D-3.

⁷⁸ William C. Westmoreland, *A Soldier Reports* (New York: Doubleday and Company, Inc., 1976), 364.

between the ideal and the officers' perceptions of reality. Junior officers believed most strongly that the conduct of the Army's officers diverged from the officer corps' professional ideals. Captains and majors believed that lieutenant colonels and colonels received their promotions under a "system" that forced officers to abandon their scruples, when necessary lying and cheating to achieve success and remain competitive for promotion. Junior leaders believed that their superiors were not interested in the professional development of younger officers and tended to talk "at" rather than "with" subordinates. This contributed to a culture that emphasized conformity.

The authors of the *Study on Officer Professionalism* showed that the Army's officers largely viewed themselves as competent, confident, and honest, but they believed that incompetence and lack of integrity plagued the wider force. Because of wartime casualties and personnel shortages, lieutenants became captains in as little as three years. As a result, they lacked experience and possessed superficial understandings of their assigned duties. The Army's education system stressed a general understanding of the military art rather than in-depth expertise in an officer's specific branch. Constantly shifting duty assignments exacerbated this tendency towards general knowledge and that led to general incompetence.⁷⁹ Most worrisome, the study found that the problem was not self-correcting, but rather that it was deeply rooted in the Army's systems for officer assignment and evaluation.⁸⁰ The authors of the USAWC study recommended to Westmoreland that he publish the study's findings as a first step to rectifying the Army's

⁷⁹ Ibid, B-37.

⁸⁰ *Study on Military Professionalism* (Carlisle: U.S. Army War College, 1970), iii-iv, 4, 13-17, B-2-2 to B-2-3. Forty percent of captains surveyed perceived a "considerable" or "great" difference between ideals and reality, while only 17% of colonels felt similarly. Officers commissioned directly from the enlisted ranks perceived the most divergence while those commissioned through ROTC perceived the least divergence.

shortcomings, but the Chief of Staff feared that its public release would cause more harm than good and restricted distribution of the study. General Creighton Abrams, who became Army Chief of Staff in October 1972, finally released the USAWC study in August 1973.⁸¹

The USAWC study showed that Vietnam had acted as a catalyst that accelerated the declining professionalism in the officer corps and contributed to a culture of dishonesty and frustration. Command tours in Vietnam were exceptionally short, with lieutenant colonels and colonels commanding at the battalion and brigade level for approximately six months. The reasons for limiting tour length included concerns that longer command tours might cause leaders to “burn out.” Command in combat also provided officers with perhaps their most important professional developmental experience; an understandable desire therefore existed among officers to seek out positions of command responsibility in combat. Division and corps commanders also wanted their senior staff officers to have combat experience. With Vietnam the only war available at the time and tours in the country limited to twelve months, a colonel’s desire to command a brigade for more than six months conflicted with a division commander’s desire to have a combat experienced colonel on his staff.⁸² However, junior officers perceived this system as promoting “ticket punching,” where mid-grade officers rotated rapidly through command positions not to provide qualified and dedicated leadership, but to ensure their future prospects for promotion.

The nature of the semi-professional army of the Cold War contributed to the problem of rapidly rotating commanders. Since the end of World War II, the Army had

⁸¹ *Annual Report of Major Activities FY 1974, Army Training and Doctrine Command*, 79.

⁸² Westmoreland, *A Soldier Reports*, 296-297.

consisted of a large number of short-term volunteers and draftees led by long-serving officers and non-commissioned officers (NCO). Officers dedicated their working lives to military service, and naturally sought promotion in an organization where, like other large organizations, advancement went to those who could excel at their jobs and successfully navigated the Army's bureaucracy and institutional culture. Unlike World War II, the outcome of Vietnam had little impact on America's short-term survival and officers understood that those with combat experience possessed better chances for promotion. The Army of the Vietnam War lacked a George C. Marshall, who in World War II replaced a number of long-serving officers with their more competent inferiors, to make the difficult decisions that subordinated the professional futures of the Army's officers for the sake of combat effectiveness.

The short command tours, when combined with recent innovations in computing and data processing, created an environment that de-incentivized honesty and risk-taking. Commanders had little time to make an impression on their superiors or to recover from mistakes. The nature of the Vietnam War lacked easily visible measures of effectiveness. In World War II and Korea, the movement of the front lines indicated the progress toward victory. The surrender of the Axis Powers and the armistice with North Korea provided a clear end to the fighting in America's wars prior to Vietnam. In South Vietnam, there were no front lines to show the Army's advance towards victory. Instead, statistical data, easily compiled and analyzed by computers, substituted for indicators of military effectiveness. While body counts became the most notorious indicator of progress, other commanders measured progress by the number of miles walked by patrols

or villages “pacified.”⁸³ The USAWC study found that the need to quantify progress, without regard for the specific circumstances of a given operating environment, created a demand for perfection that was “especially unappealing to those who [took] things seriously, who want[ed] to accomplish their mission, and who [were] prone to report the truth.” The study concluded that statistical indicators were a “crutch on which the inexperienced and transient commander [could] lean in judging his own or his subordinates’ progress.”⁸⁴ Furthermore, the Army’s evaluation and promotion systems rewarded those who produced the desired statistical “progress” and maintained a record unblemished by mistakes or setbacks, even understandable ones. Officers of integrity faced a situation where honest reporting put their careers at risk, while less scrupulous officers exaggerated their successes in order to safeguard their advancement. As one colonel interviewed for the study put it, “The military requires success in everything. So success is reported. Training records, supply records are two cases in point. These lies then easily lead to others.”⁸⁵ In other words, the promotion and evaluation system rewarded the perception of perfection rather than the reality of fallible success.

Within the scope of its authority, TRADOC took action early on to begin rectifying some of the deficiencies the USAWC study identified in officer education. General DePuy’s experience during World War II and in the Vietnam War left him little sympathy for officers he considered incapable of executing their duties. While commanding of the First Infantry Division in Vietnam, DePuy had relieved seven

⁸³ Gorman, interview by author, August 31, 2010.

⁸⁴ *Study on Military Professionalism*, 20-24.

⁸⁵ *Study on Military Professionalism*, B-1-5.

battalion commanders of their duties for incompetence in combat.⁸⁶ Upon taking command of TRADOC, DePuy directed a re-orientation of officer training and education away from preparing for general mobilization to training officers to perform in specific duty assignments in an Army prepared to fight and win the first battle of the next war.

The officer education system of the early 1970s focused on preparation for a general war that included a mass mobilization that would rapidly expand of the Army's ranks. This was model followed during the two world wars and to a limited extent the Korean. Under these circumstances, officers often advanced rapidly as the need grew for more senior leaders and staff officers to fill the expanding organization. As a result, Army schools of the 1950s and 1960s prepared officers to perform duties one or two grades higher than the duties associated with their current ranks. With the implementation of the Officer Professional Management System during the decade, preparation shifted to training officers for specific jobs associated with their current ranks and away from broad military education. The goals of the new education system included the elimination of subjects not directly related to an officer's primary duties in their ranks. This reflected the importance DePuy and TRADOC placed on wining the first battle of the next war.⁸⁷ For example, the Army's mid-level officer education, the Command and General Staff Officer Course, changed its principle mission during the mid-1970s. In 1972, the course sought to prepare selected officers "for duty as commanders and as principal staff officers with the Army in the field from division through higher levels, and at theater Army

⁸⁶ Mullen and Brownlee, *Changing an Army*, 153.

⁸⁷ Department of the Army, *Education of Army Officers Under The Officer Personnel Management System: Report of TRADOC OPMS Task Group, Vol II* (Fort Monroe: U.S. Army Training and Doctrine Command, 1975), II-1 to II-4 – U.S. Army War College Library, Carlisle, PA.

support command.”⁸⁸ By 1976, the course’s purpose had shifted to preparing officers for duties “as commanders of battalion-, brigade-, and equivalent-sized units.”⁸⁹ Changes to officer training provided one long-term solution to the problem of professionalism in the Army, and specifically addressed the need to improve the competence of the officer corps. Officer professionalism was but one issue the Army faced as it emerged from Vietnam and prepared for the challenges of the 1970s.

Service in Vietnam exposed thousands of American service members to easily accessible illicit drugs. A 1971 survey showed that 67 percent of soldiers serving in Vietnam had experimented with marijuana and 45 percent had used harder drugs.⁹⁰ The superficial leadership described by the USAWC study and the decline in the quality of the NCO corps contributed to increased drug addiction among service members.⁹¹ The need for the Army to address soldiers’ drug problems, as well as problems with race relations and undereducated soldiers, robbed leaders and soldiers of the time necessary to implement effective individual and unit training.⁹² The Army responded to the drug problem with a three-prong approach: education, treatment, and law enforcement. This effort fell under the Alcohol and Drug Abuse Prevention and Control Program (ADAPCP), which sought to educate and provide treatment to soldiers suffering from

⁸⁸ Department of the Army, *Academic Year 1975 Program of Instruction for Command and General Staff Officer Course* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1974), 1 – Combined Arms Library, Fort Leavenworth, KS.

⁸⁹ Department of the Army, *76-77 Course Catalog* (Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1976), iii. – Combined Arms Library, Fort Leavenworth, KS.

⁹⁰ George Herring "Preparing *Not* to Refight the Last War: The Impact of the Vietnam War on the U.S. Military," in *After Vietnam: Legacies of a Lost War*, ed. Charles E. Neu (Baltimore: The Johns Hopkins University Press, 2000), 60.

⁹¹ Kinnard Douglas. *The War Managers*. (Wayne: Avery Publishing Group Inc., 1985), 111

⁹² Paul F. Gorman, “Presentation by MG Gorman, Army War College Class 76,” Carlisle Barracks, 5 March 1976, 26; papers provided to author by Gorman.

alcohol and drug dependence.⁹³ By 1974, all newly inducted basic trainees received two hours of training in the “Hazards of Alcohol and Drug Abuse” and additional training took place at the unit level.⁹⁴ To encourage soldiers to seek treatment for drug addiction, Secretary of Defense Melvin Laird initiated, on a trial basis, amnesty to military personnel voluntarily seeking treatment for drug and alcohol abuse beginning in 1971.⁹⁵ Beginning in 1973, a DoD-wide policy prohibited commanders of service members who volunteered for treatment from using that information against soldiers in Uniform Code of Military Justice proceedings, or in discharge proceedings for anything less than an honorable discharge.⁹⁶ This policy undermined some of the commander’s authority, but undoubtedly encouraged more soldiers to seek treatment. Changes to Army regulations in 1979 returned some authority to commanders by allowing them to enroll soldiers forcibly in ADAPCP treatment.⁹⁷

Giving soldiers amnesty by seeking treatment could not in itself curb the issue of drug abuse, and the Army instituted involuntary enforcement programs to identify and remove drug users. Drug testing formed the basis for combating drug abuse through law enforcement. All new recruits underwent drug testing at induction centers and random testing took place throughout the Army. Commanders also maintained a surveillance

⁹³ *Annual Report of Major Activities FY 1974, Army Training and Doctrine Command: A History of TRADOC's First Year*, 306.

⁹⁴ *Semiannual Historical Report, Deputy Chief of Staff for Training, 1 January - 30 June 1974*, (Ft. Monroe, VA: Army Training and Doctrine Command), 5-9.

⁹⁵ *Statement of Secretary of Defense Melvin R. Laird Before the House Armed Services Committee on FY 1972-1976 Defense Program and the 1972 Defense Budget, March 9, 1971*. (Washington D.C.: U.S. Government Printing Office, 1971), 144.

⁹⁶ *Statement of the Secretary of Defense Elliot L. Richardson Before the House Armed Services Committee on the FY 1974 and FY 1974-1978 Program, April 10, 1973* (Washington D.C.: U.S. Government Printing Office, 1973), 113.

⁹⁷ Historical Office, Office of the Chief of Staff. *Army Training and Doctrine Command Annual Historical Review, 1 October 1978 to 30 September 1979* (Fort Monroe: U.S. Army Training and Doctrine Command, 1981), 369; (document classified Confidential – portions referenced are unclassified).

program within their units, where drug testing took place at their discretion. However, court rulings resulted in a policy change in 1975 that extended the ADAPCP amnesty to soldiers identified by random testing. The courts determined that random, mandatory testing constituted an illegal search, and those discovered through that process avoided criminal punishment.⁹⁸ This policy persisted throughout the decade, and continued to undermine the authority of commanders to deter drug use in units. Just as the Army reflected the realities of American society, the drug problem showed that the Army lacked immunity against society's worst problems. The Army fought the "culture wars" of the period along with other American institutions and drug problems persisted throughout 1970s, contributing to personnel turnover and distracting time and resources from efforts by Army leaders to train the force and prepare for war.⁹⁹

Along with increased drug use, America in the 1970s experienced increased racial tensions as the civil rights struggle shifted from legal equality to de facto economic and political equality. African Americans in the millions grew up during the 1960s and 1970s in crowded, poverty-stricken, central-city neighborhoods. Many expressed anger at the seeming hopelessness of a future lacking in education or economic advancement.¹⁰⁰ Just as racial conflicts grew in these urban areas during the 1960s, so did conflicts within the Army. The Army had grown complacent during the 1950s and 1960s as African American soldiers accepted with limited protest the unchanging nature of discrimination they saw in the armed forces. Commanders in the 1960s tended to ignore, if not

⁹⁸ Historical Office, U.S. Army Training and Doctrine Command, *Army Training and Doctrine Command Annual Historical Review, 1 July 1975 to 30 September 1976* (Fort Monroe, VA: 1977), 301-302 (document classified Confidential – portions referenced are unclassified).

⁹⁹ James T. Patterson, *Restless Giant: The United States from Watergate to Bush v. Gore* (Oxford: Oxford University Press, 2005), 3.

¹⁰⁰ Patterson, *Restless Giant*, 43.

contribute to, the outward manifestations of racial disharmony, and many African American soldiers saw their superiors' silence as official acceptance of the racial slurs and race bating that occurred in many units. Many white soldiers experienced their first legally prescribed equal-rights environment only after enlisting in the Army and while the Army could regulate behavior, attitudes were slow to change. While these issues remained largely absent from combat units serving in Vietnam, they were prevalent in support areas and in units stationed in Europe and the United States.¹⁰¹

The Army's leadership realized that racial disharmony represented a serious threat to unit cohesion, a threat that increased after 1973 when the military transitioned to an all-volunteer force. Many African Americans joined the Army seeking educational benefits and job skills. African Americans represented 15 percent of enlisted accessions in fiscal year 1972. By fiscal year 1974, the first full year without the draft, that percentage had risen to 27 percent.¹⁰² The increasing diversity of the ranks combined with the racial tensions in American society to present a serious problem to discipline and moral.

Like its response many other social problems, the military developed a bureaucratic response to the problem of racial harmony. In 1972, the Department of Defense established the Defense Race Relations Institute (DRRI) at Patrick Air Force Base, Florida to train instructors in race relations for all the military services. Instructors trained at DRRI then returned to their respective services to advise commanders on race relations policy, conduct training, and lead seminars and group discussions in operational

¹⁰¹ James S. White, "Race Relations in the Army," *Military Review* 50, no. 7 (1970), 4-6.

¹⁰² *Report Of Secretary of Defense Donald H. Rumsfeld to the Congress on the 1977 Budget and Its Implications for the FY 1978 Authorization Request and the FY 1977-1981 Defense Programs, January 21, 1976* (Washington D.C.: U.S. Government Printing Office, 1976), 226.

units. The Army's Race Relations and Equal Opportunity (RR/EO) Affirmative Action Plan represented the Army-specific effort to foster positive race relations in the ranks. RR/EO strove to create an environment within the Army where "individuals must be allowed to rise or fall on his or her own merit and efforts regardless of race, color, sex, religion, or national origin."¹⁰³ DRRI, however, could not produce enough instructors and the Department of the Army sought more decentralized solutions. The Army Infantry School developed an 18-hour sequence of individual race relations training and an instructor-training program at Ft. Benning.¹⁰⁴ This effort proved inefficient; by 1976, the Army terminated centralized training of race relations instructors. In keeping with a renewed emphasis on decentralizing training, the Infantry School made training materials available so that individual units could train their own instructors.¹⁰⁵ To provide emphasis on race relations, the Army awarded a separate Military Occupation Specialty (MOS) to those soldiers graduating from DRRI after November 1974.¹⁰⁶ Awarding a separate MOS showed that the Army took the problem of race relations seriously because equal opportunity personnel acted in that capacity full-time rather than part-time as an additional duty.

Equal Opportunity specialists, unit and individual training and other bureaucratic initiatives were critical to keeping racial tensions from affecting unit readiness. However, effective leadership determined whether racial tensions effected unit cohesion. When the

¹⁰³ General William E. DePuy to Command, July 1973 20, 1973, DePuy Papers, Box 18.

¹⁰⁴ *CONARC/ARRED Annual Historical Summary, FY 1973*, 223-231.

¹⁰⁵ *Army Training and Doctrine Command Annual Historical Review, 1 July 1975 to 30 September 1976*, 304.

¹⁰⁶ Historical Office, U.S. Army Training and Doctrine Command, *Semiannual Historical Report, Deputy Chief of Staff for Personnel, 1 July - 31 December 1974* Fort Monroe: U.S. Army Training and Doctrine Command, 1975), 15-16.

commander of the Second Infantry Division, Henry “The Gunner” Emerson, learned that his soldiers had self-segregated the bars and clubs in the village outside Camp Casey, Korea, he declared to his subordinate commanders that racism would “end by zero seven hundred tomorrow morning.”¹⁰⁷ He ordered his officers to visit all the bars and clubs, no matter which race dominated, and break the color line. Some white officers were reluctant to discipline African American soldiers for fear of creating the perception of racism. These were undoubtedly weak-willed individuals, but they faced a daunting challenge of commanding in a racially charged environment. Emerson relieved one of his battalion commanders when he lost control of his battalion after a young African-American corporal used the threat of racial unrest to undermine the commander’s authority. The corporal received a transfer to another battalion where he again attempted to undermine the chain of command, but the soldier’s new battalion commander was made of stronger stuff. Lieutenant Colonel Collin Powell, who later became the first African American chairman of the Joint Chiefs of Staff, was unimpressed, acted decisively and removed the soldier from his battalion, from Korea, and from the Army.¹⁰⁸

In addition to outright racism, clashes of culture and identity exacerbated tensions. White officers often saw black power armbands, “Afro” haircuts, and black power handshakes as a conspiracy against good order and discipline, while African American soldiers saw them as expressions of racial identity.¹⁰⁹ Soldiers also tended to segregate themselves in their off-duty activities, as General Emerson found in Korea.

¹⁰⁷ Quoted in Colin L. Powell with Joseph E. Persico, *My American Journey* (New York: Baltimore Books, 1995), 189.

¹⁰⁸ Powell, *My American Journey*, 190-192.

¹⁰⁹ Beth Bailey, *America’s Army: Making the All-Volunteer Force* (Cambridge: The Belknap Press of Harvard University Press, 2009), 115.

This tendency reduced the un-official, informal unit bonding critical to developing mutual trust and unit cohesion. A U.S. Army Training and Doctrine Command (TRADOC) Inspector General investigation carried out between 1975 and 1976 surveyed over 5000 enlisted soldiers to identify areas of discrimination at enlisted men's clubs. While the investigation revealed no official policies of discrimination, 45 percent of African American and 65 percent of white soldiers felt unwelcome in these establishments. Further investigation showed that dissatisfaction with club operation caused the problem, rather than official discrimination. For example, African Americans were less likely to patronize clubs with too much country and western music, while white soldiers would not patronize an establishment with too little. A further study showed that local opportunities for entertainment affected survey results. For example, white soldiers assigned to Fort Story, Virginia enjoyed many off-post entertainment opportunities, but African American soldiers were less well received by the surrounding community and gravitated to the on-post enlisted clubs. Once the on-post clubs became "black clubs," white soldiers were less likely to patronize them.¹¹⁰ The study showed aspects of the issue of racial tension remained outside the scope of bureaucratic solutions and regulations. Better leadership and a new sense of purpose, all products of the emerging training revolution, were necessary to improve relations among different groups of soldiers.

Like the Army's drug abuse problem, problems with race relations reflected American society. The 1960s were a decade of violent racial conflict during which African Americans won their rights, but not their equality. The fight for equality took

¹¹⁰ *Army Training and Doctrine Command Annual Historical Review, 1 July 1975 to 30 September 1976*, 304.

place in the 1970s, and that fight took place in the Army just as it did in American educational and business organizations. The Army re-branded itself as it tried to attract post-draft volunteers and many Americans came to see the military as an opportunity for advancement rather than an obligation of citizenship. Promises of upward mobility and education naturally attracted large numbers of African Americans who served with honor, and justifiably demanded that the Army recognize that equality both formally and informally. By the close of the 1970s indicators of racial inequality remained. The Army Equal Opportunity effort had made major progress since 1972, but African Americans continued to be over-represented in courts-martial and non-judicial punishment proceedings. Although the Army did not realize an end to inequality by the close of the 1970s, it managed to keep racial conflict from tearing the institution apart.¹¹¹

The issue of race factored greatly into the end of the draft and the transition to the all-volunteer force. The transition to an all-volunteer force at the end of America's participation in the Vietnam War represented the most significant challenge to the Army's continued ability to defend the nation. Except for a brief period following World War II, the Army had depended on draftees to meet its enlisted personnel requirements. Officers, who generally had college educations and therefore more employment prospects, had always been volunteers. After 1973, the Army competed for its enlisted personnel with the other armed services and the civilian employment market. The continued political viability of the draft died with the decline in public support for the Vietnam War as the public perception developed that the bulk of Vietnam casualties were draftees fighting against their will in an increasingly unpopular war. This perception was

¹¹¹ Terry Anderson, *The Sixties* (New York: Pearson Longman, 2004), 214-215; Bailey, *America's Army*, 111.

not entirely based in reality as draftees represented only half the military personnel in Vietnam, but many non-drafted soldiers were “draft-induced” volunteers who enlisted to gain some control over the terms of their military service.¹¹² Because large numbers of these draft-induced volunteers sought safer service in the Air Force and Navy, the Army relied on the draft more than any other services to fill its ranks.

Richard Nixon read the political climate of the nation and during his presidential campaign pledged to end both the Vietnam War and the draft. In March 1969, Nixon established a special commission to examine the feasibility of a transition to an all-volunteer military. Robert Gates, a former Secretary of Defense and chair of the executive committee of Morgan Guaranty Trust Company, headed the President’s Commission on the All-Volunteer Armed Forces, later known as the Gates Commission.¹¹³ The commission members issued their final report in February 1970 in which they expressed optimism about the prospects of transitioning to an all-volunteer military. Their report, however, also illustrated that the end of the draft remained a controversial change in American military policy.

Numerous objections surfaced against the move to an all-volunteer military. The draft motivated much of the anti-war movement during the Vietnam War, and the prospect of all-volunteer armed forces raised fears that policymakers might engage in military adventurism. In other words, the America’s service members would become less like citizen soldiers and more like professional mercenaries. Without the connection to American society that draftees provided, a military ethos might develop with a set of

¹¹² Millet and Maslowski, *For the Common Defense*, 587.

¹¹³ *The Report of the President’s Commission on the All-Volunteer Armed Forces*. Washington D.C.: U.S. Government Printing Office, February 1970), vii-viii.

values substantially different from that society. Eventually, the concept of military service would transform from a duty of citizenship to a contractual service between military professionals and the state. Presciently, some feared that the quality of the armed forces might decline without the ability to compel the service of individuals with high school and college educations. The armed forces would become overly attractive to the poor and less educated. The commission's report specifically identified the racial mixture of the armed forces as a concern. Some feared that African-Americans, motivated by the pay and opportunities for upward mobility offered in the armed forces, would come to dominate the enlisted ranks and that at some point white Americans would become less willing to enlist in a "black" military. Others raised concerns regarding the cost of attracting sufficient quality recruits, because competing with the American labor market required higher pay, increased recruiting budgets, and other expenses. Finally, the ability of an all-volunteer military to conduct sustained combat operations remained in doubt. At some point, casualties would force policymakers to make a politically unpalatable decision to re-instate the draft, mobilize vast numbers or reserves, or radically curtail strategic objectives.¹¹⁴

Despite the objections to its report, the Gates Commission found an all-volunteer force not only feasible, but also more desirable to the continued use of the draft to fill the military's ranks. Perhaps reflecting their backgrounds in business and academics, the commission members focused on the economics of military labor. For the commission members, the draft imposed a \$3,600 (1969 dollars) tax-in-kind on recruits because the draft allowed the military to pay its members less than would be required to induce

¹¹⁴ *Report of the President's Commission on the All-Volunteered Force*, 12-19 and Zeb B. Bradford, "American Ground Power After Vietnam", *Military Review* 52, no. 4 (1972): 4-13.

voluntary enlistment. Additionally, the draftee lost two years of his life (only men were drafted) that he could otherwise spend learning a trade, pursuing higher education, or gaining experience in the civilian economy. According to the commission, the keys to recruiting a high quality volunteer force were increased pay and benefits. Raising pay and benefits to levels comparable to the civilian workforce, the commission believed, would attract high-quality volunteers who possessed higher motivation because they chose the military over alternative civilian employment. The commission members rejected the idea that individuals would simply enlist for money and found that the suggestion demeaned those who had volunteered for service, while acknowledging that many volunteered because of the draft. The quality of military life had to improve as well. The commission argued that “conscription enables the military to ignore individual dignity and desire” and that “the entire military ‘atmosphere’ - the approach to training, discipline, and treatment of individuals - must be re-examined.” The commission also rejected the idea that minorities would dominate the armed forces and concluded that the benefits of military pay would attract both races proportionately.¹¹⁵

The Gate’s Commission report established the political foundation for the all-volunteer force, but its work focused too much on the economic incentives for enlistment. It seemed to ignore the anti-military trends pervading American society in the late 1960s and failed to account for the non-monetary factors that motivated American youths to volunteer for military service. Love of country, the desire to subordinate oneself to an organization providing a vital service to society, and the urge to follow a disciplined lifestyle did not seem important to the commission members. Furthermore, in arguing for

¹¹⁵ *Report of the President’s Commission on the All-Volunteer Armed Forces*, 12-13, 133-152 (quotation – 141).

the primacy of pay and benefits comparable to civilian employment, the Gates report underplayed the perception issues that eventually hampered recruiting efforts.

At the same time the Gates Commission examined the feasibility of an all-volunteer military, General William Westmoreland, initiated “Project Volunteer in Defense of the Nation” or PROVIDE. The PROVIDE group examined how the Army could fulfill its missions without relying on the draft. While the Gates Commission focused on economic incentives, the PROVIDE group offered a more comprehensive approach to filling the Army’s personnel need that took into account factors more readily apparent to professional military personnel. The PROVIDE group recommended improving the quality and training of recruiters, expanding the role of women in the army, and using extensive commercial advertising to attract volunteers and counteract the negative image of the Army.¹¹⁶

In October 1970, Westmoreland initiated the Modern Volunteer Army (MVA) program, created the Special Assistant for the Modern Volunteer Army, and appointed Lieutenant General George I. Forsythe to the position.¹¹⁷ Forsythe had approximately three years to determine how to wean the Army from its reliance on draftees. That effort required the institution to accomplish two related goals. The recruiting effort had to attract sufficient enlistees without the coercive effects of the draft, and the Army had to convince sufficient numbers of quality personnel to remain in the service after the termination of their initial enlistment contracts. Unlike the Gates Commission, the Army’s leaders saw military service as more than simply an employment option, an understandable viewpoint, as many of these officers had served in World War II, Korea,

¹¹⁶ Bailey, *America’s Army*, 38-41.

¹¹⁷ Stewart, ed. *American Military History Volume II*, 371.

and in Vietnam. By its very nature, military service required that its “employees” accept losses of personal freedom, tolerate discomfort and inconvenience, and willfully expose themselves to modern forms of industrialized violence. To attract new members and retain its soldiers, the Army, therefore, had to be about more than just a paycheck.¹¹⁸

One Modern Volunteer Army program that sought to identify areas to improve soldiers’ quality of life and job satisfaction also sparked significant controversy, demonstrating the difficulty of radical transformation in the inherently conservative Army. Project VOLAR, conducted at Fort Benning, Fort Bragg, Fort Carson, and Fort Ord, and in U.S. Army Europe during fiscal year 1971, sought to determine what steps the Army could take to create a more satisfying work environment and improve the quality of life for soldiers, especially by removing “unnecessary sources of irritation and distraction.”¹¹⁹ VOLAR was also a partial response to the rampant indiscipline perpetrated by disaffected draftees and Vietnam returnees that seemed to defy traditional methods of discipline such as isolation of troublemakers, courts-martial, and vigorous corrective training.¹²⁰ Where coercion had failed, VOLAR attempted to succeed through concessions.

The experiment consisted of a host of lifestyle and quality of life changes. Half the five million dollar budget went to hiring civilians to perform tasks generally performed by soldiers such as grounds keeping and KP (kitchen patrol). Other experimental reforms included redesigning barracks to allow for more privacy,

¹¹⁸ Bailey, *America’s Army*, 49.

¹¹⁹ Robert Vineberg and Elaine N. Taylor, *Summary and Review of Studies of the VOLAR Experiment 1971: Installation Reports for Forts Benning, Bragg, Carson, and Ord, and HUmRRO Permanent Party Studies* (Alexandria: Human Resources Research Organization, May 1972), v, 3.

¹²⁰ Bailey, *America’s Army*, 53-54.

liberalizing pass and leave privileges, relaxing grooming standards, allowing beer in the barracks, and forming enlisted men's councils whose representatives had direct access to post-commanders. Leaders made efforts to regulate work hours and eliminated pre-dawn reveille and weekend formations. At its worst, the experiments resulted in decreased authority within the chain of command and created a culture of permissiveness in the ranks. However, VOLAR also showed that when relieved of tasks such as KP and landscaping, soldiers became available for training and were able to more often perform duties in their assigned specialties. The result was greater job satisfaction and professionalism.¹²¹ A previous training study demonstrated that personnel turbulence among units and the availability of personnel for training was one of the key factors hindering effective training.¹²² The study showed that constantly shifting personnel and the need to meet administrative personnel requirements constituted the combat arms unit commanders' primary obstacles to effective training. By relieving soldiers of menial and custodial duties, the VOLAR reforms demonstrated a method for improving unit cohesion during training.

VOLAR and subsequent studies reveal a great deal about the attitudes of enlisted soldiers in the early 1970s. Among the aspects of Army life that motivated enlisted soldiers to leave the army after their first enlistment, "Mickey Mouse stuff" stood at the top of the list. Working overtime, evening and weekend duty, barracks conditions, the Vietnam War, and the public's attitude toward the military also ranked high among reasons enlisted soldiers chose not to re-enlist. Enlisted soldiers, the men the Army

¹²¹ Bailey, *America's Army*, 56-62.

¹²² Department of the Army, *Report of the Board of Dynamic Training Vol I: Executive Summary*, December 1971, 17.

needed most to retain to ensure the success of the all volunteer force, wanted increased personal privacy in their living quarters, freedom to choose their path in the Army, job satisfaction, and greater respect from their superiors and the public.¹²³ While the VOLAR experiment raised serious controversy among those who saw it as a representation of an increasingly permissive army, it was an effective first-step in the transition to an all-volunteer force. However, budget constraints linked to hard economic times in the early 1970s and a lack of political interest in funding the military resulted in many unfulfilled promises. Despite the positive response to VOLAR initiatives, soldiers still pulled duty as lifeguards, furnace firers, and KPs. Perceived injustices, particularly continued inadequate housing, affected soldiers' career decisions. The commander of Ft. Knox and a future TRADOC commanding general, General Donn A. Starry, observed, "if a soldier feels he is being unjustly slighted in his living accommodations, he is certainly not prone to continue with a military career."¹²⁴ The political fallout from Vietnam was one source of unfulfilled promises. For example, in February 1971 Congress undermined efforts to stabilize assignments and provide for regular hours and dependable schedules by demanding an immediate reduction of 50,000 soldiers while simultaneously extending the draft to 1973.¹²⁵ Despite promises not kept, VOLAR found that soldiers gained job satisfaction in performing those tasks associated with their profession. In the peacetime Army of the 1970s, especially for the combat arms soldiers, job satisfaction required effective, innovative, and realistic training.

¹²³ Ibid, 63, 66.

¹²⁴ Letter, Major General Donn A. Starry to Secretary Howard H. Callaway, 5 November 1973, DePuy Papers, Box 5.

¹²⁵ Bailey, *America's Army*, 97-98.

To recruit enough new enlisted soldiers without the draft, the Army turned to a variety of methods that combined the most powerful marketing techniques of the time with more intuitive and personal outreach programs. N.W. Ayer, the marketing firm responsible for Army advertising, created the first Army brand with its initial campaign, “Today’s Army Wants Join You.” Using tools such as mass advertising and market research, the campaign sought to show the Army as a place of opportunity and adventure where one could gain education, learn job skills, and travel. Military service was no longer about obligation and sacrifice, but opportunity.¹²⁶ The Army emphasized this trend by allowing enlistees greater freedom to choose their occupations and duty locations. Until funding dried up in 1975, the Unit of Choice/Station of Choice program permitted recruits to choose their initial duty assignment or unit.¹²⁷ While N.W. Ayers used the tools of mass marketing to reach recruits, the Army sought to reach out on a personal level. During a visit to Ft. Jackson in August 1973, Secretary of the Army Howard Callaway asked about sending specially selected, recent graduates of initial entry training back to their hometowns to assist recruiters in recruiting their friends. By 1976, the Hometown Recruiting Assistance Program deployed 1,033 newly trained soldiers to act as personal ambassadors between the Army and their friends and family.¹²⁸

By early 1972, seven out of ten military enlistees were considered true volunteers, but throughout the 1970s Army leaders struggled to overcome the challenges of fielding

¹²⁶ Bailey, *America’s Army*, 74-87.

¹²⁷ *Annual Report of Major Activities FY 1974, U.S. Army Training and Doctrine Command: A History of TRADOC’s First Year*, 297; *U.S. Army Training and Doctrine Command Annual Historical Review, 1 July 1975 to 30 September 1976*, 296.

¹²⁸ Letter, Major General Robert F. Hixon to General William DePuy, 29 Aug 73, DePuy Papers, Box 18; Historical Office, U.S. Army Training and Doctrine Command, *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1976 to 30 September 1977* (Fort Monroe, U.S. Army Training and Doctrine Command, 1978), 282 (document classified Confidential – portions referenced are unclassified).

the all-volunteer force.¹²⁹ Despite improvements in enlisted pay, enlisted benefits continued to lag behind civilian employment and the early 1970s saw a decline in funds for veteran's educational benefits. For most of the decade, the fears of those who opposed ending the draft on grounds of recruit quality seemed to come to fruition. Across the military, post-draft inductees were less likely to have a high school diploma or any college education. Two statistics largely determined recruit quality: the possession of a high school diploma and performance on the Armed Forces Qualification Test (AFQT), later re-designed as the Armed Forces Vocational Aptitude Battery (ASVAB). Enlistees possessing a high school diploma were more likely to adapt to military service and complete their three-year enlistment.¹³⁰ An enlistee's raw score on the AFQT determined that soldier's mental category based on a comparison of scores "normed" against scores from the testing of male draftees from World War II. The military expected Category I and II recruits to succeed in any training environment. Category III recruits could succeed in all but the most complex training. Category IV recruits could absorb basic training but not complex advanced training. Category V recruits were deemed unqualified for military service.¹³¹ Analysis of basic trainee performance indicated a correlation between mental category and success in basic combat training. For example, Category I basic trainees at the Army Training Center at Ft. Knox, Kentucky experienced problems with completing training, Absent Without Leave (AWOL), and non-judicial punishment at a rate 50

¹²⁹ *Statement of Secretary of Defense Melvin R. Laird Before the Senate Armed Services Committee on FY 1973 Defense Budget and FY 1973-1977 Program, February 15, 1972* (Washington D.C.: U.S. Government Printing Office, 1972).

¹³⁰ Martin Binkin, *America's Volunteer Military: Progress and Prospects* (Washington D.C.: The Brookings Institute, 1984), 1-5.

¹³¹ *Ibid*, 6-7.

percent lower than Category IV trainees.¹³² The quality problem persisted for much of the 1970's, however, as more than 76 percent of all men and 57 percent of women recruited between 1974 and 1978 fell into Categories III and IV.¹³³

The Army attempted to overcome the decline in recruit quality by working in opposite directions. With recruiters under pressure to fill the Army's quotas, many personnel entered service who were simply not qualified mentally, emotionally, physically, or morally. To remove these new soldiers unfit for service quickly, the Army instigated a 180-day separation program. In accordance with guidance provided by TRADOC, drill instructors could recommend individuals who were not "success oriented" to the chain of command for administrative separation from the service so long as they were on active duty fewer than 180 days. Indicators that new soldiers may not adapt properly to military life included lack of a high school diploma, marginal performance, strong racial prejudices, and social/emotional maladjustment.¹³⁴ Training bases also began programs aimed at increasing recruit performance through academic tutoring and General Education Diploma testing, but these programs remained susceptible to a highly constrained budget environment. That these programs were necessary is evidence of the declining state of recruit quality taking place during the 1970s.¹³⁵

Training and testing of enlisted soldiers improved even as the overall quality of new recruits declined. General DePuy and his deputy in charge of training, General

¹³² Brigadier General H.S. Long to General Alexander M. Haig Jr., 1 May 1973, DePuy Papers, Box 5.

¹³³ Binkin, *America's Volunteer Military*, 14.

¹³⁴ *FJ Circular 635-200, Evaluation and Discharge of Enlistees Before 180 Active Duty Days*, September 5, 1973, DePuy Papers Box 5; and Letter, Major General Robert F. Hixon to General William DePuy, August 29, 1973, DePuy Papers, Box 18.

¹³⁵ Major General Robert F. Hixon to General William DePuy, 13 November 1973 and 23 November 1973, DePuy Papers, Box 18.

Gorman, both recognized the importance of individual training and that more individual training had to take place in operational units. DePuy believed that the solution lay in a revitalized NCO corps that would assume the mantle of the Army's specialist in individual training.¹³⁶ To assist NCOs in the conduct of individual training, TRADOC produced a series of training publications that detailed the specific job-related tasks required of every soldier in a given Military Occupational Specialty (MOS). Another concept developed by the Combined Arms Training Board, the Soldier's Manual, applied the task-condition-standard philosophy to each required task, determined through front-end analysis of each MOS. The Soldier's Manual concept depended on establishing objective standards of performance for evaluating performance that differed from the previous tendency throughout the Army of comparing soldiers' performance with the performance of their peers. TRADOC issued the Soldier's Manuals directly to individual soldiers until 1978 when the command rerouted distribution through unit chains of command.¹³⁷ The Soldier's Manual concept represented an effective method of distributing common standards of performance throughout the Army, while facilitating decentralized training within units through the NCO corps.

Tied directly into the Soldier's Manuals was a new method for centrally evaluating soldiers' performance. Enlisted soldiers prior to 1977 completed a 125 question, written test that attempted to determine their proficiency in duties associated with their MOS. A TRADOC inspector general study in 1974 revealed that only 56 percent of soldiers felt

¹³⁶ Memorandum, General DePuy for Sergeant Major of the Army Bainbridge and Command Sergeant Major LaVoie, October 20, 1976, in *Selected Papers of General William E. DePuy*, Swain, comp., 207-209.

¹³⁷ Donn A. Starry, "Sergeants Business," *Military Review* 58, no. 5 (1978), 6-8; *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1978 to 30 September 1979*, 166.

they lacked the means and the time to prepare for the MOS test. Because the tests had significant implications for career advancement, they were therefore a highly emotive issue of enlisted personnel. Furthermore, without a hands-on evaluation component the MOS test stood out of step with TRADOC's new performance-oriented approach to training.¹³⁸ Beginning in April 1977, a new Soldiers Qualification Test (SQT) replaced the MOS test in analyzing soldiers' proficiency and their potential for promotion to the next higher grade.¹³⁹ The SQT combined simpler written questions with hands-on testing that was more in line with the new training. Soldiers took the test every two years in their units with results graded centrally by a single TRADOC agency. The reaction from soldiers and leaders in the Army proved mixed and produced alterations in the administration of the SQT. Under General Starry's direction, the SQT became an annual test that was shorter and more hands-on, and that tested soldiers' proficiency in their present grade rather than attempting to determine their potential to perform tasks at the next higher grade. TRADOC also sought to decrease the time between testing and when soldiers received their grades.¹⁴⁰

The success of the Soldiers Manual and SQT required an NCO corps of technically competent sergeants to oversee the administration of individual training in units. If the Army's officers were the "thinkers", then its NCOs, the sergeants, were the "doers," but NCO quality had declined during the Vietnam War to the point that officers had taken over many of their duties. During the Vietnam War, the need to fill NCO positions led the Army to violate a long-standing practice of promoting soldiers to

¹³⁸ Memorandum from General William DePuy, 19 July 1974, DePuy Papers, Box 20.

¹³⁹ *CONARC/ARRED Annual Historical Summary, FY 1973*, 312-313; *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1976 to 30 September 1977*, 54.

¹⁴⁰ General Donn A. Starry to General E. C. Meyer, 16 July 1979, Starry Papers, Box 18.

sergeant only after years of practical experience. The losses of low and mid-level NCOs due to combat, reassignment, promotion, and retirements forced the Army to develop the Non-commissioned Officer Candidate Course in 1967. Following basic combat training, volunteer candidates underwent a further 22 weeks of training before receiving a promotion to E5 (sergeant) and deploying to Vietnam. Many of these draftee sergeants, which became known derisively as “shake and bake” NCOs, returned from Vietnam with a great deal of combat experience, but without the skills necessary to operate in day-to-day garrison environments or oversea individual training. Furthermore, promotion inflation diminished the prestige of NCO corps.¹⁴¹ If individual training was truly to be “sergeant’s business,” as General DePuy and General Starry believed that it should be, the NCO corps needed more education and increase professionalization.¹⁴²

In the early-1970s, Starry had told General Creighton Abrams that the Army was “on its ass.” Fixing an institution with overflowing jails, rampant drug use, and poorly maintained equipment had to start with changes to the education of NCOs.¹⁴³ Following the implementation of a new career management system for enlisted personnel, TRADOC introduced the Non-commissioned Officer Education System (NCOES). While NCO Academies had existed at the division level for years, these schools operated outside the Army’s formal school system and adopted differing approaches to training NCOs. NCOES consisted of five levels of education designed to prepare soldiers to perform duties in their next higher grade. The Primary NCO Course and Basic NCO

¹⁴¹ Fisher, *Guardians of the Republic*, 326-327, 346, 361-362.

¹⁴² *Sergeant's Business*, VHS, Apr 1978, 909-777-0819-B, ATCG TV Branch, Ft. Eustis; accompanying CD to *Press On!: The Selected Works of General Donn A. Starry*. Lewis Sorely, ed., Fort Leavenworth: Combat Studies Institute Press, 2009.

¹⁴³ Donn A. Starry, interview by author, Canton, OH, 7 September 2010.

Course, for training combat arms soldiers for duties as sergeants and staff sergeants, began operating in 1977. The Advanced NCO Course (ANCOC), which prepared NCOs for duties as sergeants first class, existed prior to the development of NCOES, but its curriculum lacked the extensive analysis characteristic of TRADOCs other efforts. Because of the significant criticism ANCOC received from the field, General Starry appointed Sergeant Major Frank Wren to study the course, and make recommendations. These recommendations were incorporated into the ANCOC courses beginning in the spring of 1979. General Starry's confidence in a Sergeant Major Wren demonstrates the improving status of the NCO corps. Above ANCOC in the enlisted education, hierarchy stood the Sergeant Major Academy, which senior NCOs attended to prepare for promotion to the rank of Sergeant Major. This 22-week course sought to orient NCOs on national and international affairs, sought to improve communication skills, and develop student's intellectual depth and analytical ability.¹⁴⁴ The development of NCOES marked a major improvement in the professional development of the NCO corps, ensuring a more standardized and uniform development of NCOs across the Army.

Increasingly professional leadership at the Army's lowest ranks helped the institution weather the storm of changes taking place in the 1970s. The SQT and Soldiers Manuals sought to standardize the performance of all soldiers within a certain MOS instead of the more comparative methods used to evaluate soldiers in the past. Standardized, objective assessments of performance were important as the Army, in order to meet its recruiting needs, tapped into America's least utilized source of military

¹⁴⁴ Fischer, *Guardians of the Republic*, 361-362; *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1976 to 30 September 1977*, 104-105; General Donn A. Starry to multiple address, April 10, 1978 in *Press On!*, Sorely, ed., 789; General Donn A. Starry to General Bernhard W. Rogers, October 20, 1978 in *Press On!*, Sorely, ed., 808.

personnel. Between 1971 and 1981, the number of women in the United States military increased from 40,000 to 181,000.¹⁴⁵ In 1971, the Secretary of the Army approved a plan to expand the Women's Army Corps (WACs) to 50,400 by the end of 1979, and the Army's WAC strength increased from 16,900 in 1971 to 48,700 by 1976.¹⁴⁶ Women added not just personnel, but also quality personnel to the Army's ranks. From 1974 to 1976 women accounted for only 9 percent of the Army's recruits, but 30 percent of its Category I recruits and less than one percent of its Category IV recruits.¹⁴⁷ Increases in female personnel necessitated an increase in the number jobs open to them. By 1975, 403 of 438 (92 percent) of occupational specialties accepted women.¹⁴⁸ Army policy no longer constrained women to "traditional" roles such as nurses, clerks, and typists, but also allowed them to work in "non-traditional" fields like ammunition handling, military police, and small equipment repair. These new opportunities, however, did not include service in combat units or combat specialties.

The expansion of roles for women in the Army reflected the increasing rights-consciousness of American society. Congress added Title IX to existing civil rights law, barring sex discrimination in educational institutions receiving government funding. The Supreme Court extended dependent benefits to the husbands of female service members with its 1973 ruling in *Fontiero v. Richardson*. In 1972, Congress sent the Equal Rights Amendment, which prohibited discrimination based on sex, to the states for ratification.

¹⁴⁵ Jeanne Holm, *Women in the Military: An Unfinished Revolution* (Novato: Presidio Press, 1982), xiv.

¹⁴⁶ Martin Binkin and Shirley J. Bach. *Women and the Military* (Washington D.C.: The Brookings Institute, 1977), 15.

¹⁴⁷ Binkin, *Women and the Military*, 14; Bailey, 155.

¹⁴⁸ Historical Office, U.S. Army Training and Doctrine Command, *Annual Report of Major Activities FY 1975, United States Army Training and Doctrine Command* (Fort Monroe: United States Army Training and Doctrine Command, 1976), 241 (document classified Confidential – portions referenced are unclassified).

Believing in the mid-1970s that the ERA would pass the ratification process, many Army leaders feared it would constrain their freedom of action with regard to female soldiers. In fact, the belief that the language of the ERA compelled accepting women into combat assignments, a policy that at the time enjoyed no support among military leaders and little among the American people, provided the anti-ERA movement one of its most compelling points of dissent. However, the ERA remained a motivating force and Congress appeared to agree with expanding roles for women when it compelled the service academies to accept women beginning in 1976. The Army remained ahead, although perhaps grudgingly, of the growing civil rights movement for American women.¹⁴⁹

Providing appropriate training for increasing numbers of female soldiers presented a serious problem, as questions of what skills these women required remained unclear. At times this led to some seemingly inane contradictions. While Brigadier General Mildred Bailey, WAC Director from 1971 to 1975, implored General DePuy to emphasize to his commanders that they must protect the femininity of female soldiers and not require them to wear male combat fatigues, the president of the National Organization for Women's Houston chapter asked DePuy why women could not undergo basic combat training.¹⁵⁰ However, once female assignments to non-traditional MOSs began, the necessity for women to master basic combat skills, and wear fatigues, became apparent. WAC basic trainees could choose to participate in voluntary training on the M-16 assault

¹⁴⁹ Patterson, *Restless Giant*, 52-54; Binkin, *Women in the Military*, 14; Holm, *Women in the Military*, 270; Anne Chapman, *Mixed Gender Basic Training: The U.S. Army Experience, 1973-2004* (Fort Monroe: U.S. Army Training and Doctrine Command, 2008), 33.

¹⁵⁰ Letter, Brigadier General Mildred Bailey to General William DePuy, 9 August 1974, DePuy Paper Box 19; Letter, Carro Hinderstein to General William DePuy, 7 September 1974, DePuy Papers, Box 21.

rifle beginning in 1974. This training became mandatory in July 1975 when TRADOC required female basic trainees to qualify with the M-16 as a condition of graduation. By June 1976, women also received training in anti-tank weapons, machine guns, and grenade launchers.¹⁵¹

Changes also took place in the organization of female basic training. Since the beginning of the WAC, female enlistees received their basic training in all-female WAC units. In September 1975 the Army Chief of Staff, General Frederick Weyand ordered, TRADOC to begin planning to consolidate basic training for both men and women. In response, TRADOC developed a six-week common core training program similar to the one used for male trainees. From September to November 1976 the 6th and 7th Battalions, 2nd Basic Combat Training Brigade at Ft. Jackson, South Carolina participated in the first experiment with mixed-gender training. Integration took place at the company level with each battalion consisting of two male and two female companies where instructors trained and tested males and females soldiers under the same conditions and held to the same standards. Except for important area of physical training, the Ft. Jackson experiment showed that women and men could train to the same standards.¹⁵² Integrated basic training expanded to other posts with individual training companies integrated to include male and female platoons.

While women integrated into basic training, they struggled to find their place in a largely male Army where, like the American workforce, women had occupied only a few very specific functions until the 1970s. At times the emerging attitudes about women in

¹⁵¹ *Army Training and Doctrine Command Annual Historical Review, 1 July 1975 to 30 September 1976*, 320.

¹⁵² *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1976 to 30 September 1977*, 77-79; Chapman, *Mixed Gender Training*, 43-45.

American society clashed with traditional feelings about women in the military. TRADOC went as far as publishing a video explaining that female soldiers who completed basic training could perform any duty assigned to their MOS. The video's male voice-over highlighted many of the areas that most concerned army leaders at the time: pregnancy, physical limitations, and social attitudes that stressed the responsibility of males to protect women. These concerns often resulted in the assignment of women soldiers to less physically rigorous jobs, invisibility in a culture where the term "soldiers" and "men" had the same meaning, and undue hostility or favoritism by male superiors and peers. Female soldiers who sought to prove their worth as soldiers found these manifestations of cultural values frustrating.¹⁵³ The continued existence of the WAC as a parallel administrative body contributed to this problem and the organization was disestablished in October 1978. The expansion of women's roles happened so rapidly that the Army as an institution required a significant period of adjustment. Enlightened, professional leadership that treated all soldiers equally proved the key to overcoming sexism, unprofessional familiarity, psychological invisibility, and sexual stereotypes.¹⁵⁴

Despite the incorporation of highly qualified women, the Army by the late 1970s struggled to meet its recruiting goals and maintain the quality of its enlisted personnel. Successive advertising campaigns failed to catch the imagination of young Americans, while accusations surfaced that recruiters, in order to make their required quotas, downplayed the realities of Army life by portraying it as any other 9 to 5 job. The Army responded with a new advertising campaign, "This is the Army," that offered a more

¹⁵³ *Women in the Army*, VHS Tape, 1976, G003365 CARL, US Army FBF 76-22.

¹⁵⁴ Joel E. L. Roberts, "Women in the Army: A Commander's Perspective." *Military Review* 58, no.5 (1978): 69-76.

realistic portrayal of Army life. Until shortages of funds cancelled the program, the Army's recruiting command began a mentorship program in which officers and NCOs without recruiting responsibilities, and the consequent pressured to meet quotas, interviewed potential recruits to dispel myths and ensure recruits understood the realities of army life.¹⁵⁵ Nevertheless, enlistee quality continued to decline until 41 percent of new recruits in 1979 were high school dropouts. Crime, alcohol abuse and indiscipline continued, while the Army's civilian and military leaders continued to speak of the success of the All-Volunteer Army and pointed to statistics showing declines in the number of CAT IV recruits.

Even so, in 1979 Army Chief of Staff General Edward "Shy" Meyer warned President Jimmy Carter that the Army's future was in jeopardy due to the number of ill disciplined and hard-to-train young soldiers entering the ranks, and lack of available funds. In November 1981, Meyer told Carter that should the Soviets attack Western Europe, only four of ten divisions programed to reinforce NATO could deploy within the required 10 days. The final shock came with the discovery of the improper calibration of the 1976 version of the ASVAB. Re-scoring the FY 1980 results showed that 50 percent of the recruits assessed in 1981 scored in Category IV.¹⁵⁶ This was far higher than the Army had been reporting. In testimony before Congress in the summer of 1981, Meyer told lawmakers that the United States had a "hollow army."¹⁵⁷ While the framework for

¹⁵⁵ Bailey, *America's Army*, 123- 125; Letter General Forrester to General Donn A. Starry, June 9, 1980, Donn A. Starry Papers, Box 13.

¹⁵⁶ Bailey, *America's Army*, 125-127.

¹⁵⁷ *Status of Army Manpower, Hearings Before the Committee on Armed Services House of Representatives, Ninety Sixth Congress, Second Session, June 11 and 12, 1980* (U.S. Government Printing Office, Washington D.C., 1981), 16.; James Kitfield, *Prodigal Soldiers*. (New York: Simon and Schuster, 1995), 199-200.

improvements in individual training and education had improved, the Army's units were not prepared to fight. Personnel turbulence due to recruiting shortfalls made the formation of effective teams difficult. However, the process had begun as early as 1971 to revolutionize readiness by developing the most comprehensive and advanced unit training system in the Army's history.

IV: Instituting the Training Revolution in Units

Although technology and doctrine provided for a great leap forward in the Army's fighting capabilities, the advances made in unit training between 1973 and 1980 constituted the decade's most revolutionary change in how the Army prepared for war. The development of the Active Defense doctrine, expressed in the 1976 edition of FM 100-5: *Operations*, provided greater impetus for fundamental changes. General DePuy believed that success in the next war required the Army to win the first battle by making the most effective use of modern weapons. Active Defense stressed the importance of firepower in the defensive battles envisioned between NATO and the Warsaw Pact. American soldiers would fight outnumbered and therefore would have to defeat the communists by demonstrating qualitatively better battlefield performance. Achieving qualitative superiority required better training, which DePuy and his subordinates at TRADOC judged historically inadequate. Like the all-volunteer Army, TRADOC's training reforms did not bear fruit until the 1980s when increased defense budgets allowed the acquisition of sufficient personnel and material to fully exploit the intellectual foundations and technological developments of the training revolution. The development of increasingly effective methods of training generated improvements in the professional quality of the Army's officer and non-commissioned officer (NCO) corps, sparking changes in the organizational culture that overcame the legacy of poor

leadership from Vietnam. Better training also allowed the Army to adopt the more sophisticated Air Land Battle doctrine in the early 1980s, by providing properly trained individuals who staffed the fighting units that were finally able to practice their craft in a more realistic and complex training environment.¹⁵⁸ The Army of the 1980s that successfully fought in Grenada, Panama, and Kuwait emerged from the ashes of Vietnam to be re-forged and tempered in the training environment initially created in the 1970s.

Effective military units consist of individuals proficient in a specific skill sets that coalesce into a cohesive teams directed by competent leaders. The systems-approach to training conceptualized this into the formula $E=f(W,P,T)$; the training revolution revolved around this concept. “W” represented the functional capability of a weapon system, the technical capabilities of a piece of equipment based on its engineered design without accounting for human operators. “P” stood for the individual proficiency of the soldiers using the equipment and related directly to the soldier’s level of training. The tactics and techniques employed by the collective organization constituted the “T.” System capability, individual proficiency, and tactical employment functioned together to determine the “E”, the effectiveness of a given system on the battlefield. An early system evaluated with this methodology was the M-72 Light Anti-tank Weapon (LAW), a portable rocket designed to defeat enemy armored vehicles. Tests conducted in 1974 revealed that the capabilities specified by the Army during the LAW’s procurement far exceeded what commanders expected from the weapon. Unit commanders often believed that soldiers did not require hands-on training to employ the LAW effectively and that standard training procedures consisting of a lecture-type demonstration were sufficient.

¹⁵⁸ Lock-Pullman, “An Inward Looking Time,” 504-509.

Soldiers tested under this training regime, using a training version of the LAW that fired a bullet instead of a rocket, demonstrated extremely poor skills at actually hitting their targets even with increased training time and ammunition. Further tests showed that only 26 percent could correctly align their sights to a moving enemy tank and only 14 percent could align them properly for a stationary tank due largely to soldier's poor ability to estimate range. Because commanders considered training with the LAW unimportant, they failed to develop effective tactics to employ the weapons such as shooting in pairs, which experiments demonstrated improve hit probabilities. No matter how well the factory built the LAW, poor proficiency and improper tactical employment negated its effectiveness as an anti-armor weapon.¹⁵⁹ The LAW demonstrates in microcosm the larger problem facing the Army in the 1970s.

General Gorman and General DePuy understood that to achieve the most effective employment of the Army's weapons on the modern battlefield, individual American soldiers, their leaders, and units collectively required better training. DePuy specifically saw a division between military training and education. In his mind, training involved preparation, through repeated practice, of specific tasks that provided the trainee with the "what and how." Education required a more theoretical application of principles and told the student the "why" and even the "whether."¹⁶⁰ DePuy saw too much education-taking place in the Army's preparation for war, particularly in its school system, and sought to re-orient that focus towards specific training in preparation for first battle of the next war.

Army training consisted of two broad categories: individual and collective training. Individual training sought to develop soldiers' proficiency, by providing them

¹⁵⁹ Gorman, Paul. "ORSA and Training Effectiveness, 10 December 1974." Gorman Papers.

¹⁶⁰ Brownlee and Mullen, ed., *To Change an Army*, 186-189.

with the necessary skills to function in their Military Occupational Specialty (MOS) and to provide leaders with theoretical exposure to the tactical employment of weapon systems and the maneuvering of units. Historically, the Army performed individual training primarily in the training base, the training centers and schools that constantly produced the human material to fill operational units. In these institutions, soldiers underwent a fixed learning experience, moving through the process while assigned temporarily to the school before proceeding to another assignment. A major change during the 1970s was the movement of a great deal of individual training from the training base and into Army units. “Collective training” prepared operational units for their wartime functions and stressed teamwork and mission accomplishment. This type of training generally took place at the home stations of the Army’s operational units, but also took place in institutional settings under certain circumstances.¹⁶¹

The STEADFAST reorganization complicated the Army’s training environment since U.S. Army Forces Command (FORSCOM) oversaw all operational units where most collective training and a great deal of individual training took place. TRADOC supervised the individual training that took place in institutional settings, including basic training for new enlistees, the Non-Commissioned Officer Education System, and all levels of formal officer training and education. The intellectual development of the Army’s approach to training was also the purview of TRADOC, specifically how to train and what to train. This binary system of organization produced some tensions in the 1970s as TRADOC developed its training reforms.

¹⁶¹ *Annual Report of Major Activities FY 1974, U.S. Army Training and Doctrine Command, 53.*

After the Board for Dynamic Training submitted its report in 1971, it reorganized into the Combat Arms Training Board (CATB) with Brigadier General Paul Gorman at its head. CATB served as a link between the TRADOC schools and operational units. It served as an internal Army think-tank to examine and propose solutions through the development of training literature and new training devices. Shortly after its inception, CATB developed the concept of performance-oriented training that would function as the intellectual underpinning for all further training developments.¹⁶²

DePuy and Gorman believed that the Army's traditional training methods, which focused on instructing soldiers about a certain subject for a certain number of hours in a classroom setting, insufficiently rigorous. The traditional approach considered soldiers trained after they received instruction in these subjects for the proscribed number of hours. DePuy and Gorman believed that soldiers should physically demonstrate their ability to perform specific jobs related to their MOS.¹⁶³ For example, a traditional training objective describing the conduct of land navigation training might read as follows: "To insure that the NCOs are proficient in the use of map and compass for cross-country navigation." Performance-oriented training required a more precise description such as:

Task: Each noncommissioned officer must be able to navigate cross-country. Condition: On foot, in daylight, for 5,000 meters over hilly and wooded terrain, given a compass and a 1:50,000 map which shows both the start point and the objective. Training Standard: Arrive within 250 meters of the objective in three hours or less (four hours or less in extremely adverse weather) from the time the map and compass are provided at the start point.¹⁶⁴

¹⁶² *Annual Report of Major Activities FY 1974, U.S. Army Training and Doctrine Command*, 20.

¹⁶³ Gole, *General William E. DePuy*, 249-250.

¹⁶⁴ Brownlee and Mullen, ed., *To Change an Army*, 184; the first of this training literature, *TC 21-5-2*, explained the key concepts in performance-oriented training. Department of the Army, *TC 21-5-2, Training*

TRADOC used this task-conditions-standards approach to operationalize the performance-oriented training concept.

Changing the training doctrine of an organization as large as the U.S. Army would take years. Battalion commanders and company first sergeants, who had spent the majority of their adult lives in the Army, were understandably reluctant to radically change how they trained their soldiers. Some failed to see the need for change because, excluding Vietnam (which many considered a military aberration) America had always won its wars.¹⁶⁵ To change the Army required the development of a completely new set of training literature, the acceptance of that literature by a majority of Army officers and NCOs, and the incorporation of the performance-oriented training philosophy in Army schools and units. In February 1974, TRADOC schools began the process of developing a new system for unit training that replaced the Army Training Test and the Army Training Program. The new Army Training and Evaluation Program (ARTEP) combined both the Army Training Test's evaluation process and the Army Training Program's planning functions.¹⁶⁶

Like the Army Training Test, the ARTEP outlined the various combat tasks the Army expected certain units to perform. Those combat tasks depended on the specific type of unit – so that a tank battalion's tasks, for example, differed from those of an infantry battalion, an attack helicopter battalion, or a military police battalion. The ARTEP divided tasks into three levels of increasing complexity. For example, *ARTEP*

Management Digest: Performance Oriented Training (Washington D.C.: Department of the Army, June 1974), 3.

¹⁶⁵ Gorman, interview by author, August 31, 2010.

¹⁶⁶ *Annual Report of Major Activities FY 1974, U.S. Army Training and Doctrine Command*, 102-103.

17-55: Armored Cavalry Squadron outlined Level 3 tasks such as an armored cavalry troop screen or movement to contact. Level 2 tasks consisted of multiple cavalry troops operating together in more complex squadron-level operations. Level 1 tasks included live fire exercises and night operations.¹⁶⁷ By categorizing tasks in terms of their difficulty, ARTEP developers acknowledged that Reserve Component units might lack the resources necessary to achieve proficiency at the Level 1 or Level 2. The ARTEP supported the Total Force concept by setting a single standard against which to judge both Active and Reserve component units. In 1978, TRADOC reclassified tasks into two difficulty levels while continuing to acknowledge the limitations for Reserve Component training.¹⁶⁸

Each of TRADOC's schools developed the ARTEP series corresponding to its expertise. On May 9, 1974, DePuy met with General Dutch Kerwin, the commander of FORSCOM, and by mutual agreement, selected the ARTEP model developed by the Infantry School as the standard for future ARTEP development focused on combat arms battalions and squadrons. The ARTEP concept differed from the Army Training Test in that it focused on mission accomplishment instead of executing a proscribed process. For example, the Army Training Test's checklist for an infantry company attacking an objective during daylight consisted of three pages containing 32 separate questions regarding the conduct of the operations. "Did he [the company commander] instruct the executive officer to assume command of the company during his absence?" "Did he

¹⁶⁷ Department of the Army, *ARTEP 17-55: Armored Cavalry Squadron* (Washington D.C., March 1977), ii-iv.

¹⁶⁸ Historical Office, U.S. Army Training and Doctrine Command. *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1977 to 30 September 1978* (Fort Monroe: U.S. Army Training and Doctrine Command, 1978), 100 (document classified Confidential – portions referenced are unclassified).

designate a new reserve at the earliest opportunity?” The test evaluator judged the performance of each task as excellent, satisfactory, unsatisfactory, not observed, or not executed.¹⁶⁹ This concept lent itself to a choreographed execution ensuring commanders accomplished the myriad required tasks. In contrast, the first ARTEP evaluation for an infantry company executing a daylight attack consisted of one page with four sub-tasks: prepare for the attack, move to the objective, eliminate enemy resistance, and reorganize and prepare to continue the attack. Evaluators decided whether the unit satisfactorily or unsatisfactorily accomplished each task based on a set of evaluation standards. However, a certain amount of subjectivity remained. For example, one evaluation standard stipulated that the unit utilize the “proper fire and maneuver techniques to eliminate enemy resistance.”¹⁷⁰ It remained for the evaluator to decide what constituted the proper techniques.

In October 1974, the 2nd Battalion, 60th Infantry Regiment and 2nd Battalion, 77th Armored Regiment of the 9th Infantry Division participated in field training exercises at Yakima Firing Center, Washington to validate the ARTEP concept. In April 1975, General DePuy and General Bernard W. Rogers, the commander of FORSCOM and a future Army Chief of Staff, recommended to the Army Chief of Staff that the Army implement the ARTEP in all its units.¹⁷¹ By 1977, TRADOC had distributed thirty-nine ARTEPs to operational units. The length of time, three years, between concept development and implementation demonstrates both the deliberate nature of the ARTEP

¹⁶⁹ *Army Training Test No. 7-18, 57-59.*

¹⁷⁰ Department of the Army, *ARTEP 7-15: Army Training and Evaluation Program for Light Infantry Battalions* (Washington D.C.: Department of the Army, April 1976), 5-3-2.

¹⁷¹ *Annual Report of Major Activities FY 1975, United States Army Training and Doctrine Command, 95-96.*

development under the systems-approach to training, but also the enormous lead-time necessary to introduce new concepts into the force.

The time between the end of centralized training, eliminated by General William Westmoreland in 1971, and the emergence of the ARTEP in 1976 and 1977 left many units in an intellectual no-man's-land concerning the conduct of the performance-oriented training outlined in the ARTEP. After taking command of V Corps in early 1976, General Donn Starry noted that some battalion commanders interpreted decentralized training to mean that company commanders were responsible for their own training without an input from the battalion headquarters. This allowed weak commanders to walk away from their training responsibilities and blame the company commanders for any failures. He pointed out that battalions possessed staffs capable of planning and organizing training resources and that a consolidation of training management at the battalion level was necessary.¹⁷² Starry found that commanders lacked knowledge regarding how to incorporate the ARTEP and Soldiers Qualification Tests into their training programs. While he expected a certain degree of incompetence in this new approach to training, what he observed on arriving at V Corp shocked him. As he described the situation to the commander of U.S. Army Europe, General George S. Blanchard: "The degree of ineptitude I encountered far surpassed my most pessimistic preconception."¹⁷³

To fill the void in training management, at least in part, TRADOC produced a series of publications to help training managers, align training tasks to available resources and reconcile their experience under the Army Training Program with the new concepts

¹⁷² Letter, General Donn Starry to Major General William L. Mundie, 16 August 1976 in Sorely, *Press On!*, 774-775.

¹⁷³ Letter, General Donn Starry to General George S. Blanchard, 22 November 1976, in Sorely, *Press On!*, 778.

of performance-oriented training. The first of these products, a series of TRADOC bulletins, addressed the immediate tactical problems of the modern battlefield. *TRADOC Bulletin 1* described the capabilities of modern weapons and incorporated lessons learned from the Yom Kippur War. Subsequent bulletins covered topics such as employing the Light Anti-Tank Weapon (LAW), the Soviet BMP infantry fighting vehicle, and constructing infantry fighting positions.¹⁷⁴

To plan their unit's training, commanders in the early 1970s could refer to the 1964 edition of *FM 21-5: Military Training Management*, but this manual still reflected training after mobilization and the highly proscribed training in the Army Training Test and Army Training Plan.¹⁷⁵ New publications sought to explain modern methods of training management, and help training managers incorporate performance-oriented training into their training plans. Published in 1977, *TC 21-5-1: Training Management in Battalions* spoke directly to the frustrations of the training managers. The training circular included a cartoon illustration that depicted Major "Gold," a battalion operations officer who recently returned to an operational unit, conversing with this battalion commander. The frustrated operations officer, who carried the responsibility for planning the battalion's training, asks his commander, Lieutenant Colonel "Silver," what happened to the proscribed training requirements from the Army Training Program and the annual training memorandum produced by the division headquarters. These documents had

¹⁷⁴ Department of the Army, *TRADOC Bulletin 1: Range and Lethality of U.S. and Soviet Anti-Armor Weapons* (Washington D.C.: Department of the Army, September 1975); Department of the Army, *TRADOC Bulletin 5: Training with LAW* (Washington D.C.: Department of the Army, January 1976); Department of the Army, *TRADOC Bulletin 7: The BMP: Capabilities and Limitations* (Washington D.C.: Department of the Army, June 1977); Department of the Army, *TRADOC Bulletin 9: Infantry Fighting Positions* (Washington D.C.: Department of the Army, September 1977).

¹⁷⁵ Department of the Army, *FM 21-5: Military Training Management*, (Washington D.C.: Department of the Army, 1964), 9-11.

provided a detailed training plan that culminated with the annual Army Training Test. The battalion commander explains to Major “Gold” that they are now responsible for maintaining their unit’s combat readiness throughout the year, not just for the training test.¹⁷⁶ This idea of constant readiness derived directly from DePuy’s focus on winning the next war’s first battle. *TC 21-5-1* explicitly described how companies should prepare and execute training in line with the ARTEP concept while battalion commanders and their superiors determined the training priorities, mission requirements, and managed resources.

In June 1978, a joint TRADOC/FORSCOM conference identified the need for better training management in battalions. The Army Training Board responded by developing the Battalion Training Management System (BTMS), a centralized training program designed to assist training managers in the conduct of decentralized training. BTMS consisted of a series of workshops that taught the training principle outlined in *TC 21-5-1* and other training-related publications while instructing training managers in using the ARTEP, Soldiers’ Manuals, and Soldier’s Qualification Tests. Each component targeted a different audience. Training Management Workshops taught battalion and company commanders how to incorporate feedback from subordinates, set training goals, prioritize missions, and produce long-range training plans. The Platoon Trainers Workshops, which targeted platoon leaders and platoon sergeants, instilled the skills necessary to implement training plans and integrate collective and individual training. Trainers Workshops offered instruction for squad leaders, section chiefs, and tank commanders in the use of the Soldier’s Manual and Training Extension Courses. After

¹⁷⁶ Department of the Army, *TC 21-5-1: Training Management in Battalion* (Washington D.C.: Department of the Army, 1977), 31.

briefing BTMS to the Army's corps and division commanders at the November 1978 FORSCOM commander's conference, all but two FORSCOM units elected to implement it. The Army Chief of Staff refused to make the program mandatory for all units. However, TRADOC incorporated BTMS instruction into the non-commissioned officer education system and the officer education course, ensuring the injection of the management concepts into the operational force.¹⁷⁷

For all of TRADOC's efforts at the development of ARTEP and BTMS, the concept of decentralized training continued to conflict with the attractiveness of standardization and centralization. One of the ARTEP's goals sought to establish army-wide standards for measuring unit performance. In 1978, General Starry argued for increased standardization of the training process after a comprehensive study showed the Army remained in a poor state of readiness.. He believed that the Army fell short of the potential offered by the ARTEP and a growing list of simulations technology by allowing individual commanders to determine training tasks and methods. Starry advocated the adoption a document similar to the German Army's *Gemantausbildungsplan*. In this document, which the *Bundeswehr* produced annually, German Army leaders dictated the individual, crew, and section training tasks for the coming year. Starry believed that the U.S. Army's training would not improve unless it adopted a similar system that imposed training requirements across the Army in a standardized fashion. His FORSCOM counterpart, General Robert Shoemaker, strenuously objected to the *Gemantausbindlungsplan* concept, believing that unit commanders should determine

¹⁷⁷ *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1978 to 30 September 1979*, 124-125; *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1978 to 30 September 1979*, 148-151.

what training was appropriate based on mission requirements. His opinion echoed a current running through the army in the late 1970s that resented TRADOC's intrusion into the training of operational units. Some in the Army saw TRADOC, a relatively new headquarters, as "the epitome of undesirable centralization imposing unnecessary 'good ideas' on an Army that was well along in self-correcting."¹⁷⁸ General Starry's efforts appeared, at least superficially, like a return to the pre-1971 era when the Army's headquarters in Washington determined the training objectives for each unit. The Board for Dynamic Training had identified that kind of centralization as one of the principle problems with the Army training methodology. General Shoemaker was justified in his resistance to a return to those practices.

As Army units attempted to institute effective training management and incorporate the philosophy of decentralized training, the ability of units to benefit from the ARTEP training model improved with the development of new technologies that created increasingly realistic training environments. While combat support and combat service support units, in which garrison duties approximated wartime duties, required relatively little equipment to facilitate training, replicating combat required significantly more complex systems.¹⁷⁹ During the 1970s, the most important advancements in training technology related to the development of combat simulations – devices and systems designed to replicate conditions of the modern battlefield. Combat simulations fell into two general categories. Battle simulations tested unit commanders and their

¹⁷⁸ Letter, General Donn A. Starry to General E. C. Meyer, 11 July 1979 in Sorley, ed., *Press On!*, 872; Quotation is from letter from Lieutenant General (Ret.) Frederick J. Brown to Anne Chapman, quoted in Chapman, *The Origins and Development of the National Training Center*, 36.

¹⁷⁹ Letter, Colonel Donald W. Connelly to General William DePuy, February 27, 1975, DePuy Papers, Box 36B.

staffs in real-time, two-sided, free-play simulated combat, and forced decision-making by confronting participants with the kinds of situations faced during combat. These simulations could be conducted using maps or by actually walking across terrain; because no actual forces deployed to the field, these simulations saved time and resources. Battle simulations differed from earlier command post exercises that confronted commanders and their staffs with a series of pre-arranged scenarios. The enemy in battle simulations possessed the ability to react to the unit's movements, forcing unit commanders to react in realistic ways.¹⁸⁰ The second type of combat simulation, tactical engagement simulations, was used by soldiers conducting field training exercises and mimicked the effects of modern weapon systems. Engagement simulations allowed combat arms units to effectively replicate the wartime operating environment and to learn under the stresses and strains of combat by actually "fighting" a live, unrestricted opposing force.

The Combined Arms Tactical Training Simulator (CATTS) represented the most significant battle simulation developed during the 1970s, and it became a test platform for other staff simulation systems. In 1969, commanders in Vietnam requested that the Infantry School train captains to perform duties as battalion staff officers. The Infantry School developed a mock helicopter propped over a terrain model, a three dimensional representation of a battlefield, to replicate a helicopter assault for captains attending the Officers Advanced Course. In 1971, the Army Research Institute studied CATTS and determined that it had potential for teaching staff officers the coordination of ground combat, air support, and support troops on the modern battlefield. Development continued as computer-generated images replaced the terrain model under the mock

¹⁸⁰ Paul F. Gorman, *The Military Value of Training*, IDA Paper P-2515 (Alexandria: Institute of Defense Analysis, 2000), 43-44.

helicopter. By 1976, a fully computerized version was in operation. Digitization allowed participants to fight their “battles” using different scenarios generated by the computer. Under General DePuy’s orders, the CATTS system moved to the Combined Arms Center at Fort Leavenworth, Kansas to train battalion headquarters and students at the Command and General Staff College. TRADOC and FORSCOM jointly supported CATTS development, with FORSCOM detailing personnel to the TRADOC project since FORSCOM units were the primary users. By 1977, forty battalion headquarters had trained with CATTS.¹⁸¹

Exercises with CATTS and other computer-based simulations demonstrated that the competence of battalion commanders varied considerably. This reality was disconcerting for an institution predicated on the idea that the most competent rose to senior rank based solely on merit. Gorman sought to inject as much realism as possible into the scenarios. At one point, he went to DePuy and argued that battalions participating in CATTS exercises should submit the data from their latest tank gunnery qualification for input into the CATTS simulation. DePuy rejected Gorman’s proposal stating that given the poor state of gunnery training at that time would lead to such poor CATTS performance that it might end officers’ careers.¹⁸² The adoption of computer simulations that allowed unit commanders and their staffs to practice the art of tactical command, as opposed to simply studying it, by operating on a virtual battlefield represented a major step towards performance-oriented training. Prior to the advent of these simulations, unit

¹⁸¹ Paul F. Gorman, *Secret to Future Victories*, 136-137; *Annual Report of Major Activities FY 1974, U.S. Army Training and Doctrine Command*, 95-96.

¹⁸² Gorman, interview by author, .

commanders and staffs could only practice their wartime functions during canned command post exercises or as part of large-scale and very costly maneuvers.¹⁸³

Computer simulations did not obviate the need for actual field training. Even before the formation of TRADOC, Army leaders recognized the need for a more effective means of replicating the battlefield for training combat arms units. The Board for Dynamic Training first identified the need for better training techniques and devices, and in 1972 the Army Research Institute (ARI) received the mission to investigate and develop effective simulation techniques and devices for combat arms forces.¹⁸⁴ Up to that point, combat exercises consisted of units maneuvering against one another and firing blank ammunition with the outcomes determined by the subjective judgement of umpires. ARI developers established four criteria to judge engagement simulations. The system had to produce a psychological environment that promoted learning. To maximize learning, they sought to create a system where the actions of participants closely approximated their jobs in combat. Complexity and support costs needed to be small. Finally, weapons' capabilities and the visible and audible signature created when weapons fired, should remain consistent with reality.¹⁸⁵ For example, the researchers had to develop a system that safely replicated the sound and smoke of a tank cannon firing. The system they developed, known as REALTRAIN, constituted the Army's first effective tactical engagement simulation system.

¹⁸³ Wesley W. Yale, "Need for Simulations Command Training." *Military Review* 52, no. 12 (1972), 32.

¹⁸⁴ *Report of the Board for Dynamic Training Vol. I*, 9-10.

¹⁸⁵ Edger L. Shriver, Boyd L. Mathers, Glen R. Griffin, Donald R. Jones, Larry E. Word, Robert T. and Root, John F. Hayes. *REALTRAIN: A New Method For Tactical Training Of Small Units*. (Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, 1975), no page number, information taken from "Forward" and "Brief" sections.

REALTRAIN allowed units to engage in missions against a live opposing force, or OPFOR. Because the system allowed for the approximation of weapons effects, participants more readily accepted the outcomes. Furthermore, vehicle crews and soldiers could “fire” on enemy tanks or personnel and receive rapid feedback about the effects of their fire. Soldiers or vehicles that were “killed” received near-immediate feedback about their actions and tactical decisions. A 20x20 inch numbered panel marked each side of every vehicle in a REALTRAIN exercise while individual soldiers wore a circular numbered marker, five inches in diameter, on the front, back and sides of their helmets. Each individual or vehicle’s number was unique. Exercise participants “killed” opposing vehicles and soldiers by looking through a telescopic sight affixed to their weapon, firing, and calling out to an exercise controller the number of the target they engaged. The power of the telescopes approximated the performance of each weapon system so for example, a soldier looking through the six-power telescope on the M16 rifle would only be able to read the numbers on an opposing soldier’s helmet when the enemy soldier came within the actual effective range of his weapon. Blank ammunition or, in the case of tanks and anti-tank weapons, small explosive charges known as Hoffman devices simulated the sound and smoke generated by each weapon. The controllers verified each engagement and awarded “kills” only when the correct weapon engaged a target, so that, for example, dismounted soldiers could not “kill” a tank with a M16.¹⁸⁶

The personnel most important to the success of the REALTRAIN training were the exercise controllers who accompanied each infantry squad, vehicle, and anti-tank

¹⁸⁶ Department of the Army, *TC 71-5, Tactical Training for Combined Arms Elements: REALTRAIN*, (Washington D.C.: Department of the Army, 1975), 5-38; REALTRAIN was an advancement on a previous system called SCOPES designed for use by infantry squads. The 6x telescopes on the M16 were originally designated as part of the SCOPES system.

weapon during the exercise. Prior to the exercise, the controllers established the scenarios using the tasks, conditions, and standards found in the appropriate ARTEP manual. After firing their simulated ammunition, participants told their assigned controller the numbers of the enemy engaged. The controllers verified the participants' claims, for example by looking through the telescopic sight mounted in the bore of tank cannons, and reported the "kill" to a central control station that recorded it and informed the controller assigned to the respective opposing vehicle or squad. That controller then declared the target "dead" and no longer capable of participating in the exercise. Simulated artillery fire that corresponded to the actual fire missions called by participants added to realism.¹⁸⁷ Soldiers received immediate feedback, positive and negative, about the tactical viability of their actions.

The technology replicated, as closely as possible the realities of combat, but the most important aspect of the REALTRAIN system was the after-action review (AAR) that followed each exercise. General Gorman had used the AAR technique as a brigade commander in Vietnam; while in charge of the Combat Arms Training Board, he read behavioral studies that showed that adult learning benefitted from AAR-like experiences.¹⁸⁸ The AAR consisted of all exercise participants conducting a structured review of the event. The controllers provide information about casualties, and re-created events down to the level of individual engagements using the records kept by the control station. Doctrine called for leaders to begin the discussion with a brief of the mission's objectives after which individual participants discussed their actions.¹⁸⁹ The key to this

¹⁸⁷ *TC 71-5, Tactical Training for Combined Arms Elements: REALTRAIN*, 39-54.

¹⁸⁸ Gorman, interview by author, August 31, 2010.

¹⁸⁹ *Ibid.*, 54.

process was the ability of subordinates to explain how their superiors' actions affected the outcome of the mission. The ability to soldiers to criticize their leaders in front of other soldiers became a hallmark of the training revolution, and represented a significant as shift in the Army's organizational culture.¹⁹⁰

REALTRAIN systems testing took place between July 1973 and June 1974 with units based at Ft. Benning, Georgia and in U.S. Army Europe.¹⁹¹ Further tests in the late 1970s demonstrated the effectiveness of REALTRAIN simulations. An ARI test involving eighteen infantry squads from the 7th Infantry Division at Fort Ord, California illustrated the positive benefit from combat simulations. After familiarization training with the REALTRAIN system, the test coordinators assigned each squad the mission to execute a movement-to-contact followed by a hasty attack on a machine gun position defended by a trained OPFOR. The squads were then required to defend the position against a counter-attack by a larger enemy force.¹⁹² None of the squads either seized the machine gun position or successfully defended it after being reconstituted and administratively placed in position. Following the first exercises, the squads conducted three days of additional training with nine squads using REALTRAIN and nine squads using conventional training techniques. Each squad then repeated their initial mission on similar terrain. The results demonstrated the difference between the use of simulations

¹⁹⁰ John Nagle, *Learning to Eat Soup with a Knife: Counterinsurgency Lessons from Malaya and Vietnam*. (Chicago: University of Chicago Press, 2005), 213; Nagle argues that the U.S. Army failed during the Vietnam War because senior commanders failed to accept criticism from subordinates. Culture often effects how information flows in military organization, see John A. Lynn, *Battle: A History of Combat and Culture* (Boulder: Westview, 2003), 284-294.

¹⁹¹ Schriver, *REALTRAIN: A New Method For Tactical Training Of Small Units*, no page number, information contained in "Forward."

¹⁹² "Movement-to-contact" is a military mission requiring a tactical movement to determine the whereabouts and establish contact with an enemy force without precise knowledge of its location. A "hasty attack" differs from a "deliberate attack" in that there is no prior planning before its execution. Hasty attacks are coordinated and executed after unexpected contact with an enemy force.

and conventional training techniques. Of the squads trained using the REALTRAIN system, 50 percent seized the machine gun position and 75 percent successfully defended it against the OPFOR counterattack. None of the conventionally trained squads seized the machine gun position and only 12 percent successfully defended it against the OPFOR. Squads trained with REALTRAIN also suffered fewer casualties while inflicting more casualties on the OPFOR than the conventionally trained squads. Significantly, the majority of the casualties inflicted after training with REALTRAIN were with simulated hand grenades.¹⁹³ This indicated that the soldiers trained with REALTRAIN had become more adept at the use of suppressive fire and terrain to approach the enemy, while their conventionally trained counterpart had not, likely due to the lack of realistic consequences for the use of suppressive weapons in conventional training. Squads trained with REALTRAIN were also better at detecting the enemy while avoiding detection, exhibited more caution when enemy contact was likely, had better internal communication, and showed greater organization when reacting to enemy contact.¹⁹⁴

Tests conducted in Europe using armored vehicles similarly demonstrated the superiority of training using engagement simulations. Mixed platoons of M-60 tanks and anti-tank missile equipped M-113 armored personnel carriers underwent a similar exercise to that conducted by the infantry squads at Fort Ord. Those platoons that trained with the REALTRAIN system improved their battlefield performance over their pre-training execution, achieved greater success than the platoons trained conventionally, and

¹⁹³ James H. Banks, Guthrie D. Hardy, Thomas D. Scott, Garry Kress, and Larry E. Wood. *Research Report 1192, REALTRAIN Validation for Rifle Squads: Mission Accomplishment* (Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, October 1977), 2-20.

¹⁹⁴ Thomas D Scott, James H. Bank, Guthrie D. Hardy Jr., and Robert H. Sulzen. *Research Report 1213, REALTRAIN Validation for Rifle Squads III: Tactical Performance During Movement -to-Contact* (Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, July 1979), 4-5.

suffered fewer casualties.¹⁹⁵ Combat leaders learned that they were highly vulnerable on the battlefield as REALTRAIN “killed” without concern for rank or position. Soldiers of all ranks learned to use terrain for their protection and to delegate or accept responsibility as leaders became casualties. After several iterations of REALTRAIN exercises, combat experienced observers noted that unit personnel performed at a level approximating combat seasoned soldiers.¹⁹⁶ The lower casualties exhibited by experienced units provided support for the expensive system when dealing with Congressional budget hawks.¹⁹⁷ General Gorman pointed out that the system saved money in the long run because lower casualties meant buying fewer tanks, which cost far more than the number panels and telescopes. ARI studies recognized what DePuy, Gorman, Starry, and any soldier who had experience combat understood: the combat environment was a complex one that defied attempts to predict or specify appropriate behaviors and outcomes. Leaders and soldiers were at some level all decision-makers forced to evaluate, plan and execute tasks and missions while receiving input from the enemy, often in the form of lethal opposition.¹⁹⁸

Of equal importance, soldiers and leaders valued REALTRAIN. Assessing the reaction of soldiers from four divisions in Europe that trained using the system from November 1975 to March 1976, ARI researchers found that 63 percent of the participants

¹⁹⁵ Thomas D. Scott, Larry L. Melisa, Guthrie D. Hardy Jr., James H. Banks, and Larry E. Wood. *Research Report 1204, REALTRAIN Validation for Armor/Anti-Armor Teams* (Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, March 1979), 2-24.

¹⁹⁶ Schriver, *REALTRAIN: A New Method For Tactical Training Of Small Units*, 18-20.

¹⁹⁷ Paul F. Gorman, “Transcript of Speech Presented at the National Security Industrial Association, Conference on Advanced Training Technology, Fort Gordon, Georgia, 17 June 1975, *The Challenge of Army Training*,” Gorman papers.

¹⁹⁸ Robert T. Root, C. Mazie Knerr, Angelo A. Severino and Larry E. Word. *Tactical Engagement Simulations Training: A Method For Learning The Realities of Combat* (Alexandria: U.S. Army Research Institute for The Behavioral and Social Sciences, 1979), 10.

considered REALTRAIN a superior training system to conventional training methods. Unit leaders and exercise controllers considered the system 97 percent more effective than standard field exercises.¹⁹⁹ Better training experiences also improved soldiers' attitudes. Enlisted soldiers who participated in the exercises in Europe showed increased positive attitudes towards their role in the Army and their career intentions. The rifle squads from the Fort Ord experiment showed similar improvement in their attitudes towards the Army. More significantly, the leaders of those squads that used REALTRAIN during the training phase expressed a feeling of improvement in their individual abilities and greater satisfaction with their work. On the other hand, leaders from the conventionally trained squads showed lower opinions of their self-improvement than they did before the exercises began.²⁰⁰

While REALTRAIN proved effective at training tactical units, the system had significant limitations. Despite the use of blank rounds and tank cannon simulators, there remained significant artificialities to REALTRAIN exercises. At times, exercises proceeded past the point when a prudent commander would withdraw his unit from battle due to losses. Often units continued fighting until they suffered 80 percent casualties.²⁰¹ Other units simply failed to use the system due to the costs involved in its implementation. General Starry reported to the Army Chief of Staff in July 1979 that according to a recent survey, only three of the Army's sixteen divisions routinely used

¹⁹⁹ R.T. Root, K.I. Epstein, F.H. Steinheiser, J.F. Hayes, S.E. Wood, R. H. Sulzen, G. G. Burgess, A. Mirabella, D.E. Erwin, and E. Johnson III. *Research Report 1191, Initial Validation of REALTRAIN with Army Combat Units in Europe* (Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, October 1976), vi-vii.

²⁰⁰ Paul R. Bleda, *Technical Paper 363: REALTRAIN Improves Soldier Attitudes Toward the Army*. (Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, May 1979), 7-10.

²⁰¹ Root, *Research Report 1191, Initial Validation of REALTRAIN with Army Combat Units in Europe*, 70.

REALTRAIN in their training.²⁰² Although effective, the system required significant investments in time and personnel to set-up and conduct the exercises, and the nature of the casualty assessment system restricted the size of units that could participate.²⁰³ During a period when rapid personnel turnover and endemic personnel shortages represented the most severe limitation to Army training, allocating an exercise controller to every vehicle and infantry squad placed a significant burden on unit commanders. So even as REALTRAIN underwent testing and validation, TRADOC undertook development of the next generation of tactical engagement simulations.

During his tenure as the TRADOC Deputy Chief of Staff for Training, General Gorman recognized the need for an engagement simulation that instantaneously and accurately replicated the effects of a given weapon system. As the chair of the steering group within TRADOC tasked with guiding the development of all battle simulations, Gorman occupied a position that allowed him to develop the systems he felt were necessary.²⁰⁴ Inspired by a Navy sailor he saw experimenting with a pistol marksmanship training system using lasers, Gorman approached the Arthur D. Little management-consulting firm to develop the requirements and funded their work through TRADOC's education budget. After a period of study that included examining advances in laser technology taking place in the United States and Japan, the firm produced the specifications for the Multiple Integrated Laser Engagement System (MILES).²⁰⁵

Designers chose the acronym in part because *miles* was the Latin word for "soldier" and

²⁰² Letter, General Donn A. Starry to General E. C. Meyer, 11 July 1979, in Swain, ed. *Press On*, 826

²⁰³ *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1976 to 30 September 1977*, 57.

²⁰⁴ Letter, General William DePuy to General Dutch Kerwin, February 1, 1974, DePuy Papers, Box 21.

²⁰⁵ Gorman, interview by author, August 31, 2010; Paul F. Gorman, "How to Fight and Win Outnumbered," Gorman Papers; Scales, *Certain Victory*, 21.

because the Army Material Command program manager's given name was Miles.²⁰⁶ MILES consisted of small, lightweight, eye-safe, gallium arsenide lasers aligned to the weapon sights of the Army's major combat systems. Sensors mounted to vehicles or worn soldiers detected the incoming laser beam and determined by the strength of the laser energy reaching the sensors whether the target received a hit, a kill, or a near miss. The system also differentiated between different weapon systems so that a laser mounted on an M-16 assault rifle had no effect on a tank. When an individual soldier was "killed," an audible tone sounded from a speaker on the sensor vest, known as a Man Worn Laser Detector. The soldier could deactivate the tone only by removing a small key from the laser on his weapon and inserting it into the vest, disabling the weapon's laser in the process and ensuring the "dead" soldier could not continue fighting. Tanks and other vehicles used the Vehicle Kill Indicator to show a successful engagement. A flashing light indicated "killed" vehicle to outside observers, while the crew heard an audible tone through their intercom. While the crew could deactivate the tone using a key from one of the tank's weapon systems, a controller had to reset the kill indicator and allow the tank to continue fighting.²⁰⁷

The MILES system cost approximately \$2,000 for each tank array and \$700 for each soldier system. Though this was one-fifth the cost of the next cheapest hit/kill simulator, it was much more expensive than REALTRAIN, and therefore caused concern among Army leaders who were concerned about its cost effectiveness.²⁰⁸ Operational

²⁰⁶ Gorman, *The Military Value of Training*, 16

²⁰⁷ Department of the Army, *TM 9-1265-373-10-1: Operators Manual For Multiple Integrated Laser Engagement System, Firing Laser: M82* (Washington D.C., July, 1988), 1-4 to 1-14.

²⁰⁸ *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1976 to 30 September 1977*, 57.

testing took place at Fort Carson, Colorado from August to October 1978, after which the Army Logistics Evaluation Agency moved forward with the project to provide the system for the Armor School, Infantry School, one Europe-based armored division, and the National Training Center.²⁰⁹ By 1979 the projected procurement cost topped \$100 million, which General Starry justified to the Army Chief of Staff by arguing that it offered a much more convenient system than REALTRAIN and provided the necessary tactical realism to properly train units for combat. According to Starry, when confronted with the time and personnel requirements, too many commanders preferred to “run out to the training area, dash around for a while, then come back in, feeling they’ve done some training.”²¹⁰ He understood that for the unit commander, the system’s convenience of use was just as important as the realism it provided.

Further operational testing confirmed the value of MILES. After leaving TRADOC, General Gorman commanded the Germany-based 8th Infantry Division in which MILES operational testing began in September 1979.²¹¹ The training received an overwhelmingly positive reaction from the soldiers who participated in it. The test report’s medical addendum acknowledged that some snipers were treated for frostbite because the MILES system created such a realistic training environment that they refused to move in order not to reveal their position or miss a shot. MILES seemed to instill the same virtues that REALTRAIN provided, without the administrative overhead. Units became more adept at using terrain, soldiers focused more on maintaining their vehicles

²⁰⁹ *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1978 to 30 September 1979*, 161-162

²¹⁰ Letter, General Donn Starry to General E. C. Meyer, 11 July 1979, in Sorely, ed., *Press On*, 826.

²¹¹ *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1978 to 30 September 1979*, 161-162

because they understood the correlation between weapon system readiness and combat power, and soldiers stepped up to take command after their leaders were “killed.” When U.S. Army Chief of Staff General Bernard Rogers traveled to Europe to inspect one of the MILES training events in General Gorman’s division, he arrived still unconvinced about fully funding MILES. After one training event, Gorman and Rogers slipped into the back of an AAR following a MILES battle that saw the unit’s entire leadership eliminated. A young enlisted soldier, not even an NCO, had taken command of the unit during the final stages on the attack. While that specialist was probably an above average soldier, the fact that MILES created realistic enough conditions to elicit such behavior impressed Rogers, and he immediately expressed his support for further funding.²¹²

Tactical engagement simulations represented a radical departure from previous methods of training. Perhaps more than any other system, engagement simulations reinforced the concept of performance-oriented training, since they removed a great deal of subjectivity from the equation. Rationalizing about a unit’s effectiveness or the realities of combat became hard when most of its tanks sat “destroyed” in the battlefield. For this reason, some officers resisted the introduction of engagement simulations. In a professional army where an officer’s career depended largely on his superior’s evaluation, less competent or confident officers feared that tactical engagement simulations might demonstrate their own failings as leaders. General Starry predicted this outcome early during the MILES fielding process, understanding that a comment like “he doesn’t do well in battle simulations” would become the “kiss of death” to a

²¹² Letter, General Donn Starry to General Robert M. Schoemaker, 21 November 1980, Starry Papers, Box 23; Gorman interview with author, August 31, 2010; The Soviet Union imitated MILES with a non-eye safe laser systems in the 1980s. See Gorman, *Military Value of Training*, 20.

commander's career. Far from being concerned about this phenomenon, however, Starry, like General DePuy and Gorman, believed that commanders who could not perform during training ought not to command in combat, since engagement simulations provide the best approximation of combat the Army could produce. Another philosophy held that a system that simulated casualties would unnerve soldiers and sap their morale. Before leaving TRADOC, General Gorman briefed retired general officers in the Pentagon about the Army's training reforms and the results of recent REALTRAIN exercises. General Hamilton Howze, a retired four-star general who was widely regarded as the foremost expert on training, told Gorman that the only thing being accomplished with tactical engagement simulations was "teaching soldiers how to die."²¹³ He was wrong, but it would take another decade of training and involvement in another major war to prove it.

Despite the concerns of General Howze and his colleagues, the leaders of TRADOC recognized the benefits of training engagement simulations and the requirement for the conduct of highly realistic combat training. Increasingly sophisticated weapons had rendered many of the Army's posts too small for units to conduct effective maneuver or live fire training at their home stations, the mini-cities scattered throughout the United States where soldiers lived most of the time. Tanks in the 1970s were capable of accurate fire to ranges six times greater than those in World War I and three times farther than World War II tanks. In the Civil War, an American infantry battalion usually occupied a front of approximately 250 meters, but by 1976 that distance had increased to 6,000 meters with the expectation that the battalion could reposition rapidly within a

²¹³ Letter, General Donn A. Starry to Lieutenant Colonel Lee Allen, 26 October 1979, in Sorely, ed. *Press On*, 838; Pau F. Gorman, "Readiness Restored: The U.S. Army 1963-1975", October 2004; Gorman, interview by author, August 31, 2010.

12,000 by 29,000 meter area of operations. Additionally, units expected to face a battlefield saturated with electronic warfare (EW) and contaminated by chemical weapons, and combat that necessitated close coordination with the U.S. Air Force. The ARTEP called for the realistic simulation of battlefield conditions, but the Army's posts within the continental United States lacked sufficient maneuver areas to simulate them. Additionally, restrictions on the use of electronic warfare devices and air-traffic control patterns prevented simulation of an EW battlefield and coordination with tactical aircraft.

The Army purchased much of its training land during World War II, after which urban areas grew up adjacent to post boundaries and made purchasing additional training areas at home stations infeasible.²¹⁴ General Bernard Rogers, while serving as FORSCOM commander from 1974 to 1976, approached General DePuy to inquire about solutions to the problem of limited training land.²¹⁵ A centralized training facility, a National Training Center (NTC), that provided the Army's "prospective leaders on the battlefield and their units an opportunity to demonstrate that they can 'put it all together'" offered a solution to the Army's dilemma.²¹⁶ In addition to offering realistic training to operational units, the NTC provided a proving ground for the realistic evaluation of tactical doctrine and new technologies, ensuring they did not develop in an intellectual or theoretical vacuum.²¹⁷

²¹⁴ Department of the Army, *TC 25-1, Training Land* (Washington D.C.: Department of the Army, 1978), 1-21.

²¹⁵ Paul F. Gorman, "Towards a Combined Arms Training Center, Speech by MG Paul F. Gorman, DCST, HQ, TRADOC to the PM, ARTADS," November 1976, Gorman Papers.

²¹⁶ Letter, General Donn A. Starry to General Walter T. Kerwin, April 19, 1978, in Sorley ed. *Press On!*, 790.

²¹⁷ Robert M. Citino, *Blitzkrieg to Desert Storm: The Evolution of Operational Warfare* (Lawrence: University of Kansas Press, 2004), 274.

General Gorman outlined the requirements for the NTC in a November 1976 concept paper entitled “Toward a Combined Arms Training Center.” In January of that year, the U.S. Air Force Chief of Staff, General David C. Jones, extended an invitation to his Army counterpart, General Frederick C. Weyand, to observe the Air Force’s new Red Flag exercise. Analysis of data from combat engagements during World War II, Korea, and Vietnam showed that pilots had a 40 percent chance of surviving their first combat engagement, but those odds increased to 90 percent after 10 combat engagements.²¹⁸ The Air Force intended to provide those first ten engagements in training rather than in combat. Red Flag, first conducted in 1975, provided a hyper-realistic, simulated combat environment including instrumentation to record the course of air combat engagements, a simulated air defense threat, and an “aggressor” force that faithfully replicated Warsaw Pact capabilities and tactics. Air Force units deployed from their home stations to Nellis Air Force Base, Nevada to demonstrate their level of combat effectiveness and test new air war concepts.²¹⁹

Gorman concluded that the Army lagged five years behind the Air Force in its transition to performance-oriented training. The Air Force had replaced flight-hours as its measure of training readiness long before the Army abandoned the ATP’s time-oriented training for the ARTEP’s performance-oriented training. Although the Army lacked the Air Force’s historical data about the link between combat experience and survivability, its combat veterans knew intuitively that those who survived their initial combat experience had a better chance of survival over the long term. Gorman described his

²¹⁸ Paul F. Gorman, “Toward a Combined Arms Training Center”, November 1976, 2, Gorman Papers.

²¹⁹ Department of the Air Force, *Gulf War Air Power Survey, Vol IV: Weapons, Tactics, and Training and Space Operations* (Washington D.C.: Department of the Air Force, 1993), 421-436; Letter, General David C. Jones to General Fred C. Weyand, January 1976, DePuy Papers, Box 12.

vision for a centralized training center where brigade-sized units would fall in on pre-positioned equipment, just as they would if reinforcing NATO in Europe. They would then engage in live fire training, and in simulated combat exercises against an OPFOR equipped and trained similarly to armies of the Warsaw Pact.²²⁰

In late 1977, the Vice Chief of Staff of the Army, General Walter Kerwin, approved the concept for the National Training Center. Major General John W. Seigle, who had replaced Gorman as TRADOC's Deputy Chief of Staff for Training in June of that year, established a team for planning and coordination of the development of the center's objectives.²²¹ Conceived during a period of continued budgetary constraints, the NTC's high cost raised significant concerns during the development process, but more critically, the fundamental role for the NTC raised questions among Army leaders. From the beginning, the question of control and purpose divided the leaders of FORSCOM and TRADOC. TRADOC saw itself as the principle agency responsible for Army training and believed that it should command the NTC, but FORSCOM argued that its command responsibility for the units that would train at the NTC demanded that it take the lead with TRADOC support.

At a more fundamental level, the debate reflected the continuing tension in the Army concerning the concept of decentralized training. General Gorman conceived of the NTC as "school for units" that would evaluate the ability of units', and more particularly of their commanders', to operate to specified standards in a realistic combat training

²²⁰ Gorman, "Toward a Combined Arms Training Center," 1-20; In 1974, TRADOC requested that OPFOR units wear uniforms and insignia identical to the armies of the Soviet Union and Chinese. The State Department objected to this idea because the imagery it created might work contrary to American foreign policy goals, Letter General William E. DePuy to Major General J. H. Cushman, 11 December 1974, DePuy Papers, Box 19.

²²¹ *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1976 to 30 September 1977*, 124.

environment.²²² TRADOC personnel, who were the experts in the areas of doctrine and training, would determine how units performed. General Starry spoke approvingly of the Israeli evaluation system, in which brigade commanders turned their battalions over to a centralized training center for testing under the supervision of the training center commander.²²³ He argued for similar uniformity and centralized evaluation at the NTC. On the other hand, General Kerwin and his successor at FORSCOM, General Robert Shoemaker, objected vehemently to anyone evaluating FORSCOM units other than commanders within FORSCOM. To have an officer outside the chain-of-command judge the performance another officer and his subordinates contradicted a fundamental principle of military leadership and stood in contrast to American military tradition. Another major concern was that officers' careers might suffer from a poor performance at the NTC, but Gorman believed that commanders occupied a position of trust by being responsible for the lives of the soldiers under their commander. Those who could not measure up should not be in command. Ultimately, FORSCOM received command of rotating units, the OPFOR, and the training center while TRADOC took charge of the NTC's operations group. This group included the exercise controller, the planners who developed the training scenarios, and a section responsible for analyzing the visiting unit's performance. TRADOC personnel still judged the units' battlefield performance, but could only provide feedback to commanders, who ultimately judged the action of

²²² Gorman, "Towards a Combined Arms Training Center," 20.

²²³ Letter, General Donn A. Starry to General E. C. Meyer, July 11, 1979 in Sorely, ed., *Press On!*, 827.

their subordinates. The NTC became operational at Ft. Irwin, California in January 1982.²²⁴

Support for the NTC throughout the late 1970s was partly the result of a study conducted from 1977 to 1978 that raised concerns about the state of Army training.²²⁵ Commissioned by General Starry in August 1977 and directed by Brigadier General Frederic J. Brown, the Army Training Study's original mission sought to quantify the relationship between training resources, training programs, training readiness and combat effectiveness.²²⁶ In other words, Brown's mission was to build a model with which to determine a unit's level of combat effectiveness based on the amount of resources (material, fiscal, and human) that were applied to a certain training program to reach a certain level of combat readiness. Quantifying training results based on resources and training programs proved too complex, however, as a myriad of variables such as equipment differences, individual levels of experience, weather, and terrain available for training also affected the readiness of a given unit. As a result, Starry re-oriented Brown's team towards determining the number of individual and collective tasks units had to master to achieve proficiency and how frequently units needed to train those tasks to maintain proficiency.²²⁷

The Army Training Study showed that despite the TRADOC's efforts at training development, the Army as whole remained in a poor state of readiness. To investigate the

²²⁴ Chapman, *The Origins and Development of the National Training Center*, 33-55. Anne W. Chapman, Carol J. Lilly, John L. Romjue, and Susan Canedy, *Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command, 1973-1998* (Ft. Monroe, VA: U.S. Army Training and Doctrine Command, 1998), 82; Gorman, interview by author, August 31, 2010.

²²⁵ Chapman, *The Origins and Development of the National Training Center*, 21-22.

²²⁶ *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1977 to 30 September 1978*, 36, 48-50.

²²⁷ Letter, General Donn A. Starry to General Walter T. Kerwin, April 24, 1978 in Sorley ed., *Press On!*, 792; Gorman, *Military Value of Training*, 42.

training environment of battalions, the study produced a computer model that incorporated data from surveys of operational battalions. The Battalion Training Model (BTM) did not paint a pretty picture of Army readiness. The BTM estimated that units could not maintain combat readiness with more than 20 percent quarterly turnover in personnel, but turnover rates in U.S. Army Europe averaged 30 to 40 percent in the combat battalions. In addition, unit strengths for training, the number of people actually available to participate in training events, fell far short of the 90 percent of a unit's personnel that the model advocated as sufficient. The Army remained underfunded to fill its top six enlisted ranks, leaving operational units under strength in critical NCO positions. In late 1978, General Starry reported to General Rogers, then Army Chief of Staff, that the Army was "trying to do too many things with too few people, under policies that militate against all our efforts to develop unit cohesiveness that provides the greatest payoff in effectiveness."²²⁸ The Army Training Study prompted Starry to advocate for the adoption of the German's *Gemantausbildungsplan* concept. As the 1970s closed, the institution remained in tension concerning the issue of training centralization.

Unit training underwent fundamental and revolutionary shifts during the 1970s. The new concept of performance-oriented training was a more effective training philosophy for an Army that no longer counted on mobilization to provide the forces required to win its next war. The development of a new set of evaluation measures forced the Army's officers to re-evaluate their methods for managing training resources and developing training plans. TRADOC assisted in this effort, with varying degrees of

²²⁸ Letter, General Donn A. Starry to General Bernard W. Rogers, November 15, 1978, Starry Papers, Box 14.

acceptance, by providing an array of literature and workshops. Tactical engagement simulators offered a more realistic training experience and made the National Training Center a viable option for overcoming shortages of training land. At decade's end, tension still remained between those who advocated a highly proscriptive training program for the Army's units and those who believed decentralization was more appropriate for an Army destined to fight on a highly intense, highly decentralized battlefield. Despite this tension, Army leaders in the 1970s had laid the foundation for an acceleration of the training revolution in the decade that followed.

V: Conclusion

Were the 1970s an “inward-looking time?” Looking at the number of reforms initiated during the decade, General DePuy’s assessment appears correct. The trauma of Vietnam and changing national priorities precipitated major alterations in the Army’s strategic focus, internal organization, recruiting, and training system. Those changes marked the beginning of a transition from a force designed for mass mobilization to a fully professional force focused on winning the first battle of the next war. The 1973 Yom Kippur war reinforced this assessment in the minds of TRADOC’s leaders who revised the Army’s doctrine and its training system in that direction.

Performance-oriented training formed the central philosophical pillar of the training revolution, and represented a radical departure from previous training models based on time-oriented instruction. This concept, developed under General Gorman’s leadership of the Combined Arms Training Board, tied together all other training developments. The ARTEP, Soldiers Manual, SQT, and NCOES all emphasized that actual, demonstrable performance, not just participation in classroom instruction, was the key to achieving individual and unit proficiency. Because DePuy, Gorman, and Starry expected that the Army would fight outnumbered in the next war, the Army had to field more combat effective units to offset the technological parity that existed between the United States and Soviet Union throughout the decade.

Written and hands-on testing worked fine for measuring individual performance, but how to evaluate units remained a more elusive challenge. Israeli and Arab losses during the Yom Kippur War demonstrated that the Army's methods for evaluating unit readiness, the Army Training Test, failed to reflect reality. Gorman found the answer in tactical engagement simulations. REALTRAIN provided the test bed and the system showed that despite the fears of the Army's old guard, soldiers did not just learn to die. Instead, soldiers learned how to work together and survive on the battlefield, and they actually preferred the more realistic engagement simulations training to conventional methods. However, REALTRAIN's high cost in personnel and equipment made the system inappropriate for all but well-planned exercise on a small scale. Gorman found the answer with new laser technologies that allowed for instantaneous and highly realistic "free-play" between opposing forces. More important than new technology, the introduction of the after-action-review, where professional criticism by all ranks forced participants to confront their shortcomings, allowed for greater intra-unit communication. However, without the technology to remove doubt about the engagement's outcome, the AAR process would have lacked its teaching power. Furthermore, tactical engagement simulations made possible the development of the National Training Center at Fort Irwin.

Better training offered at least a partial answer to the difficulties the Army faced in the 1970s. A comprehensive assessment of the Army's race, drug, and gender issues during the 1970s stands outside the scope of this study, but they definitely influenced the course of the training revolution. Because the Soldier's Manuals and SQTs set objective standards for judging all soldiers, these reforms offered at least a partial solution to the controversies surrounding the introduction of women into more MOSs. If female soldiers

could perform the tasks outlined under the task-conditions-standards framework, the professional justifications for their exclusion in non-combat MOSs stood on an unsteady foundation. Even with the introduction of more female soldiers, a large percentage of the high quality recruits, the transition to the all-volunteer force was an unsteady process. As the Army Training Study demonstrated, the personnel turbulence caused by recruiting shortfalls hindered the development of combat effective units.

TRADOC did not simply impose the training revolution on an unwelcoming Army, but incorporated the feedback from the field Army to make reforms in every major training initiative. Such was the nature of a system where FORSCOM controlled the operational units that trained under the system that TRADOC produced. Yet, there remained a desire among TRADOC's leaders to establish centralized and standardized training programs. The concept of decentralized command clashed with the highly centralized nature of some of TRADOC's initiatives. Initially, TRADOC's leaders saw the NTC as an evaluation of a unit's combat readiness, but that conflicted with the concept of unity of command and the NTC became a FORSCOM post with TRADOC playing a supporting role. Similarly, the SQTs' highly centralized administration gave way to a more hands-on and decentralized execution that placed the impetus on the Army's NCOs as the primary executers of individual training.

The training revolution began in the 1970s, a period during which TRADOC laid the foundation for a better Army during this period. New doctrine, NCO and officer education, training manuals, battle and engagement simulations technology, and an emphasis on performance all came to fruition during the following decade when a renewed emphasis on national defense provided the resources necessary to complete the

revolution. It is perhaps fortunate, then, that the Army did not face a serious test of its abilities as it shook off the mantle of Vietnam and put its house back in order.

Bibliography

Official Papers:

William E. DePuy Papers – U.S. Army Heritage and Education Center, Carlisle, PA.

Paul F. Gorman Papers – provided by Gorman to author

Donn A. Starry Papers – U.S. Army Heritage and Education Center, Carlisle, PA.

Orwin C. Talbot Papers, U.S. Army Heritage and Education, Carlisle, PA.

Published Papers and Oral Histories:

Brownlee, Romie L. and William J. Mullen, ed. *Changing An Army: An Oral History of General William E. DePuy, USA Retired*. Carlisle: U.S. Army Military History Institute.

Sorely, Lewis ed. *Press On!: The Selected Works of General Donn A. Starry*. Fort Leavenworth: Combat Studies Institute Press, 2009.

Swain, Richard M. comp. *Selected Papers Of General William E. DePuy: First Commander, U.S. Army Training and Doctrine Command, 1 July 1973*. Fort Leavenworth: Combat Studies Institute, 1994.

Official Studies:

Banks, James H., Guthrie D. Hardy, Thomas D. Scott, Garry Kress, and Larry E. Wood. *Research Report 1192, REALTRAIN Validation for Rifle Squads: Mission Accomplishment*. Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, October 1977.

Bleda, Paul R., *Technical Paper 363: REALTRAIN Improves Soldier Attitudes Toward the Army*. Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, May 1979.

Department of the Army, *Report of the Board of Dynamic Training Vol. I-VI*. Washington D.C.: Department of the Army, December 17, 1971. U.S. Army Heritage and Education Center, Carlisle, PA.

Department of the Army. *Education of Army Officers Under The Officer Personnel Management System: Report of TRADOC OPMS Task Group, Vol II*. Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1975. U.S. Army War College Library, Carlisle, PA.

Department of the Army, *Education of Army Officers Under The Officer Personnel Management System: Report of TRADOC OPMS Task Group, Vol II*. Fort Monroe, VA: U.S. Army Training and Doctrine Command, 1975. U.S. Army War College Library, Carlisle, PA.

Moenk, Jean R. *Operation STEADFAST Historical Summary: A History of the Reorganization of the U.S. Continental Army Command (1972-1973)*. Fort Monroe: Historical Office, U.S. Army Training and Doctrine Command, 1974.

Robert Vineberg and Elaine N. Taylor, *Summary and Review of Studies of the VOLAR Experiment 1971: Installation Reports for Forts Benning, Bragg, Carson, and Ord, and HUMRRO Permanent Party Studies* Alexandria: Human Resources Research Organization, May 1972.

Root, R. T., K.I. Epstein, F.H Steinheiser, J.F. Hayes, S.E. Wood, R.H. Sulzen, G.G. Burgess, A. Mirabella, D.E. Erwin, and E. Johnson III. *Research Report 1191, Initial Validation of REALTRAIN with Army Combat Units in Europe* (Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, October 1976.

Root, Robert T., C. Mazie Knerr, Angelo A. Severino and Larry E. Word. *Tactical Engagement Simulations Training: A Method For Learning The Realities of Combat*. Alexandria: U.S. Army Research Institute for The Behavioral and Social Sciences, 1979

Scott, Thomas D., Larry L Melisa, Guthrie D. Hardy Jr., James H. Banks, and Larry E. Wood. *Research Report 1204, REALTRAIN Validation for Armor/Anti-Armor Teams*. Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, March 1979.

Scott, Thomas D., James H. Bank, Guthrie D. Hardy Jr., and Robert H. Sulzen. *Research Report 1213, REALTRAIN Validation for Rifle Squads III: Tactical Performance During Movement -to-Contact*. Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, July 1979.

Shriver, Edgar L., Boyd L. Mathers, Glen R. Griffin, Donald R. Jones, Larry E. Word, Robert T. and Root, John F. Hayes. *REALTRAIN: A New Method For Tactical Training Of Small Units*. Arlington: U.S. Army Research Institute for the Behavior and Social Sciences, 1975.

Study on Military Professionalism. Carlisle: U.S. Army War College, 1970.

The Report of the President's Commission on the All-Volunteer Armed Forces. Washington D.C.: U.S. Government Printing Office, February 1970.

Vineberg, Robert and Elaine N. Taylor. *Summary and Review of Studies of the VOLAR Experiment 1971: Installation Reports for Forts Benning, Bragg, Carson, and Ord, and HUmRRO Permanent Party Studies.* Alexandria: Human Resources Research Organization, 1972.

CONARC/TRADOC Annual Command Histories – TRADOC Historical Office, Ft. Monroe, VA

Historical Office, Office of the Chief of Staff. *CONARC/ARRED Annual Historical Summary, FY 1973*; Historical Office, Office of the Chief of Staff, Ft. Monroe, VA: U.S. Army Training and Doctrine Command, August 1974. document classified Secret – portions referenced are unclassified.

Historical Office, U.S. Training and Doctrine Command. *Annual Report of Major Activities FY 1974, U.S. Army Training and Doctrine Command: A History of TRADOC's First Year*, Fort Monroe: U.S. Army Training and Doctrine Command, 1975.

Historical Office, U.S. Army Training and Doctrine Command. *Semiannual Historical Report, Deputy Chief of Staff for Training, 1 January - 30 June 1974*, Fort Monroe: U.S. Army Training and Doctrine Command, 1975.

Historical Office, U.S. Army Training and Doctrine Command, *Semiannual Historical Report, Deputy Chief of Staff for Personnel, 1 July - 31 December 1974* Fort Monroe: U.S. Army Training and Doctrine Command, 1975.

Historical Office, U.S. Army Training and Doctrine Command. *Annual Report of Major Activities FY 1975, United States Army Training and Doctrine Command*, HQ, United States Army Training and Doctrine Command, Ft. Monroe, Virginia, 1976. document classified Confidential – portions referenced are unclassified.

Historical Office, U.S. Army Training and Doctrine Command. *Army Training and Doctrine Command Annual Historical Review, 1 July 1975 to 30 September 1976*. Fort Monroe, U.S. Army Training and Doctrine Command, 1977. document classified Confidential – portions referenced are unclassified.

Historical Office, U.S. Army Training and Doctrine Command. *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1976 to 30 September 1977*. Fort Monroe: U.S. Army Training and Doctrine Command, 1978. document classified Confidential – portions referenced are unclassified.

Historical Office, U.S. Army Training and Doctrine Command. *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1977 to 30 September 1978*. Fort Monroe: U.S. Army Training and Doctrine Command, 1978. document classified Confidential – portions referenced are unclassified.

Historical Office, Office of the Chief of Staff. *U.S. Army Training and Doctrine Command Annual Historical Review, 1 October 1978 to 30 September 1979*. Fort Monroe: U.S. Army Training and Doctrine Command, 1981. document classified Confidential – portions referenced are unclassified.

Official Publications

Department of the Air Force, *Gulf War Air Power Survey, Vol IV: Weapons, Tactics, and Training and Space Operations*. Washington D.C.: Department of the Air Force. 1993.

Department of the Army. *Academic Year 1975 Program of Instruction for Command and General Staff Officer Course*. Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1974. Combined Arms Library, Ft. Leavenworth, KS.

Department of the Army. *Army Subject Schedule No. 7-30: Platoon Tactical Exercises*. Washington D.C.: HQ, Department of the Army, 1967.

Department of the Army. *Army Training Program No. 7-18: Rifle Company, Infantry, Airborne, Airmobile, and Light Infantry Battalion*. Washington D.C.: HQ, Department of the Army, 1968.

Department of the Army. *Army Training Test No. 7-18: Infantry Company, Rifle Battalion*, November 1966.

Department of the Army. *ARTEP 17-55: Armored Cavalry Squadron*. Washington D.C., March 1977.

Department of the Army. *ARTEP 7-15: Army Training and Evaluation Program for Light Infantry Battalions*. Washington D.C.: Department of the Army, 1976.

Department of the Army, *CGSC 76-77 Course Catalog*. Fort Leavenworth, KS: U.S. Army Command and General Staff College, 1976. Combined Arms Library, Fort Leavenworth, KS.

Department of the Army. *FM 21-5: Military Training Management*. Washington D.C.: Department of the Army, 1964.

Department of the Army. *FM 100-5: Operations*. Washington D. C.: HQ, Department of the Army, 1976.

Department of the Army. *TC 25-1, Training Land*. Washington D.C., 1978.

Department of the Army. *TC 21-5-1: Training Management in Battalion*. Washington D.C.: Department of the Army, 1977.

Department of the Army. *TC 21-5-2, Training Management Digest: Performance Oriented Training*. Washington D.C.: Department of the Army, 1974.

Department of the Army. *TC 71-5, Tactical Training for Combined Arms Elements: REALTRAIN*. Washington D.C.: Department of the Army, 1975.

Department of the Army. *TM 9-1265-373-10-1: Operators Manual For Multiple hIntegrated Laser Engagement System, Firing Laser: M82*. Washington D.C.: Department of the Army, July 1988.

U.S Army Training and Doctrine Command. *TRADOC Bulletin 1: Range and Lethality of U.S. and Soviet Anti-Armor Weapons*. Fort Monroe: U.S. Army Training and Doctrine Command, September 1975.

U.S Army Training and Doctrine Command. *TRADOC Bulletin 5: Training with LAW*. Fort Monroe: U.S. Army Training and Doctrine Command, January 1976.

U.S Army Training and Doctrine Command. *TRADOC Bulletin 7: The BMP: Capabilities and Limitations*. Fort Monroe: U.S. Army Training and Doctrine Command, June 1977.

U.S Army Training and Doctrine Command. *TRADOC Bulletin 9: Infantry Fighting Positions*. Fort Monroe: U.S. Army Training and Doctrine Command, September 1977.

Congressional Testimony:

United States Congress. House Armed Services Committee. *Statement of Secretary of Defense Melvin R. Laird Before the House Armed Services Committee on FY 1972-1976 Defense Program and the 1972 Defense Budget, March 9, 1971*. Washington D.C.: U.S. Government Printing Office, 1971.

United States Congress. House Armed Services Committee. *Statement of the Secretary of Defense Elliot L. Richardson Before the House Armed Services Committee on the FY 1974 and FY 1974-1978 Program, April 10, 1973*. Washington D.C.: U.S. Government Printing Office, 1973 .

United States Congress. House Armed Services Committee. *Status of Army Manpower, Hearings Before the Committee on Armed Services House of Representatives, Ninety Sixth Congress, Second Session, June 11 and 12, 1980*. U.S. Government Printing Office, Washington D.C., 1981; available from Lexis Nexis Congressional Publications, http://web.lexis-nexis.com.proxy.lib.ohio-state.edu/congcomp/form/cong/s_pubadvanced.html.

United States Congress. Senate Armed Services Committee. *Statement of Secretary of Defense Melvin R. Laird Before the Senate Armed Services Committee on FY 1973 Defense Budget and FY 1973-1977 Program, February 15, 1972*. Washington D.C.: U.S. Government Printing Office, 1972.

United States Congress. Senate Committee on Armed Services. *Statement By The Honorable Robert F. Froehlke, Secretary Of The Army, Committee on Armed Services, Second Session, 92nd Congress, February 24, 1972*.

United States Congress. *Report of the Secretary of Defense James R. Schlesinger to the Congress on the FY 1976 and Transition Budget, FY 1977 Authorization Request and FY 1976-1980 Defense Programs, February 5, 1975*. Washington D.C.: U.S. Government Printing Office, 1975.

United States Congress. *Report Of Secretary of Defense Donald H. Rumsfeld to the Congress on the 1977 Budget and Its Implications for the FY 1978 Authorization Request and the FY 1977-1981 Defense Programs, January 21, 1976*. Washington D.C.: U.S. Government Printing Office, 1976.

Published Works:

Anderson, Terry. *The Sixties*. New York: Pearson Longman, 2004.

Bailey, Beth, *America's Army: Making the All-Volunteer Force*. Cambridge: The Belknap Press of Harvard University Press, 2009.

Binkin, Martin. *America's Volunteer Military: Progress and Prospects*. Washington D.C.: The Brookings Institute, 1984.

Binkin, Martin and Shirley J. Bach. *Women and the Military*. Washington D.C.: The Brookings Institute, 1977.

Boyle, Richard. *The Flower of the Dragon: The Breakdown of the U.S. Army in Vietnam*. San Francisco: Rampart Press, 1972.

Bradford, Zeb B. "American Ground Power After Vietnam", *Military Review* 52, no. 4 (1972): 4-13.

Bronfeld, Saul. "Fighting Outnumbered: The Impact of the Yom Kippur War on the U.S. Army." *The Journal of Military History* 71, no. 2 (2007): 465-498.

Chapman Anne W. *The Army's Training Revolution, 1973-1990 An Overview*. Fort Monroe and Washington D.C.: U.S. Army Training and Doctrine Command and Center for Military History, 1994.

Chapman, Anne W. *The Origins and Development of the National Training Center, 1976-1984*. Fort Monroe and Washington D.C.: U.S. Army Training and Doctrine Command and Center for Military History 1997.

Chapman, Anne. *Mixed Gender Basic Training: The U.S. Army Experience, 1973-2004*. Fort Monroe: U.S. Army Training and Doctrine Command, 2008.

Chapman, Anne W., Carol J. Lilly, John L. Romjue, and Susan Canedy. *Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command, 1973-1998*. Ft. Monroe, VA: U.S. Army Training and Doctrine Command, 1998.

Citino, Robert M. *Blitzkrieg to Desert Storm: The Evolution of Operational Warfare*. Lawrence: University of Kansas Press, 2004.

Crane, Conrad . *Avoiding Vietnam: The U.S. Army's Response to Defeat in Southeast Asia*. Carlisle: Strategic Studies Institute, 2002. available online from: <http://www.strategicstudiesinstitute.army.mil/pubs/display.cfm?pubID=58>.

Dempsey, Martin, 2009. *The Other Side of the Story: Vietnam Escalation and Global Army Readiness, 1965-1968* (M.A. Thesis). North Carolina State University, Raleigh.

Doughty, Robert A. *The Evolution of U.S. Army Tactical Doctrine*. Leavenworth Paper No 1. Fort Leavenworth: Combat Studies Institute, U.S. Army Command and General Staff College, 1979.

Douglas, Kinnard. *The War Managers*. Wayne: Avery Publishing Group Inc., 1985.

Fischer, Ernest F. Jr. *Guardians of the Republic: A History of the Noncommissioned Officer Corps of the U.S. Army*. Mechanicsburg: Stockdale Books, 1994.

Gawrych, George. *The Albatross of Decisive Victory: War and Policy Between Egypt and Israel in the 1967 and 1973 Arab-Israeli Wars*. Westport: Greenwood Press, 2000.

Gole, Henry G. *General William E. DePuy: Preparing The Army Modern War*. Lexington: University of Kentucky Press, 2008.

Gorman, Paul F. *The Secret to Future Victories*. Fort Leavenworth: U.S. Army Command and General Staff College Combat Studies Institute, 1992.

Gorman, Paul F. *The Military Value of Training*. IDA Paper P-2515. Alexandria: Institute for Defense Analysis, 2000.

Heller, Charles E. and William A. Stoft, ed. *America's First Battles 1776-1965*. Lawrence: University Press of Kansas, 1986.

Herbert, Paul H. *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: Combat Studies Institute, U.S. Army Command and General Staff College, 1988.

Herring, George. "Preparing *Not* to Refight the Last War: The Impact of the Vietnam War on the U.S. Military." In *After Vietnam: Legacies of a Lost War*, edited by Charles E. Neu. Baltimore: The Johns Hopkins University Press, 2000.

Herzog, Chaim. *The Arab Israeli Wars: Wars and Peace in the Middle East from the 1948 War of Independence to the Present*. New York: Vintage Books, 2005.

Holm, Jeanne. *Women in the Military: An Unfinished Revolution*. Novato: Presidio Press, 1982.

Kelly, Orr. *King of the Killing Zone: The Story of the M-1, America's Super Tank* (New York: W.W. Norton, 1989).

Kitfield, James, *Prodigal Soldiers*. New York: Simon and Schuster, 1995.

Lock-Pullman, Richard, "An Inward Looking Time: The United States Army, 1973-1976." *The Journal of Military History* 67, no. 2 (2003): 483-511.

Lynn, John A., *Battle: A History of Combat and Culture*. Boulder: Westview, 2003.

Mansoor, Peter. *The GI Offensive In Europe: The Triumph of American Infantry Divisions, 1941-1945*. Lawrence: The University Press of Kansas, 1999.

Millet, Allan R. and Peter Maslowski. *For the Common Defense: A Military History of the United States of America* (2nd Edition). New York: The Free Press, 1994.

Murray, Williamson and Allan R. Millett, ed. *Military Innovation in the Interwar Period*. New York: Cambridge University Press, 1996.

Nagle, John. *Learning to Eat Soup with a Knife: Counterinsurgency Lessons from Malaya and Vietnam*. Chicago: University of Chicago Press, 2005.

Neu, Charles E., ed. *After Vietnam: Legacies of a Lost War*. Baltimore: The Johns Hopkins University Press, 2000.

Patterson, James T. *Restless Giant: The United States from Watergate to Bush v. Gore*. Oxford: Oxford University Press, 2005.

Powell, Collin with Joseph E. Perisco. *My American Journey*. New York: Baltimore Books, 1995.

Roberts Joel, E. L. "Women in the Army: A Commander's Perspective." *Military Review* 58, no. 5 (1978): 69-76.

Romjue, John L. *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982*. Fort Monroe: U.S. Army Training and Doctrine Command, 1984.

Romjue, John L., 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: U.S. Army Training and Doctrine Command, 1993.

Scales, Robert H. *Certain Victory: The U.S. Army in the Gulf War*. Fort Leavenworth: U.S. Army Command and General Staff College Press, 1994.

Sergeant's Business, VHS, Apr 1978, 909-777-0819-B, ATCG TV Branch, Ft. Eustis; accompanying CD to *Press On!: The Selected Works of General Donn A. Starry*. Lewis Sorely, ed., Fort Leavenworth: Combat Studies Institute Press, 2009.

Small, Melvin and William D. Hoover, ed. *Give Peace a Chance: Exploring the Vietnam Antiwar Movement*. Syracuse: Syracuse University Press, 1992.

Smith, Louis J. and David H. Herschler, ed. *Foreign Relations of the United States, 1969-1976, Volume I: Foundations of Foreign Policy, 1969-1972*. Washington, D.C.: U.S. Government Printing Office, 2003.

Stanton, Shelby. *The Rise and Fall of an American Army: U.S. Ground Forces in Vietnam, 1965-1973*. Novato: Presidio Press, 1985.

Starry, Donn A. "Sergeants Business." *Military Review* 58, no. 5 (1978): 2-9.

Starry, Donn A. and George F. Hoffman ed. *Camp Colt to Desert Storm: The History of the U.S. Armored Forces*. Lexington: University Press of Kentucky, 1999.

Stewart, Richard W., ed. *American Military History Volume II: The United States Army in a Global Era, 1917-2003*. Washington D.C.: Center of Military History, United States Army, 2005.

Trauschweizer, Ingo. *The Cold War U.S. Army: Building Deterrence of Limited War*. Lawrence: The University Press of Kansas, 2008.

Van Crevald, Martin. *Military Lessons of the Yom Kippur War: Historical Perspective*. Vol. 5, No. 24 of *The Washington Papers*. Beverly Hills: Sage Publications, 1975.

Weigley, Russell F. *The American Way of War: A History of United States Military Strategy and Policy*. New York: MacMillan, 1973.

Westmoreland, William C. *A Soldier Reports*. New York: Doubleday and Company, Inc., 1976.

White, James S. "Race Relations in the Army." *Military Review* 50, no. 7 (1970): 3-12.

Women in the Army, VHS, 1976, G003365 CARL, US Army FBF 76-22, Combined Arms Library, Ft. Leavenworth, KS.

Yales, Wesley W. "Need for Simulations Command Training." *Military Review* 52, no. 12 (1972): 38-44.