TRADOC Historical Study Series

TRANSFORMING THE ARMY

TRADOC's First Thirty Years
1973 - 2003

with a foreword
by General Kevin P. Byrnes

TRADOC 30th Anniversary Commemoration

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Commander's Foreword

One of the U.S. Army's greatest traditions is seen in the framework of the lineage and honors which link soldiers and their units. Organizations such as U.S. Army Training and Doctrine Command (TRADOC) usually do not acquire much in the way of history or heritage. But in an era of seemingly endless reorganization, TRADOC has proven to be an anomaly. It has maintained its original mission, almost completely intact, and kept the same name for 30 years. I am pleased to introduce this survey of TRADOC's first three decades.

Credit for the solid character of the command and its continued relevance to The Army goes first and foremost to TRADOC's founder, General William DePuy. His vision of an organization dedicated to providing training excellence, guidance on how to fight the country's wars, and insights on the organization and materiel necessary to support the soldier and execute doctrine proved exactly right. From the outset, General DePuy put the soldier at the center of the command's work, avoiding the temptation to allow technology to dictate the present or the future of warfare. No single decision could have been more important for the success of America's Army on battlefields since TRADOC's founding in 1973.

TRADOC still "lives" General DePuy's vision in its mission to train the Army's soldiers and develop its leaders, support training in units, develop doctrine, establish standards, recruit the force, and build the future Army. TRADOC is still built around training the individual soldier—training is our primary mission, our baseplate. We should remain mindful of this as we look back over the past 30 years and as we accomplish our current work of establishing the standards and requirements for training and developments for The Army, and of developing competent and adaptive leaders while ensuring currency in our doctrine.

TRADOC remains an adaptable organization, open-minded to new ideas, innovation, and collaboration. We embrace jointness in our component command-like relationship with Joint Forces Command, helping define the contribution of land forces to the joint and coalition battle and serving as The Army's component for joint developments in training, doctrine, concept development, and experimentation.

Looking from the vantage point of the past, we build The Army of the future. We recruit young Americans as soldiers who serve as the centerpiece of The Army's formation and readiness. We take these new recruits,

try to ensure a smooth transition into our ranks, imbue Army values, the warrior ethos, and discipline into them, and provide them the necessary skills needed to immediately contribute to their first unit of assignment. Then we train them through-out their careers, as quality forces must have quality training as well as quality equipment.

Just as TRADOC has "touched" every member of today's Transforming Army, TRADOC itself must transform. Transforming the Army, and achieving irreversible momentum toward that end, is imperative. By TRADOC's Transformation, we strive to place the best capabilities and equipment into the hands of the quality force we have recruited. There, the circle of TRADOC's mission becomes complete.

Through Transformation, TRADOC remains committed to soldiers, civilians, and families. We remain committed to ensuring their well-being and the workforce's competency. For the continuing evolution of TRADOC's mission, I thank the soldiers and civilians—the bedrock upon which our Army is built—who have served with intelligence, creativity, insight, and loyalty. I'm honored to stand at the forefront of not only those dedicated men and women who serve in 2003, but also all of those who have contributed for the past 30 years. May future soldiers and civilians of TRADOC learn from the successes captured in these pages.

Kevin P. Byrnes
General, U.S. Army
Commanding

Preface

"Transformation" became a buzzword for governmental reorganization in the first years of the 21st Century, especially in the military services. The Training and Doctrine Command, however, has been transforming the Army, and itself, since its establishment in July 1973. Born of frustration with the service's response to war in Southeast Asia, TRADOC's charter from the became through time the intertwined missions of preparing the Army for war and being the architect of the Army's future. The command's "founding father," General William DePuy, knew that a struggling Army required sound training, coherent organization, modern weapons systems, and relevant doctrine. His successors built on that foundation and addressed the need for future planning.

This brief history provides an overview of the first thirty years of TRADOC's service to the Army and to the nation. Although shortened and carrying a new title, *Transforming the Army* owes a great debt to *Prepare the Army for War*, two editions of which commemorated TRADOC's 20th and 25th anniversaries. We hope that the volume's easier transportability makes up in some measure for the loss of material that fell to the cutting room floor during the process of condensation. Contributors to the 1993 edition, including primary author and editor John L. Romjue and Susan Canedy, deserve continuing thanks. For this volume, new primary author and editor Anne Chapman, Benjamin King, and Carol Lilly have worked diligently to slim and update *Prepare the Army for War* and its useful appendices. Text of the original work remains accessible through our web page. The former appendices now stand on their own for ease of updating, but remain linked to the text of both this history and *Prepare the Army for War* at their on-line locations. The TRADOC Military History Office accepts all responsibility for errors and will gratefully accept corrections.

Readers will not have gone far into the text before they find our belief that TRADOC's story is generally one of success. Army operations since 1973 provide the historical evidence upon which this conclusion is based. As noted in the preface to *Prepare the Army for War*, the Army's hierarchical nature focuses any study upon its leaders, and this overview is no different. All of the elements that have constituted TRADOC through the years have reflected the intent of its commanding generals. Nevertheless, it remains for

the soldiers and civilians making up the command to execute and shape the commander's intent. Therefore, the first dedication of this overview still rightly belongs to General DePuy. His command produced the single most far-reaching transformation of the Army until the efforts at the beginning of the 21st Century. But because neither he nor his ten successors who have served up until the time of this writing could accomplish their intent alone, we have also dedicated *Transforming the Army* to the multitude of anonymous laborers who have made the vision work. I ask all Tradocians whose names appear in the text to accept that fact with humility, knowing that they represent so many others who cannot be named.

James T. Stensvaag

June 2003

CHAPTER I

TRADOC: A HISTORICAL SUMMARY

The Department of the Army established TRADOC on 1 July 1973 at Fort Monroe, Virginia, as part of the major STEADFAST Reorganization of the Army in the United States, brought to completion that year. The STEADFAST initiatives, directed by General Creighton Abrams, Chief of Staff of the Army, attempted to solve difficult command and control problems in the Army establishment evident in the early 1970s. The span of control of TRADOC's predecessor, the Continental Army Command, or CONARC, reached through the headquarters of the numbered armies to the corps and divisions and included most of the major Army installations in the United States. Given such a wide control span, together with responsibilities for both the training and education establishment and for unit readiness, CONARC obligations were too broad for efficient focus..

General Creighton Abrams, Chief of Staff of the Army, October 1972-September 1974, directed the STEADFAST initiative that created TRADOC.

Fort Monroe, VA, was the headquarters of the Continental Army Command beginning in 1946. In 1973 it became headquarters to the new United States Army Training and Doctrine Command.

STEADFAST functionally realigned the major Army commands in the continental United States. Headquarters CONARC, situated at Fort Monroe, and Headquarters U.S. Army Combat Developments Command, or CDC, based at Fort Belvoir, Va., ceased to exist, with TRADOC and the new U.S. Army Forces Command at Fort McPherson, Ga., assuming the realigned missions. TRADOC assumed the combat developments mission from CDC, took over the CONARC individual training mission, and assumed command from CONARC of the major Army installations in the United States housing Army training centers and Army branch schools. FORSCOM assumed CONARC's operational mission: the command and readiness of all divisions and corps in the continental United States and the installations where they were based.

Carried through under General Abrams' Assistant Vice Chief of Staff and chief reorganization planner Lt. Gen. William E. DePuy, the STEADFAST drew together under TRADOC the closely related Army development activities which trained and instructed troops and leaders, formulated fighting doctrine, built tactical units, and defined weapon requirements. The STEADFAST Reorganization put

General William E. DePuy, General Creighton Abrams Assistant Chief of Staff carried through the STEADFAST reorganization. He became TRADOC's first commander and can with ample justification be termed the founder of the command.

combat developments back into the branch schools. After 1973, the formulation and the teaching of tactical doctrine was an organically united effort in each TRADOC school. Beginning that year, the Army had a major four-star command focused specifically and exclusively on training, teaching, and developing the Army.

From its headquarters, TRADOC carried out its assigned individual training and combat developments missions through command of subordinate elements and installations throughout the continental United States. In brief, they included the Army's initial entry training centers; intermediate-level integrating centers to draw together developments in combined arms, logistics, and soldier support; branch schools, specialist schools and military schools and colleges; Army ROTC; together with mission-related test, experimentation, and analytical activities. The TRADOC organizations were mostly situated on the major installations that the headquarters commanded.

The TRADOC-FORSCOM arrangement solved the span-of-control problem, put combat developments back into the schools, and focused the development of the Army's tactical organizations, weapons and equipment, doctrine, and the training of soldiers in that doctrine, in one command. Making the better alignment work was the first task facing TRADOC in 1973. The second task was to assist in the designing, shaping, and training of an Army dispirited by its experiences in Southeast Asia. Facing it was not only a situation of psychological and institutional uncertainty, but a dangerous and growing strategic threat to the North Atlantic Alliance. The situation was exacerbated by what military observers in the United States and Europe described as a lost decade of weapons development by the U.S. Army, stemming from a ten-year concentration on fighting and equipping for the Vietnam conflict.

TRADOC focused the development of the Army's weapons and equipment. Here the M1A1 "Abrams" tank is shown in the Gulf War.

TRADOC came into existence in the period of American defense policy reorientation from Vietnam to NATO Europe and the challenge of the Warsaw Pact buildup. In the 1970s and 1980s the command sustained programs of training reform; weapon, equipment, and force modernization; and doctrine revision. Those efforts fundamentally transformed the Army into a modernized, trained and ready force, a significant component of the successful political-military challenge against which Communist power

shattered and the Cold War ended in the years 1989-1991. It was the highly trained, professional Army of Excellence whose combat units helped restore democratic government to Panama in Operation Just Cause of 1989-1990 and to expel the armies of Iraq from Kuwait in Operation Desert Storm in 1991. It was this same Army that increasingly provided peace operations and humanitarian relief in places such as Somalia, Bosnia-Herzegovina, Haiti, and Rwanda, and aid to victims following natural disasters and the terrorist attack on the Pentagon and the World Trade Center in September 2001.

Early in the 1970s the United States found itself in a new strategic situation in which a shift of power in favor of the political dynamic of revolutionary socialism was advancing worldwide. The United States' strategic reversal in Southeast Asia seemed to call into question the continued validity of its long and hard-contested policy of communist containment, with the bitter past and recent sacrifices of that historic effort. The gains of worldwide Communist revolution in the 1970s, funded and supplied by the Soviet Union, and, to a lesser degree, by China, were dramatic and alarming. Revolutionary power seizures and military coups in Africa, South and Southwest Asia, and Latin America went forward largely uncontested by American policy makers of the middle and late decade.

The stunning reversal and sudden termination of that revolutionary impulse in the world-changing events of 1989-1991 created a new strategic world. By the early 1990s, the collapse of communism and the disintegration of the Soviet Union had ushered in a new world of power. The United States remained as the single superpower in an international order in which it could act with greater freedom to support national independence and democratic and free-market institutions.

The imperatives of that situation seemed to dictate a smaller Army, and one whose readiness was assured by the transit of new technological thresholds. In the mid-1990s, TRADOC institutionalized these new directions as mid-future Army XXI. Army XXI included Force XXI, the TRADOC-led effort to determine future force structure based on digitally equipped forces. Beginning in late 1999, a number of major Department of the Army initiatives—collectively termed "Transformation"—looked to the weapons, force structure, training, and doctrine of the Army well into the 21st century. TRADOC was in the vanguard of that effort. The advances in technology indicated an evolution to a battlefield on which time, distance, movement, and firepower existed in new relationships arising from the evidence of the extended reach and pinpoint accuracy of weapons brought to effect by near-

TRADOC institutionalized new directions for the Army organized around information and digital communications. Here a soldier trains at Fort Hood as part of Force XXI.

real-time intelligence, detection, target acquisition, and communications technology.

This advent of a new strategic world and the emergence of a new higher level of technological warfare took place in the context of a U.S. military establishment sharply drawing down in the wake of the retrenchment of Soviet power. Against this background of radically altered strategic assumptions, TRADOC reached the thirty-year mark challenged to lead the Army of the post-Cold War era through the intellectual change needed to transform it from a larger, forward-deployed force into a smaller, power projection force based primarily in the United States. The command continued to meet its thirty-year-old responsibility to the Department of the Army to prepare the Army for war and to act as the architect of the future Army. What follows is a concise historical overview of the TRADOC role and contribution to a significant era in U.S. Army institutional and developmental history.

CHAPTER II

TRADOC LEADERSHIP

At the thirty-year mark, eleven commanders had served the U.S. Army Training and Doctrine Command. Each led the command from a perspective based on personal and professional experience, the evolving international situation, national priorities, and the defense fiscal environment. Each impressed upon the organization his own vision and style of management, within the framework of his commander's intent.

Five former TRADOC Commanders gather at Fort Monroe.

DePuy

In July 1973, the first commander, General William E. DePuy, initially addressed TRADOC's mission to get the Army ready to fight the next war. Consequently, his primary concerns were improvements in individual training, better support for training in units, new training doctrine and a new emphasis and direction for combat developments activities.

Many aspects of the Vietnam experience had contributed to a degradation of training within CONARC. To address these difficulties, DePuy adopted a "back to basics" approach: Officer training courses were to prepare officers for their next assignment, the physical aspects of basic combat training were toughened, and advanced individual training was made more performance-oriented. Another of DePuy's major projects was the production of "how-to-fight" manuals and films which set forth Army doctrine in simple language. In addition, the Army Training and Evaluation Program (ARTEP) brought standardization to Army training.

While seeking solutions to the problems noted during the war in Southeast Asia, DePuy and the TRADOC staff also made combat developments a prime concern. It was clear that the combat developments approach needed to be harnessed to the present and near future. Heavily influenced by the 1973 Yom Kipper War with its increased lethality in tank warfare, antitank guided missiles, and artillery, DePuy adjusted his emphasis from training the Army to win on the next battlefield to winning the first battle of the next war. Because of the small size of the headquarters staff, the functional centers and the schools undertook a major portion of the combat developments mission and the systems acquisition process.

Management of the TRADOC structure and the revision of doctrine were also of special concern. DePuy instituted the installation contract system as a major innovation for improving installation management. That document provided a medium for agreement between each installation commander and the TRADOC commander, specifying the tasks to be performed by the installation and the resources to be provided by the headquarters. Concurrently, believing that doctrine should emanate from the highest levels of leadership, DePuy created a Tactical Doctrine Office separate from both combat developments and training functions and reporting directly to him. During his tenure, the capstone document, Field Manual FM 100-5, "Operations," was significantly revised to provide the basis for the aforementioned "how to fight" series, and came to play a more central role in defining Army doctrine.

Starry

General Donn A. Starry assumed command of TRADOC from General DePuy on 1 July 1977. The key concept for internal affairs during his tenure was "decentralization." Accordingly, he began a pronounced decentralization of major projects to the integrating centers and schools. Also in line

with that approach was his decision to move the 3-star TRADOC deputy commander position from the headquarters to Fort Leavenworth.

General Donn A. Starry, TRADOC Commanding General, 1 July 1977-30 June 1981

With regard to doctrine, Starry sought to answer what had come to be substantial discussion and controversy over the "active defense" concept of the 1976 version of FM 100-5. He brought with him to TRADOC the idea of an integrated and extended battlefield—the "central battle"—to engage the enemy not only at the point of attack but also in depth. Another revision of FM 100-5 began almost immediately. The concept required extension of the combat developments period out eight to ten years, departing from Depuy's focus on near-term problems. Following this approach, Starry hoped to harness the combat power of the oncoming generation of weapons and other modernization efforts.

Starry inherited from DePuy a process already underway to restructure divisions. Accordingly, he redefined division restructuring within a larger context, which would result in the first Battle Development Plan in 1978. Conceptualization of what came to be termed "Division 86" and subsequent studies of corps and echelons above corps defined "Army 86," the framework for force development that replaced the DePuy division restructuring. The doctrinal premises grounding the studies became known as Airland Battle.

In addition, he assumed and expanded DePuy initiatives on training in a program dubbed Army 1990. Of special concern was TRADOC's promotion of the need for a Combined Arms and Services Staff School (CAS3) for captains. Subsequently, the findings of a Panel known as the Review of Education and Training for Officers (RETO) revolutionized both organization and execution in TRADOC Schools.

Otis

General Glenn K. Otis followed General Starry as TRADOC commander in August 1981. Internal to the command were his "3Ms" management goals of mobilization planning, maintaining the force, and modernization of the force.

In all three areas training stood first in his list of priorities. Mobilization planning involved development of programs of instruction, training base expansion capacity, and equipment requirements. Maintenance of the force concentrated on training and maintaining the momentum of the previous command. The challenges of force modernization included managing the period of time when interim and new organizations would be phased in and the development of support packages for training, (spare parts, maintenance, and field manuals). Given the recommendations of the RETO Study, ongoing changes in enlisted training, and the implications of AirLand Battle doctrine, Otis tended to look ahead for approximately ten years. At his last TRADOC Commanders Conference in the Fall of 1982, Otis added a "fourth M"—military history.

General Glenn K. Otis, Commanding General, 1 August 1981-10 March 1983

Over the course of 1982, TRADOC headquarters, at General Otis' behest, developed a set of command goals in line with the recently promulgated seven Army Goals. The purpose was to identify clearly each of the roles TRADOC would play in support of the Army goals. The seven Army goals addressed the areas of readiness, the human element, leadership, materiel, future development, strategic deployment, and management. With TRADOC's declared purpose to prepare the Army for war, its attendant missions as stated were to develop doctrine, to conduct and guide Army combat developments, to develop and maintain the Army training system, and to command installations and organizations. The development of a set of specific goals for TRADOC prioritized TRADOC's activities, and served as a tool for the application of resources, a touchstone for defining future roles of the command, a resource for the development of a formal document which would come out during his successor's tenure, and a measure for progress. The new version of FM 100-5 codifying AirLand Battle, begun under Starry, also appeared in 1982.

Many substantial initiatives came to the fore during Otis' year and a half term as commander of TRADOC. Late in 1981, he determined that the time had come to step back and evaluate what had been accomplished in the area of training and to plan for what would take place in the following decade.

That initiative developed into the Army Training 1990 concept. In addition, a much greater use of simulators and simulations quickly developed. Significant also was the establishment, during this time, of the School for Advanced Military Studies, a postgraduate extension of the Command and General Staff College at Fort Leavenworth, Kansas, focusing on the operational level of war. In the force design arena, "light versus heavy" debates intensified as the Army established a High Technology Test Bed (HTTB) at Fort Lewis, Washington, to experiment with lightening the infantry Division 86.

Richardson

General William R. Richardson followed General Otis as TRADOC commander in March 1983. In accordance with Secretary of the Army Marsh's "Year of Excellence," he introduced the watchword for his tenure, "Excellence Starts Here." Early in his command he spelled out his priorities: Better training; implementation of new doctrine; force modernization and integration; and mobilization (Reserve component). With regard to training, he expected to spend much time tying up the loose ends of Army 1990 and overseeing a new initiative termed School Model 86. The former focused on performance-oriented training while the latter was an effort to give back to the Director of Training and the academic departments of the TRADOC schools the importance to resident instruction and doctrine writing he believed had been usurped over time.

General William R. Richardson, Commanding General, 11 March 1983-29 June 1986

Richardson was commander at a time when much of the work of his predecessors was coming to fruition across the Army. FM 100-5 had been written and promulgated, and the derivative manuals were being written in the schools; the training program was solidly emplaced; the development of the organizational designs of the Army of Excellence was undertaken; and weapons systems were coming on line. One of the biggest challenges Richardson noted for TRADOC was the recruitment and retention of good people within the command. Perhaps his first priority was to change the attitudes of officers and soldiers who considered assignment to TRADOC to be a dead end.

Richardson was responsible for the establishment of several new agencies and departments at Fort Leavenworth. Believing that the heart of the Army was TRADOC, and the heart of TRADOC was Fort Leavenworth, he continued development of the School for Advanced Military Studies, created the School for Professional Development, the Center for Army Leadership, Combined Arms Training Activity, the Center for Army Lessons Learned, and the Combined Arms Operational Research Activity. A final significant reorganization was the transformation of the Deputy Chief of Staff for ROTC into the ROTC Cadet Command as a major subordinate command of TRADOC.

Vuono

General Carl E. Vuono succeeded General Richardson in June 1986. He announced that his mission focus would have two aspects. Taking a somewhat more restricted view of the concept of preparing the Army for war than had Richardson, Vuono stressed that TRADOC had to not only prepare the Army for war in the present, but it must look farther ahead in time as the architect of the future. He stressed that TRADOC must consider the whole spectrum of war, and while addressing current challenges, not neglect the design of the force ten to fifteen years out. He reoriented the ten TRADOC goals into six major "imperatives: Doctrine, organization, training, leader development, materiel, and soldiers (DTLOMS). TRADOC's responsibility was to insure understanding of what the Army must be to win on the future battlefield. That understanding would provide vision and direction for the Army.

General Carl E. Vuono, Commanding General, 30 June 1986-11 June 1987

Vuono instituted guidelines for doctrinal development and developed the concept of the advanced collective training facilities, which led to the opening of the Joint Readiness Training Center at Fort Chaffee, Arkansas, and the Combat Maneuver Training Center at Hohenfels, Germany, and the initiation of the Battle Command Training Program at Fort Leavenworth. Efforts in force modernization concentrated on improved application of the Concept Based Requirements System and a new emphasis on a system of systems approach to equipment modernization. Leader development was

concentrated in the development of small group instruction and the invigoration of the noncommissioned officer education system. His program of "leading and caring" stressed excellence both in individuals and installations of which they were a vital part.

The TRADOC Long Range Plan, published in May 1987, was perhaps Vuono's most ambitious effort. Designed to support TRADOC's mission as the "architect of the future," the plan constructed a vision of the command ten years out based on Army long-term planning, the program objective memorandum (POM), and TRADOC goals.

Thurman

After replacing General Vuono as TRADOC commander in June 1987, General Maxwell R. Thurman stressed the command's role as the key player in shaping the "azimuth for the Army of the future." As set forth in a program known as Vision 91, Thurman's stated objective was to serve the Army in the field. That would be accomplished by writing the doctrine by which it would fight; testing that doctrine for soundness; designing well-balanced and capable forces; articulating the equipment requirements of the commanders-in-chief in the field; providing combat-ready soldiers to units around the world; and developing future leaders.

General Maxwell R. Thurman, Commanding General, 29 June 1987-1 August 1989

Vision 91 examined the central question of how the command should position itself to meet the challenges of 1991 and beyond. That period would be a time of substantial manpower and funding constraints. Vision 91 sought to address the evolution of doctrine, especially in the joint arena; a more focused force design; a system-of-systems approach to materiel development; full service leader development; tough, realistic training; and well-developed mission support capability.

While Vision 91 addressed the immediate period, Thurman developed a thirty-year TRADOC Long-Range Planning Vision which solicited the thoughts of the subordinate commanders toward the further development of a new TRADOC long-range plan.

Foss

General John W. Foss assumed the leadership of TRADOC in 1989, as the Army began a period of downsizing and strategic reorientation. A variety of factors, international, national, political, and economic, had combined to compel the Army to change into a more flexible, smaller force. The concept of the three TRADOC integrating centers, which had traditionally been part of the organization, gave way in 1990 to two major subordinate commands: the Combined Arms Command and the Combined Arms Support Command. Also in October 1990, TRADOC eliminated the installation contract by which the TRADOC commanding generals had managed the outlays of the installations since the mid-1970s.

General John W. Foss, Command General, 2 August 1989-22 August 1991

As the effects of geopolitical change were felt during the course of 1990, the primary focus of the Army began to shift to the projection of land combat power from the continental United States, as well as from forward-deployed forces where possible. That had implications across the force, from warfighting doctrine to organizational structure to equipment to training.

Foss addressed doctrinal challenges and changes through AirLand Battle-Future studies, doctrinal discussions, and map exercises, focusing on the nonlinear battlefield and the doctrine, organization, and logistics it would require. AirLand Battle-Future, later termed AirLand Operations, became the driving concept for TRADOC. Further, Foss directed the beginning of a revision of FM 100-5 to expand the doctrine into the strategic realm, although Operations Desert Shield and Desert Storm in 1990-91 interrupted the effort.

Franks

General Frederick M. Franks, Jr. became the eighth TRADOC commander in August 1991. Franks set down his ideas regarding TRADOC's future in five points of main effort: Lead the Army through intellectual change, sustain excellence and relevance in training and leader development, propose modernization alternatives to maintain the technological edge for soldiers on future battlefields, foster organizational excellence, and focus on soldiers.

The new TRADOC commander began anew the doctrinal revision of FM 100-5. Convinced that doctrine was the basis of change and had to be a centerpiece of TRADOC activity, revision of FM 100-5 became a top priority to lead the Army through the intellectual readjustment from the Cold War to the post Cold War Army. In addition, he instituted "battle laboratories" as means to develop the capabilities for a force projection Army. The battle laboratories focused on the areas where the battle appeared to be changing and encouraged experimentation using simulations, prototypes, real soldiers, and real units to make the best use of technology and new requirements.

General Frederick M. Franks, Jr., Commanding General, 23 August 1991-26 October 1994

In his long-range planning guide for TRADOC, Franks interpreted TRADOC's missions specifically. They were to set training standards and run the Army Schoolhouse, provide modernization alternatives while representing the user in order to allow the Army to retain the battlefield edge, help the Army look to the future in war fighting, and foster organizational excellence.

General William W. Hartzog, Commanding General, 27 October 1994-13 September 1998.

Hartzog

General William W. Hartzog became the ninth commanding general of the Training and Doctrine command in October 1994. As with Franks, his efforts to meet the challenges of being TRADOC commander took place against a background of a new global reality in which the primary concern was no longer a classic European air and ground war, but rather the possibility of many small operations. Further, the dramatic downsizing of forces to levels not seen since the pre-World War II era also shaped Hartzog's and the command's thinking and policy. Another factor that he had to consider in shaping the force of the future was the Army's increas-

ing involvement in peace operations, nation-building, and humanitarian relief.

Hartzog's thinking about the twenty-first century Army was set down in the Force XXI Operational Concept. The key to the developmental work on Force XXI was a digitized, experimental Task Force (EXFOR) that stood up at Fort Hood, Texas in 1994. Central to the shape of future forces were a series of Advanced Warfighting Experiments (AWE) beginning in April 1994, prior to Hartzog's arrival at TRADOC, and continuing through March 1998. Looking even further into the future was an Army After Next project that sought to establish criteria for the Army by the year 2020.

Hartzog's tenure saw the publication of two versions of TRADOC Pam 525-5 based on the Force XXI concept and leading to the publication of a new FM 100-5, *Operations*. The concept also guided the development of tactics, techniques, and procedures (TTP) to be employed by the experimental force in executing the various AWE. In turn, TTP supported further doctrine development for the execution of operations across the seven battlefield operating systems and at each echelon of operations.

Abrams

General John N. Abrams began his four-year command of TRADOC in the fall of 1998. His vision for the command was to prepare the Army for decisive victory in the full range of required joint and combined operations. This focus meant providing soldiers and leaders with disciplined training based on fully developed doctrine, leader development, organizations, and materiel. It also meant providing a readiness infrastructure for training and projecting Army forces. Coupling that determination with the requirement to transform the Army's education and training, Abrams led the Army's effort to rethink the entire leader development process including resident training, advanced distance learning, and individual study.

During Abrams' command, two forces of change were propelling the Army in new directions: The ongoing efforts to make the Army more deployable; and the revolution in computer and communications technology that had the potential of increasing battlefield awareness at all levels. In an address on 12 October 1999, Chief of Staff of the Army Eric Shinseki made the case for "Transformation" of the Army, specifying he need for both doctrinal and materiel change. A large portion of the challenges posed fell on TRADOC as the Army's "Architect of the Future." Responsibility of a Brigade Coordina-

tion Cell for designing two Interim Brigade Combat Teams (IBCT) at Fort Lewis, Washington, also fell to TRADOC.

To further the understanding of possible future warfare, General Abrams instituted a series of Seminar War Games (SWG) beginning in July 2001. The SWG simulated the long-range deployment of an interim force and looked to define the objective force of the future and future combat systems (FCS). Transformation also called for a revision of the Army's capstone doctrine in Field Manual (FM) 100-5, Operations. A new version, renamed and carrying the joint services number of FM 3.0, was published in the summer of 2001. The new doctrine was clearly cognizant of the changes in the nation's geo-strategic position and addressed the problems of deployment, asymmetric warfare and the need for joint operations from major theaters of war to humanitarian relief.

On 7 November 2001, General Kevin R. Byrnes assumed command of TRADOC from General John N. Abrams who had become Commanding General on 14 September 1998.

Byrnes

Beginning in early November 2002, TRADOC's new commander, General Kevin P. Byrnes prepared to reassess the command's missions. He strongly reaffirmed that institutionalized training would be the number one priority, especially at the IET and NCOES levels. Especially important would be quality instructors and exported training to reach soldiers wherever they served. Byrnes also emphasized a "sense of urgency" in helping the Army accelerate the Transformation process and in enhancing the credibility of current Transformation initiatives, especially by soliciting ideas and proposals from industry. Perhaps even more important was the necessity to demonstrate the links between Army Transformation and Department of Defense joint initiatives, to include joint exercises. Byrnes planned for TRADOC to become a "futures command" that would serve the Army well upon the fielding of the Objective Force and be a link to Joint Forces Command and the other services.

CHAPTER III

FORCE DESIGN AND WEAPONS DEVELOPMENT

TRADOC designed the "TOE Army," the division, corps, and theater elements and all the 1,200-odd various tables of organization and equipment for "type" units, platoon through corps and above that made up the Army in the field. Design and adjustment of the organizations of the tactical Army was a continuous process, as new or upgraded weapons or equipment were introduced or when doctrine forced changes to tank platoons, mechanized infantry battalions, or cavalry troops. But doctrinal, weapon, and policy changes periodically created the necessity for larger division reorganizations. In the thirty years since TRADOC's establishment in 1973, the command had designed and implemented the major division reorganization known as Army of Excellence and had begun to define the nature of the force twenty or more years into the 21st century. This "objective force" and a weapons and equipment "system of systems" known as the Future Combat Systems (FCS) were major components of a larger set of Department of the Army initiatives known as Transformation.

In the mid 1970s, action at TRADOC focused on the development of a new generation of weapons such as the Bradley Fighting Vehicles and the M1 Abrams tanks shown here at the NTC.

Army of Excellence

The Army of Excellence (AOE), designed by TRADOC and implemented by the Department of the Army in 1984-1986, was the first major reorganization of the tactical army since the ROAD (Reorganization Objective, Army Divisions) changes of the early 1960s. The tables of organization and equipment (TOE) of the Army of Excellence gave organizational structure to AirLand Battle doctrine and to the new generation of weaponry introduced in the later 1970s and the 1980s. The structure of the Army of Excellence owed

much to two earlier TRADOC studies of division design, the Division Restructuring Study (DRS) of 1976 under the direction of General DePuy and the Division 86 project and the Army 86 studies that followed, directed by General Starry. Both studies focused on heavy armor and mechanized infantry divisions. Both studies also were influenced by the lessons of the Yom Kipper War of 1973 and the questions it raised. Did the ROAD division have the structural strength and the proper design to meet heavily armed modernized forces? When the bold and innovative changes in the DRS did not survive, General Starry began anew to study the heavy division as critical to the prime strategic theater of central Europe.

Studies of the Army 86 elements of Infantry Division 86 (non-mechanized), Corps 86, and Echelons Above Corps 86 were completed at TRADOC in 1980. Meanwhile, crises had occurred in Afghanistan and Iran. In August 1980, Army 86 planners began further studies of light forces, a reflection of their concern that however serious the challenge in NATO Europe, U.S. Army forces had to be equally prepared for rapid deployment to meet contingencies in the non-NATO world. The national and defense leadership became increasingly convinced that such flexible contingency forces had to include more rapidly deployable light divisions.

In 1980 the design dilemma of the infantry division moved the Chief of Staff of the Army to establish a “High Technology Test Bed” in the 9th Infantry Division at Fort Lewis. He thought to test concepts toward development of a lighter “high technology light division.” TRADOC and Army Materiel Command planners cooperated with the division’s parent commands — I Corps and the Army Forces Command — in that effort. Though valuable ideas emerged from the test bed, such as new command post concepts and palletized loading procedures, no high technology light division eventuated. In the midst of the major modernization and buildup of the 1980s, the significant funding requirements for the equipment needed to realize the basic concept proved unobtainable.

The infantry division dilemma was part of the larger problem of the whole Army 86 design effort. The heaviness of its major structures, needed to meet the armored and mechanized infantry threat posed by the Warsaw Pact, ran aground on an inflexibly capped Active Army end strength of 780,000 personnel that prevailed in the early 1980s.

The design dilemma which the Training and Doctrine Command faced in the straight infantry division was remedied in June 1983 when General John A. Wickham, Jr., then Army Chief of Staff, directed the TRADOC commander,

General Richardson, to design a new, strategically deployable light infantry division limited in strength to approximately 10,000 personnel and globally deployable in approximately 500 airlift sorties. To achieve this end, Wickham gave Richardson the authority to review and redesign the entire TOE Army. Undertaken by the Combined Arms Center with support from the TRADOC branch schools, the Army of Excellence effort developed and put in place the force designs of the 1980s Army. All elements of the tactical Army and all division types were reexamined. The Army of Excellence organizations resulting did not supplant, but modified the previous Army 86 designs, with the notable exception of the new light infantry division.

The centerpiece of the reorganization, the light infantry division was a 3-brigade organization with 9 battalions of straight foot-infantry, with a strength eventually set at 10,800 men. By concept, an early-arriving light division could buy time for heavier forces to follow and reinforce heavy forces in scenarios and terrain where it could be more effective than those forces — in cities, forests, and mountain areas. The design went through a successful certification process in the 7th Infantry Division (Light) at Fort Ord, supported by the TRADOC test organizations, during 1984-1986.

A significant aspect of the Army of Excellence was the strengthening of Ranger and Special Forces units. In April 1987, the Special Forces were established as a separate Army branch.

In the newly destined Army of Excellence, TRADOC force designers reduced the heavy divisions to structures of approximately 17,000. Significant transfers from division to corps in field artillery, air defense artillery, and combat aviation left the divisions smaller with less organic combat power. The redesigned corps thus provided a more powerful fighting organization at the operational level of war. The Army of Excellence design of heavy divisions and corps moved Army tactical organization more fully into consonance with doctrine at the most significant level of organization.

Although to a degree open to criticism that it had overemphasized combat power at the expense of support units, was too light, and lacked tactical mobility, the Army of Excellence met the twin challenges for which it was fashioned: The deterrent defense of NATO Europe in the final period and last challenge of the Cold War; and the provision of rapidly deployable light infantry forces for force packages needed to defend U.S. interests worldwide.

Whatever the insufficiency in support units, the Army of Excellence that emerged was—in its training, advanced weaponry, war fighting doctrine, and organization—a professional Army of a high order.

Force XXI

By the mid-1990s, design activity for the Army force of the early 21st century centered around a project titled Force XXI. The project began on 8 March 1994 when Chief of Staff of the Army, General Gordon R. Sullivan, directed the start of a major campaign effort to lead to the future Army in the early years of the next century. Progressing toward incremental realization at the year 2000, the Force XXI redesign was designed to be the last of the major operational Army reorganizations of the 20th century that would supersede the Army of Excellence. That initiative would, however, generally give way beginning in late 1999 to the Transformation effort designed by Army Chief of Staff Eric Shinseki.

The Force XXI project was a methodological departure from all previous such efforts in two revolutionary ways. It was the first force redesign effort in which a full panoply of newly-emergent, computer-driven constructive and virtual simulation methods, equipment, and software were joined to actual live field simulation to test and analyze new military unit designs. In addition, the multiyear Force XXI design effort was the first to invent and embody for those heavy fighting units a linked, instantaneous, and common picture and awareness of the close and distant events of the unfolding battle of which they were part. “Digitization” was the rubric given this revolutionary emerging capability.

In support of Force XXI, TRADOC began several major projects. First, the capstone “how-to-fight” doctrine was brought up to date in 1993 in FM 100-5, Operations. A year later the command published TRADOC Pamphlet 525-5, Force XXI Operations, a concept for the Army of the 21st century. Also in 1994, TRADOC accepted a project known as “Joint Venture,” and designed to redesign the operational Army on a new information-or-knowledge basis. Concurrently, a modern Louisiana Maneuvers Task Force (begun in 1992) developed scenarios for the Army of the future.

From 1993-1995, TRADOC developed the concept for a key development vehicle for Force XXI, a division-sized Experimental Force (EXFOR). Late in 1994, the Army established the 4th Mechanized Infantry Division at Fort Hood, TX, as a test bed for Force XXI. In addition, beginning in 1992 and continuing into 1997, TRADOC fielded several “advanced warfighting

A radio telephone operator at Fort Lewis, WA, uses the dismounted Soldier System unit during an AWE in March 1997.

experiments" (AWE) to carry through a sequence of experiments and simulations to examine the emerging digitization concept. Bearing names such as Desert Hammer VI, Roving Sands, Prairie Warrior, Mobile Strike Force, Focused Dispatch, and Warrior Focus, these exercises and experiments—from platoon to theater levels—were variously directed by the TRADOC Battle Laboratories and the National Simulation Center at CAC.

Transformation

As TRADOC looked forward to the next century, the Force XXI operational concept was not a finished product. The developmental work to lead to an Army capable of executing Force XXI concepts, remained to be done. Then, twelve days into FY 2000, the new Army Chief of staff led the service in a radically different direction. As noted above, Army Chief of Staff General Eric K. Shinseki announced on 12 October 1999 his plans for "Transformation" or for an Army transformed into one that was more "responsive, deployable, agile, versatile, lethal, survivable, and sustainable." Transformation was seen as a sweeping program to enhance the Army's capabilities and change how it would fight in the post-Cold War world. Combat-ready brigades in the target Army would be deployable anywhere in the world in 96 hours.

The transformed Army would be comprised of three key elements: The legacy force; the interim force; and the objective force. The legacy force centered on the major weapons systems that the Army currently had in its inventory. The interim force would provide crossover capabilities between the legacy force and the objective force during the development of the latter. The objective force was envisioned as a totally revamped Army with regard to equipment, organization, and training. The backbone of the interim force would be six to eight Interim Brigade Combat Teams (IBCT), the first two of which were established at Fort Lewis beginning in 2000. These experimental units operated under the direction of TRADOC's Deputy Commanding General for Transformation and a Brigade Coordination Cell at Fort Lewis.

The Future Combat System (FCS) would be the primary weapons and troop-carrying platform for the objective force. The FCS was envisioned as a "system of systems" employing a common vehicle platform. For the IBCT in the interim period, the Army chose a wheeled light armored vehicle known as

the LAV III, later renamed Stryker. (The FCS and the Stryker are discussed in more detail below.) In July 2001, to help design a force projection Army that was decisive across the full spectrum of conflict in the 21st century, TRADOC commander General John N. Abrams established Seminar War Games (SWG) at the headquarters. Those fora brought together senior leaders, representing all the Army's functions and responsibilities, to play out scenarios involving "Units of Action" and "Units of Employment." Transformation initiatives represented an all-encompassing effort to accomplish the Army's vision and to change the way the Army thought, trained, and fought.

Weapons and Equipment

A major mission assigned to the new U.S. Army Training and Doctrine command on 1 July 1973 was combat developments—the systematic development of new and improved organization, equipment, weaponry, and doctrine. Combat developments had come to TRADOC from the former Combat Developments Command. The merger of combat developments with the training mission in one command guided the 1973 Army reorganization to reorient combat developments to the present and near future, and to apply new and improved materiel, organization, and doctrine to field units quickly. The reorganization decentralized the combat developments mission to the Army's branch and service schools and placed the function with training.

Four basic elements constituted the TRADOC combat developments structure — the Deputy Chief of Staff for Combat Developments at the headquarters; the functional centers (renamed "integrating centers" in 1976); the schools; and the test and evaluation agencies. TRADOC directed its combat developments responsibilities through the Deputy Chief of Staff for Combat Developments, which was established as the focal point for assigning projects and allocating and accounting for resources. Until 1990, the three functional centers directly subordinate and reporting to TRADOC headquarters—the Combined Arms Center at Fort Leavenworth, the Logistics Center at Fort Lee, and the Administration (after 1980, Soldier Support) Center at Fort Benjamin Harrison—directed, coordinated, and integrated the combat developments work of the Army schools with which each was functionally associated. At the next level were the branch and specialist schools where the commandants had responsibility for both combat developments and the training education missions. The fourth aspect of the combat developments system within TRADOC were agencies designed to provide data and reports from tests and experiments keyed to specific concepts and projects. Two of the most influential were the Combat Developments Experimentation Command (CDEC) at Fort Ord, California and the Modern Army Selected Sys-

These vehicles, visually modified to resemble Soviet vehicles, were used by the "opposing force" to provide opposition for Task Force XXI during AWE exercises.

tems Test Evaluation and Review (MASSTER) at Fort Hood, Texas.

The three major combat developments concerns were materiel, organization, and doctrine. Materiel development was a joint effort of TRADOC as the primary combat developer and the Army Materiel Command (AMC) as primary materiel developer. TRADOC played three essential parts in the effort. The first was to formulate and document requirements for specific materiel. The second was to monitor the AMC development continuously, undertaking operational tests and analyses at critical points. The third role was to redraw organizations and refashion tactics as necessary to accommodate the new item. The combat developer determined a weapon's need and operational specifications, monitored its development, and determined its ultimate issue to and use by the Army in the field.

As significant to the evolving process of combat developments as the STEADFAST reorganization was the Mideast War of October 1973. TRADOC studied the war intensively, paying particular attention to the tremendous attrition of materiel and unparalleled lethality of modern weaponry. Those lessons greatly shaped the vision of modern war. Reform of the tactical force was recognition that modern armies in the 1970s were crossing a technological threshold. The lethality of fire, the tempo of battle, and the immense attrition of the Mideast War had demonstrated a quantum leap in weapons technology.

A significant development for TRADOC was the fielding of the air defense system known as the Patriot.

TRADOC took a "total systems" approach to weapons development, bringing trainers, logisticians, and personnel managers into the process early. The total systems methodology

spawned the concept of the TRADOC System Managers (TSM), formally approved in March 1977. The TSM would represent all major weapon and materiel systems in development and would function with the power and authority comparable to the project managers of the Army Materiel Command. The TSM was charged with integrating and organizing the development process. Introduction of a new Concept Based Requirements System (CBRS) in 1980 provided a development schematic, the goal of which was to place fighting concepts at the beginning of all TRADOC's products across the board—doctrine, materiel requirements, organizations, and training developments.

The M1A1 Abrams main battle tank was one of the big 5 weapons systems that TRADOC helped to develop.

As management techniques and strategies were being devised and emplaced, the 1970s and 1980s witnessed the launching of one of the most massive modernization programs in the history of the Army. The Big Five systems of greatly increased combat power included the M1 Abrams main battle tank, the M2 and M3 Bradley fighting vehicles, the Black Hawk and Apache helicopters, and the Patriot air defense missile. The Multiple Launch Rocket System was also developed and fielded as were individual soldier' equipment and electronic warfare protection equipment. Anticipating a smaller force after the Vietnam drawdown, the ability to catch and keep the technological edge in weapons and equipment was deemed imperative.

The Apache was the Army's day/night, adverse weather, attack helicopter.

The modernization wave that had begun in the immediate post-Vietnam era crested in 1983. From that point in time development would be slower and more sporadic. By the late 1980s, modernization planning was less dramatic and more aimed at coordinated effort and overall reduced budgets and available resources. For instance, in 1986, the Department of the Army commissioned the Armored Family of Vehicles Task Force to examine the next phase of modernization. The emerging concept was that of an armored family of vehicles to be built around two common chassis. A total, phased replacement of the tracked and wheeled fleet

would ensure compatibility, commonality, and survivability. Simultaneously block improvements were projected for the Abrams main battle tank and the Bradley fighting vehicle. Upgrades were also planned for the A-64 Apache.

The success of the total modernization effort was demonstrated in Operation Desert Storm over 1990 and 1991. All of the "Big Five" systems were deployed and performed beyond expectations. The Apache attack helicopter, the Black Hawk transport and utility helicopter, the Abrams main battle tank, the Bradley fighting vehicle, and the Patriot missile system validated the combat developments process and product. The Army helicopter improvement program (AHIP) had resulted in the OH-58D armed Kiowa Warrior, which flew close reconnaissance and attack support for the Apache. Likewise deployed and successful were the Army tactical missile system (ATACMS), the longest range surface-to-surface missile in the Army inventory, along with its companion multiple-launch rocket system (MLRS). Additionally, unmanned aerial vehicles, the joint surveillance target acquisition radar system (JSTARS), and the XM40 series protective mask were success stories of Desert Storm.

TRADOC's first twenty years marked a high ground for combat developments. The opening two decades witnessed a massive modernization program that was justified by a serious security threat, adequate resourcing, and enlightened leadership. The major systems still in service in 2003 were developed during this time. With the opening of the 1990s, however, several external factors influenced that path. The demise of the unified Soviet threat and resulting downsizing of American forces and resources seriously affected weapon development and acquisition. As cost of equipment went up, amounts procured would have to be reduced. As numbers went down, systems would have to be more accurate and lethal. Technology had to be harnessed to assure success on the nonlinear battlefield.

With decremented funding levels, equipment requirements shifted to focus on long-term development and acquisition. Weapons systems had to provide broad coverage in low, mid, and high intensity conflicts as well as contingency and special operations. Department of the Army proposed four principles to guide modernization decisions. Simply put, they were: Key future modernization programs would be protected; some current major weapons systems would be terminated; investment in product improvements and systems modifications would be restricted; and new technologies would be advanced.

On the management side, the concept of battle laboratories located at key TRADOC centers and schools evolved over the winter of 1991 and the spring of 1992 as TRADOC reassessed requirements for the post-Cold War Army. Without a clear external threat driving requirements, concepts of warfare and the associated equipment needed to be evaluated. The battle laboratories were designed to be the institutional means to determine, develop, and experiment with equipment and technology, organizational design, and training. The trend in combat developments, with battle laboratories assisting, would be for fewer starts and dollars, higher technology, better integration, and more focus on combined efforts.

The U.S. Army's modernization objectives as TRADOC reached its 25th anniversary in 1998 were to project, sustain, and protect the force; win the information war; conduct precision strikes; and dominate the maneuver battle. Those objectives were formally set forth in the Army Modernization Plan update, published in May 1994. The Modernization Plan and the Force XXI process were designed to move the service to Army XXI, beginning with a conceptual base and continuing forward to post-fielding improvements. Declining defense resources and downsizing of the force made it necessary for the Army to analyze future warfighting capabilities with an eye to development and fielding of battlefield systems that best supported the Army envisioned in the next century. TRADOC, as the architect of the future Army, continued to fulfill that role. But as the command reached its 30th year, the road to the Army of the 21st century had taken some sharp turns as the Transformation initiatives looked to a lighter, more deployable force by about 2020.

The Transformation effort had not displaced all of the tenets of Force XXI. Indeed, it had built on many of them. The importance of projection and sustainment of the force could not be overstated. The Army of tomorrow would be a smaller, continental United States (CONUS)-based force which would require a greater ability to project and sustain its power anywhere in the world. To realize that objective, Army systems needed to be light, lethal, and modular, in order that more capability could be achieved with fewer resources. The Army also needed to have sufficient strategic and tactical lift assets to move its forces around the globe. The Army had to project forces efficiently by taking advantage of new technologies to move only what was absolutely necessary. Improved logistical information systems and a new emphasis on split-based operations were designed to allow the Army to sustain its forces while projecting fewer support elements. Finally, plans had to be designed to support other missions such as humanitarian relief and

peace operations.

Modernization for the Army of the twenty-first century included denying information to the enemy through secure communications and direct attack against enemy command, control, communications, computers, and intelligence (C4) assets. Joint efforts to expand their own C4I assets were designed to give U.S. forces a complete picture of the battlefield that could be transmitted to all units. The Army Battle Command System with its many components would link commanders at all echelons. Global Positioning System (GPS) receivers provided precise targeting and navigation data. A new information architecture also included communications systems to securely and rapidly move data from point to point.

As TRADOC commemorated its 30th anniversary, a number of weapons and equipment projects underway promised to support the transforming Army deep into the 21st century. Of special importance was a vehicle for the interim force and a Future Combat System (FCS) that would provide an integrated "system of systems" for the soldier of the future. On 15 April 2002, the Army accepted early editions of its new interim armored vehicle for the Interim Brigade Combat Teams and known as the LAV (light armored vehicle) III (renamed "Stryker" in February 2002). The Stryker was a 19-ton eight-wheel armored vehicle that would provide the Army with ten different variations from infantry carrier vehicles to reconnaissance and medical evacuation vehicles. The new vehicles had robust armor protection, could travel at speeds of about 60 mph, possessed common parts and a self-recovery capability. The Stryker also was designed to be deployed by C-130 aircraft and to be combat-capable upon arrival in any contingency area.

The Stryker interim armored vehicle rolls off a C-130 during exercises in 2002

The FCS program was a collaborative DARPA (Defense Advanced Research Projects Agency)/U.S. Army project to design and demonstrate combat systems that could be the centerpiece of the Army's future Objective Force. TRADOC's role as the Army's combat developer placed the command at the

The new RAH-66 Comanche was the Army's most advanced helicopter and the cornerstone of the Aviation Modernization Program. The aircraft featured "stealth" which had previously been confined to airplanes.

forefront of defining what was needed and how systems should be integrated. Transformation planners envisioned FCS as a networked force consisting of separate robotic direct fire, indirect fire, and sensor platforms controlled by a manned command and control platform. The FCS was intended to involve both ground and air systems, connected through a sophisticated sensor and communication network.

The Shadow was an unmanned aerial vehicle still under development and testing as TRADOC reached its 30th year.

Also under development for the objective force was the RAH-66 Comanche helicopter. More than 20 years in development, the Comanche was expected to operate either as a stealthy reconnaissance system or as a highly lethal attack platform. Concurrently, the Army was testing a tactical unmanned aerial vehicle (TUAV) known as "Shadow." Shadow was meant to accompany initial entry ground forces to transmit pictures of a battlefield back to a ground station.. Resembling a radio-controlled aircraft, the newest TUAV had a 13-foot wingspan and could stay aloft over a target for five to six hours. Also being tested were prototypes of a High Mobility Artillery Rocket System (HIMARS), the Army's new light artillery system. Transportable in a C-130 aircraft, the early-entry artillery platform could launch the entire family of Multiple Launch Rocket System (MLRS) and Army Tactical Missile System (ATACMS) munitions to a range of 300 km. HIMARS was designed to engage tube and rocket artillery, air defense concentrations, trucks, and light-armor personnel carriers.

By TRADOC's 30th year it was clear that Transformation and its weapons development initiatives were a process and not an end state. How rapidly the various programs moved was a function of the world situation, available resources, and advancing technology. By the year 2020, it was likely that there would be some FCS-equipped organizations, some Stryker units, and still some "legacy" formations.

CHAPTER IV

DOCTRINE

TRADOC came into existence in July 1973, the year that saw the end of the United States Army's involvement in the Vietnam War and the end of the Arab-Israeli War. The former event marked the close of a decade-long struggle, which had focused the Army's attention on counterinsurgency warfare against an elusive foe. Conversely, the Arab-Israeli War was a conflict unprecedented in tempo, lethality, and consumption of resources. Significant in themselves, these events occurred against a background of concerns over increasing Soviet power across the globe. It was obvious to General DePuy, Commanding General of TRADOC, that existing Army doctrine was outdated. Thus, in 1974, he began the process of change by sending letters to some of the TRADOC school commandants and by initiating a series of conferences to discuss the Middle East War and changes in Soviet doctrine. Not satisfied with a long process of developing new Army doctrine, TRADOC schools developed new circulars on "how to fight." Traditionally, the Combined Arms Center (CAC) at Fort Leavenworth was the agency assigned to write "capstone" doctrine such as field manuals (FM), but after several conferences concerning the issue, the task of writing a new FM on operations was transferred from CAC to the Concepts Branch of Headquarters TRADOC in 1975. The new FM 100-5, Operations, was published in June 1976.

The new FM principally focused on potential conflict against the Soviets in Europe. It recognized the reality of the modern battlefield with its increased operational tempo and its increased lethality and the fact that U.S. forces needed to "fight outnumbered and win." There was also emphasis on winning the first battle, something the United States had seldom done. The overall doctrine was called "active defense." Despite its acknowledgment of a new strategic situation and the enhanced lethality of the modern battlefield, the 1976 edition of FM 100-5 was not universally. Within a short time it created considerable controversy. Broadly, the criticism centered on three issues. The doctrine was defensive in nature and perceived by some to be an all or nothing defense without a substantial reserve. The preoccupation with the first battle was often considered to be a commitment to fight that battle without consideration of subsequent operations. Third, and perhaps most significantly, the active defense was seen as tied too specifically to one

Soviet operational maneuver that called for a massive armored breakthrough that was typical of World War II. However, Soviet doctrine had also changed. Because of concerns about the vulnerability of their armored personnel carriers to modern anti-armor weapons, new Soviet doctrine called for multi-pronged attacks across the front seeking to exploit a weak point.

As early as 1976-1977, there were efforts underway to redefine the battlefield of the near future. Lt. General Donn A. Starry spearheaded these efforts while he was V Corps commander in Europe. Earlier as Chief of Armor he had contributed greatly to the 1976 edition of FM 100-5 and its Active Defense approach. However, as V Corps commander he had gained a new appreciation of up-to-date Soviet doctrine and capabilities. In V Corps, the aspects of what Starry referred to as the Central Battle such as ranges and numbers involved were fully analyzed. He realized that the commander's view of the battlefield had to be wider and deeper than that indicated by the active defense. When General Starry became TRADOC commander, these considerations became paramount in revising the doctrine according to FM 100-5. During the same period, General Edward C. Meyer, Chief of Staff of the Army, recognized a need for the Army to be more responsive to global needs, hence, more "deployable," and also the need to revise doctrine to reflect the more current Soviet threat. A major influence on Starry's concept of the Central Battle was a study at the Field Artillery School in Fort Sill, OK, begun at his request. The study suggested interdicting targets deep in the enemy rear to disrupt the Soviet second echelon during an assault. That study also projected cooperation with the U.S. Air Force, which led to the need for an integrated battle across a wider, deeper battlefield. By 1980, the central battle idea had become known as AirLand Battle and the draft of a new FM 100-5 had begun. In addition to the recognized principles and fundamentals of war, AirLand Battle called for depth, initiative, agility, and synchronization, as well as an insistence on initiative on the part of leaders at all levels. Published in August 1982, the new FM 100-5 became the cornerstone of U.S. Army doctrine. It was revised in 1986, but AirLand Battle remained doctrine through the Gulf War of 1990-91.

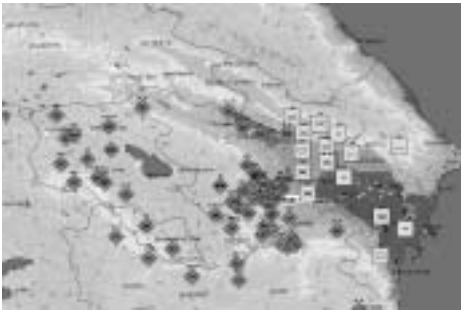
The Army's "capstone" AirLand Battle doctrine as originally defined in the 1982 version of Field Manual (FM) 100-5, Operations, was revised in 1986.

With the demise of the Soviet Union, the strategic position of the United States changed drastically. Although U.S. and allied divisions smashed Iraqi military power using AirLand Battle doctrine, a philosophy that centered on fighting a major land power on the continent of Europe was no longer relevant. At the end of the Cold War, the United States emerged as the world's only super power. But that did not mean peace. In the last decade of the 20th century, nearly half the countries in the world faced some sort of armed conflict, which included ethnic strife; political insurgencies; terrorism from political or transnational entities; or criminal elements, which often masqueraded as political movements. The fall of the Soviet Union revealed challenges that were far more complex than were evident during the Cold War. The danger of facing a potential adversary in a land war that might turn nuclear was lessened, only to reveal multiple threats to the United States that did not originate in Moscow. This complex situation became known as "asymmetric warfare," which included threats from diverse sources such as conventional forces, terrorists, and criminals. TRADOC commander General John W. Foss began the revision of Army doctrine in 1989. The Gulf War, however, delayed further developments.

On taking command of TRADOC in August 1991, General Frederick M. Franks, Jr. Franks set as his primary goal the complete revision of FM 100-5 and its publication by early 1993. In addition, he envisioned it moving in a different direction than had his predecessor. Thus, the writing team at Fort Leavenworth was changed and the new team worked to produce a new manual that was less a tactical treatise than the two preceding editions and more a statement of the Army's position in world that required deployment from CONUS rather than a forward-based army. It stressed the numerous missions the Army faced in the new strategic environment and took a realistic view of joint requirements in future operations. General Franks was careful to insure Army-wide consensus prior to publication and made sure that the other U.S. services were privy to the elements of the new FM 100-5. In this way it was a public document from its early stages and most of the criticism had been met prior to publication. FM 100-5 was released in June 1993. The designation "AirLand Battle" was scrapped; Franks did not want to focus attention solely on Army-Air Force cooperation.

The 1993 edition of FM 100-5, Operations, reflected the new world situation in the Post-Cold War period and the focused on deployment from CONUS rather than a forward based Army.

During his tenure as TRADOC commander, Franks worked closely with Chief of Staff of the Army General Gordon R. Sullivan to change doctrine. In exercise Desert Hammer new versions of the M1 tank were tested at the National Training Center in what would come to be considered the first Army Warfighting Experiment (AWE). Franks also looked for a way to test the concept of Army XXI. Another aspect of the change in doctrine was the effort of the Battle Laboratories to explore the various aspects of the future battlefield. Their focus included maneuver, maneuver support, fire support, combat service support and the new electronics aspects that included computers as well as more traditional electronic equipment on the battlefield. All of these fell loosely under the auspices of General Sullivan's concept referred to as the Modern Louisiana Maneuvers (LAM), a referent to the Army's famous training maneuvers in 1940 that led to significant reorganization. The Modern Louisiana Maneuvers was a process that "brainstormed" new ideas. Although a Department of the Army initiative, the Louisiana Maneuvers Task Force was headquartered at Fort Monroe, VA, in part because of Sullivan's heavy reliance on then TRADOC commander Franks.



At TRADOC Headquarters, the Commanding General sponsored a series of "Seminar War Games," beginning in July 2001, to test concepts for the future force. The games employed scenarios like this one.

For the next decade, the changing international situation demonstrated the need for another update of FM 100-5. However, the plan for a modified version of the manual tentatively scheduled for 1996 was put on hold. In 1999 Chief of Staff of the Army General Eric K. Shinseki made the case for both doctrinal and materiel changes in the Army, initiatives that became known collectively as Transformation. A large portion of the challenges posed fell on TRADOC as the Army's "architect of the future." At the same time TRADOC was undergoing serious reductions in resources and personnel, which impacted both training and doctrinal development capabilities.

In order to further the understanding of possible future warfare, General Abrams instituted a series of Seminar Wargames (SWG) in July 2001, and revitalized a class of planning documents referred to as "O&O" for organization and operations. The SWG, enabled the review process for O&O and simulated long-range planning for an interim, and then an objective force. The initial purpose of the SWG was to help design a force projection army

FM 3.0, Operations, published in June 2001, reflected in both its joint numbering scheme and its guidance, the increasing need for joint doctrine.

that was decisive across the full spectrum of conflict on the 21st century battlefield. The SWG particularly addressed the challenges raised by the revolution in computer and graphics technology. A TRADOC brigade cell at Fort Lewis cell tracked and analyzed two Interim Brigade Combat Teams (IBCT) at Ft. Lewis, WA as they tried new concepts for the future battlefield. The new vision resulted in a complete revision of the 1993 edition of FM 100-5. To emphasize the break with the past, the joint numbering system of 3.0 was adopted for the new manual, which was cognizant of the changes in the nation's geo-strategic position. It clearly addressed the problems of deployment and asymmetric warfare and the need for joint operations in nearly every aspect of operations, from major theaters of war to humanitarian relief. The "Transformation" FM 3-0 was published in June 2001.

After the attacks of September 11, 2001 on the World Trade Center and the Pentagon, TRADOC also had to support the war on terrorism. The command produced O&O for the Army on force protection, and assessed the impact on the changed world situation on all other aspects of doctrine development. Especially critical was the development of joint doctrine which had in the past proceeded slowly and without the desired integration. TRADOC's leadership expected that the command would become the Army element in the new U.S. Joint Forces Command.

The largest joint military experiment ever held, Millennium Challenge 2002 combined field forces and computer simulations to test and validate joint and service-specific warfighting doctrine.

CHAPTER V

TRAINING AND LEADER DEVELOPMENT

Following the establishment of TRADOC in 1973, the Army's training system had undergone a measured but major transformation. While the changes were for the most part evolutionary, a comparison of the system that had existed in the immediate post-Vietnam period with that of 2003 revealed a true revolution. The masterminds of that revolution were TRADOC's first commander, General William E. DePuy, and his Deputy Chief of Staff for Training, Maj. Gen. Paul F. Gorman. Gorman brought with him to TRADOC a new concept of performance-oriented training and a concept of a systematic way to go about the setting of training objectives through the careful determination of tasks to be trained, conditions under which certain training would be required, and the setting of standards. Maj. Gen. Gorman and his "apostles and disciples" as General DePuy would later call them, also brought to training development an appreciation of rapidly advancing technology and an understanding of how it might be applied to training.

When DePuy and Gorman came to TRADOC, soldiers and officers were being trained according to the Army Training Program (ATP), which had been in use since World War I. The ATP was a time-oriented process that prescribed how many hours would be devoted to each subject and task. The ATP was based on the availability of conscripts and on the assumption that the United States with its ocean barriers would have sufficient time to raise, equip, and train a combat force, if necessary. After January 1973, the U.S. military services no longer could depend on the draft to meet their manpower needs. Other factors TRADOC had to consider in building a new training system was the post-Vietnam downsizing of the Army and the shrinking defense budgets of the 1970s. The Army not only needed better training, it also needed efficient and cost-effective training.

The philosophy DePuy and Gorman brought to TRADOC was influenced by revelations during the 1973 Arab-Israeli War of the lethality and range of modern weapons and of the tremendous importance of well-trained crews and tactical commanders. Gorman and DePuy agreed that what the Army needed was a "train-evaluate-train" program that would require soldiers to perform to established standards. That program, too, should be progressive

and sequential so that each level built on the next lower level. Gorman and DePuy believed that individual training in units was much neglected, and focused much of TRADOC's effort there. Gorman's idea was that the TRADOC school system should be reoriented so that it had a larger training, as opposed to educational, aspect. And finally, both men believed a solid link had to be established between doctrine and training. Thus the revision of Field Manual 100-5, Operations, in 1976 recognized the service schools as the "Army's source of combat developments and doctrine."

Basic to the process of change was the adoption of a "systems approach to training," or SAT. The SAT consisted of five interrelated phases: Analysis, design, development, implementation, and evaluation. All issues involved in systems training, unit training, individual training, and training support were studied following the SAT model. In the face of increasingly lean budgets, it was obvious to TRADOC's leaders that much individual training would have to be conducted in units. As a result, TRADOC training developers began to create and field several programs to bring the training to the soldier. The Army Training and Evaluation System (ARTEP) was a new performance-oriented program for collective training that placed responsibility for the training program directly on the unit. New Skill Qualification Tests (SQT) were designed to provide an indicator of a soldier's proficiency in his military occupational specialty (MOS). (A follow-on program to the SQT was the Self-Development Test which was eliminated in 1995.) An updated and revised training and doctrinal literature program included soldiers' manuals that set forth what the Army expected a soldier to know and be able to perform at each skill level. The new program also included commanders' manuals, field manuals, "how to fight" manuals, technical manuals, and training circulars. To meet increasing shortages in manpower, DePuy and Gorman greatly expanded a training extension course program begun under CONARC and designed to export training to the field.

Reserved Officer's Training Corps (ROTC), Fourth Region, Capstone Exercise in July 1985.

The DePuy and Gorman years also saw changes in the Initial Entry Training Program (IET) and the Noncommissioned Officer Education System (NCOES). In July 1974, a new basic combat training (BCT) program was implemented that stressed discipline, decentralization to the lowest possible level, and the teaching of basic combat skills. TRADOC also made a major

change in the structure of BCT. A new one-station unit training (OSUT) plan integrated some BCT and advanced individual training (AIT) programs into cohesive programs. That action also meant that fewer soldiers undergoing IET would have to take the two phases at two different locations. With regard to NCOES, TRADOC began to establish a progressive and sequential system in line with Gorman's philosophy and with the officer education system.

Generals DePuy and Gorman would later agree that the aforementioned programs represented the basic tenets of the new training system they hoped to establish for TRADOC. Both officers left TRADOC headquarters in June 1977. Over the years their reforms to the training system would provide the basis for a continuing training revolution. Those programs would be revised, added to, and in some cases deleted. But, on balance, the changes from 1977 to 2003, would be more in degree than in substance.

Recruits at Fort Bliss, TX, learn hand-to-hand combat skills.

During the command's 30-year existence, TRADOC employed a number of "school models" and long -range training plans to guide the command in fulfilling its mission to train the Army's soldiers and officers. The first TRADOC school model, School Model 76, adopted to replace the one that predated the STEADFAST reorganization in 1973, clearly bore marks of DePuy's interest in training, as opposed to education, and of Maj. Gen. Gorman's interest in advanced technology. General DePuy directed his staff to develop new organizational concepts that would modernize and bring greater efficiency to the schools. School Model 76 was based on the premise that the commandants would be responsible for the interface between combat developments and training developments. The combat developments portion of the school would create new weapons requirements, tactics, and tactical and support organizations, based on approved doctrine. Training development personnel would be responsible for resident training and extension training, simulation devices and simulators, and training literature, to ensure the optimum employment of the combat developers' products. General DePuy intended that the schools become less "instructor intensive" and that they take advantage of existing technologies.

Another initiative that would affect the TRADOC schools was the establishment, in 1982, of a Military History Education Program, designed by the new

Combat Studies Institute at Fort Leavenworth, KS. TRADOC Regulation 350-13, Military History Education (MHEP), first published in January 1982, vested proponency for MHEP with the Chief of Staff, TRADOC, and established command policy for the study of military history in the TRADOC service schools and in senior ROTC detachments. The TRADOC Military History Education Program was intended to foster a sense of historical-mindedness in the Army community, resulting in a sensitivity to the intellectual and functional values of military history as a necessary component of professional education and development.

In 1983, proponency for MHEP management was moved to Commander, CAC, with executive agency given to the Director of the Combat Studies Institute. A 1983 version of TRADOC Regulation 350-13 placed the requirement for instruction in military history with uniformed officers outside the command history program, and made no provision for utilizing civilian branch historians in MHEP. However, as the TRADOC history program grew in the field, commandants began to use the branch historians to coordinate MHEP in their commands. By 2003, a majority of branch historians served as adjunct instructors of military history. In August 1992, proponency for TRADOC's military history education program was moved once again, back to TRADOC headquarters. At the 30-year point, TRADOC 350-13 encompassed heritage instruction in BCT as well, and was once again being revised to reflect visions of a transforming Army.

By the summer of 1982, problems inherent in School Model 76 had become evident, the most notable of which was that instructors in the academic departments were barred from participation in the training development and combat development processes. Almost immediately after the model's adoption, the schools had begun to request exception to that policy, a practice that resulted in each school becoming, in essence, a separate organization. A working group established by TRADOC commander General Glenn K. Otis recommended the adoption of a new school model that would integrate the future direction of the Army with the school model. It was expected that abandoning a reactive approach would put TRADOC in a posture to actively participate in designing the way it operated in the future. The new model combined combat developments and training developments in the same directorate, thereby bringing training developments and evaluation into the system acquisition process earlier. Thus evaluation could serve to provide information on the potential successes or failures associated with total system fielding. In 1983, TRADOC commander Richardson approved School Model 83, giving back to the schools' Directors of Training and the

academic departments, much of the responsibility for training developments they had lost in School Model 76.

As TRADOC planners continued to examine how the command's schools should be organized and managed, then TRADOC commander General Carl E. Vuono, directed the development of a long-range plan to guide the command for ten years into the future. TRADOC published its Long Range Plan in May 1987. Meanwhile TRADOC training planners began writing "Army Training 1997" in support of the command's long-range plan. Army Training 1997 was heavily based on an earlier but unsuccessful effort known as Army Training 1990. Specific guidance included the integration of reserve component training throughout the document under a "Total Army" concept. Additional emphasis was given to developing joint and combined operations and to the distributed training system. Army Training 1997 was published in September 1987. Major changes included in the final version dealt with leader development, future technology strategy, the connection between training developments and combat developments within the Concept Based Requirements System (CBRS), combat training centers, embedded training, and small group instruction. The long range strategy provided for a new training system for warrant officers and a strong emphasis on civilian leadership training. The plan also included the results of an important Initial Entry Training (IET) study, undertaken to draft a set of standards to improve training effectiveness and guide the evolution of IET.

In the fall of 1988, TRADOC commander General Maxwell R. Thurman called for a reassessment of TRADOC's status and the command's short-term priorities. In a concept termed "Vision 91" he outlined how the command should fulfill its mission through 1991 with regard to doctrine, force design, equipment requirements, leader development, training, and mission support. Training had to be consistent with doctrine, "embedded" into the development of new equipment, and made an integral part of force modernization. Institutional, unit, and individual training had to focus on the teaching of warfighting skills in a tactical field environment to produce soldiers who understood the specific tasks of their jobs and could perform them to established standards. Training would, according to Vision 91 plans, make heavy use of technological advances—especially computer-based teaching and testing and the simulation of force-on-force maneuvers.

Concurrently, an Army Training 21 (not to be confused with Army Training XXI) concept was being developed. That plan laid down the specifics for developing a long-range "umbrella" training strategy for the late 1990s and

the first twenty years of the 21st century. It included such training strategies as distributed training, strategies based on the technical requirements of each MOS, civilian vocational and technical training for appropriate MOS, training in colleges and universities, recruiting by ability instead of aptitude, and reconfiguring the TRADOC school system to be more responsive to projected training requirements in the year 2020. For several years, suggested solutions to problems were tried, studied, and revised. In the end, however, the demands first of Army XXI and then of the Transformation efforts changed many of the parameters of the earlier initiatives.

As General Thurman looked at how the command could best meet its responsibilities down to 1991, TRADOC's training managers were examining School Model 83 for needed changes. School Model 89 eliminated the School Secretary organizations at schools located on TRADOC installations, aligned the threat support office under the assistant commandant, and limited the number of training departments to four. Because of the number of requests for exemption, which had to be considered on a case-by-case basis, School Model 89 was not implemented until 1990.

Meanwhile, it had become clear that the Army needed a new capstone training manual in order to keep pace with evolving training plans and doctrine. TRADOC's new training philosophy was contained in FM 25-100, Training the Force, published in 1988 to take its place alongside FM 100-5, Operations, and FM 22-100, Military Leadership, as part of a trilogy of "train, fight, lead" manuals. FM 25-100, however, focused primarily on senior active and reserve commanders above battalion level. It became clear that there was a need for additional guidance to better apply the concepts of FM 25-100 at battalion and company level. Accordingly, FM 25-101, Battle Focused Training—published in 1990— was developed to fill the void and serve as a "how to" manual for units in the field. In October 2002, the Army distributed FM 7-0, Training the Force, as an update to FM 25-100, although it now carried a joint number. FM 7-1, Battle Focused Training, was expected soon to update the 1990 version. The new training doctrine was designed to bring training doctrine more in line with the emerging operational environment.

An important facet of the TRADOC training story was the command's efforts to take advantage of ever more sophisticated technology that could be applied to training. This would be increasingly evident in the Transformation efforts of the late 20th and 21st centuries. During the DePuy-Gorman years, several tactical engagement simulation systems were in use to support unit

training in the field. One of these was known as SCOPES, for Squad Combat Operations Exercise Simulation. SCOPES was designed to eliminate the judgment of umpires that was highly subjective, and featured a 6-power telescope mounted on a rifle with numbers affixed to each individual soldier for the identification of casualties. A similar system for training tank crews called REALTRAIN had a 10-power scope. In the early-to-mid 1970s, TRADOC began developing a more sophisticated tactical engagement simulator for use in force-on-force field training exercises. That system, the Multiple Integrated Laser Engagement System, always known as MILES, revolutionized collective training in the Army. In 2003, the system—after several upgrades—continued to be the Army's most innovative and effective training device.

M1 Abrams equipped with the Multiple Integrated Laser Engagement System, always known as MILES, is shown here training at the National Training Center, Fort Irwin, CA

Since its establishment, TRADOC had been responsible for the development of dozens of systems and non-systems training aids and devices. Most of those were computer-based and designed to allow training, when space, safety, cost, or environmental considerations might have prevented it.

Simulators and simulations such as the Simulation Network (SIMNET), that joined more than 200 simulators, allowed units to participate in simulated battles without leaving home station. In the early years of the 21st century, SIMNET technology was being applied to development of a family of Combined Tactical Trainers (CATT). A family of simulators (FAMSIM), allowed for training in command and control from platoon level to echelons above corps. DePuy's and Gorman's faith in the value of advanced technology applied to training, and the imagination and support of their successors, had by TRADOC's 30th anniversary placed the Army first among the services in the field of training technology. It was rapidly advancing technology, too, that allowed for the establishment of the Army's Combat Training Center (CTC) Program. In 1976, Maj. Gen. Gorman began developing a concept for a national training center where

Opposing Force (OPFOR) prepare to move forward during an exercise at the NTC. TRADOC began to develop the concept for the training center in 1976.

heavy armored and mechanized infantry units could train in force-on-force and live-fire exercises and where data could be collected to support doctrine development, combat developments, and a "lessons learned" system. The first force-on-force maneuvers were conducted at the U.S. Army National Training Center (NTC) at Fort Irwin, Calif. In January 1982.

The NTC was a joint TRADOC-FORSCOM project. The major features of the training center were the employment of MILES for casualty assessment; a sophisticated data collection system for exercise control and data collection; a TRADOC Operations Group; a superbly trained opposing force (OPFOR); expert exercise observer-controllers; after action reviews of unit performance; and take home packages designed to aid units in correcting deficiencies while training at home station. The success of the NTC in training heavy mechanized forces led the Army to establish a similar facility for the training of light forces. The Joint Readiness Training Center (JRTC) opened, on a temporary basis, at Fort Chaffee in October 1987. Like the NTC, it featured a TRADOC Operations Group and an OPFOR. Unlike the NTC, the JRTC was completely a TRADOC project in its early days and until the light training center moved to a permanent home at Fort Polk in 1993. At that time the JRTC became a TRADOC-FORSCOM effort like the NTC. In 1988, the Army began to plan for a Combat Maneuver Training Center (CMTC) at Hohenfels, Germany, to provide for troops in Europe the same realistic combined arms training exercises as those at the NTC. Meanwhile in early 1987, the Chief of Staff of the Army approved the concept of the Battle Command Training Program (BCTP) to train active and reserve division and corps commanders, their staffs, and major subordinate commanders in warfighting skills.

Soldiers arrive via a C-130 aircraft for training at the Joint Readiness Training Center at Fort Polk, LA

In May 1987, the four aforementioned programs were brought under a single training "umbrella" and became known as the Combat Training Centers, or CTC. Collectively, the CTC projects focused on integrating all elements of combat power, and were designed to provide tough, realistic combined arms and services training in accordance with AirLand Battle doctrine, for units from squad through corps. The CTC, in short, provided the Army the capability to train heavy, light, and special operations forces across the spectrum of conflict.

In the summer of 2002, the NTC became the focus of the U.S. Army's participation in Millennium Challenge (MC/ATEx 02), the first major joint "experiment" ever conducted. The Army conducted exercises with the new Stryker interim armored vehicle to test its deployability, especially when airlifted by a C-130 aircraft. The TRADOC battle labs at Forts Gordon, Benning, and Leonard Wood also conducted experiments in satellite communications, intelligence, command and control, and terrain mapping. Lessons learned from Millennium Challenge would develop a new joint training transformation project known as Joint National Training Capability (JNTC) which would focus on the upgrading and certification of service training ranges for joint training.

An observer/controller (OC) team at the Combat Maneuver Training Center at Hohenfelds, Germany, assists the BCT commander with training through observation, control of the simulated battlefield, and after action reviews (AAR).

One of General DePuy's requirements in the design of an integrated training system for the Army was that training programs were to be progressive and sequential. He also required that standards of performance be set and met at each level. As TRADOC reached the 30-year mark, the Officer Education System (OES) and the Noncommissioned Officer Education System met both those criteria. After completing the officer basic and advanced courses, captains were required to attend the Combined Arms and Services Staff School (CAS3) that trained officers to function as staff officers with the Army in the field. After attending the Command and General Staff Officer's Course, majors and lieutenant colonels could be selected to attend the School of Advanced Military Studies (SAMS).

At TRADOC's 30-year point, the command was considering how to transform the OES to train the leaders who would command the Objective Force of the future. Many of the initiatives were the result of an Army Training and Leader Development Panel study which had revealed a number of weaknesses in the pre-commissioning through majors training programs. Changes were also designed to address Transformation issues, a doubling in the number of deployments, and a smaller Army. Under consideration was a more integrated, three-level Basic Officer Leader Course (BOLC) for lieutenants, a two-part course for captains that included both staff training and company command. Finally, an Intermediate Level Education model prescribed both a core curriculum and electives. All courses would be timed to

officer assignments. At this writing, TRADOC planned full implementation in FY 2006.

The Noncommissioned Officer Education System (NCOES) served as the cornerstone of the "train the trainer" emphasis that guided TRADOC's approach to its overall training responsibilities. DePuy and Gorman's efforts to establish a sequential and progressive education program for noncommissioned officers had evolved slowly over the 30 years of TRADOC's existence. NCOES featured four vertically integrated levels of training—primary, basic, advanced, and senior. Those levels had, over a period of years, been tied to promotion in accordance with TRADOC's long-range goals. Similar to training for NCOs was that for warrant officers. A Warrant Officer Leader Development Action Plan of February 1992 had established a six-level program beginning with the Warrant Officer Candidate Course.

The Army's Initial Entry Training program included basic combat training (BCT), advanced individual training (AIT), in which soldiers were trained in their military occupational specialties (MOS), and one station unit training (OSUT) which combined BCT and AIT for some career fields, primarily combat arms. On 1 October 1998, Army basic combat training (BCT) had been expanded from eight weeks to nine weeks so that new soldiers could be immersed in the Army's heritage and its seven core values: Loyalty, duty, respect, selfless service, honor, integrity, and personal courage. The directive for the additional week of BCT had come from the Army Chief of Staff, in the wake of allegations of sexual harassment during initial entry training at several Army installations. The revamped program also included human relations, rape prevention, and financial management. In addition, a three-day field training exercise reinforced training given during BCT. Values-based training would not end when soldiers graduated from BCT, but would continue into AIT to reinforce the type of instruction being given in basic training—values, heritage, and tradition–to keep those principles fresh.

Almost from the beginning of the all-volunteer force in 1973 and into the 21st century there were important developments and much controversy concerning the training of men and women recruits together in basic combat training. In the absence of a pool of draftees, women enlistees were necessary to meet manpower requirements. As a result, the numbers and percentages of women in the enlisted ranks increased dramatically from the late 1970s through the beginning of the 21st century. That situation and the strong feminist movement, beginning in the late 1960s and strengthening until the early 1980s, came together to indicate that the Army could no longer resist a program to integrate the sexes during basic combat training. From 1978 to late in 1981,

men and women were trained together in BCT at the company level (for example, a company of 3 all-male platoons and 1 all-female platoon.) That experiment encountered numerous difficulties, especially with physical training, and was terminated when the Jimmy Carter White House was replaced by the Reagan administration.

From 1982 until 1994, men and women were trained at separate locations. The Persian Gulf War of 1990-1991 changed that arrangement when 41,000 women deployed, some serving on the front lines. As a result, the Secretary of Defense declared that women could fly combat aircraft and serve on combat ships. Faced with such competition in recruiting, the Army once again established a "gender-integrated" BCT program. This time the companies were totally integrated. There were fewer problems with the new program and increasingly more military occupational specialties (MOS) were opened to women. However, criticism remained and increased dramatically after allegations of sexual harassment and rape during training at Aberdeen Proving Ground and other sites in 1996. The program remained but in the shadow of numerous studies and investigations by the Congress and other agencies. As TRADOC observed its 30th anniversary, questions concerning women in combat brought renewed doubts about mixed-gender training.

Leader development had been a concern of the Army for many years. However, TRADOC brought that concern into sharper focus and institutionalized leader development programs on several levels. Since 1973, a number of studies had been conducted to investigate the status of leader development in the Army. In the fall of 1987, General Vuono, Army Chief of Staff, tasked Maj. Gen. Gordon R. Sullivan to conduct a formal study of leader development in the Army and to develop a leader development action plan to provide specific recommendations as to the changes needed in the Army leader development process. The action plan, submitted in April 1988, envisioned a program that rested on three doctrinal "pillars"—institutional training; operational assignments; and self-development.

Another major initiative of the 1990s was the Future Army Schools Twenty-one (FAST) effort. It was the mission of a FAST Task Force to "establish an effective and efficient Total Army School System of fully accredited and integrated AC/ARNG/USAR schools that would provide standard individual training and education for the Total Army." One of the Task Force's recommendations was the establishment of TRADOC as sole accrediting authority for the schools, effective January 1993. The major thrust of FAST was the establishment of a regionally-based reserve component school system under the auspices of TRADOC headquarters.

Chapter V
Training and Leader Development

Looking to the Army of the 21st century, TRADOC trainers considered their challenge to be maintaining the essence of the Army's education and training system and the utilization of the best combinations of live, virtual, and constructive simulations and simulators. That strategy was designed to unite the many ongoing training efforts into a clear, coherent vision to produce trained and ready units into the next century. To achieve the Army's objectives in Force XXI to transform the force from an Industrial Age Army into a knowledge and capabilities based power projection Army, TRADOC had concurrently to develop the means and methods to train and sustain the force. To support efforts to have Force XXI reach its maximum potential and to ensure that training was included in every phase of Force XXI development, the TRADOC training community developed Army Training XXI (AT XXI). TRADOC's AT XXI concept incorporated strategic plans for unit training and an integrated plan for the training of battle staff and collective tasks.

An Interim Brigade Combat Team (IBCT, later renamed Stryker BCT, or SBCT) trains at Fort Lewis. The IBCT provided the "test bed" for many of the Transformation initiatives and would form a bridge from the legacy force to the objective force.

In late 1999, the AT XXI concepts began to transition into the body of initiatives known as Transformation. While the new effort built on many of the ongoing AT XXI concepts and projects, some Transformation training initiatives were new. TRADOC developed both Senior and Tactical Leadership Courses to address the transition from a Cold War focus to a full-spectrum focus for the new IBCT at Fort Lewis. The Senior Course, held at Forts Lee, Huachuca, Knox, Benning, and Leavenworth, for key leaders was built on an "adaptive thinking methodology" and included a constructive simulation exercise. The Tactical Leaders Course at Fort Lewis featured training executed relative to the IBCT Organization and Operational concept and was based on the unique differences of how the IBCT would fight.

As TRADOC observed its 30th anniversary, the command's training community remained dedicated to the development of "competent soldiers, capable leaders, and relevant products" and to the shaping of "future Army training in units and institutions utilizing information based technology to support the objective force."

CHAPTER VI

TRADOC IN THE JOINT SERVICE ARENA

Positioning of weapons, equipment and personnel has long been an important function for all the services. Here the Army is loading a navy Military Sealift Command ship.

TRADOC participated in the joint service arena from its beginnings, part of a long history of cooperation in wartime operations and peacetime planning among U.S. ground, air, and sea services. TRADOC's joint service work with Air Force agencies was a continuation of efforts begun shortly after World War II. TRADOC, with its training, doctrinal, and combat developments missions, was the successor to Continental Army Command and worked closely with Headquarters Tactical Air Command (TAC) at Langley Air Force Base until the latter was disestablished in 1992. TRADOC continued its joint work with Headquarters Air Combat Command, responsible for all Air Force combat forces, both tactical and strategic. Beginning in 1973 and developing steadily through the 1970s, cooperation widened in the 1980s to yield important procedural and doctrinal results. The command's cooperative work with the U.S. Marine Corps Combat Development Command, begun in the early 1980s, found points of common interest and agreement. In the post-Desert Storm period, cooperative ventures began with U.S. Navy agencies.

Work with TAC began soon after TRADOC's establishment. General Creighton Abrams, Jr., Chief of Staff of the Army (October 1972-September 1974), and his Air Force counterpart General George S. Brown (August 1973-July 1974) especially promoted cooperation between the Air Force and the Army. Cooperation grew out of the increased interservice cooperation at the operational level during the Vietnam War. Post-Vietnam force reductions and the need to concentrate on war fighting in central Europe also played a role. General DePuy, at Abrams' request, worked to further Air Force-Army dialogue at his own level. A concomitant TAC initiative helped set up the first meeting of the "TAC-TRADOC dialogue" between DePuy and TAC

commander General Robert J. Dixon in October 1973.

As both the Air Force and the Army embarked on ambitious new weapons development efforts in the 1970s and 1980s, joint concepts became increasingly important. Here new F-15s sit on the airstrip at nearby Langley AFB in 1977.

Early discussions involving joint working groups centered on airspace management, reconnaissance and surveillance, and electronic warfare. The early focus was on procedures to improve joint combat capabilities and implement existing doctrine, rather than creating new doctrine. The 1973 Mideast War encouraged greater cooperation because of increased lethality in the air as well as on the ground. In July 1975, TRADOC and TAC established an Air-Land Forces Application Agency (ALFA) dedicated to managing the working groups and mutual projects. In November 1976, a TAC-TRADOC working group produced a joint manual on airspace management, which provided guidance to permit development of appropriate air control procedures on battlefields that promised to be more lethal and complex in the future.

TRADOC's participation in joint Army/Air Force initiatives such as the ALFA, ACRA, and CLIC was, in part, because of the proximity of Langley Air Force Base, seen here in a 1985 aerial photo.

ALFA work was also incorporated into the NATO doctrine of battlefield air interdiction. TAC-TRADOC work resulted in a November 1984 agreement on joint procedures for offensive air support. Joint suppression of enemy air defenses (J-SEAD) was another significant project in cooperation with U.S. Readiness Command; a joint concept was published in April 1981. In December 1982, the three headquarters published the Joint Attack of the Second Echelon, or J-SAK, which delineated attack procedures by level of command for the identification and attack of the enemy follow-on echelons. The project lay at the heart of TAC contributions to the deep attack aspect of the Army's AirLand Battle doctrine published in August 1982. TAC-TRADOC projects expanded in the late 1970s to joint tactical training projects, tests, and

evaluations and led logically to joint doctrine endeavors invaluable to the development of Army doctrine.

Joint agreements did not have the authority of doctrine. Close air support issues were complex and other Air Force missions competed with the Army for air resources. In addition, theater needs and concerns were paramount in any resource decision and could overrule the agreements. Nonetheless, the requirement for ever closer joint cooperation was clear. Operation Urgent Fury, the 1982 joint action by which U.S. forces reversed a communist takeover in the Caribbean island-nation of Grenada, dramatized the inadequacy of U.S interservice communication links.

In April 1983, General Charles A. Gabriel, the Air Force chief, and General Edward C. Meyer, Chief of Staff of the Army, signed a memorandum of understanding in which both services agreed to engage in joint training and exercises based on AirLand Battle doctrine and to continue other interservice efforts. Subsequently this led to inauguration of a major force development process by General Gabriel and General John A. Wickham, Jr., Meyer's successor. That program, "The 31 Initiatives," was heralded as a means to design and field the best affordable AirLand combat force.

Airlift considerations formed a large part of joint USAF/US Army joint doctrine efforts. Here An Air Force C-5 unloads the Army's Apache attack helicopter.

The 31 Initiatives program, which addressed seven basic areas of AirLand combat, included a number of joint projects already under way. Extending to 1988, the program furnished a high-level forum and focus for the solution of difficult bi-service issues. An initiative on intratheater airlift led to the establishment in 1984 of the Airlift Concepts and Requirements Agency (ACRA) at Scott Air Force Base, IL. In January 1986, the two services established the Army - Air Force Center for Low Intensity Conflict, or CLIC, at Langley AFB, VA.

Numbered initiatives included the air defense of U.S. forces; rear area operations and closer integration of rear area defenders; and joint suppression of enemy air defenses. Several initiatives dealt with special operations forces and search and rescue. Other groups of initiatives addressed joint munitions development; combat techniques and procedures for the combined arms battlefield, including battlefield air interdiction, joint target assessment, close air support, and the link between air liaison officers and forward air

controllers. A final group of original initiatives focused on the acquisition of aircraft to meet joint targeting and reconnaissance needs. Among these was the Joint Surveillance and Target Acquisition Radar System (J-STARS), that figured significantly in the Gulf War. Other initiatives were subsequently added, notably including agreement reaffirming Army primacy for rotary-wing combat support and Air Force for fixed-wing support.

An important program element was uniformed service-chief agreement to a combined budgetary submission package for priority programs and establishment of a Joint Assessments and Initiatives Office to institutionalize the joint force development process. In June 1986, U.S. Navy representation was added to that office. Ultimately numbering thirty-eight in all, the initiatives were substantially completed by 1987.

TRADOC's work in joint doctrine proceeded along two tracks. The first was multiservice doctrinal literature published as field manuals together with one or more of the other services. The second was publication of multiservice doctrine. The Goldwater-Nichols Defense Reorganization Act of 1986 assigned to the Chairman of the Joint Chiefs of Staff the responsibility to develop doctrine for joint employment of the armed forces. The newly established Operational Plans and Interoperability Directorate (J7), was responsible to the chairman of the JCS for the management of the joint doctrine development process. Along with the regional commanders-in-chief and the services, the J7 developed a Joint Doctrine Master Plan. TRADOC was a key player in the Army's contribution to the whole JCS development effort.

In 1988, the JCS issued the *Joint Publication System, Joint Doctrine and Joint Tactics, Techniques, and Procedures Development Program*, JCS Pub 1-01. This master regulation specified publications in the major categories of reference, intelligence, operations, logistics, plans, and command, control, and communications (C3) systems. Each had a capstone manual which brought all joint doctrine approved by the four services together.

TRADOC reviewed JP 1, *Joint Warfare of the U.S. Armed Forces*, for the Army and it was published in November 1990 to aid the ongoing operations in the Persian Gulf. This significant manual proceeded from the belief that warfare in the modern era was, in fact, joint warfare. The manual provided the basis for the future joint strategic view in discussions of American military power. For the warfighting level, TRADOC completed JCS Pub 3-0, *Doctrine for Unified and Joint Operations*, a capstone operational manual which was issued by the Joint Staff in 1990.

Cooperative work by TAC and TRADOC during 1989-1990 produced a White Paper, titled Air Attack on the Modern Battlefield. Approved by the two uniformed service chiefs, the paper led to a five-part Air Attack Action Plan, which the Army and Air Force Chiefs of Staff signed to synchronize joint air attack combat planning and procedures. This led to a modernized Air Force tactical air control system - Army air ground system, or TACS-AAGS which was tested and validated in exercises during 1990.

In 1984 TRADOC prosecuted important joint work through ACRA covering multiservice employment of the C-17 aircraft and its related activities which were subjects of cooperative doctrinal and procedural effort between TRADOC, the Military Airlift Command, and the Marine Corps Combat Development Command.

By the late 1990s, doctrine was increasingly joint and Army doctrine manuals reflected that reality. Force projection from the continental United States, which constituted the prime deployment trend of the post-Cold War, was innately joint. Such operations were indeed the purview of the regional commanders-in-chiefs (CINC) of joint forces.

Low intensity conflict (LIC) was a category of engagement short of all out war and consisted of diverse and unconventional military operations. The 1993 edition of FM 100-5, *Operations*, characterized LIC as Operations Other Than War (OOTW). For most of the 1970s and 1980s, low intensity conflict defined the whole realm of operations below high- and mid-intensity conflict. It received considerable attention by TRADOC doctrinal developers from the early 1980s on, as defense policy turned increasingly to that sector of military operations. Increasingly through the decade, low intensity conflict, or LIC, emerged as a major concern. In July 1985, TRADOC joined the Air Force and other agencies in the major Joint Low Intensity Conflict Study that was released in 1986. It summarized previous efforts and became a springboard for subsequent Army and joint doctrinal formulation and further work. The study revealed the definition of LIC was too broad to accurately quantify the problem.

Casualty evacuation often demanded the efforts of more than one service. Here an Air Force C-17 cargo plane unloads an Army ambulance

Planners recognized the major categories of insurgency-counterinsurgency, combating terrorism, peacekeeping operations, and peacetime contingency operations, as well as a host of subcategories, such as counterdrug efforts and disaster relief. The crucial question was when the use of force was appropriate and under what circumstances. In 1986, the Office of the Joint Chiefs of Staff promulgated an official definition of LIC, recognizing its diversity in general terms. But general definitions were only useful in a limited way for the formulation of such multifaceted doctrine. A bi-service LIC manual, *Military Operations in Low Intensity Conflict*, FM 100-20/AF Pam 3-20, was published in December 1990. The manual opened the way for effort on the JCS equivalent, JCS Pub 3-07, *Doctrine for Joint Operations in LIC*, shortly to be retitled *Military Operations Short of War*.

Army oversight of CLIC resided with Headquarters TRADOC until 1990 when it was transferred to the Department of the Army Deputy Chief of Staff for Operations and Plans. TRADOC retained, however, a close relationship with CLIC for assistance in LIC concepts, doctrine, and training matters. In 1996 CLIC was inactivated and its missions dispersed.

Air Force and Army planners believed that low intensity conflict had been a predominant form of engagement for U.S. forces since World War II and that the trend was likely to continue. The LIC doctrine of 1990 spelled out critical differences between low intensity conflict and other conventional operations in such activities as foreign assistance. The doctrine also provided an analysis of insurgencies.

In the ambiguous environment of low intensity conflict, the contribution of military force to settling the strategic aim was supportive and indirect. Political, economic, and psychological objectives shaped the way such operations were executed. What was important was understanding that military force had to be closely coordinated with other responses. One of the most perplexing issues was joint counterdrug operations. Doctrine, procedures, and training to assist the interdiction of the illegal drug flow into the United States were some of the many challenges and projects in which TRADOC, the joint agencies, and subordinate elements of the command were active.

The Mobility and Concepts Agency, or MCA, located at Fort Monroe since 1994, drew together doctrine and other developments for airlift and joint mobility for all the services including a C-17 multiservice employment concept, a study of early-entry deployability, and a study of joint theater airlift capabilities. Other studies of the period dealt with mobile offshore

basing and the deployment sequence of joint reception, staging, onward movement and integration.

The Commander-in-Chiefs Support Program, dating from August 1991, was a tool by which TRADOC-led teams visited annually the headquarters of the regional CINCs to determine their key and pressing developmental demands. The program responded comprehensively to the commander-in-chief in all military development areas. In January 1996, the CINC, U.S. Central Command requested that TRADOC shift the program's emphasis from specifically Army areas of interest to one more joint in nature. Other unified headquarters concurred. Consequently TRADOC restructured the program, redesignating it the CINC Joint Warfighting Support Program. On 1 October 1996, the program was transferred to the Joint Warfighting Center at Fort Monroe.

In October 1999, Atlantic Command, which had been established in 1993 as a regional command with joint authority, was re-designated United States Joint Forces Command (USJFCOM). In addition to its other responsibilities, JFCOM was given the mission of joint training and transformation as outlined in the Department of Defense's Unified Command Plan. As the Army's trainer, TRADOC coordinated closely with JFCOM. In 1999, JFCOM absorbed the Joint Warfighting Center into its Joint Training Center at Suffolk, VA. In 2002 TRADOC participated in Millennium Challenge, the U.S. military's largest joint peacetime exercise to date, which was controlled by JFCOM. TRADOC had the Army lead for Millennium Challenge 02 and coordinated with JFCOM to provide management oversight for the overall

Soldiers prepare for ATEx02, Army Transformation Experiment, part of the Army's participation in Millennium Challenge 2002. MC02 was the largest joint peacetime exercise ever held.

experiment and achieve both joint and Army objectives. TRADOC was also the lead for Army Transformation Experiment 02 in which the Stryker armored vehicle was tested at the National Training Center.

The emphasis on joint operations called for a substantial revision of U.S. Army doctrine in the form of FM 100-5 Operations. In a clear break with the past, the Army manual numbering system was dropped and the joint numbering system was adopted so that the new manual became FM 3.0. The new manual recognized the changes in the nation's geo-strategic position since the end of the Cold War. It clearly addressed the problems of deployment and asymmetric warfare as well as the need for joint cooperation in nearly every aspect of operations, from major theaters of war to humanitarian relief.

As TRADOC commemorated its 30th year, the new commander, General Kevin Byrnes, announced that he was establishing a special relationship with the Joint Forces Command (JFCOM) because "the Army is built to support a joint forces commander." TRADOC, he believed, should operate as the Army's component command with JFCOM. In addition, JFCOM would be a co-sponsor of the Annual Transformation Wargame to be held at the Army War College in April 2003. That wargame would be followed by JFCOM's wargame Pinnacle Impact, scheduled for later in the month. Byrnes emphasized that TRADOC had to increase the command's insistence on joint exercises in the future.

CHAPTER VII

ORGANIZATIONAL STRUCTURE

As a major Army command, TRADOC commanded subordinate elements at installations throughout the continental United States. For most of its first thirty years, TRADOC also commanded most of the installations where its components were located, specifically those whose major mission elements had a training and doctrinal focus. The headquarters span of control reached out to a considerable variety of subordinate commands, many with complex command and support relationships. In 1973, TRADOC headquarters commanded, separately, its own installations, certain TRADOC tenants on those installations, and TRADOC tenants on non-TRADOC installations. In the year of its origin, TRADOC directly commanded 20 major installations, exercising its command through the commanders of the centers resident on 18 of the installations and through the post commanders of 2 installations that were not centers of one kind or another, Fort Monroe, and Carlisle Barracks, Pa. By the summer of 2003, with installation command having passed to the Installation Management Activity (see below), TRADOC consisted of the headquarters, three major subordinate commands, 18 branch schools, 8 military schools and colleges, 4 specialist schools, and a variety of special activities. Support agreements (intra-Army, interservice, interagency) together with memoranda of understanding internal and external to TRADOC, helped smooth the complex administrative, logistical, and funding relationships.

Initial Subordinate Organization

Initially organized on the STEADFAST principles of centralized management and decentralized operations, TRADOC executed its individual training mission through its Army training centers, service schools, ROTC regions and subordinate detachments, and through U.S. Army Reserve schools, training divisions, and brigades under its operational control. The STEADFAST Reorganization had divided and assigned the parts of the Army field establishment in the United States not by geography but by function. In 1973, TRADOC also monitored individual training in Army-operated Department of Defense schools, the Army War College, logistics-related schools operated by the Army Materiel Command, and other non-TRADOC schools

and training centers. The headquarters accomplished its combat developments mission in 1973 through three mid-level functional centers, later designated integrating centers, as well as through the service schools and other combat developments activities.

The 18 installations with centers were actually of three different types. Three functional centers — the Combined Arms Center and Fort Leavenworth, the Administration Center and Fort Benjamin Harrison, and the Logistics Center at Fort Lee — drew together the training and combat developments tasks in their respective functional areas of combat and combat support, personnel administration, and logistics or combat service support. Two of the three functional center headquarters oversaw separate school and combat develop-

The Combined Arms Center (CAC)at Fort Leavenworth served over time as a "functional" center, an integrating center, and a subcommand. One of the Transformation priorities of the TRADOC commander in 2003 was to move some headquarters functions to CAC.

ments activities. The Combined Arms Center commanded the Command and General Staff College, the Combined Arms Combat Developments Activity, and the installation garrison. The Administration Center commanded the Institute of Administration, the Personnel and Administration Combat Developments Activity, and the garrison. The third functional center, the Logistics Center, was initially a combat developments-oriented organization, operating as a tenant on Fort Lee.

Ten more of the initial 18 center-type installations of TRADOC were Army branch or specialist school centers: the Engineer Center and Fort Belvoir, the Infantry Center and Fort Benning, the Air Defense Center and Fort Bliss, the Transportation Center and Fort Eustis, the Signal Center and Fort Gordon, the Armor Center and Fort Knox, the Quartermaster Center and Fort Lee, the Aviation Center and Fort Rucker, the Field Artillery Center and Fort Sill, and the Primary Helicopter Center/School and Fort Wolters.

The six remaining TRADOC center installations were training centers devoted primarily to basic combat and advanced individual training or, at Fort McClellan, to Women's Army Corps basic training. These were the Training Center and Fort Dix; the Training Center and Fort Jackson; the

Training Center and Fort Ord; the Training Center, Engineer and Fort Leonard Wood; the School/Training Center and Fort McClellan; and the Training Center, Infantry and Fort Polk. The commander of the Armor Center and Fort Knox also administered basic combat training.

As with a number of TRADOC Scbools, the Field Artillery School at Fort Sill was a component of the branch center at which it was located.

In 1973, TRADOC had 16 Army branch schools. Eight schools — the Air Defense, Armor, Engineer, Field Artillery, Infantry, Quartermaster, Southeast Signal, and Transportation Schools — were components of their respective branch centers, at which they were located. Three other branch schools were situated on TRADOC installations. The Institute of Administration was subordinate to the Administration Center and Fort Benjamin Harrison and commanded the resident Army Finance School and Army Adjutant General School. The Women's Army Corps Center and School was subordinate to the School/Training Center and Fort McClellan. And the Military Police School was subordinate to the Signal Center and Fort Gordon. The five remaining TRADOC branch schools were tenants on non-TRADOC posts — the Chaplain Center and School at Fort Hamilton, N.Y.; the Intelligence Center and School at Fort Huachuca, Ariz.; the Missile and Munitions Center and School at Redstone Arsenal, Ala.; the Ordnance Center and School at Aberdeen Proving Ground, Md.; and the Signal School at Fort Monmouth, NJ.

Besides the 16 branch schools, TRADOC commanded, in 1973, four schools then designated as specialist — the Aviation School, part of the Aviation Center and Fort Rucker; the Primary Helicopter School and Fort Wolters; the U.S. Army Element, School of Music, Norfolk, Va.; and the U.S. Army Institute for Military Assistance at Fort Bragg, N.C. TRADOC also commanded, through the installations involved, the Command and General Staff College at Fort Leavenworth and the U.S. Army Sergeants Major Academy at Fort Bliss. Department of Defense schools operated by TRADOC were the Defense Information School at Fort Benjamin Harrison, and the Defense Language Institute at the Presidio of Monterey, CA. Initially, TRADOC administered the Army Reserve Officers' Training Corps, or ROTC, program through four ROTC Regions established under the STEADFAST Reorganization.

Headquarters Organization and Reorganizations

Command of TRADOC resided with the commanding general, assisted at his headquarters at Fort Monroe initially by a single deputy commander also resident, a chief of staff, and general and special staff. The general staff consisted of seven deputy chiefs of staff who managed the major elements of the headquarters and exercised staff responsibility for the commanding general to the installations, centers, schools, and other subordinate elements. The seven deputy chiefs of staff (DCS) established in Headquarters TRADOC in 1973 were responsible for Training and Schools, ROTC, Combat Developments, Resource Management, Personnel, Logistics, and Operations and Intelligence. In January 1974 the last named general staff agency was restructured as DCS for Operations, Readiness, and Intelligence. In 1974, "schools" was dropped from the title but not from the purview of the DCS for Training.

TRADOC headquarters saw three significant reorganizations during its first thirty years, exclusive of individual functional adjustments. The major staff reorganizations occurred in 1979, 1990, and 2002-03.

During the 1990's the Deputy Chief of Staff for Base Operations operated from Building 5. Located within the walls of Fort Monroe, this structure was built in 1879 as a barracks for soldiers assigned to coast artillery units.

The 1979 TRADOC headquarters reorganization, implemented provisionally in April and formally on 1 October that year, was prompted by the decision of the TRADOC commander, General Starry to shift resources to the main mission components, the deputies for training, combat developments, and ROTC. Another impelling cause was General Starry's decision to involve TRADOC more emphatically in doctrine development. The new structure retained Deputy Chiefs of Staff (DCS) for Training, Combat Developments, ROTC, and Resource Management. It disestablished DCS for Personnel; Logistics; and Operations, Readiness, and Intelligence. The 1979 action established new DCS for Doctrine, Personnel and Logistics, and Engineer.

In 1990, the headquarters carried out a major staff reorganization in line with general downsizing and consolidation principles following from the reduction trends of the era. A principal change was merger of the offices of the

Deputy Chiefs of Staff for Personnel, Administration, and Logistics; Contracting; and Engineer, together with Surgeon, Chaplain, and other selected staff offices, into a DCS for Base Operations Support. A second principal merger brought the DCS for Doctrine, Intelligence, and Combat Developments together into a DCS for Concepts, Doctrine, and Developments, with transfer of some functions to Headquarters Combined Arms Center. A third major change was establishment of the TRAC commander situated at Fort Leavenworth as DCS for Analysis on the headquarters staff, albeit with a local staff representative. The 1990 reorganization left the offices of the DCS for Information Management, Resource Management, and Training substantially unchanged; the office of the DCS for Training had undergone internal realignments during 1989.

The 1990 recombination of the doctrine office with combat developments did not prove long lasting. Actually most of the former doctrine directorates had remained intact in the larger organization. On 1 October 1992, the office of the DCS for Doctrine was again made separate. The short-lived DCS for Concepts, Doctrine, and Developments was again designated the DCS for Combat Developments.

The effort to transform TRADOC in line with changes to the entire Army began to bear fruit in 2002 (see "TRADOC Organization in 2003," below). Although the command did not anticipate that all of the changes would be complete until 2006, after Congress initiated a new round of Base Realignment and Closure (BRAC) actions, TRADOC's leaders anticipated that the command would look significantly different by the end of 2003.

Installations and Changes, 1973-2003

TRADOC commanded twenty major installations on the day it was established. The command lost one installation with the inactivation of Fort Wolters in June 1974, when its basic tenant, the U.S. Army Primary Helicopter School, was discontinued, eliminating one of TRADOC's specialist schools. Two more TRADOC installations were transferred the following year. In keeping with the Army's mid-1970s goal to rebuild to a 16-division Active Army force, the Department of the Army took steps to activate divisions at Forts Ord and Polk. That move changed the primary mission of those installations from individual training to unit stationing. Departmental orders transferred both posts to the Forces Command on 1 July 1975, though initial entry training continued at both posts through 1976. Thereafter until the late 1980s, TRADOC commanded 17 major installations.

Consolidations in the late 1980s resulted in the loss of two TRADOC posts and the gain of one. All engineer training was consolidated at Fort Leonard Wood, Mo. on 1 June 1988, when the U.S. Army Engineer Center and School was relocated there from Fort Belvoir, Va. On 2 October 1988, the Missouri post was redesignated the U.S. Army Engineer Center and Fort Leonard Wood. Late in the period, plans to move and consolidate TRADOC's Intelligence School, Fort Devens, Mass. with the Intelligence Center at Fort Huachuca, Ariz. by 1994 led to transfer to TRADOC of Fort Huachuca from the U.S. Army Information Systems Command on 1 October 1990. As diminishing Cold War pressures prompted overall Army reductions beginning in the late 1980s, consolidation planning resulted in the phase-out of training at Fort Dix, N.J. in 1992. On 1 October 1992, command of that TRADOC installation passed to the Forces Command, reducing TRADOC posts to sixteen.

TRADOC also continued to follow through on the recommendations of three commissions to close military installations around the country and to consolidate functions at remaining facilities. Chief among these Base Realignment and Closure (BRAC) actions were the closure of Fort Ord, CA and transfer of base operations support to the Presidio of Monterey; the transfer of the Soldier Support Center (SSC) from Fort Benjamin Harrison, IN to Fort Jackson, SC; and relocation of the Chaplin Center and School from Fort Monmouth, NJ to Fort Jackson. Fort McClellan, Alabama, was closed in 1999, necessitating the move of the Military Police and Chemical Schools to Fort Leonard Wood, Missouri, and the WAC Museum (redesignated the Army Women's Museum) to Fort Lee, Virginia. . The US Army Engineer, Chemical, and Military Police Schools became major mission elements of the new U.S. Army Maneuver Support Center (MANSCEN) in 1999. The Commanding General (CG), MANSCEN is dual-hatted as the Commandant, U.S. Army Engineer School. As such, all primary MANSCEN organizations reported directly to him within his role as CG.

On October 1, 2003, nominal garrison command of all Army installations passed to the Installation Management Activity, a new major Army command reporting to the Assistant Chief of Staff for Installation Management. Nevertheless, TRADOC commanders on formerly TRADOC installations remained centrally involved in installation management, particularly as it related to support for TRADOC organizations and activities. Many of the details of installation management had yet to be sorted out as TRADOC approached its thirtieth anniversary.

Intermediate Level Changes, 1973-2003

In September 1977, TRADOC's intermediate-level structure was strengthened to give the three functional centers a stronger integrating role vis-a-vis their associated TRADOC schools. The three-star TRADOC deputy commanding general position moved from Fort Monroe to Fort Leavenworth, and was dual-hatted upon the Combined Arms Center commander. Beyond his local command duties, the deputy commander was to execute specific TRADOC missions. He was to direct, coordinate, and integrate combined arms doctrine, organization, and combat and training development programs for the Army.

In 1980, TRADOC reorganized and redesignated the Fort Benjamin Harrison agency as the U.S. Army Soldier Support Center with much stronger doctrinal and training responsibilities in the personnel, administration, finance, and automatic data processing areas. The action also included replacement of the center's Institute of Administration by a newly renamed U.S. Army Institute of Personnel and Resource Management. Under the new institute were aligned two branch schools, the Finance and Adjutant General Schools, along with two new specialist-type schools, the Computer Science School and the Personnel Management School. The institute was subsequently redesignated, in 1984, the Soldier Support Institute.

In April 1983, the Logistics Center commander at Fort Lee was redesignated the TRADOC Deputy Commanding General for Logistics, with the upgrading of the position to a three-star billet. The Logistics Center remained in tenant status on the installation, which was commanded by one of its subordinate organizations, the U.S. Army Quartermaster Center and Fort Lee. That anomaly was rectified on 3 January 1989 when the TRADOC commander brought the Fort Lee structure in line with that existing at Fort Leavenworth and Fort Benjamin Harrison by establishing the U.S. Army Logistics Center and Fort Lee, with the U.S. Army Quartermaster Center and School becoming the tenant.

The integrating center structure remained in place up to the period of Army drawdown and consolidation in the waning Cold War. On 1 October 1990, TRADOC replaced the integrating-center structure with two major subordinate commands. The Combined Arms Command (CAC) took the place of the Combined Arms Center, with internal reductions and realignments recasting the commanders of the Combined Arms Combat Developments Activity and the Combined Arms Training Activity at that center as deputy CAC commanders for combat developments and for training. The second major action

merged the Soldier Support Center with the Logistics Center as the Combined Arms Support Command (CASCOM) headquartered at Fort Lee. At that time, the Soldier Support Center's Soldier Support Institute was eliminated as an administrative organization layered between the center and the resident schools.

In 1993, as a result of budget reductions and a changed world situation, TRADOC launched a "reengineering" initiative intended to meet these challenges. Part of the reengineering effort involved TRADOC headquarters assuming the integration function traditionally held by the Combined Arms Command (CAC) and the Combined Arms Support Command (CASCOM). That action necessitated several organizational and functional changes in both CAC and CASCOM, most of which were completed by the end of 1994. The reorganization shifted some functions and personnel from Fort Leavenworth to other TRADOC installations. In addition, CAC's combat development, doctrinal concepts, and integration functions moved to TRADOC headquarters. The CASCOM reorganization included the centralization of combat developments, training developments, proponency and evaluation and standardization at Headquarters CASCOM.

Schools

Under the STEADFAST reorganization, and including branch and specialist schools, TRADOC commanded 24 schools. As previously noted, the Primary Helicopter School at Fort Wolters, Tex. was discontinued on 30 June 1974. TRADOC had inherited two signal schools from CONARC, the Signal School at Fort Monmouth, N.J., and the Southeastern Signal School at Fort Gordon, Ga. On 1 July 1974 those schools were redesignated, the Monmouth organization becoming the Communications-Electronics School, and the Gordon organization redesignated the Signal School, a step in the consolidation of all signal training at the southern post. That occurred two years later when, on 31 October 1976, the Communications-Electronics School was discontinued. The Chaplain School, located at Fort Hamilton, moved to larger facilities at Fort Wadsworth, N.Y., a subpost under the jurisdiction of

TRADOC's Chaplain's School had been located at a number of sites. Starting at Fort Hamilton, NY, the school moved to Fort Wadsworth, NY, in 1974, to Fort Monmouth, NJ, in 1979, and finally, in 1995 to Fort Jackson, SC.

Fort Dix, on 15 August 1974, where it was situated until Army planning to close that station prompted its relocation to Fort Monmouth, N.J. on 1 August 1979. The Military Police School, initially at Fort Gordon, was relocated to Fort McClellan, Ala. on 1 July 1975, a move necessitated by the pending consolidation of signal training at Fort Gordon noted earlier.

A new school, established on 1 July 1975 at Fort Ord, Calif., to inculcate and teach organizational skills, was the Organizational Effectiveness Training Center. That school was redesignated the Organizational Effectiveness Center and School on 2 April 1979. After ten years in existence, the school was closed on 1 October 1985. On 1 October 1976, Department of the Army planning was executed for transfer of the U.S. Army Security Agency Training Center and School at Fort Devens, Mass. into the TRADOC school system. The new TRADOC school was titled the Intelligence School, Fort Devens, subordinate to the commandant of the Intelligence Center and School at Fort Huachuca.

Of historic moment was the discontinuance of the Women's Army Corps Center and School at Fort McClellan. That event, carried out in 1978, was a step in the Army's move toward integrating the training and schooling of women soldiers into the standard system. The first post-Vietnam move in the direction of a larger chemical training program occurred with the redesignation on 30 November 1976 of the Ordnance Center and School at Aberdeen Proving Ground, Md. as the Ordnance and Chemical Center and School. As plans unfolded, the Chemical School was moved and established as a separate school at Fort McClellan on 14 September 1979.

After the Women's Army Corp School at Fort McClellan closed in 1977, male and female soldiers began to train together in non-combat Advanced Individual Training.

Changes continued in the 1980s. The Aviation School, historically a specialist school, became a branch school following designation of Army aviation as a branch by the Secretary of the Army on 12 April 1983. Concomitant expansion of the aviation logistics mission prompted TRADOC to establish an Aviation Logistics School, co-located with the Transportation School, at Fort Eustis on 1 October 1983. Shortly thereafter, on 10 January 1984, those two schools were merged as the Transportation and Aviation Logistics Schools. That arrangement continued until 1988 when, on 1 October of that year, TRADOC brought the Aviation Logistics School under the direct authority of the Commander, U.S. Army Aviation Center, while leaving it in

place at Fort Eustis. A similar realignment occurred with placement of the Missile and Munitions Center and School at Redstone Arsenal, Ala. under the commander of the Ordnance Center and School at Aberdeen Proving Ground. On 3 August 1984, the Redstone facility was realigned and retitled the Ordnance Missile and Munitions Center and School.

The Institute for Military Assistance at Fort Bragg, N.C. was, on 1 October 1983, redesignated the JFK Special Warfare Center, as a result of a special operations forces (SOF) realignment of that year. The JFK Special Warfare Center was in essence a branch school, but was categorized as a TRADOC special activity. Further SOF realignments in 1990 transferred the TRADOC school to the U.S. Army Special Operations Command at Fort Bragg, by orders of 20 June. TRADOC gained the U.S. Army School of the Americas (SOA) when provisions of the Panama Canal Treaty of 1977 necessitated the transfer of that U.S. Army Security Assistance Agency component, located at Fort Gulick, Panama, to the continental United States. The school was relocated to Fort Benning and transferred provisionally to TRADOC on 16 December 1985 and formally on 16 April 1986. On 17 January 2001, the SOA was inactivated and became the Western Hemisphere Institute for Security Cooperation aligned directly under the Secretary of Defense with TRADOC as its executive agent. Movement of the Engineer School from Fort Belvoir to Fort Leonard Wood on 1 June 1988, coincident with consolidation of engineer training, has been noted. In 1988, following earlier designation of the Signal Center as proponent for the information mission area, the Computer Science School, a component of the Soldier Support Institute at Fort Benjamin Harrison, was transferred to Fort Gordon.

TRADOC acquired an additional college when, following Department of the Army decisions to develop advanced training for Army civilians, the Army Management Staff College opened initial courses in July 1986 in Baltimore, Md. TRADOC assumed proponency for the college, and in August 1987 the Under Secretary of the Army selected Fort Belvoir as the school site. Following assignment of a full-time commandant, classes were convened at the new site in 1990. A second college institution acquired—from the Army Materiel Command—on 1 October 1991, was the Army Logistics Management College at Fort Lee. In July 2002, the two schools subordinate to the Ordnance Center and Schools one at Redstone Arsenal, AL and the other at Aberdeen Proving Ground, MD were renamed, respectively, the Ordnance Munitions and Electronics School and the Ordnance Mechanical Maintenance School.

Training Organizations

TRADOC organizations dedicated to initial entry training and to training support to the troop commands saw considerable evolution. Throughout most of the period, a large portion of basic combat and advanced individual training was conducted by the Army training centers, or ATC, at the 3 installations devoted specifically to that mission, Forts Dix, Jackson, and Leonard Wood. But initial entry training was also conducted at ATC at some school installations, including WAC training at Fort McClellan, and male soldier training at Forts Knox, Benning, Gordon, Sill, and Bliss. Through its installations, TRADOC commanded 7 ATC in 1973, a number that rose to 11 in 1976 when one station unit training was phased in at several posts. One station training enabled trainees to pass directly from basic to branch-related advanced individual training, saving both time and travel. Transfer of Forts Ord and Polk to the Forces Command in July 1975 led to phase-out of the ATC there by the end of 1976. The number of ATC dropped to 8 in the early 1980s and was maintained at that level until the closeout of training at Fort Dix in 1992.

TRADOC also commanded noncommissioned officer academies and drill sergeant schools through several of its installations, as well as an officer candidate school at Fort Benning.

The two specialized training agencies under TRADOC jurisdiction in 1973, the Combat Arms Training Board at Fort Benning and the Training Aids Management Agency at Fort Eustis, were joined on 1 August 1974 by a new Training Devices Requirements Office at Fort Benning, responsible for Army-wide training device requirements. The Fort Eustis agency was redesignated the Army Training Support Activity on 1 July 1975. The training support pro-gram at Fort Eustis was expanded and consolidated in a retitled Army Training Support Center on 1 July 1976.

A Training Management Institute was also established at Fort Eustis, on 16 July 1975, to further training improvements through workshops and special projects. That institute was redesignated the Training Developments Institute on 2 May 1977. A further change was the combination of the Logistics Training Board at Fort Lee and the Combat Arms Training Board at Fort Benning into a redesignated Army Training Board on 1 October 1977, situated at Fort Eustis. Both the Training Developments Institute (to be retitled the Training Technology Agency) and the Army Training Board eventually moved to Fort Monroe. The former was inactivated in 1988 and the latter in 1989.

Test Organizations

There were important early additions to TRADOC's experiment and test capability that served the command in prosecution of its combat developments mission into the late 1980s. In August 1974, the major test facility at Fort Hood known as MASSTER was transferred to TRADOC from FORSCOM. Also transferred to TRADOC were five test boards of the Army Materiel Command's subordinate Test and Evaluation Command. The test boards gave TRADOC, as the user representative, control over the means for early-stage conceptual and experimental work in the fields of airborne, communications, electronics, field artillery, infantry, armor, engineer, and air defense. These boards were subsequently joined by an aviation Board and an intelligence and security board. As the testing mission grew, TRADOC established a headquarters Deputy Chief of Staff for Test and Evaluation (DCSTE) in December 1980. That position was eliminated in March 1985 and the function returned to the deputy Chief of Staff for Combat Developments.

TRADOC Organization in 2003

As the command celebrated its thirtieth anniversary, TRADOC continued as a major command, commanded by General Kevin Byrnes, a four-star general officer. Byrnes' senior staff included seven deputy commanding generals (including CAC and CASCOM but not IET) and the command sergeant major. One of the deputy commanders—the Deputy Commanding General, TRADOC—was a re-established position. As noted above, the position had existed from 1981 to 1989, with its incumbent being the Commanding General's primary assistant in executing the training mission. In 1989 the functions of the position were transferred to the Office of the Chief of Staff. In 1995, the position was re-established as a DCG for Futures. The TRADOC DCG-Futures' primary role was to develop and integrate future concepts and requirements for doctrine, training, and combat developments for Army XXI and later for Transformation, and to operate with joint, combined, multinational, and interagency organizations. In the fall of 2002, that position became the dual-hatted TRADOC DCG/Chief of Staff.

General Eric Shinseki with General John N. Abrams at the change of command to General Kevin Byrnes, 7 November 2002.

Late in 2002, the position of Deputy Commanding General-IET created in 1997, became dual-hatted with the Army's new Accessions Command. The mission for the DCG-IET was to ensure that initial entry training remained challenging, safe, relevant, realistic, and executed to Army standards. Originally, he had oversight for IET policies and programs encompassing the entire process of bringing soldiers into the force from recruitment to the completion of AIT. With the establishment of Accessions Command the recruitment function became the responsibility of the new command. Another major change was the establishment of a TRADOC DCG-Transformation at Fort Lewis as commander of the Brigade Coordination Cell of the Interim Brigade Combat Teams established there as a "test bed" for Transformation initiatives.

Beginning in 1973, TRADOC administered the Army Reserve Officers' Training Corps (ROTC) with headquarters at Fort Monroe. In 1986, the ROTC became the U.S. Army ROTC Cadet Command as a subcommand under TRADOC. In 2002, the Cadet Command became part of the new U.S. Army Accessions Command.

The Deputy Commanding General, Combined Arms, physically located at Fort Leavenworth, Kan., and the DCG, Combat Service Support, located at Fort Lee, Va., had oversight for near-term and mid-term training in their respective realms. The Deputy Commanding Generals for the Army National Guard and for the Army Reserve, both headquartered at Fort Monroe, were responsible for integrating doctrine, training and combat development throughout the reserve components.

Also in 2002 the Deputy Chiefs of Staff (DCS) for Doctrine, for Combat Developments, for Training and for Intelligence received new titles. The DCSDOC became the Deputy Chief of Staff for Doctrine, Concepts, and Strategy. Training now fell under the Deputy Chief of Staff for Operations and Training. The DCS for Combat Developments became the DCS for Developments to bring the title more in line with Transformation efforts. The Directorate of Information Management came under the purview of the DCS for Command, Control, Communications and Computers (DCSC4). Ongoing in 2003 was the establishment of Fort Monroe as a regional headquarters of the Department of the Army Transformation Installation Management program. The Deputy Chief of Staff for Base Operations Support was

disestablished and replaced by the DCS for Personnel, Infrastructure, and Logistics. As noted above, TRADOC Transformation continued apace as the Thirtieth Anniversary Commemoration approached. In addition to the headquarters organization, by the spring of 2003 TRADOC had 18 branch schools, 8 military schools and colleges, and 4 specialist schools.

In 2003, TRADOC restated its mission: TRADOC trains the Army's soldiers and develops leaders, supports training in units, develops doctrine, establishes the Army's standards, recruits the force, and builds the future Army. Thus the central missions of TRADOC—training, doctrine, combat developments—would continue. Meanwhile the command's internal organization had changed and would continue to change. The intermediate headquarters (CAC and CASCOM) would assume a larger role, including their original function of integration. TRADOC headquarters would serve as a "super-integrator" or umbrella organization. The distribution of missions continued, but it was clear that some form of consolidation of functions and responsibilities lay in the future.

CHAPTER VIII

INTERNATIONAL ACTIVITIES

Since its establishment in 1973, TRADOC'S program of international relations had greatly expanded. Included in the command's responsibilities was the coordination of a quadripartite, or ABCA (America, Britain, Canada, and Australia) forum, and NATO standardization and interoperability programs. In addition, beginning in 1975 with the German Army, TRADOC began a series of bilateral army-to-army staff talks with other countries. By 2003 there were staff talks with eleven nations on a regular basis. In addition, TRADOC represented the U.S. Army in more informal discussions with the Israeli Defense Force. International activities, including work with selected armies of Latin American nations, increased greatly. As part of the TRADOC liaison network, TRADOC officers served abroad in Germany, the United Kingdom, France, Spain, Italy, Turkey, Israel, Korea, Japan, and Canada. At the same time, 15 nations sent liaison officers to TRADOC headquarters. Of long-standing were the liaison arrangements with Australia, Brazil, Canada, France, Germany, Israel, Italy, Japan, Korea, the Netherlands, Spain, Turkey, and the United Kingdom. More recent additions were representatives from the Czech Republic and Greece.

COL James Rosenblatt represents TRADOC as the British, French, and German liaison officers lay wreaths at the Victory monument at Yorktown, VA.

Standardization and Interoperability

Upon its establishment, TRADOC continued CONARC's coordination of the service schools' participation in international standardization programs held under the auspices of NATO and ABCA. NATO meetings included separate panel and working party conferences relating to a wide variety of military topics including weapons, interservice tactical air operations, mobility, NBC defense, and intelligence. ABCA meetings—more doctrinally oriented than the NATO meetings—related, among other things, to standardization in the fields of command and control, aviation, air defense, communications, and quality assurance.

In 1976, TRADOC assumed Department of the Army planning and coordination responsibilities for four NATO and four ABCA "working parties." The new ABCA responsibilities included the air defense, armor, infantry, and surface-to-surface working groups. The NATO responsibilities were for the movements and transport, and rail movement and transport working parties; for the land based air defense weapons panel; and for the NATO helicopter interservice working party. TRADOC provided delegates and data to the subgroups of both those forums. Actions in TRADOC's purview that were agreed to by the national parties and cleared by the review bodies were implemented by TRADOC upon Department of the Army approval.

During FY 1977, a new Defense Department emphasis on developing standardized equipment with the NATO allies began to be felt at TRADOC. Prompted as part of that defense policy was the related notion of seeking "interoperability" between like weapons or pieces of equipment that were being developed separately by the United States and an allied nation. The issue of a "two-way" street in weapons development was sensitive, and usually meant that the United States would have to adopt more allied-built weapons into its own arsenal if the principles of standardization and interoperability were to have any meaning. The Nunn-Culver Amendment to the 1977 Department of Defense appropriation formally committed the U.S. to standardization, or at least interoperability, with its allies.

During the 1980s, it became evident that doctrine to guide U.S. Army operations with allied forces was an important need. Though the writing of up-to-date Army doctrine and joint doctrine were priority efforts by necessity, it was also true that future wars of any larger dimension would likely be allied enterprises. Some alliance-specific doctrine existed, such as the land force tactical doctrine manual (ATP-35A) for NATO, and in the current U.S. Army

FM 100-5, Operations, some chapters were devoted to combined army operations. Also already published in a test version was JCS Pub 3-0, Doctrine for Joint Operations. But there was no formal and general combined armies operations field manual in the U.S. Army inventory. Beginning in early 1989, TRADOC undertook the development of FM 100-8, Combined Army Operations. Doctrine writers completed the preliminary draft of FM 100-8 in September 1992 and sent it to the TRADOC Deputy Chief of Staff for Doctrine for approval. After some revision, it was resubmitted in December. Over the next five years, the draft manual underwent significant revision, and its name was changed to The Army in Multilateral Operations. FM 100-8 was finally published on 24 November 1997.

Bilateral Staff Talks

By virtue of its Army-wide doctrinal, combat developments, and training missions, TRADOC acted as the U.S. Army's executive agent for bilateral staff talks and exercised multilateral contacts with allied and friendly armies around the world. Those significant activities were carried out from the headquarters at Fort Monroe. Beginning in 1975, with the first formal staff talks with the army of the Federal Republic of Germany, the level of activity in bilateral army-to-army dialogue increased to include staff talks with armies of the United Kingdom, France, Italy, Spain, Canada, Brazil, Korea, Australia, Israel, and Japan. The primary objective for talks among formally allied armies was the enhancement of the ability to operate together with common understanding of the battlefield and interoperable equipment with which to fight. Further, in discussions with friendly countries, TRADOC aimed at developing instructive exchange on broader areas of interest. In addition, over the thirty year period, TRADOC increasingly carried out cooperative activities with the armies of several Latin American countries. In the absence of formal talks, informal bilateral exchanges were common, as were visits by senior officers of the allied, and by some non-allied armies to TRADOC headquarters, centers, and schools, and numerous visits by senior TRADOC officials to other armies.

Germany

Agreement between the two major land armies of NATO on tactical concerns was not a new idea, though before 1975 it had received little emphasis. Every eighteen months, the two armies conducted a tactical concepts symposium, held at the Department of the Army staff and German operations staff level. Specific results, however, had been few. In 1974, officials of both armies

came to believe that more intensive cooperation in the areas of equipment and tactics, by means of regular staff level discussions, was needed. As a result, TRADOC commander DePuy recommended that annual meetings be established between the U.S. Army Chief of Staff and the German Inspector of the Army.

A more formal apparatus for the talks began to take shape in the spring of 1975. Agreed to were regular formal discussions to promote a common understanding of concepts, tactics, and system requirements in selected areas and the review of weapons and equipment toward the goal of interdependent development. Between formal talks, a bilateral steering committee would support the major talks. TRADOC's Assistant Deputy Chief of Staff for Combat Developments headed the U.S. steering committee. The exchanges were inaugurated at Bonn in October 1975 and at Fort Monroe the following June. As the personal representative of the Chief of Staff of the Army, the TRADOC commander led the U.S. delegations. The discussions rapidly established a solid and productive exchange that set in motion a mechanism of basic conceptual agreements that brought agreement on the first five concept papers. Brought into harmony, too, by the exchange were the keystone U.S. and German tactical manuals, FM 100-5, *Operations*, and the German Army Service Regulation 100-100, *Command in Battle*.

By that time, the exchange was aided by a comprehensive TRADOC-German Army liaison network. Besides TRADOC liaison officers at the German Army Office at Cologne and German officers at TRADOC headquarters, each stationed liaison officers at the other's equivalent major schools—armor, aviation, air defense, field artillery, engineer, infantry, signal, ordnance-maintenance, NBC, and staff colleges. In addition, TRADOC had a liaison officer at the German Transportation-Quartermaster School, and German officers were assigned to the U.S. Army Missile and Munitions School, the U.S. Army Intelligence School, and U.S. Marine Corps and Army Materiel Command headquarters. TRADOC had liaison officers at USAREUR headquarters in Heidelberg as well.

United Kingdom

In February 1978, the U.S. Army inaugurated formal bilateral talks with another of its NATO allies—the United Kingdom. During a visit to that country in April 1977, General DePuy's discussions with the British Directors of Army Training and Combat Developments established a clear British interest in staff talks, and the groundwork was laid. As with the Germans,

materiel and tactical doctrinal concepts were the focus of British interest. The British also showed an early interest in training issues. The British preference for a combat developments framework resulted in a link between the British Army Combat Developments Directorate and the TRADOC Deputy Chief of Staff for Combat Developments. The two sides anticipated discussions on scientific-technological trends, materiel requirements, the forward defense, the corps and the air-land battle, division restructuring, and training developments. As the U.S.-United Kingdom exchange matured, training topics were increasingly added to the agendas. The goal was to exchange information on training concepts, methods, and technology to enhance training and to promote the goal of coordinated operations between the two armies. Unlike the German talks, the British talks would be semiannual rather than annual.

France

In September 1979 the first staff talks with France, another NATO ally, took place at Fort Monroe. The U.S.-French talks were to take place every six to nine months.. Because the French representatives objected to a structure as formal as that of the German exchange, the U.S.-French talks were based on two themes commonly agreed upon in advance, with each side choosing its own topics within the theme. It was also understood by both parties that, unlike the German and British exchanges, the talks with the French were for informational purposes only. The U.S.-French talks held in the United States were usually held away from TRADOC headquarters in order to give the U.S. delegation an opportunity to demonstrate its rapidly advancing technology. TRADOC considered the French talks to be particularly important, since France remained pivotal in the defense structure for Western Europe, while remaining outside the NATO military structure.

Italy

In December 1984, the Italian government proposed initiation of formal staff talks between the armies of Italy and the United States, and initial discussions were held in Rome the following year. The talks with the Italians were structured much like those with the Germans and British, with a steering committee and expert working group arrangements. The topics and issues were many of the same as those discussed with the other allies. Of particular interest to the TRADOC delegation were the Italian briefings on mountain training and warfare.

Spain

Annual talks with the Spanish Army began in 1987. Each side stood to gain from formal talks. For the Spanish Army, the forum brought accessibility to its U.S. counterpart. Because of the presence of United States Air Force and Navy units in Spain, the Spanish Air Force and Navy enjoyed much more direct access to information on U.S. doctrinal, weapons, and interoperability issues than had the Spanish Army. The U.S., for its part, sought to underscore the strategic importance of Spain and to bring exchanges into balance with other NATO nations. Before the initial talks in Madrid in September 1987, the Spanish had agreed to include the widest range of topics possible, placing no restrictions on the focus of discussion.

Canada

Beginning in 1978, the armies of the United States and Canada had begun a series of programs to exchange information and viewpoints on doctrinal questions. The program was not considered to be on a par with the staff talks with other armies, which were regarded as vehicles to promote concerted action of interoperability. It was not until November 1986 that formal staff talks between the two countries began. The Canadian-U.S. talks complemented Canada's many defense links to the United States through NATO and the ABCA forum. Concern with the defense of North America, the NATO mission, and a traditional participation by Canada in global peacekeeping operations gave the two armies many common outlooks and mutual interests. Though a small army, the Canadian force was focused not only on territorial defense and peacekeeping, but on commonwealth contingencies, and more recently on Latin America.

Brazil

The first staff talks with the Brazilian Army were held in March 1984. Over the next years, the talks focused primarily on doctrinal and organizational issues, including U.S. assistance in force development, to include incorporation of a rotary wing aviation arm and introduction of electronic warfare into force structure and training. The Brazilians were also intensely interested in low intensity conflict, given current political instabilities in Central and South America. TRADOC regarded the bilateral talks with the Brazilian Army as having potential for cooperative work in all functional areas and as the cornerstone of a maturing relationship.

Republic of Korea

In July 1983, the Korean Army proposed direct talks on doctrine, weapons and materiel development, and training with the U.S. Army. The first talks were held in Taejon, Korea at the Korean Army Training and Doctrine Command headquarters in April 1984. The commonality of interests of the two armies, partners in a specifically bi-national defensive alliance, was of long standing. The 1984 talks and subsequent discussions resulted in expanded opportunities for training the Korean Army in areas such as electronic warfare and hazardous munitions handling, and increased cooperation on doctrinal and force development issues.

Japan

Relatively low level exchanges with the Japanese Self Defense Forces had been occurring with some regularity since the late 1970s, but it was not until 1986 that formal talks were begun. Most of the other allied staff talks had focused on organizational issues in initial discussions, but because the Japanese and U.S. armies were well familiar with each other's organization, the first talks with the Japanese focused on training issues. Notwithstanding Japan's enforced limited military role since 1945, few military relationships were potentially more critical than that between the world's two largest industrial powers.

Australia

The newest of the formal staff talks were those with the Australian Army, approved by the Army Chief of Staff in mid-2001. The Head of Delegation for the Australian talks was the TRADOC Deputy Commanding General for Transformation, in part because the Australian Army has a medium weight brigade similar to those at Fort Lewis. The U.S. Army hosted the first talks in November 2001 at Fort Lewis; the Australian Army hosted the second round of talks at Sydney in November 2002. More talks were scheduled for November 2003. Talks addressed homeland security, battle command systems, logistics, and joint exercises, among other topics.

Israel

As noted, informal talks between the senior leaders of the U.S. Army and the Israeli Defence Force had been conducted since the establishment of TRADOC in 1973. In the mid-1980s those talks became more institutional-

ized if less formal than those with the NATO allies. Over time, the most prominent topics were the conduct of military operations in an urban environment and maneuver tactics and strategy.

Latin America

In addition to formal staff talks, TRADOC also carried out less formal "subject matter expert" exchanges with several Latin American countries beginning in the mid 1980s.
The first Peruvian exchange in December 1985 was the first formal contact between the armies since 1965. First exchanges with the Chilean and Argentinean armies occurred in October 1986. Late in 1988, General Maxwell R. Thurman, TRADOC commander, laid the groundwork for wider TRADOC subject matter expert activity in Latin America during a trip to Panama, Peru, and Colombia, as well as to Brazil. The Thurman visit resulted in agreement with the Guatamalan army for subject matter expert exchanges in the future. In addition during 1990, TRADOC added the Venezuelan Army to its list of SME exchanges.

U.S, Chilean, and Argentine soldiers train together in South America. TRADOC relations with South and Central American armies has strengthened since the command's founding in 1973.

SUGGESTIONS FOR ADDITIONAL READING

Army Green Books (October issues of Army magazine, 1973-2002. These issues include articles by all the TRADOC commanders,as well as information on the command's personnel.

DePuy, William E. *Changing an Army: An Oral History of General William E. DePuy, USA Retired*. Conducted by Romie L. Brownlee and William J. Mullen III. United States Army Military History Institute and United States Army Center of Military History. Washington, D.C.: Government Printing Office.

Chapman, Anne W. *The Army's Training Revolution 1973-1990: An Overview*. TRADOC Historical Study Series. Office of the Command Historian. United States Army Training and Doctrine Command, 1991.

_____. *The National Training Center Matures 1985-1993*. TRADOC Historical Monograph Series. Military History Office. United States Army Training and Doctrine Command, 1997.

_____. *The Origins and Development of the National Training Center 1976-1984*. TRADOC Historical Monograph Series.Office of the Command Historian. United States Army Training and Doctrine Command, 1992

Dastrup, Boyd L. *King of Battle: A Branch History of the U.S. Army's Field Artillery*. TRADOC Branch History Series. Office of the Command Historian. United States Army Training and Doctrine Command, 1992.

_____. *The US Army Command and General Staff College: A Centennial History.* Leavenworth, Kansas: J.H. Johnston III and Manhattan, Kansas: Sunflower University Press, 1982.

Gorman, Paul F. *The Secret of Future Victories*. Institute for Defense Analyses Paper P-2653, February 1992. Contains asection focused on DePuy's vision of the future Army.

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

Hofmann George F., and Donn A. Starry, Eds., *Camp Colt to Desert Storm: The History of U.S. Armored Forces* (University Press of Kentucky, 1999).

King, Benjamin, Richard C. Biggs, and Eric R. Criner. *Spearhead of Logistics: A History of the U.S. Army Transportation Corps.* U.S. Army Transportation Center, Fort Eustis, Virginia, 1994.

Suggested Reading

Moenk, Jean R. *Operation Steadfast Historical Summary: A History of the Reorganization of the U.S. Continental Army Command (1972-1973)* . Head quarters, U.S. Army Forces Command, Fort McPherson, Ga. and Headquarters, U.S. Army Training and Doctrine Command, Fort Monroe, Va., 1974.
Office of the Command Historian, United States Army Training and Doctrine Command. *TRADOC Support to Operations Desert Shield and Desert Storm: A Preliminary Study.* TRADOC Historical Study Series, 1992.Raines, Rebecca Robbins. *Getting the Message Through*: *A Branch History of the U.S. Army Signal Corps*. Center of Military History, United States Army, Washington, D.C, 1996.

Richardson, William R. "FM 100-5: The AirLand Battle in 1986," Military Review, March 1986, pp. 4-11.

Romjue, John L. *The Army of Excellence: The Development of the 1980s Army*. TRADOC Historical Monograph Series. Office of the Command Historian. United States Army Training and Doctrine Command, 1993.

_____. *American Army Doctrine for the Post-Cold War*. TRADOC Historical Monograph Series. Military History Office. United States Army Training and Doctrine Command, 1996.

_____. *From Active Defense to AirLand Battle: The Development of Army Doctrine 1973-1982*. TRADOC Historical Monograph Series. Historical Office. United States Army Training and Doctrine Command, June 1984.

_____. *A History of Army 86*, Vol. I, Division 86: The Development of the Heavy Division, and Vol. II, The Development of the Light Division, The Corps and Echelons Above Corps.Fort Monroe: Va.: Historical Office, HQ TRADOC, 1982.

_____, Susan Canedy, and Anne W. Chapman. *Prepare the Army for War: A Historical Overview of the Army Training and Doctrine Command,1973-1993* . TRADOC 20th Anniversary Commemoration. Office of the Command Historian. United States Army Training and Doctrine Command.

Weigley, Russell F. *History of the United States Army*. Enlarged edition. Bloomington, Ind.: Indiana University Press,1984.

Weinert, Richard P. and Robert Arthur. *Defender of the Chesapeake: The Story of Fort Monroe*. Shippenburg, Penn.: White Mane Publishing Co., third revised edition, 1989.