TRADOC Historical Monograph Series

THE ARMY OF EXCELLENCE

THE DEVELOPMENT OF THE 1980s ARMY

By John L. Romjue



Office of the Command Historian
United States Army Training and Doctrine Command

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John L. Romjue

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TRADOC Historical Monographs are published by the Office of the Command Historian, U.S. Army Training and Doctrine Command. These studies of training and leader development, and doctrinal and combat developments subjects provide historical perspective to support the Command's mission of preparing the Army for war and charting its future.

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General William R. Richardson
General Maxwell R. Thurman
Lieutenant General Carl E. Vuono
Major General Leonard P. Wishart III

Cover Photo: Bradley Fighting Vehicles trailed by a column of Abrams Tanks at the Army National Training Center, Fort Irwin, California. Photo by Greg Stewart by permission

Foreword

The Office of the Command Historian has prepared this TRADOC Historical Monograph to provide planners, action officers, and researchers in the Army Training and Doctrine Command and in the Army at large with a critical, documented evaluation of the design and development of the 1980s Army. *The Army of Excellence* is the third in a series of John L. Romjue's volumes recording TRADOC's force design work since the 1976 Division Restructuring Study of General William DePuy. The first two volumes, *A History of Army 86*, Vol. I, *The Development of the Heavy Division*, and Vol. II, *The Development of the Light Division, the Corps, and Echelons Above Corps,* detailed the major Army 86 designs through the end of 1980. This volume summarizes the completed Army 86 design work and examines the origins and the development of the Army of Excellence, the AOE, during 1983, including the conceptual formulation of the new light infantry division. The volume additionally describes the Army's subsequent certification of that division and the transition of the light and heavy divisions to their new structures, the programming and documenting of the effort, the debate of the controversial light division, and the evolution of heavy/light force concepts in the late 1980s.

The originator and dominating influence upon the AOE was General John A. Wickham, Jr., Chief of Staff of the Army from 1983 to 1987, whose difficult decisions affecting the light and heavy divisions, while controversial in some degree, met the Army's twin strategic challenges of the early 1980s: the defense of NATO Europe, and the provision of rapidly deployable light infantry for force packages needed to defend U.S. interests worldwide. It was the achievement of the AOE that, within the limited resources available, it provided that balanced force at an acceptable risk. This study attempts to present for future Army planners the record and results of that significant contribution to the security of the nation and to the ending of the Cold War.

Fort Monroe, Va
April 1993

HENRY O. MALONE, JR.
Chief Historian

The Author

John L. Romjue was born in Washington, D.C., served on active Army duty in Germany, and received baccalaureate and master's degrees in history at the University of Missouri. He completed further graduate study in modern European history as a Fulbright Scholar at the University of Heidelberg, and at the University of California, Berkeley. He is the author of *A History of Army 86* and *From Active Defense to AirLand Battle: The Development of Army Doctrine, 1973-1982* in addition to historical monographs in the area of Army field experimentation. He has contributed articles, book reviews, and short stories to military and public opinion journals and literary magazines. Before joining TRADOC in 1974, Mr. Romjue served as a historian for the Naval Facilities Engineering Command and as the Command Historian of the Army Combat Developments Experimentation Command. Since 1985, he has been Chief, Historical Studies and Publication, Office of the Command Historian, U.S. Army Training and Doctrine Command.

Author's Preface

Any major Army tactical reorganization is implicitly a complex subject of inquiry. The symbolized and numbered structure of lines and boxes that is the traditional representation of an organization of tactical units is deceptively simplistic. Such a chart, depicting a major fighting unit, provides no more than a glimpse of its power capability, its control and communications mechanisms, its individuated and specialized fighting elements, or its logistics infrastructure. Yet it is this vastly complex and diversified formation that unifies the composite of the tactically trained men and equipment it contains to furnish the basic tool of warfare. Organization is the ordering factor in the dynamic of battle and the chaos of war.

This study focuses on the origins and execution of one such major reorganization by the U.S. Army of its tactical units — the Army of Excellence, or AOE. That effort of 1983 culminated in the approved organizations of the Army of the 1980s, the Army with which the United States conducted combat operations in Panama in 1989-1990 (Operation Just Cause) and in the Persian Gulf in 1990-1991 (Operations Desert Shield and Desert Storm).No major institutional event evades controversy. The Army of Excellence was an Army built upon dilemmas rooted in the political and strategic currents of the early 1980s. Those omnipresent realities — a powerful and dangerous Soviet adversary, a global defense mission, an ongoing major cycle of weapon modernization, and an inflexibly capped Army end strength too small for the force needed — were factors forcing Army leaders to a compromise of balanced heavy and light organizational designs. These designs were unavoidably imperfect yet remarkably sufficient for the historically unprecedented strategic challenge and responsibility faced and borne by the United States in the world-changing decade of the 1980s.

I am greatly indebted to the chief architect of the Army of Excellence, General John A. Wickham, Jr., for opening his papers to the documentation of this project and for the interview he granted me on the origins of the AOE. I am also in the debt of General Donn Starry, General Glenn Otis, and General William Richardson for the invaluable perspectives on the force design dilemmas the Army faced, which each of those major players in the development of the 1980s Army provided me in frank and informative interviews. The discussion of the principal design activity of the summer and early fall of 1983 is indebted in no small part to the enterprise of Dr. John W. Partin, former Combined Arms Center historian, whose interviews with principal AOE designers at Fort Leavenworth during 1984 provide a close inside look at the details of that event.

Together with interviews, this study is based principally on memoranda, messages, briefings, and other AOE-related documents in the TRADOC Historical Records Collection in the Office of the Command Historian at Fort Monroe, Virginia; on the AOE documentary record collection in the Operational Records Collection of the U.S. Army Combined Arms Command located in the Combined Arms Research Library of the U.S. Army Command and General Staff College, Ft. Leavenworth, Kansas; and on the papers of principal AOE planners and decision makers and related documents at the U.S. Army Military History Institute, Carlisle Barracks, Pennsylvania. I would like to thank Dr. Rick Morris, Command Historian of the Combined Arms Command, and his assistant, Dr. Pat Hughes, for their valuable assistance, together with Mr. Robert Keller, Chief of the Force Design Directorate at that location, for the information and documents he made available to me. Col. Tom Sweeney, Director of the Military History Institute, and his staff, Lt.

Col. Marty Andresen, Dr. Richard Sommers, Mr. John Slonaker, Mr. Dennis Vetock, Mr. Randy Rakers, and Mr. John Spangel were of great assistance during my visits to Carlisle Barracks.

At Headquarters TRADOC, I wish to thank my supervisor, Dr. H.O. Malone, TRADOC Chief Historian, for encouraging me in this project and for adjusting production schedules to permit me to complete it. My thanks also to Mr. Joseph Mason, Archives Technician, for patient and faithful word processing, and to Headquarters TRADOC Librarian Ms. Fran Doyle and Ms. Leslie Williams of the library for the many documents they were able to locate for me. Ms. Linda Christensen lent invaluable support in layout and camera-ready preparation. Mr. Dom Vittorini, Mr. John Pace, and Mr. Dan Pittman in the Office of the Deputy Chief of Staff for Combat Developments have generously provided documents and information. I want also to thank Mr. Joseph Huddleston, Command Historian of U.S. Army I Corps and Ft. Lewis, for providing me essential material on the High Technology Test Bed and high technology light division. My thanks to Dr. Janice McKenney, Ms. Romana Danysh in the U.S. Army Center of Military History for critiquing portions of the manuscript, and particularly to Mr. John Wilson of the Center for his close and knowledgeable reading, valuable comments and suggestions, and for the indispensable location and provision of the Army of Excellence tables of organization and equipment. Finally, I want to thank my wife, Inge, for supporting me in this effort.The author assumes full responsibility for what appears in the following pages, including any errors of omission or commission.

Fort Monroe, Va.
April 1993

JOHN L. ROMJUE

INTRODUCTION

The design and development of the Army of Excellence in the 1980s was a critical event in the post-Vietnam period of modernization and reform in the United States Army. In light of subsequent events, future historians will study carefully the Army of the 1980s and the strategic and planning basis out of which it came. The world-changing strategic-political events that began in 1989 — the collapse of the communist regimes of Eastern Europe and the dismantling of the Warsaw Pact, together with the accelerating recession of communist party authority and the socialist planned economy in the Soviet Union that led to that superpower's collapse and self-dismemberment in 1991 — signalled the end of the Cold War world.

How and why the fundamental shift in the strategic picture occurred can only be summarized here. The breakup of communism took place in a general sense against the more convincing alternatives of national independence, the free market, and democratic institutions as communicated through closed borders and jammed airwaves by the new technology of the information revolution. In a stricter sense, Western policies of containment and deterrence, and adherence to the values of human liberty implemented and defended by the Western democracies across more than forty years of Cold War were the forces, institutional and human, against which the socialist organization of economic life and society shattered so abruptly in 1989.

The more immediate causes of the breakup lay in the foreign and domestic initiatives launched by Soviet President Mikhail Gorbachev that went under the rubrics, glasnost ("opening") and perestroika ("restructuring"). Those policies were themselves a reaction to the military, economic, and political realities in the grip of which the Soviet Union found itself in the mid-1980s.

Of those realities, it would be difficult to deny that the U.S. defense buildup of the 1980s, of which the modernization of the Army was a principal part, was a major cause of change in the strategic world picture. In addition, the launching in March 1983 of the Strategic Defense Initiative, introduced the prospect of a formidable challenge to the defense resources and hence, the foreign policy, of the Soviet Union. Of indisputable importance was the deepening crisis in the economy of the USSR, an open secret evident to observers by the 1970s. Foreshadowing the political upheaval was the advent in 1980 of the free Solidarity union movement in the Soviets' Polish satellite, which demonstrated mass popular support and which that state's communist government succeeded in driving underground only for a time.

In the final months of 1989, as communist regimes were overthrown throughout Eastern Europe, observers the world over were aware of an enormous historical process under way. Of first order significance, the Revolution of 1989, to be followed two years later by the dismantlement of

the Soviet Union itself, signalled the displacement of the dominant political fact of the 20th century world: the birth and global expansion of communism. That powerful historical impulse, contained in one country until World War II but thereafter in expansion worldwide, was the power factor to which every nation, at the minimum, had had to construct its foreign policy or, at the maximum, to oppose in war. One witnessed in 1989 the moral and physical collapse of one of the major political movements and creeds of the modern era. The momentous implosion occurred in ironic coincidence two centuries to the year from the French Revolution of 1789, the cradle and model not only of democratic institutions but of future revolutionary upheavals, party dictatorships, and terror regimes.

The forceful commitment to the defense of the West that marked American foreign policy in the 1980s rested in its military ground component upon the U.S. Army and the significant reform and modernization efforts it had undertaken in the late 1970s and the 1980s, to which we will turn.

The Decade of Modernization and Reform

The design and development of the Army of Excellence, popularly termed the AOE, was a major component of the Army's decade of modernization and reform. That period, lasting from the mid 1970s to the late 1980s, saw significant physical and intellectual change to the tactical Army — in materiel, organization, and doctrine.

The antecedent causes of the historic developments of the period in the U.S. Army are well known: the developmental neglect in new weaponry during the ten years of the preceding "Vietnam decade;" and the concomitant buildup of Soviet forces during and following America's Vietnam diversion, a buildup that was reaching dangerously threatening levels in central Europe by the mid-1970s. Another major factor was the impact of the 1973 Mideast War and its lessons of the greatly increased battle tempo and materiel lethality of modern war upon the leadership of the Army and TRADOC. Of central importance was the personal push and stamp given to the Army's structural modernization and reform by Army Chiefs of Staff of the era, in particular General Edward C. Meyer (1979-1983) and General John A. Wickham, Jr. (1983-1987), as well as by the early TRADOC commanders, General William E. DePuy (1973-1977), Donn A. Starry (1977-1981), Glenn K. Otis (1981-1983), and William R. Richardson (1983-1986).[1]

1. For a study of the significant role of the late General DePuy in the post-Vietnam modernization and reform of the Army, see Major Paul H. Herbert, *Deciding What Has to Be Done: General William E. DePuy and the 1976 Edition of FM 100–5, Operations* (Leavenworth Paper No. 16) (Ft. Leavenworth, Kan.: Combat Studies Institute, Command and General Staff College, 1988), hereafter Herbert, *DePuy*. See also Major Robert A. Doughty, *The Evolution of U.S. Army Tactical Doctrine, 1946–1976* (Leavenworth Paper No. 1) (Ft. Leavenworth, Kan.: Combat Studies Institute, Command and General Staff College, 1979), pp. 40–50. For a discussion of the lessons and impact of the 1973 Mideast War, see *TRADOC Annual Report of Major Activities, FY 1975*, pp. 1–10 and 138–43. For an account of the development of doctrine by the TRADOC commanders, Generals DePuy and Starry, see John L. Romjue, *From Active Defense to Air Land Battle: The Development of Army Doctrine, 1973–1982* (Ft. Monroe, Va.: Historical Office, HQ TRADOC, 1984), hereafter: Romjue, *AirLand Battle*). For an account of General Starry's inauguration and prosecution of the Army 86 Studies to establish new tactical organizations, see Romjue, *A History of Army 86, Vol I, Division 86: The Development of the Heavy Division, September 1978 - October 1979*, and Vol II, *The Development of the Light Division, the Corps, and Echelons Above Corps, November 1979 - December 1980* (Ft. Monroe, Va.: Historical Office, HQ TRADOC, 1982) (hereafter: Romjue, *Army 86*).

What were the time lines of the modernization and reform actions? Army doctrine, always in evolution in detail, saw a major recasting in the Active Defense doctrine of 1976, followed by a period of critique and sharp revision that produced the AirLand Battle doctrine issued in 1982 and revised and further issued in 1986.[2] Based on intensive weapon development programs through the 1970s, delivery to the field of virtually an entire new generation of modern weaponry began in 1978, reaching a so called "bow wave" in 1983 cresting in 1985 and continuing through the end of the decade.[3] In 1976, tactical organization also came under examination in the Headquarters TRADOC Division Restructuring Study of that year, followed in 1978 by the multi-year Army 86 reorganization studies which were the direct ancestor of the 1983 AOE design.[4] Through the 1970s and 1980s, reformed training methods were in addition instituted. They included "hands on" training techniques, skill qualification tests for soldiers to prescribed standards, the ingraining of leadership principles, and training packages for "export" to units for collective training. In the early 1980s, battalions began to travel to the new Army Combat Training Centers to train in simulated force-on-force engagements.[5] All those reforms together owed much to General William DePuy, TRADOC's first commander. DePuy presented a conception of how all the elements of change that were sorely needed after Vietnam went together: weapons, training, leader development, tactics and doctrine, and organization. Looking back on the period, DePuy's co-planner and successor at TRADOC, General Donn Starry, believed that, "for the first time in history, the Army reformed itself from within."[6]

By the late 1980s, the modernized initiative-oriented AirLand Battle doctrine was well embedded in doctrinal and training literature. The 1980s Army fielded fighting units restructured from the 1960s ROAD forms to accommodate powerful new weaponry and to implement the principles of corps-directed battle and rapidly deployable light infantry. A new generation of weaponry and equipment was standard in the majority of fighting units — systems the most prominent of which were the Abrams tank, Bradley Fighting Vehicle, the Black Hawk and Apache

2. (1) Herbert, *DePuy*, pp. 3–9, 37–107. (2) Romjue, *AirLand Battle*; for an account of the critique of the 1976 manual, see pp. 13–21.

3. See period Annual Historical Reviews of Headquarters TRADOC and Headquarters Army Materiel Command for detailed coverage of the weapon modernization programs from combat developments and materiel development points of view, respectively (the Army Materiel Command went under the designation U.S. Army Materiel Development and Readiness Command, or DARCOM, between 1976 and 1984). See also the reliable annual detailed summaries of Army weapons and equipment in development, by Eric V. Ludwigsen in the October issues of Army magazine (*Army Green Book*), the journal of the Association of the United States Army.

4. Romjue, *Army 86*, Vols I and II. See Vol I, pp. 1–10, for an account of the Division Restructuring Study and the organizational designs it produced.

5. The Headquarters TRADOC annual histories, continuous since FY 1974, contain the best account of the modernization of training in the 1970s and 1980s under TRADOC. See also Herbert, *DePuy*; Lt Col Romie L. Brownlee and Lt Col William J. Mullen III, *Changing an Army: An Oral History of General William E. DePuy, USA Retired* (Carlisle Barracks, Pa.: U.S. Army Military History Institute, n.d.), pp. 180–203. For a concise summary of TRADOC's training innovations, see Anne W. Chapman, *The Army's Training Revolution, 1973–1990: An Overview*, TRADOC Historical Study (Ft. Monroe, Va.: TRADOC Office of the Command Historian, 1991). See also *The Origins and Development of the National Training Center, 1976–1984* by the same author, TRADOC Historical Monograph (Ft. Monroe, Va.: TRADOC Office of the Command Historian, 1992), and draft manuscript, TRADOC Historical Monograph, Rodler F. Morris, "A History of the Joint Readiness Training Center: Creating the Blueprint for the Original Institution, 1973–1987."

6. Interview of General Donn A. Starry by John L. Romjue, 19 Mar 93.

helicopters, the Multiple Launch Rocket System, and the shoulder-fired Stinger air defense missile and Patriot air defense system. Observers viewed a fighting force at the end of the 1980s transformed in all its essentials from the Army of the immediate post-Vietnam years.

U.S. Army Tactical Organizations Through ROAD

Rooted in the divisional organization of the Army since the early twentieth century, the Army of Excellence drew on long-range organizational trends. Evolving in World War I as the basic ground unit in the U.S. Army capable of sustained independent action, the division was thereafter the focus of tactical organization in the Army.[7] The division structures in every period of reorganization in peacetime and war from World War I to the Army Excellence of the 1980s resulted from the perception that the old organizations did not or would not meet the new perceived conditions of battle. Between the organization of the divisions of the Allied Expeditionary Forces in 1917 and the AOE inclusive, eight major infantry divisional reorganizations occurred. In each case, Army planners sought to match the development to the new or anticipated conditions.

This succession of structures included the 28,000-man "square" division of World War I with its two brigades of two regiments each, followed by a square postwar version reduced to an only slightly more nimble organization of 22,000. A triangular division was approved in principle in 1935. Dropping the brigade headquarters, it fielded three infantry regiments. The triangular division was further developed and tested during the late 1930s, and it provided, at just over 14,000 men, the basic American fighting unit of World War II. In the tables of 1948, this nine-battalion infantry structure was reorganized and augmented by a tank battalion and an antiaircraft battalion and other elements and, at 18,800 strength, it provided the standard infantry division of the Korean War. In the late 1950s, the so called "pentomic" divisions, of 13,700 men in the infantry version, replaced the regimental structure with five "battle groups," a design concept intended to provide the maximum dispersal perceived as imperative on a battlefield expected to be dominated by tactical nuclear weapons. Following organizational studies during the late 1950s and early 1960s, the major ROAD (for Reorganization Objective, Army Divisions) reorganization implemented between 1962 and 1964 brought in a 15,500-man infantry division structure with neither line regiments nor battle groups but employing instead brigade structures modelled on the combat commands of the armored division introduced in World War II as the intermediate level of command between division and battalion. There followed in 1978 the Army 86 reorganization effort which, with its "Division 86" heavy divisions already in partial conversion in 1983, gave way to the AOE reorganization initiated in that year.[8]

7. In the American Army of the 18th and 19th centuries, forces were traditionally raised and organized by company and regiment. The regiment of the 19th century Army was the highest table of organization unit in the modern sense and the highest organizational element then maintained in peacetime. Brigades, divisions, and corps were traditionally authorized and established shortly before or soon after the outset of war, as those organizations were for the Civil War, the Spanish-American War, and World War I. The brigade and corps were the basic tactical organizations of the Civil War, and the short war with Spain afforded too small a stage for sustained larger maneuvers. Divisions of three brigades of three regiments each were employed in the Spanish-American War, and the division was formalized in regulations of 1905. The U.S. Army division first came into its own in the First World War, both as a tactical command and as a table of organization unit.

8. For a bibliographical note on sources for the tactical organizations and accompanying reorganization efforts just discussed, see Appendix C.

Major revisions or additions to division structures, short of formal reorganization of the full complement of the tactical Army's tables of organization and equipment, occurred in the interim periods. In addition, the onset of World War II saw the first proliferation of division types, so that together with the standard infantry division, the Army formed and fielded armored, cavalry, airborne, motorized, and mountain divisions during World War II. Other new type divisions followed in the postwar and Cold War years, notably the airmobile; infantry, mechanized; and TRICAP divisions and, with the AOE, the light infantry division. Not all those types survived their establishment for long, including the World War II motorized and mountain divisions and the Army's "tri-capability" divisional experiment combining armor, airmobile infantry, and air cavalry brigades.

As suggested earlier, each newly reorganized division resulted from a perception of obsolescent structure. That was true of both world war designs, when the new conditions of combat were evident before those divisions saw action. It was also true for the peacetime divisions, for which future battle conditions could only be surmised. Of the latter designs, the pentomic divisions of the late 1950s were based upon a perception of a future "atomic-nonatomic battlefield." That fortunately unrealized apprehension of things to come gave way by the early 1960s to a conventional battlefield view implicit in the ROAD organizations. Preserving the tactical nuclear option, but placing less emphasis on it, the ROAD set of divisions featured a common division base and three maneuver brigade headquarters to which maneuver battalions — infantry, armored, mechanized infantry, airborne, or airmobile — were flexibly attached. The type and number of battalions added to the division base determined the corresponding ROAD division type. The new battlefield view of the early 1960s had changed, however, from pre-pentomic days, with the advent of the new developments noted in mechanized infantry and airmobility.

Common to all the 20th century designs was a progressively increasing application of technology to the division. This was an absolute trend — a circumstance that could not be otherwise for a major power whose political and military leadership watched vigilantly and feared similar developments in the armies of hostile nations elsewhere in the world. The trend, which would accelerate after the ROAD era, had two fundamental aspects: the increasing mechanization of the fighting force (including the mechanization of the division's airspace), and a widening and deepening extension of technology into virtually all the division's functions, combat and support.

Several important design trends and changes in division organization since World War II were of special note. (All these trends exclude the short-lived pentomic oddity). Between the onset of World War II and the design of the Army 86 structures, division size increased steadily — from the 14,000-man World War II division to the 16,000 of the initial ROAD structures, to the 20,000 strong of Division 86. At the same time, maneuver battalion count varied little, from 9 in World War II to 10-11 in the ROAD divisions and to 10 in the heavy divisions of Army 86. Intermediate maneuver headquarters, as we have seen, saw notable change, with World War II infantry division regiments and armor division combat commands giving way to the brigades of ROAD and Army 86 — brigades which could flexibly attach the needed battalion types. A further significant development was the evolution of aviation units, most particularly in the infantry divisions from the early 1960s on.

The design of Army tactical organization, which had resided with Headquarters Army Ground Forces, or AGF, since its establishment in March 1942, remained with that command

when it moved from Washington, D.C. to Fort Monroe, Va. in October 1946 and upon its redesignation and reorganization as the Office, Chief of Army Field Forces, or OCAFF, in March 1948. When OCAFF was redesignated Headquarters, Continental Army Command in February 1955, the force design responsibility passed to that headquarters — United States Continental Army Command as retitled in January 1957. In 1952, the development of the Army's tactical organizations became one portion of a new, larger OCAFF mission and, later, CONARC mission: combat developments. That new Army mission was based on a major new development philosophy. The development of new doctrine, organization, and materiel and their integration into the Army were seen as part of an interrelated system having a single goal of providing optimal combat effectiveness. The design of organizations and forces passed to the new U.S. Army Combat Developments Command at Fort Belvoir, Va. when, in July 1962, the Department of the Army removed the combat developments mission from CONARC and established a new major Army command focused solely on it. Dividing combat developments and its constituents — materiel requirements, organization, and doctrine — from Army training, however, proved to be an unsuccessful management experiment. In July 1973, the new Army Training and Doctrine Command was established to carry out the Army missions of individual training and combat developments, including the design responsibility for Army forces and organizations.[9]

9. (1) Jean R. Moenk, *A History of Command and Control of Army Forces in the Continental United States, 1919–1972* (Ft. Monroe, Va.: Historical Office, HQ USCONARC, 1972) (hereafter: Moenk, *Command and Control of Army Forces*), pp. 17–20, 27–29, 32, 43–45. (2) Report of Activities, Army Field Forces: Army Field Forces, 1945–1949, with encl: ltr ATCH, General Jacob L. Devers, Chief, Army Field Forces to Chief of Staff of the Army, 30 Sep 49, subj: Postwar Report, Army Ground-Field Forces, Ft. Monroe, Va.: OCAFF, 1949, p. 1. (3) See Jean R. Moenk, *Operation STEADFAST Historical Summary: A History of the Reorganization of the U.S. Continental Army Command, 1972–1973* (Ft. McPherson, Ga. and Ft. Monroe, Va.: HQ US Army FORSCOM and HQ US Army TRADOC, 1974) for a comprehensive account of the planning and execution of the 1973 reorganization.

Chapter I

ARMY 86 - HEAVY AND LIGHT

The ROAD tactical organizations introduced in 1962 constituted the tactical, or "TOE", Army of the 1960s and 1970s. Actually, the final tables of organization and equipment of the successive TOE series that implemented and subsequently revised the ROAD structures over this period of twenty years were in force until replaced by the interim and final TOEs of the Army of Excellence in the 1980s. Thus, it was with the ROAD divisions that the U.S. Army went to war in Vietnam in 1965, and ROAD divisions formed the ground defense of U.S. Army, Europe throughout the middle decades of the protracted Cold War.

By the mid-1970s, however, there was concern in the new Training and Doctrine Command that the ROAD organizations could no longer efficiently harness the combat power of modern weaponry, despite the steady revision that the division tables were seeing, particularly in their armor and mechanized infantry components. We have already touched upon other military developments and strategic concerns that, in the early and mid-1970s, were having impact on the Army and TRADOC leadership — the lost years of weapon development, the Warsaw Pact buildup, and the mirror of modern war provided by the destructive Sinai and Syrian battles of 1973. A little less than three years following his accession as TRADOC commander, with new training and weapon programs and doctrinal revision well under way, General William E. DePuy set in motion, in 1976, a first effort to reorganize the Army's major tactical unit, the heavy division. Although that effort, the Division Restructuring Study, did not result in a new heavy division, it helped prompt the larger Division 86 effort, the heavy fore part of the significant Army 86 Studies of 1978–1983.[1] Those studies, focusing initially on an Army that was accelerating toward heavy armor and mechanized infantry designs in response to the serious Soviet challenge to NATO, soon grew to include the Army's contingency and light organizations as well. Army 86 began as an attempt to build a powerful heavy fighting force. But in a time of shifting perceptions regarding the composition of the Army, it acquired dual heavy and light elements. We will turn to a summary of each of those elements in turn.[2]

1. See Romjue, *Army 86*, Vol I, pp. 1–10 for a documented account of the Division Restructuring Study.

2. The major portion of the *Army 86* Studies, through December 1980, including the heavy division (Division 86), infantry division (Infantry Division 86), heavy corps (Corps 86), and echelons above corps (EAC 86) have been documented in Romjue, Army 86, Vols I and II. See the following for detailed narratives of the further development, from 1981 to the advent of the AOE in 1983, of those organizations as well as the contingency and light

Continued

Redesign of the Army's Heavy Units

Convinced that the general advance in the weaponry of the world's armies was introducing a tactical revolution in land combat which rendered the organization of the ROAD divisions obsolescent, the TRADOC commander, General DePuy, set in train in 1976 a restructuring study of the heavy division. A major idea driving DePuy's thinking was that the volume and array of firepower newly available to the company commander organically and by attachment exceeded manageable quantities. Another consideration was a perceived need to avoid the old military habit of sometimes failing to fully exploit new combat power by adding a new weapon type as a "tag-along" to a unit, rather than building a new unit around the weapon. The machine gun was a First World War example, and the TOW (tube-launched, optically-tracked, wire-guided) missile was an example in the 1970s of that failure to exploit the new.

Limited to the armored and mechanized infantry divisions, the Division Restructuring Study, or DRS, was carried out at TRADOC headquarters between May and July 1976 by a small group under DePuy headed by Colonel John W. Foss. Briefed to the Chief of Staff of the Army the latter month, the 17,800-man DRS heavy divisions featured significant changes (Chart 1). These included smaller companies and smaller but more maneuver battalions (fifteen in all). The design included single-purpose companies, including a TOW company in each battalion, to clarify battle roles and simplify company training. Other changes from ROAD were battalions organic rather than battalions attached to brigades; tank platoons of 3, not 5, tanks; and four-battery, not three-battery, 155-mm. artillery battalions.

Although some of those ideas would find their way into the Army 86 structures, the DRS heavy division did not survive. Approved by the Chief of Staff of the Army, General Fred C. Weyand, for testing only, the division was evaluated in battalion and brigade phases in the 1st Cavalry Division at Fort Hood, Tex. with favorable results. But doubts arose in the Army Staff and elsewhere about the smallness of the three-tank platoon, the brigade's increased span of control, and other features. Soon after General DePuy's successor, General Donn A. Starry, assumed command of TRADOC in July 1977, he expressed doubts that all but sealed the demise of the DRS heavy division. Starry argued that the weaponry upon which the design was based would not be in the force in quantity for several years. He also doubted the rigor of the test methodology.[3]

(2. Continued)

structures: HQ TRADOC Annual Historical Reviews, FY 1981, pp. 46– 113; FY 1982, pp. 43–116 (Both CONFIDENTIAL — Info used is UNCLASSIFIED); and Annual Command History, FY 1983, pp. 329–35 (SECRET — Info used is UNCLASSIFIED)

3. (1) Romjue, *Army 86*, Vol I, pp. 1–10. (2) Starry Interview by Romjue, 19 Mar 93. (3) TRADOC Annual Historical Review, FY 1976/7T, pp. 38–47. (CONFIDENTIAL — Info used is UNCLASSIFIED) (4) For a report of TRADOC's extensive study of the lessons of the 1973 Arab-Israeli War, see Final Report, Analysis of Combat Data - 1973 Mideast War, Ft. Leavenworth, Kan.: HQ USACACDA, July 1974, Vols I-VIII; and TRADOC Annual Reports of Major Activities, FY 1974, pp. 14–19 and FY 1975, pp. 1–10. (5) See letter ATCS, Maj Gen Robert C. Hixon, TRADOC Chief of Staff to distribution, 18 May 77, subj: Division Restructuring Study Phase I Report, with/encl, Division Restructuring Study, Phase I Report, Ft. Monroe, Va.: HQ TRADOC, 1 Mar 77, Vols I-VI, for detailed reporting of the DRS. (6) For accounts of the Division Restructuring Evaluation (DRE) conducted at Fort Hood during 1976–1978, see Romjue, *Army 86*, Vol I, pp. 8–12, 42–48; TRADOC Annual Historical Review, FY 1977, pp. 170–78, and FY 1978, pp. 204–08. (7) For a listing of the extensive reports documenting the DRE, see Romjue, *Army 86*, Vol I, footnotes on pp. 42, 46, 48.

TRADOC's subsequent and comprehensive organizational effort, Army 86, continued and extended the aim of the Division Restructuring Study work. General Starry initiated it with the Division 86 Study in August 1978.[4] Like the DRS, its focus was the heavy division, the element of the fighting Army critical to the primary strategic theater of central Europe. Starry's experience with the European challenge was immediate. His previous assignment had been the V Corps command in Germany, and he brought with him a close appreciation of the Warsaw Pact's overwhelming follow-on echelon battle array. For General Starry, the reality of the Soviet challenge was recalled graphically by the example of the Soviet-style Syrian Army line-up behind the Golan Heights in the 1973 Yom Kippur War. In 1977, he visited the site of that decisive battle, won by Israeli commanders who chose to seize the initiative in the face of the enemy's attrition machine.[5]

General Starry's concept and approach to the division problem were different from those of his predecessor. He sought to structure a new heavy division not upon new weapon systems specifically, as had DePuy, but upon "battlefield functions." The functional approach to division design was part and parcel of Starry's doctrinal ideas. General Starry saw the division's tasks as a "Central Battle," defined as that part of the battlefield where all aspects of firepower and maneuver came together to produce a decisive action. He used such new terms as "target servicing" and "reconstitution," alongside common functional terms like air defense and interdiction. Out of the V Corps experience and the functional vision came the concept of "seeing deep" to the enemy's follow-on echelons that would lead to a doctrinal focus upon fundamentally disrupting the enemy second echelon forces through what would soon become the major AirLand Battle principle of deep attack.[6] Starry's whole approach was "a systematic breakdown into the division's specific tasks and subfunctions and then a reconstruction into a coherent whole or division capability." What he wanted division designers to do was to leave behind parochial branch approaches to battle and to see their challenge instead in terms of the major functions that he believed characterized modern battle.

Starry directed the development of operational concepts that would take advantage of the increased combat power of the new materiel systems and organizations that would exploit them. Results of the Division Restructuring Study and Evaluation were also examined. An important design element was the building into the heavy division of what planners called "R3": personnel strength providing robustness, redundancy, and resiliency for critical division control functions and key combat tasks. The heavy divisions in Europe facing the overwhelming might of the Warsaw Pact forces had to be heavy and then some. Apparent here in hindsight — as symbolized by the Division 86 R3 factor (220 personnel in all) — was a major cause of the force structure impasse that would, five years later, give rise to the Army of Excellence design effort.

4. This summary of the development of Division 86 is based, except where otherwise noted, on Romjue, *Army 86*, Vol I and Vol II, pp. 1–24. "86" was 1986, the furthest intelligence projection available to TRADOC planners in 1978.

5. Starry Interview by Romjue, 19 Mar 93.

6. General Starry became convinced of the technological feasibility of deep conventional attack to disrupt the Soviet second and follow-on echelons in the summer of 1977 following review, at Headquarters TRADOC, of a Braddock, Dunn, and McDonald study of nuclear targeting for the Defense Analysis Agency. The enabling weapon systems were the multiple launch rocket system, in development, and what would become the Army Tactical Missile System and the Joint Surveillance Target Acquisition Radar System.

The method of the Division 86 design effort also departed from that of the Division Restructuring Study. Rejecting General DePuy's study-cell approach, Starry fully involved the TRADOC intermediate-headquarters integrating centers and the TRADOC Army schools. Centered at the Combined Arms Center, or CAC, at Fort Leavenworth, the Division 86 study group formed task forces at selected schools that mirrored the functional vision. Each task force had responsibility for specific division organizations, and workshop conferences brought together the major year-long enterprise. Division 86 was an extensive effort, employing analysis and war gaming of alternative unit structures developed at three levels of strength, and side studies. Its depth may have been unprecedented in Army tactical unit reorganization.

General Edward C. Meyer, the Chief of Staff of the Army, approved the Division 86 design in principle in October 1979 and approved it for implementation in decisions of August and September 1980. The Division 86 heavy division (Chart 2) numbered 19,900 strong in its 6 tank battalion - 4 mechanized battalion armor version and 20,200 in its 5 - 5 mechanized infantry version. With much greater firepower, mobility, and armor protection than the contemporary ROAD-based divisions, it added to the three-brigade structure a fourth major component in an air cavalry attack brigade consolidating all the division's aviation. Noteworthy in the division artillery were eight-howitzer 155-mm. batteries (up from the artillery's traditional six-piece batteries) and a battalion of 8-inch howitzers and Multiple Launch Rocket Systems.

There were now four, rather than three, line companies in both the mechanized infantry and the armored battalions — a major Division 86 decision — with TOW missile companies in the former and 4-tank platoons in the latter. With the M1 tank still in trials and experiencing stubborn power train difficulties in 1979, the TRADOC commander's support of a 4-tank platoon rather than the 3-tank platoon envisaged under the Division Restructuring Study was a cautionary move.[7] Other reasons for that preference were the high, 100-percent readiness requirement and the support costs demanded for a platoon of only three tanks.[8]

The new brigade support battalions of Division 86 implemented the concept of "arm, fuel, fix, and feed forward." All together, the Division 86 organizations were keyed to concepts of maximum firepower forward; improved command control; increased fire support, air defense, and ammunition resupply; and an improved combining of the arms. The structure imposed an increased leader-to-led ratio, with smaller and less complex fighting companies and platoons. A new doctrinal focus was introduced in the tactics of disruption and attack upon the enemy's follow-on echelons.

Only marginally larger than the ROAD-based heavy divisions of the late 1970s, Division 86 promised a significantly stronger fighting force, based on big 4-line company maneuver battalions, rather than on the Division Restructuring Study formula of more but smaller battalions.

When he reviewed the Division 86 design in late 1979, General Meyer directed that final approval was conditional on what structures were to be developed for the corps, for the standard infantry division (which planners began to refer to as the "light infantry division"), and for an echelons above corps, or EAC, structure.[9] Design of those elements began in the latter half of

7. Starry Interview by Romjue, 19 Mar 93.

8. Romjue, *Army 86*, Vol. I, pp. 9–10.

9. See *ibid.*, Vol II, for a documented account of the development of the infantry division, the corps, and EAC.

1979, the Division 86 task forces picking up the first two, with the EAC 86 Study placed in the hands of a special study group at Fort Leavenworth. General Meyer approved all four of the major Army 86 Studies in decisions of August and September 1980. With those decisions, the "heavy" Army was essentially complete in design, though the heavy division was to see some reduction before the advent of the AOE.

General Meyer's August 1980 decision regarding Corps 86 was to approve TRADOC's design in its "required force" version for force planning as the base design for NATO deployment (Chart 3). The required corps strength would rise from 85,000 at the outbreak of hostilities to 131,000 in its mature phase. Planners also produced smaller "constrained" versions of the corps organizations as a programming tool. Commanding the divisions fighting the Central Battle, the Corps 86 heavy corps was focused on the principal functions of Air Force - Army air-land operations and particularly upon interdiction and attack of the enemy second echelon. The corps armored cavalry regiment provided the corps covering force, the rear area combat operations brigade fought the corps rear battle, while the aviation brigade of the corps acted to support the divisions.[10]

The Echelons Above Corps 86 designs were also approved by the Chief of Staff of the Army in August 1980 — for force planning. As with Corps 86, General Meyer approved the designers' heavier required version rather than the constrained version. The fundamental requirement of the echelons above corps structure was seen to be to support the fighting forces in a way that permitted tactical commanders to focus their full attention on the battle. Chart 4 depicts the organization of the EAC 86 theater army organization and its combination of area and functional commands. Required EAC strength would rise from 185,874 at D-Day to 424,404 in its mature phase. Those numbers included sizable local allied contingents, Army reserve component forces, as well as a considerable unfilled requirement.[11]

By concept, the theater army controlled the communications zone, that area forward from the NATO ocean ports to the corps rear boundaries. It provided the bridge between the sustaining base in the continental United States and the forward deployed corps of USAREUR. The theater army function was seen essentially as support — a planning and coordinating headquarters managing its support functions through a flexible combination of area oriented support commands for the communications zone and functionally specialized organizations that concentrated on supporting the combat operations of corps.

While the organizational designs for the heavy division and corps were complete and awaiting transition, the structures and operational concepts of EAC 86 needed further refinement. The Combined Arms Center set in motion the second phase of the EAC 86 effort in August 1980. During 1981, however, the light forces side of Army 86 was coming to the fore, and the second phase was deferred pending completion of those planning actions.[12]

10. *Ibid.*, Vol II, pp. 58–85, 140–56.

11. (1) *Ibid.*, pp. 89–114, 157–73. (2) Ltr ATCD-AM, HQ TRADOC to distribution, 19 Dec 80, with/enclosure: Final Report, Echelons Above Corps Study (EAC), Phase I.

12. (1) TRADOC Annual Historical Review, FY 1981, pp. 68–71. (CONFIDENTIAL — Info used is UNCLASSIFIED) See this source for an account of the initial planning for Phase II. (2) Ltr ATZLCAEAC, Lt Gen William R. Richardson, Cdr USACAC to distribution, 25 Aug 80, subj: CD Study Plan: EAC (Phase II).

Theater army encompassed a host of problems. Most fundamental was the lack of a tactical army headquarters higher than corps. That circumstance resulted from Department of the Army decisions of the early 1970s which had eliminated four tactical and support headquarters above corps, including field army. The doctrinal problems resulting extended from coordination of close air support to combat service support procedures. Many of the higher level tasks inevitably devolved upon the corps, while other tasks had required the trans-ocean extension of the Army's United States based materiel commands. In USAREUR, solutions to the doctrinal void had been found in the adjustment of stockage procedures and in establishment of support commands. But the major problem of close air support coordination, so crucial to the success of integrated air-land battle operations, continued.[13]

In the early 1980s, TRADOC planners believed that the idea of no tactical echelons above corps had evolved into a common misunderstanding: that no operational headquarters existed above corps either. That view was indeed affirmed in the EAC 86 Phase I Study, as guided by the TRADOC commander, General Starry. Yet theater army had in past wars had operational functions, and these had been extensive. Conceptual problems were evident in the specifics of the EAC 86 concept as it stood as well — in intelligence, rear area protection, and other elements.[14]

Throughout 1981 and 1982, TRADOC planners wrestled with the general problem of echelons above corps organization and doctrine. Related was the need to define EAC organization and doctrine for theaters other than NATO Europe — the so-called "contingency" world. Work on the EAC doctrinal manual, FM 100–16, based on a support operations-only concept, was consequently deferred pending a resolution of the larger issue.

Taking over TRADOC command in August 1981, General Glenn K. Otis urged continued attention to the operational aspect of echelons above corps. Future war would require command of several corps, and for that eventuality there was no concept or doctrine. The needed doctrinal link with the Air Force for close air support and battlefield air interdiction was lacking, though in Europe, the Army had specific theater arrangements and used procedural devices such as the battle coordination element. Also, because the fighting headquarters above corps was multinational in the established NATO theater, little thought had been given to uni-national contingency situations. These were only a few of the many problems of the complex theater army issue.[15]

The 1981-1982 effort did not succeed in solving the fundamental and complex EAC problem. Important too was the need to publish EAC support doctrine, however partial a solution that might be. TRADOC presented the results of its thinking on echelons above corps doctrine and organization to the Chief of Staff of the Army in April 1982. Planners presented a constrained version of theater army. As calculated at D-Day, it stood at 66,619, and in the mature theater of D plus 180 days, at 196,209 (Charts 5 and 6). The 1982 concept depicted a planning and coordination headquarters performing its mission through a combination of area-oriented and functionally specialized subordinate commands — all in the support category. Specific theater army missions

13. EAC Phase I Report, Vol IV.

14. (1) Memo ATCD-PA, Brig Gen Carl E. Vuono, DCS for Combat Developments to Brig Gen Morelli, DCS for Doctrine, n.d., subj: The Fundamental EAC Problem. (2) TRADOC Annual Historical Review, FY 1981, pp. 72–73, and FY 1982, pp. 61–62. (Both CONFIDENTIAL — Info used is UNCLASSIFIED)

15. TRADOC Annual Historical Review, FY 1982, pp. 62–64. (CONFIDENTIAL — Info used is UNCLASSIFIED)

were: receipt, equipping, and preparation of U.S. Army units for combat; support to U.S. units and selected allied units in the theater; repair to damaged facilities; security of U.S. Army installations in the communications zone; supervision of U.S. civilian noncombatant evacuation; custody and internment of enemy prisoners of war. In the NATO theater, the only operational activity of the headquarters was rear area combat operations. Updated and revised subconcepts, such as that for intelligence, security, and electronic warfare were presented. TRADOC made no recommendation with respect to theater army as an operational headquarters at this time, noting the operational doctrine already contained in the corps and other field manuals.

The Chief of Staff of the Army approved the 1982 EAC concept when briefed, which was also contained in TRADOC's draft of FM 100-16, *Support Operations: Echelons Above Corps.* General Meyer approved the manual coordinating draft as EAC interim doctrine, specifying some further work on the intelligence and other subconcepts. The Combined Arms Center published the coordinating draft in June 1982, containing concepts both for the established NATO and the contingency theaters. Further work followed, and the field manual was eventually published in final form in April 1985 well into the AOE period.[16]

In the mid-1980s, operational doctrine at the echelons above corps level remained an evident need. Planning turned to the codevelopment by the Combined Arms Center and the Army War College of an EAC concept and organizations broadened to encompass full theater operations including a field artillery concept. EAC doctrine writing responsibility eventually passed to TRADOC headquarters in 1988, and at the close of the decade a new manual for *The Army in Theater Operations*, FM 100-7, was in draft.[17]

The 1980 Army 86 decisions by the Chief of Staff of the Army carried future manpower costs. In the defense climate of 1980, Army force design focused on the serious threat posed by the massive Soviet buildup. That concern, and not end-strength Army totals, dictated the initially strong designs of Army 86. The election to the U.S. presidency in the fall of 1980 of Ronald Reagan, a strong defense advocate, might have been expected to provide the needed Army manpower increases. Reagan was strongly committed to an accelerated buildup of American military power to enable the nation to meet the Soviet challenge in Europe and elsewhere. His accession did indeed soon lead to increased budget commitments. In that general trend, however, and as planning began toward conversion to the new heavy division designs, the Department of the Army did not move to press for the significantly higher active-component end strength needed to accommodate the larger Division 86 designs.

In the latter half of 1981, Department of the Army and TRADOC planners began to examine solutions to the strength problem. These included rounding out some divisions with a reserve component brigade, incorporating the existing separate brigades into certain of the divisions, redesigning the standard "light" divisions to a reduced level, and cutting the total force by one

16. (1) See *ibid.*, pp. 64–71 for a detailed discussion of the 1982 concept. (2) Briefing, USACAC for CSA General Meyer, 29 Apr 82, subj: EAC. (3) FM 100–16, Support *Operations - Echelons* Above Corps, coordinating draft, June 1982.

17. (1) TRADOC Annual Historical Review, FY 1983, pp. 330–31. (SECRET — Info used is UNCLASSIFIED) (2) MFR ATCS-H, John L. Romjue, TRADOC Historical Office, 18 Nov 83, subj: Current Projects of ODCSDOC. (3) TRADOC Annual Command History, 1989, pp. 85–88. (FOR OFFICIAL USE ONLY — Info used is not protected)

heavy division. In November 1981, the Department of the Army select committee, chaired by the Vice Chief of Staff of the Army, that had responsibility for force structure issues convened to take up the numerous problems of Division 86 transition, including the strength problem. The select committee recognized that the designs of Division 86 were not affordable within Army end strength levels established through FY 1988. In fact, marginal increases in the heavy division designs since August 1980 had increased the armor and mechanized infantry division totals to 20,802 and 21,091, respectively. After consideration, the Department of the Army, in February 1982, told TRADOC to reduce the heavy divisions to 18,000 personnel.[18]

This project, termed the "Division 86 Restructuring Study," (not to be confused with the Division Restructuring Study of 1976), was carried through by planners at TRADOC's Combined Arms Center at Fort Leavenworth and the TRADOC schools. Their primary aim was to keep the Division 86 design, so carefully developed, intact with combat power undiminished. The TRADOC school proponents contested sharply the reduction measures, since the cuts entailed the weakening of vital division functions. In March 1982, planners presented General Meyer a 18,218-strong division design of nine Active Army maneuver battalions, converting the tenth battalion to a reserve roundout unit, and an 18,245 ten-battalion division, all Active Army, in which cuts were more severe throughout.

After soliciting the views of the Commander-in-Chief, U.S. Army, Europe and the commanders of the Forces Command and the Materiel Development and Readiness Command, the Chief of Staff of the Army decided, on 25 March 1982, for a division reduced not by 2,000 but by 1,000 from the original 20,000 structure (Chart 7). At 19,024 personnel, the heavy division design at that point retained ten Active Army maneuver battalions for the USAREUR heavy divisions and nine for the FORSCOM divisions — to be rounded out with a reserve component battalion. General Meyer restored the pre-Division 86 medical battalion by regathering the medical companies that had been organic to the forward support battalions. He standardized the mechanized infantry squad at this time at ten men for both new M2-equipped and old M113-equipped units.

In the 1982 restructuring exercise, most of the Division 86 unit designs remained intact, if reduced in strength. The division retained 4-company maneuver battalions, the air cavalry attack brigade, the forward support battalions, brigade scout platoons, 8-howitzer direct support artillery batteries and the 8-inch howitzer/Multiple Launch Rocket System general support battalion, air defense gun batteries, and the combat electronic warfare-intelligence battalion — all special features of the original 1978-1979 design.[19]

A final heavy element of Army 86 was the Separate Brigades 86 Study begun in 1982 in both heavy and light versions. Operational concepts were completed in draft in early 1983. Used as the garrison force in Berlin, Panama, and Alaska, the force type also included brigades on installations in the United States. Both heavy and light separate brigades in their Army 86 versions were designed for operations in all theaters to complement divisional forces and obviate the necessity to

18. (1) Briefing slides, HQ TRADOC, The Force Modernization Problem, n.d. [Sep 1981]. (2) TRADOC Annual Historical Review, FY 1982, pp. 51–52, 56. (CONFIDENTIAL — Info used is UNCLASSIFIED)

19. See TRADOC Annual Historical Review, FY 1982, pp. 56–60 for a detailed account of the Division 86 Restructuring Study and decisions.

fragment a division for a smaller operation. Like other parts of Army 86, the separate brigades effort was overtaken by the comprehensive AOE redesign of 1983.[20]

The Search for Lightness

Just a year after the beginning of the Army 86 Studies, TRADOC planners began, in 1979, their study of a "light" standard infantry division — Infantry Division 86.[21] In August 1980, further light forces studies began — Contingency Corps 86 and Echelons Above Contingency Corps 86. During 1981-1982, efforts followed to modernize the designs of the Army's single airborne and air assault divisions to facilitate incorporation of the oncoming "1986" equipment. Together, the light forces studies reflected a growing concern in the late 1970s that, however serious was the challenge of the Warsaw Pact and Soviet forces to NATO Europe, U.S. Army forces would have to be prepared for rapid deployment to meet contingencies in the non-NATO world.

Why had post-Vietnam force design neglected — until well into the 1970s — the "contingency" world? That neglect did not owe to a forgetful or arbitrary Army view regarding the value of light, nonmechanized infantry. Rather, it reflected national defense policies that paid little attention, after the withdrawal from Vietnam, to the possibility of U.S. military action outside the armor-dominated European theater. For the Army, those policies meant an almost exclusive focus on the development of heavy forces. As late as 1979, Department of Defense plans in fact called for mechanizing all the remaining standard infantry divisions, exclusive of the 82d Airborne and 101st Airborne (Air Assault). In that year, however, the new Chief of Staff of the Army, General Meyer, took steps that stopped the mechanizing trend at ten divisions.[22]

The sixteen Active Army divisions at the outset of 1979 were the "heavy" 1st, 2d, and 3d Armored Divisions, the 1st Cavalry Division, which was organized as armored, and the 1st, 3d, 4th, 5th, and 8th Infantry Divisions (Mechanized); together with the 2d, 7th, 9th, 24th, and 25th Infantry Divisions, the 82d Airborne Division, and the 101st Airborne Division (Air Assault). As programmed, the 24th Infantry Division converted to mechanized status in September 1979.[23]

General Meyer believed, however, that there was another way than "heavying up" to make the standard infantry divisions effective: increased technology. Meyer made his case successfully to Secretary of Defense Harold Brown and advised the secretary that he would set TRADOC to the study and design of an infantry division along those lines.

The accession of General Meyer, an advocate of lightness, to the Chief of Staff position in June 1979 was a timely development. The year 1979 witnessed the overthrow of the Shah of Iran

20. For a full account of Separate Brigades 86 planning, see TRADOC Annual Historical Review, FY 1981, pp. 73–75, and FY 1982, pp. 95–98 (Both CONFIDENTIAL — Info used is UNCLASSIFIED), and TRADOC Annual Command History, FY 1983, pp. 333–35. (SECRET — Info used is UNCLASSIFIED)

21. The nomenclature "light division" introduced by the Army 86 planners in 1979 referred to a reduced structure in the mold of the traditional straight, nonmechanized infantry division and as the "light" complement to the Division 86 heavy division. The 1979 nomenclature did not imply a division concept resembling the experimental U.S. light divisions of World War II.

22. Romjue, *Army 86*, Vol II, p. 25.

23. (1) Annual Historical Review, HQ FORSCOM, FY 1979, p. 21. (SECRET — Info used is UNCLASSIFIED) (2) "1979 Command and Staff Directory," *Army Green Book*, 1979, p. 106 ff.

by a popular fundamentalist and anti-Western revolution and the beginning of the protracted Iranian hostage crisis. The year also saw the Soviet invasion of Afghanistan, a power move undertaken to consolidate the Soviet-supported communist coup d'etat in that country the previous year. Those events led to a change in the strategic-political perceptions of Carter Administration policymakers, who became more alert to foreign policy necessities in an increasingly unstable world and to the need for flexible contingency forces. The rationale for those forces included rapidly deployable light infantry divisions.[24]

The search for the light division in 1979 was to take two separate courses, though no such separation was planned at the outset. Both courses ultimately failed. In late 1979, the Army 86 planners began the Infantry Division 86 Study. For "ID 86," consultations between Generals Meyer and Starry had produced the concept of a light division with a clear dual mission. The division should be able to deploy rapidly to reinforce forward forces in NATO, and be able to deploy to conduct worldwide contingency operations.[25] That dual concept — a nonmechanized light division which had to be effective as a rapid deployment division in third world contingencies of every variety, but also had to be effective on the armor dominated plains of Europe — proved a constant frustration for planners right up to the advent of the AOE. The crux of the requirement and center point of the dilemma was that the infantry division had to be able to "attack or defend to delay or disrupt enemy armored forces or to destroy light enemy forces" on mixed or open terrain.[26]

The ID 86 Study conducted during 1979-1980 excluded tank and mechanized infantry battalions from consideration. But a strong antiarmor capability was emphasized; "high technology," it was hoped, would provide it. How would an infantry division without organic armor operate to challenge an armored enemy on mixed or open terrain? Planners developed a succession of four designs, all of which — at 18,000, 15,600, 15,300, and 17,700 — exceeded the design ceiling of 14,000 men. The designs did not suffer from a lack of ideas. Designers proposed several foot-infantry - mobile-infantry - airborne-airmobile brigade combinations and toyed with the idea of added heavy packages.

For the final Infantry Division 86 design, Meyer drew the necessary conclusions and lifted the 14,000-man ceiling. The resulting structure approved in September 1980 for planning and testing, was a straight infantry division of 17,773 whose 3 brigades commanded 8 motorized battalions and 2 mobile protected gun battalions for the antiarmor mission (Chart 8).[27] High technology equipment was central to the concept. In sum, on the heavy NATO half of the infantry division's dual mission, General Meyer had remained firm. The result, however, was a built-in dilemma. A heaviness in materiel was implicit in a highly mobile high technology division whatever its strength. In the end, at almost 18,000 men, ID 86 was not "light," either in men, equipment, or support. Plans moved forward to test the ID 86 design and to do so by using the 9th Infantry Division stationed at Fort Lewis, Wash. as a so-called "high technology test bed" for transition.

24. Romjue, *Army 86*, Vol II, p. 25.

25. See *ibid.*, pp. 25–57 for the documented account of of the ID 86 Study and designs on which this summary is based.

26. Letter ATCD-AN, General Donn A. Starry to Cdr, USACAC, 29 Oct 79, subj: Combat Developments Study Directive: Light Divisions for the Next Decade (LD 86)

27. See Michael J. Mazarr, Light Forces and the Future of U.S. Military Strategy, Washington, D.C.: Brassey's (US), Inc., 1990, for the argument that Meyer in 1980 was seeking a "middleweight" light armored infantry division.

The High Technology Test Bed, or HTTB, was the second development course spawned by the Army 86 Studies for the light division.[28] Though not initially viewed by the Army 86 planners as a separate development effort, it evolved in fact in that direction. Based on a memorandum of understanding of October 1980, the HTTB was to be the united endeavor of TRADOC, the Army Materiel Development and Readiness Command, and the Army Forces Command, which commanded the 9th Division through the I Corps, also based at Fort Lewis.[29] By Department of the Army direction, the division commander was the High Technology Test Bed test director, with TRADOC establishing a test group at Fort Lewis whose head served as deputy test director. The ID 86 design was the basis for development of a high technology division, into which the 9th Infantry Division, as its test bed, would transition.

Differing perceptions, however, soon developed between TRADOC and the 9th Division as to approach. Was the test bed to test the Infantry Division 86 concepts and organizations and infuse new high technology systems into the 9th Division, as TRADOC understood? Or was the focus first on the infusion of new technology and on innovative and enhanced deployability unhampered by the ID 86 conceptual structures — the 9th Division's understanding of things? The upshot of the disagreement — the decision by General Meyer in April 1981 that ID 86 was the starting point only — effectively set the 9th Infantry Division test bed upon the effectively independent track it subsequently pursued under Meyer to develop high technology light division designs and ideas.[30]

Absorbing and submerging the ID 86 effort, the high technology light division thus became the focus of light infantry division design until the advent of the 10,000-man division project launched in 1983. Under TRADOC, Combined Arms Center and Combat Developments Experimentation Center groups supported the Fort Lewis effort, which in September 1983, the Army Chief of Staff established as a field operating agency titled the U.S. Army Development and Employment Agency.[31]

No high technology light division eventuated from the test bed and its successor agency at Fort Lewis, however. A major reason was that the weapon programs on which the HTLD concept depended failed to gain funding. Chiefly involved were light or "fast attack" vehicles resembling

28. For a documented account from the TRADOC perspective of the establishment, early planning, and test programs of the High Technology Test Bed/Army Development and Employment Agency, see TRADOC Annual Historical Reviews, FY 1981, pp. 93–113; FY 1982, pp. 100–16 (Both CONFIDENTIAL — Info used is UNCLASSIFIED); and TRADOC Annual Command History, FY 1983, pp. 311–28. (SECRET — Info used is UNCLASSIFIED) For an account of the HTTB and high technology light division by the command historian of I Corps, the unit that commanded the 9th Division HTTB/HTLD, see Joseph Huddleston, draft manuscript, *The High Technology Test Bed and High Technology Light Division, Inception through 30 September 1983*, Vol I, (Ft. Lewis, Wash.: HQ I Corps and Fort Lewis, 11 Mar 86). See also *Motorized Experience of the 9th Infantry Division, 1980–1989*, eds. Lt Col Stephen L. Bowman, Lt Col John M. Kendall, and Lt Col James L. Saunders (Ft. Lewis, Wash.: HQ 9th Infantry Division (Motorized), 9 Jun 89), pp. 12–44, for a useful but undocumented summary of the 9th ID experience.

29. Memorandum of Understanding Between FORSCOM, DARCOM, and TRADOC, subj: The 9th Infantry Division HTTB, s/Maj Gen John W. McEnery, CofS, FORSCOM, 18 Aug 80; Brig Gen William H. Schneider, CofS DARCOM, 8 Oct 80; Maj Gen John B. Blount, CofS TRADOC, 25 Aug 80.

30. TRADOC Annual Historical Review, FY 1981, pp. 93–113. (CONFIDENTIAL — Info used is UNCLASSIFIED)

31. TRADOC Annual Command History, FY 1983, pp. 314–15. (SECRET — Info used is UNCLASSIFIED)

dune buggies, and armored assault gun vehicles. In April 1982, General Meyer approved a high technology light division design of 15,977 for planning, programming, and transition. He also approved provisional reorganization of three 9th Division battalions into the HTLD's emergent distinctive battalion types, three in number — assault gun, light attack, and light motorized infantry. The "surrogate" or substitute vehicles and equipment, with which the designs had been tested, were to be leased to equip those initial units. The goal was a prototype HTLD, but not a fully equipped division, by 1985.[32]

Doubts as to the adequacy of the division's strength, however, continued, along with the difficulty that the experimental organization's new equipment had in competing with the rest of the Army for research and development and equipment procurement dollars. Another difficulty was that the ad hoc nature of the test bed — it reported directly to Headquarters Department of the Army — supervened the established development process. The test bed's nominated weapon and equipment requirements did not get programmed or programmed on time because the relationship between the development agencies cooperating with the test bed — the Pentagon, Headquarters TRADOC, the Combined Arms Center, and the Materiel Development and Readiness Command — was hit or miss. TRADOC had considerable difficulty working itself in to be the validator of weapon and equipment concepts that could then be rapidly supported by the materiel developer and Headquarters Department of the Army. From a management standpoint, the test bed did not work. It could not put in place its requirements. In addition, the HTLD design had by September 1982 grown to 17,742 (Chart 9) — almost exactly the strength of the "too-heavy" Infantry Division 86 design of two years earlier. Notwithstanding the problems, the Department of the Army directed an immediate start on unit conversions, activations, and reorganizations for transition of the initial 3-battalion brigade and other units by March 1983 with the remainder to follow in FY 1984 and later.[33]

The advent of a new Army Chief of Staff and the Army of Excellence effort in 1983 brought to a halt the 9th Division's programmed evolution into a high technology light division, as the AOE planners in TRADOC set about a comprehensive restructuring of all the Army's divisions. Concomitantly, a change in 9th Division command in May 1983 placed in question the conceptual basis of the light motorized infantry and assault gun battalions. The upshot of the changed views was the organization of assault gun companies and light motorized infantry companies into combined arms battalions and the ultimate recasting, in October 1986, of the division design to another specialized division type — a motorized division employing the high-mobility multipurpose wheeled vehicle, or HMMWV, but still lacking other essential equipment: the armored gun system and the fast attack vehicle. That design will be discussed below in this history. As noted earlier, the high technology light division project was transformed in September 1983 into a field operating agency, the Army Development and Employment Agency, under the concurrent command of the 9th Division commander.[34]

32. TRADOC Annual Historical Review, FY 1982, pp. 107–10. (CONFIDENTIAL — Info used is UNCLASSIFIED)

33. (1) *Ibid.*, pp. 110–16. (CONFIDENTIAL — Info used is UNCLASSIFIED) (2) Interview of General William R. Richardson by John L. Romjue, 24 Feb 93. (3) Starry Interview by Romjue, 19 Mar 93.

34. TRADOC Annual Command History, FY 1983, pp. 311–15. See that account, pp. 311–28, for a summary discussion of the 1983 HTLD developments. Huddleston, *op.cit.*, pp. 199–243 contains a detailed account of the 9th ID events up to September 1983. See also Bowman, Kendall, and Saunders, *op.cit.*

With the light division issue in the hands of the test bed at Fort Lewis, the Army 86 planners turned to the organizational issues of the light corps and its higher echelons as well as to rapidly deployable contingency units — the airborne and air assault divisions.

The design issues bound up in the contingency headquarters were complex. The contingency corps and its higher echelon had to be light enough to deploy rapidly over vast distances to regions of the world where local support might be nonexistent. On the other hand, the light forces had to be sufficiently strong and self-sustaining to defeat an enemy whose forces might well include armor and other sophisticated equipment. The contingency headquarters could be expected to deploy as part of a multiservice operation of unpredictable length and dimension against forces of the widest description.

Designs of the Contingency Corps 86 and Echelons Above Contingency Corps 86 structures were begun in 1980 and were presented to the Army Chief of Staff in November 1981 and again in January 1982. The Army 86 planners envisioned a contingency corps commanding an ID 86 infantry division, an airborne division, an air assault division, an organic Ranger battalion, rear area combat brigade, corps aviation and artillery, and other essential elements. Planners prepared the initial corps structure in two versions — the required force and minimum force, at 143,000 and 113,000, respectively, including the divisions. Those figures were considerably above the Chief of Staff of the Army's target of 100,000 personnel. Echelons above contingency corps structures were proposed at 30,000 and 19,000, respectively. Presentation to General Meyer focused on the minimum structures (Charts 10 and 11). Reviews of late 1981 reduced the division components to two and one-third divisions and deleted the rear combat brigade, among other changes.[35]

As worked out by the planners at the Combined Arms Center, the mission of Contingency Corps 86 was to deploy rapidly to any world area, NATO Europe excepted, establish a lodgement, and defeat Soviet or non-Soviet forces armed with weapons of Warsaw Pact sophistication in a short but violent conflict, while sustaining itself from forward or sea bases with minimal logistics. The force would normally fight as a component of either a unified or specified command governed by relationships as suggested in Chart 12. By concept, a corps support command and in larger contingency operations, a theater area command, or TAACOM, would provide needed logistics and support.[36]

General Meyer deferred decisions on particulars of the contingency structures when he reviewed them in January 1982 and cancelled any further effort to present a final actual force design. An important reason for that action was the still indeterminate shape of the light infantry division. CC 86 and EACC 86 ended as force design exercises only, for which no schedule of transition lay ahead as it did for the elements of the heavy division and corps. TRADOC did publish an operational concept for contingency corps operations in 1982, however, along with interim doctrine for echelons above contingency corps. The echelons above corps and echelons

35. TRADOC Annual Historical Review, FY 1982, pp. 71–79. (CONFIDENTIAL — Info used is UNCLASSIFIED). See this source for a detailed organizational description. TRADOC Annual Historical Review, FY 1981, pp. 75–78, 80–92 contains a documented discussion of the contingency force planning issues. (CONFIDENTIAL — Info used is UNCLASSIFIED)

36. TRADOC Annual Historical Review, FY 1982, pp. 71, 84–85. (CONFIDENTIAL — Info used is UNCLASSIFIED)

above contingency corps manual was published in April 1985.[37] Among significant considerations of this doctrine was a recognition of the prime requirement to tailor forces to the specific requirements of theater and situation.[38]

In sum, the 1981-1982 Army 86 light force design efforts above division did not produce exact final designs, but they did provide design tools and insights into a fuller doctrinal understanding of the way in which particular contingency situations were the determining factor in light-force design.

For the airborne and air assault divisions, the Army 86 planners did produce designs in 1982. That effort dealt with two specialized divisions facing the competing demands of sufficient heaviness for NATO reinforcement, and sufficient lightness for their rapid deployment contingency mission. FORSCOM participated in this effort which, unlike Division 86 and Infantry Division 86, was not a full organizational restructuring but a modernizing of existing division organizations to incorporate the 1986 equipment. Designs put tentatively at 16,147 and 18,823 were completed in July 1982 and briefed to General Meyer in January 1983 (Charts 13 and 14). As we will see, action on those designs, as on all the other organizational designs of Army 86, was suspended in the summer of 1983 as a result of the AOE initiative.[39]

Although the Army 86 work with the contingency organizations above division was useful in the search for lightness, the design of the main light force element remained unrealized. In 1982–1983, Army force designers found themselves no farther along toward a new realistic infantry division design than they had been four years earlier. High technology testing had not proved sufficiently convincing to pose the "high-tech" route as an answer. Nor would the ultimate motorization compromise of the 9th Division provide a light solution.

The Strength Impasse

The attempt by Army planners during 1981-1982 to deal with the strength implications of the Army 86 organizations, in particular the Division 86 heavy division, were not successful, as we have seen. The crux of the problem was the force design impasse of a continuing 780,000 Active Army end-strength ceiling with which the designers of Division 86 had had to contend. An expansion of the Army's end-strength levels by the mid- and late1980s was a reasonable expectation.[40] That expectation of higher troop strength was consonant with the modernization of the

37. (1) TRADOC Pam 525–14, Operational Concept for Contingency Corps Operations - 1986, Ft. Monroe, Va.: HQ TRADOC, 14 Jun 82. (2) FM 100–16, Support Operations: Echelons Above Corps, HQ DA, 16 April 1985. (3) For a detailed discussion of the organizations and concept of the contingency forces, see TRADOC Annual Historical Review, FY 1982, pp. 71–79. For a discussion of the 1981 interim contingency force doctrine, see *ibid.*, pp. 82–86. (CONFIDENTIAL — Info used is UNCLASSIFIED)

38.TRADOC Annual Historical Review, FY 1982, pp. 79–82. (CONFIDENTIAL —Info used is UNCLASSIFIED)

39. (1) TRADOC Annual Command History, FY 1983, pp. 332–33. (SECRET — Info used is UNCLASSIFIED) (2) See TRADOC Annual Historical Review, FY 1981, pp. 78–80, and FY 1982, pp. 86–95 for a discussion of the numerous issues and the concepts and organizations of airborne and air assault division planning. (Both CONFIDENTIAL — Info used is UNCLASSIFIED)

40. (1) Interview with Maj Gen Leonard P. Wishart III, Dep Cdr, Combined Arms Center, by Dr. John W. Partin, 24 Jul 84. Wishart believed the Army had been betting on an expansion in the future in the budgetary "out-years." (2) Interview with Col Orville Butts, Dir Comb Arms and Svcs Staff Sch, CGSC, by Dr. John W. Partin, 12 Oct 84. Colonel Butts, who was assistant deputy commander of the Combined Arms Combat Developments Activity

Continued

Army that had been set in motion to counter the historic buildup since the early 1970s of the Soviet military forces facing NATO. The design philosophy of Division 86 had been to design to the full strength needed to meet the powerful armored and mechanized forces of the Warsaw Pact, regardless of then current end strength totals. At the same time, Division 86 was seen by its designers as an interim design. Smaller divisional organizations based on emerging weapon capabilities were a planning possibility in the next redesign cycle.[41]

Repeated attempts by the Army's senior leaders in the early 1980s to raise the manpower ceiling by 5,000 to 15,000 men in the annual budget document, the Program Objective Memorandum, in order to accommodate the projected Army 86 increases did not succeed at the Department of Defense and congressional levels. General Meyer accepted the reality of the 780,000 ceiling for the foreseeable future and put his primary effort into the ongoing equipment modernization of the divisions.[42] Such were the major requirements of the U.S. strategic, naval, air, and ground force buildup implemented in the 1980s to repair the neglected national defenses that the higher end strengths to accommodate larger Army heavy divisions did not gain the needed support in the Office of the Secretary of Defense or in the Congress. In October 1979, the Division 86 planners had estimated the manpower increase necessary to man the heavy division force at over 21,000 additional personnel.[43] TRADOC estimated, in 1983, that in order to fulfill all the Army 86 designs, Active Army force structure all told would need to increase to 836,000.[44]

In the meantime, the modernization of the force was proceeding apace. M60A3 tanks which had been fielded in Europe in 1979, were followed by new M1 Abrams tanks, the first of which arrived in Germany in July 1981. USAREUR received and fielded its first UH-60A Black Hawk helicopters in July 1982. The first Multiple Launch Rocket Systems were delivered in August 1983, and the following month fielding of the Bradley Fighting Vehicle began in Europe. Modernization of the FORSCOM units proceeded simultaneously, the first M1s being received in 1982, with the Bradley vehicles reaching the FORSCOM divisions in early 1983.[45]

(40. Continued)

during July 1983– July 1984, and had been a member of the Division 86 planning team, stated that Army 86 planners believed Congress would be moved to provide the additional strength needed.

41. Starry Interview by Romjue, 19 Mar 93. Starry characterized Division 86 and Army 86 as an "unhappy compromise," evident at the time.

42. (1) Interview of General Glenn K. Otis by John L. Romjue, 15 Feb 93. (2) Richardson Interview by Romjue, 24 Feb 93.

43. Briefing, TRADOC In-Process Review of Division 86 for General Meyer, 18 Oct 79.

44. Memo, TRADOC Chief of Staff to Chiefs of General and Special Staff Offices, 5 Jul 83, subj: Commanders' Summer Conference.

45. (1) USAREUR Historical Review, 1982–1983, HQ USAREUR, 1 May 85, pp. 20, 25, 27, 29. (2) FORSCOM Annual Historical Review, FY 1983, Ft. McPherson, Ga.: HQ USAFORSCOM, 1 Feb 85, pp. 179, 180. (Both SECRET — Info used is UNCLASSIFIED)



General Edward C. Meyer



General John A. Wickham, Jr.



General William E. DePuy



General Donn A. Starry



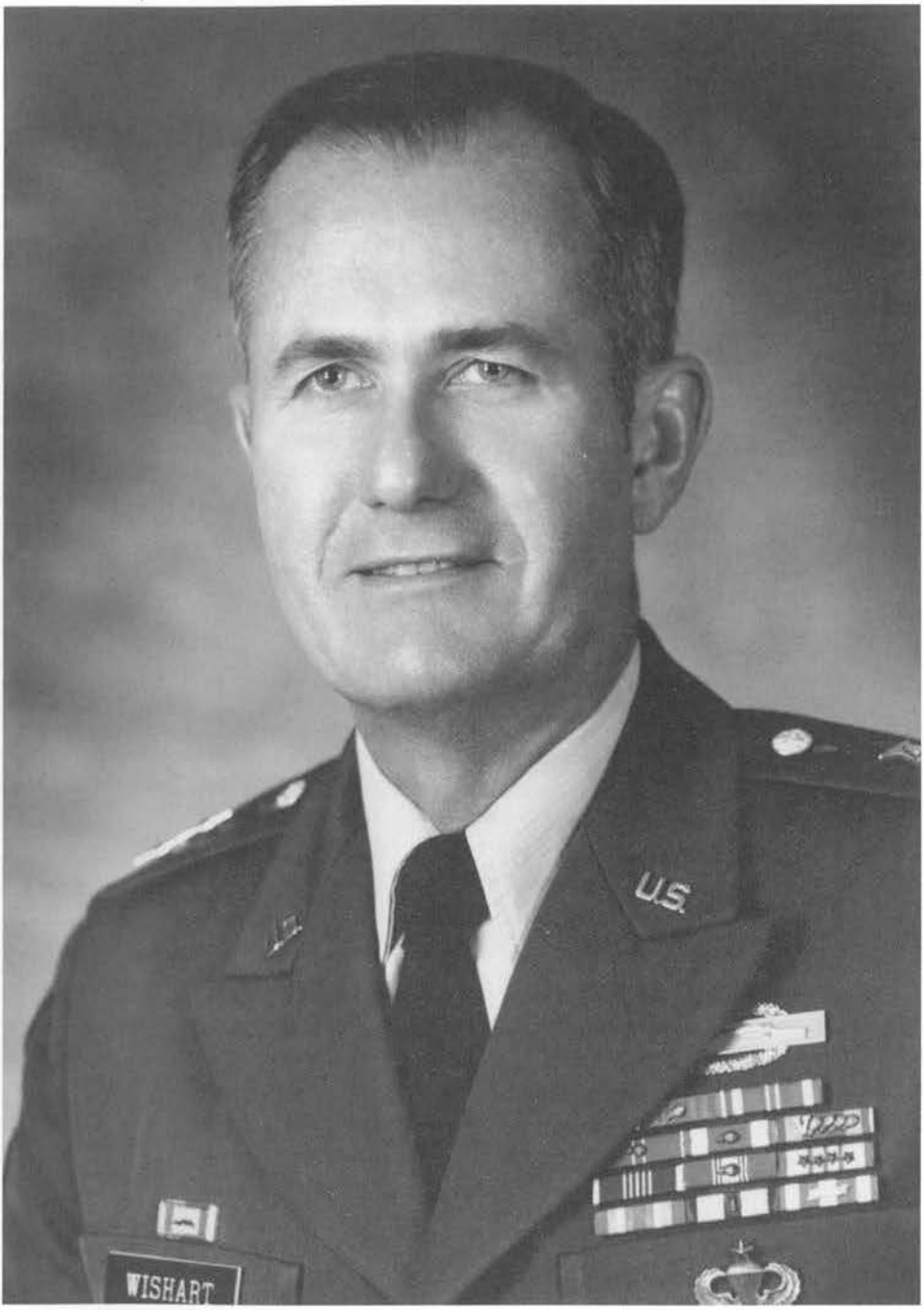
General Glenn K. Otis



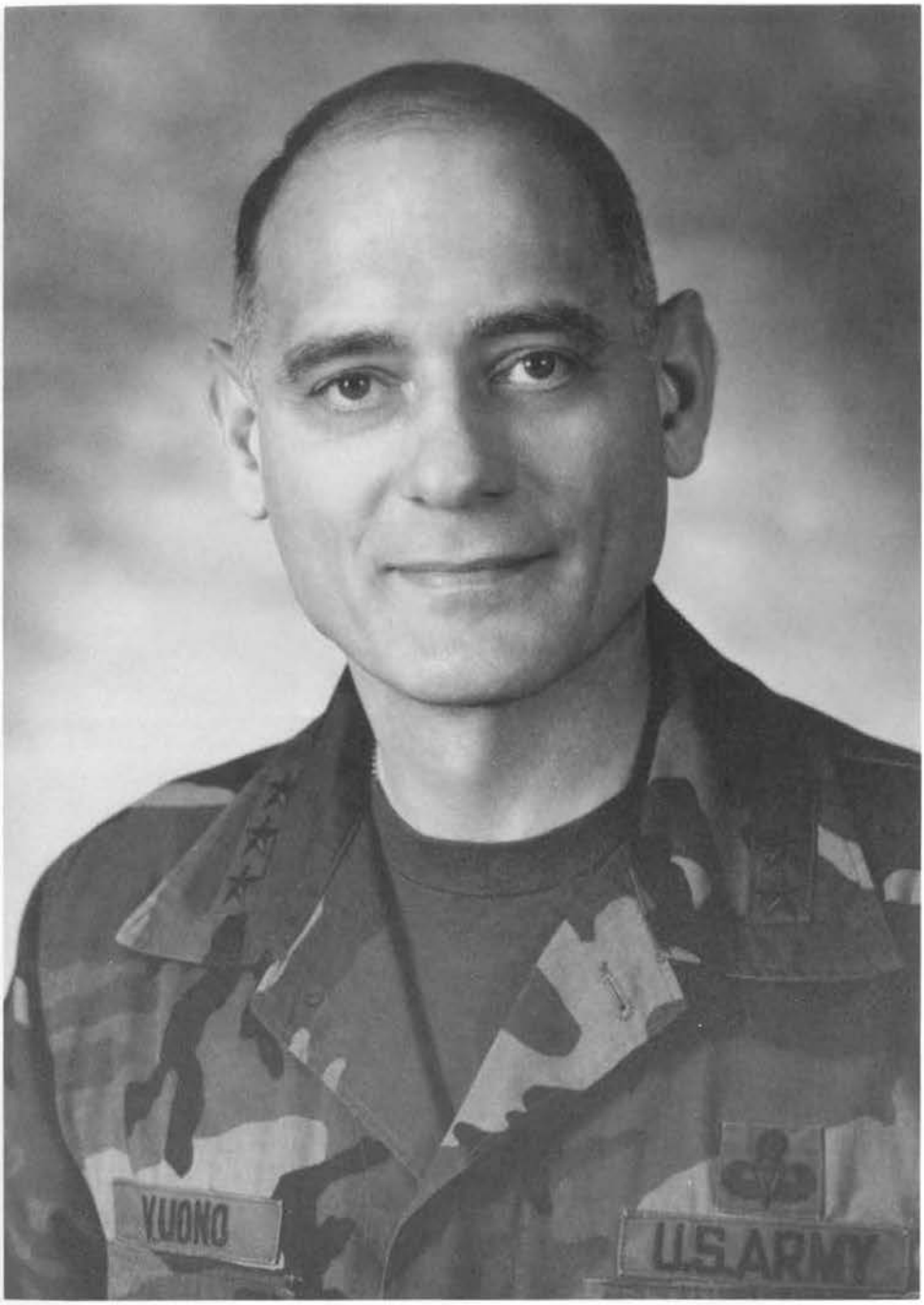
General William R. Richardson



General Maxwell R. Thurman



Major General Leonard P. Wishart III



Lieutenant General Carl E. Vuono

Chapter II

THE DEVELOPMENT OF THE ARMY OF EXCELLENCE

During 1982–1983 the first of the Army heavy divisions began transition from ROAD division tables of organization and equipment, first implemented in their original form some twenty years earlier, to the division TOEs of Army 86. Although some of the new weapons and equipment that the new Army 86 organizations were designed around had already begun delivery to the field, the year 1983 saw the onset of what Army planners called the "bow wave" of the historic modernization. During that year, the design and planning stages of Army 86 were giving way to a quickening implementation phase, as the M1 tank, the M2 and M3 Bradley Fighting Vehicles, the Multiple Launch Rocket System, and other new weapons and equipment were fielded in the divisions of U.S. Army Europe and the Forces Command. In the midst of the transition, the Army leadership directed a major new design and structuring approach to the Army's tactical units under the rubric, the Army of Excellence.[1]

Focused on development of a new light infantry division greatly reduced in size and revised in concept from current and proposed designs to a level of only 10,000 men, the 1983 organizational initiative encompassed a larger reexamination and design modification of almost the whole of the fighting Army. Signalled in early 1983 by the nominee Army Chief of Staff John A. Wickham, Jr. shortly before he assumed direction of the Army, the planning initiative was set in motion in August. It effectively superseded the Army 86 design and modernization effort. Carried through rapidly by TRADOC through its force design element at the Combined Arms Center, the Army of Excellence designs were presented to the Fall 1983 Army Commanders' Conference in October, where they were approved in their basic essentials.

1. The term, "Army of Excellence," appears to have originated in the logo the Force Design Directorate of the U.S. Army Combined Arms Combat Developments Activity at Fort Leavenworth, Kan. used on its briefing slides for the project: "Force Design for an Army of Excellence." "Excellence" was the official 1983 Army theme, announced at the beginning of the year by Secretary of the Army John O. Marsh, Jr., and propagated extensively in the derivative TRADOC slogan, "Excellence Starts Here." The Department of the Army message to TRADOC of 1 September 1983 assigning a "Force Structure and Design Initiatives for an Army of Excellence," officially coined the phrase, endorsed by the new Chief of Staff of the Army, General Wickham. (1) MFR ATMH, John L. Romjue, TRADOC Office of the Command Historian, 31 Oct 90, subj: Inter-view of Mr. Robert L. Keller, Current Forces Directorate, USACAC-DA by John L. Romjue, 22 Oct 90 (hereafter: Keller Interview by Romjue). (2) Interview of Brig Gen John R. Greenway, DCS for Doctrine, HQ USATRADOC, by Dr. John Partin, CAC Historian, 26 Jun 84, Ft. Monroe, Va. (hereafter: Greenway Interview by Partin). (3) Msg, HQDA to Cdr TRADOC, 011913Z Sep 83, subj: Force Structure and Design Initiatives for an Army of Excellence. (SECRET — Info used is UNCLASSIFIED)

The accession of General Wickham to the post of Chief of Staff of the Army in June 1983 was the immediate impelling cause for the Army of Excellence - light infantry division effort. General Wickham's actions responded to the deeper underlying cause we have earlier noted: the design impasse presented by the 780,000 Active Army end-strength ceiling. The Army Chief of Staff's initiative was the biting of the bullet with respect to that budgetary reality.

The Wickham initiative, which would set the organizational course of the tactical Army into the 1990s, began in the weeks before he assumed his new office on 23 June. It had a striking parallel in an action of his predecessor, General Edward C. Meyer, exactly four years earlier. In June 1979, just prior to assuming his new post, General Meyer had prompted the revision action that led to the development and publication during his tenure of the doctrine of AirLand Battle.[2] Like Meyer's action, the Wickham initiative to create the 10,000–man light division and the Army of Excellence had far reaching effects.

The Origins of the AOE

General Wickham had laid the groundwork for the AOE initiative as early as April 1983 while still Vice Chief of Staff of the Army. That month, the announcement of his selection as Chief of Staff came and Wickham formed a small group of officers under Brig. Gen. Colin Powell to identify issues he expected to face, in three areas. There were fourteen officers in the group, and "Project 14" looked at the three areas: transition matters, needed policy changes, and new initiatives. The Project 14 team canvassed widely in the Army, and among ideas elicited by their visits was to move in the direction of more light infantry. Another Project 14 finding was the common recognition that Division 86 was not affordable.[3]

During this period, General Wickham notified General William R. Richardson, who had taken over TRADOC command in March 1983, that he wanted TRADOC to develop a light division of 10,000 personnel. Richardson, who had supervised the major portion of the force design of Army 86 as Combined Arms Center commander, agreed but advised the Chief of Staff that such a redesign should be part of a larger whole — an adjustment of the Army's fighting units in their totality. Richardson's idea was to line up the tactical Army by its several corps and by elements — combat, combat support, and combat service support — and to design and structure it in a way by which the light infantry divisions would best fit in.[4]

General Wickham also signalled his thoughts on the future force in early June 1983 at Fort Leavenworth where, in the last month of his tenure as Vice Chief of Staff, he spoke to the graduating class of the Command and General Staff College on 3 June. Following briefings to him by the Combined Arms Center staff during that visit, Wickham raised the force problem in discussions with the center commander, Lt. Gen. Jack N. Merritt, as to where the Army should be going with respect to force design for the year 2000. The transition to Division 86 was well under way in 1983, but the Army needed to look ahead to designing the structures that corresponded to

2. Romjue, *AirLand Battle*, pp. 30, 32.

3. Interview of General John A. Wickham, Jr., USA (Ret) by John L. Romjue, 20 Jan 93.

4. Richardson Interview by Romjue, 24 Feb 93.

the challenges ahead. General Wickham felt that that was the most important task facing TRADOC and that the design ideas had to emanate from TRADOC, working with the other major Army commands. But while looking ahead to TRADOC's future concept, AirLand Battle 2000, Wickham believed that the Army needed to move with reasonable urgency toward a lighter force design.[5]

Combat strength — not only preserving it, but increasing it — was Wickham's goal. Ten years earlier when the Army, withdrawing from Vietnam, had been reduced to a low of thirteen divisions, the Army Chief of Staff General Creighton Abrams, eying the rising Soviet threat to NATO Europe, had set a goal of 16 Active Army divisions by 1976 without Army end-strength increases. Abrams' initiative, which had been carried through to completion after his untimely death in office in September 1974, had achieved that goal through a paring-back of the support structure and employment of reserve component "roundout" brigades and other units for the Active Army divisions. What that meant was that some active divisions commanded only two active brigades, filling out their strength with a reserve unit as the third brigade. Those measures were strongly supported by Secretary of Defense James Schlesinger. Not only did they convert fat to muscle in terms of combat units and anchor the Army's future war fighting commitment in its reserves as well as in its active forces; the Abrams initiatives also sent a deterrence message.

In 1983, General Wickham, acting as the Army's new Chief of Staff, resurrected and employed the Abrams paradigm. Facing the reality of no increase in Active Army end strength and the twin dilemmas of a continuing, serious Soviet threat in Europe and a rising necessity for light, rapidly-deployable contingency forces to meet third world crises, Wickham pushed through a force design initiative that placed a premium on trimming support strength and adding combat units. The AOE redesign and related force structuring decisions would add first one and then a second active division for a total of 18. It would add two Army National Guard divisions, bringing the Guard total to 10.[6]

General Wickham's push for a small new infantry division type was an implicit rejection of his predecessor's high technology route to lightness, which we have noted earlier. Wickham had supported the 9th Infantry Division initiative and continued that support after he became Chief of Staff. But the lack of real support Army-wide for the key to the high technology light division concept — a light armor vehicle — and the division's high air-sortie count, in Wickham's mind blocked that solution. Another problem was Forces Command pressure to bring the 9th Division to a readiness state. The division's indeterminate table of organization and equipment precluded that.

Moving to end the infantry division dilemma, Wickham set a division size of 10,000 troops as a "mark on the wall," rather than the HTLD's 15,000 range. The division was to be strategically transportable in 500 C-141B air sorties, instead of the HTLD's 1,500. The central strategic idea of

5. TRADOC Office of the Command Historian (OCH) files.

6. (1) For a discussion of General Abrams' rebuilding initiatives as Army Chief of Staff, see Lewis Sorley, *Thunderbolt: General Creighton Abrams and the Army of His Times*, New York: Simon & Schuster, 1992, pp. 360–66. (2) Wickham Interview by Romjue, 20 Jan 93. Wickham was involved in the Abrams initiatve in an advisory capacity as Defense Secretary Schlesinger's Senior Military Assistant in 1973–1976. In 1973 Wickham actively recommended "incentivizing" the Army to author its own efficiency measures for post-Vietnam downsizing by converting fat to muscle and support structure to combat structure, rather than having Defense Department analysts accomplish the shrinkage task less discriminately.

the new division type was that of Confederate General Nathan Bedford Forrest: to get there "firstest with the mostest."

Wickham's own experience as commander of the 101st Airborne Division during 1976–1978 influenced his thinking on light infantry tactical mobility. That division had had the organic airlift to move one third of its combat elements at one time. Thus, its helicopters could move all the assault elements basically in three lifts. Wickham had also had airmobility experience as a battalion commander with the lst Cavalry Division in Vietnam. Those experiences would influence his thinking in the direction of lift capability for the new light division — a combination of organic helicopters and ground vehicles — to do the same thing, to move one third of the combat elements at one time.[7]

It is interesting to note at this point that combat development planners at the U.S. Army Infantry School at Fort Benning had, just a year earlier, in 1982, explored the concept of a light division of 10,000 men. Although that effort had led to no concrete result, it raised some of the same issues that would emerge in the summer of 1983.[8]

There was a wide and rising interest in light forces both within and outside the Army in the early 1980s. AirLand Battle doctrine, which had been developed during 1980–1981 and published in August 1982, took full cognizance of the military challenge in the non-NATO arena, where the Army faced a gamut of diverse threats posed worldwide by the Soviet Union and its surrogates, as well as by militarily less sophisticated third world states. That large arena called for strategically deployable rapid-responding, flexible light forces. These political realities had been raised to a peak of concern by the twin disasters for American foreign policy that occurred in Southwest Asia in late 1979: the Soviet invasion of Afghanistan and the onset of the Iranian hostage crisis.

Responding to a growing recognition of the need to turn greater attention to light units, but also looking toward the TRADOC AirLand Battle 2000 concept, Headquarters TRADOC had in June 1982 commissioned the noted defense writer and analyst Edward Luttwak to study army light specialized units. Luttwak's conclusions during 1982–1983 about U.S. light infantry needs, to be discussed below, would serve well TRADOC's increasing focus on the subject and on light force formulations during 1983.[9]

In May 1983 General William R.Richardson, the TRADOC commander, took steps to brief the outgoing Army Chief of Staff, General Meyer, on future light force organization before his retirement.[10] This formulation, prepared by Colonel John R. Greenway, the chief of the Combat

7. Wickham Interview by Romjue, 20 Jan 93. The High Technology Test Bed development method of the 9th Division had disadvantages in General Wickham's mind. While the test bed was a good method for developing new equipment and equipment applications, the need remained to put such equipment through the scrutiny of field testing to assure its operational practicality — the same process employed in the standard combat developments cycle. Wickham was wary of rushing unproven equipment into expensive production.

8. U.S. Army Infantry Center and School Annual Historical Review, 1983, Ft. Benning, Ga., HQ U.S. Army Infantry Center and Ft. Benning, n.d., p. 12.

9. (1) Edward N. Luttwak, Report, An Historical Analysis and Projection for Army 2000, Chevy Chase, Md.: 1982–1983. (2) Semiannual Historical Report, ODCSDOC, Oct 82 - Mar 83, p. 6.

10. (1) Greenway Interview by Partin, 26 Jun 84. (2) Memorandum for Record ATCS-H, John L. Romjue, TRADOC Historical Office, 30 Jun 84, subj: Army of Excellence: Record of Interview of Brig Gen John R. Greenway by Dr. John Partin, CAC Historian, 26 Jun 84 (hereafter: MFR, Greenway Interview). (3) Memorandum for Record ATCG, Col John R. Greenway, 20 May 83, subj: TRADOC Update for CSA.

Developments Planning Directorate at Headquarters TRADOC and briefed to General Meyer on 19 May, drew on recent and ongoing light-force-related projects. Those projects included TRADOC's AirLand Battle 2000 - Army 21 Study; the Strategic Requirements for the Army to the Year 2000 Study of the Georgetown University Center for Strategic and International Studies;[11] along with Luttwak's contract effort, and ideas offered by Lt. Col. Huba Wass de Czege, a primary author of the new doctrinal manual, FM 100–5.

Doctrinal perceptions of the early 1980s pointed increasingly to the fact that, while the arena of maximum danger to the security of the free world was central Europe where the numerically superior forces of the Warsaw Pact maintained a menacing presence, that the more likely theaters of conflict were the other world regions. Most particularly was that true of the explosive Middle East and Southwest Asia regions, but it held true as well for Latin America, Africa, and the Far East. The reality, global in extent, translated into the need for ready and rapidly deployable U.S. land forces — a requirement synonymous with light forces.

Ideas coming out of the Georgetown Study affirmed the applicability of Division 86 and AirLand Battle doctrine. But the Georgetown Study also pointed out that the NATO commitment effectively pinned down the Active Army NATO-dedicated units, including those in the Forces Command designated for NATO deployment. The study noted that there were, within the Army, diverse deployable forces — though they existed in an unbalanced array. There were the reserve component heavy divisions and brigades that could be dedicated to NATO reinforcement. There were some light forces for contingencies, and there were security assistance forces for low intensity conflict. The Georgetown Study argued for a restructuring of light forces into specialized brigades, and for a small division base, with support functions assigned to corps.

Edward Luttwak's study on specialized light units pointed out that while the armies of America's allies tended to be "equipment constrained," the U.S. Army was more "manpower constrained." Luttwak believed that light infantry should complement heavy forces in Europe, specializing in actions on urbanized and forested terrain and in cross-frontal attacks. Smaller brigade and battalion formations were needed for those roles. Luttwak saw both U.S. and allied forces as "context specific," but U.S. light forces needed to be "context adaptable" in order to meet the demand of strategic versatility.

How were "context adaptable" forces to be organized? Light infantry manpower would have to have a large content of high quality soldiers, for whom intensive and prolonged basic and individual training would be necessary. Unit training could be employed to develop various "tactical repertoires." High unit stability was essential. An optional control method of command was a conceptual possibility for such forces. Light forces would have to employ a minimum of heavy equipment, Luttwak reasoned, and would have to rely on nonorganic tactical transport.

The Wass de Czege critique had noted that the doctrinal realm, on the operational level, was still dominated by World War II levels of command. In recent times, however, tactical capabilities

11. Study Report, Strategic Requirements for the Army to the Year 2000, Middle East and Southwest Asia, Washington: Center for Strategic and International Studies (CSIS), September 1982. This study was an expansion of an Army Staff study signed by the Chief of Staff in June 1981, "Army Strategic Requirements to the Year 2000." Co-directors of the CSIS study were William J. Taylor, Jr. and Robert Kupperman. Information Paper DAMO-SSL, HQDA, 28 Feb 83, subj: Strategic Requirements for the Army to the Year 2000 Study.

and the scope of responsibilities of brigade, division, and corps commanders had greatly increased. Brigades might fight now like divisions had in the past, and divisions as had corps, and corps like armies. Air Force - Army relationships also were distorted toward World War II levels of command. Wass de Czege argued that brigades should now be more autonomous — divisions were too big.

As an observer looked at U.S. Army structure in 1983, TRADOC's briefing paper pointed out, he saw heavy forces that were concisely defined: the armor and mechanized infantry divisions and brigades and the armored cavalry regiments. But the light force picture was organizationally diffuse. It consisted not only of the infantry divisions and brigades (whose future shape at the beginning of 1983 was still unresolved), but also of the specialized airborne and air assault divisions, the high technology light division, in addition to other light types — the mountain battalion, Ranger battalion, and Special Forces group.

As Department of the Army and TRADOC planners turned to the light forces issue, there were ready tasks ahead. As TRADOC saw it, the Department of the Army needed to reassess the reinforcement and contingency missions as the basis for the active-reserve components mix, the light-heavy mix, and the division-brigade mix. The department needed to consider substituting Army National Guard divisions for active component early-deploying divisions to increase the contingency force structure. The Army also needed to increase its unconventional warfare capabilities and to encourage the allies to increase their light forces as well.

TRADOC could aid the general effort of future light force design by reducing the number of "context-specific" infantry organizations. One way would be to merge air assault and the high technology light division. Other ways considered at this time were to standardize the infantry division and brigade or make the airborne division a modified infantry division. TRADOC could further reduce heavy equipment in the infantry divisions and brigades, relying on an austere division headquarters and force packages at corps. TRADOC could design and test a multipurpose, context-adaptable light infantry organization. Finally, the increased use of lightweight high-technology, high-payoff equipment was a prospective design option.

In its early-summer 1983 assessment of the light division problem, TRADOC believed that collateral issues bearing on these design options might include exploiting the Army Development and Employment Agency to influence validated concepts, organization, and technology; or challenging the Army aviation branch to provide greater tactical mobility and fire support to light forces. Other possible measures included increasing the momentum of the Air Force - Army dialogue for modern and efficient joint procedures, and establishing a formal "response loop" between the tactical forces and TRADOC.[12]

Early Planning

We have just discussed the planning ideas in formulation at Fort Monroe in the early summer of 1983. Such ideas were soon to bear fruit when, a few weeks later, they were aired at the Summer Army Commanders' Conference. On 3 June, the Director of the Army Staff, Lt. Gen. James M.

12. HQ TRADOC briefing presented to CSA, General Edward C. Meyer, n.d. [May 1983], subj: Light Forces of the Future.

Lee, began preparations for that conference, to be held on 16–17 August and structured on the theme, "resources for excellence."[13] The Army Staff director asked the commanders of the major Army commands to identify subjects with Army-wide implications for discussion.[14]

The TRADOC Chief of Staff, Maj. Gen. Robert H. Forman, followed up Lt. Gen. Lee's directive on 5 July with instructions to the TRADOC staff to develop a number of topics that General Richardson was considering for the August conference. Among them were the ongoing TRADOC work in assisting the Army to field and transition to the organizations of Army 86, and the necessity to deal with the force structure dilemma arising from the Army 86 designs.

The specifics of the dilemma were that, in order to fulfill the organizational designs of Army 86, the Army's projected active force structure would have to increase to 836,000 personnel in the coming decade. That manpower total exceeded considerably the 780,000 end strength imposed by foreseeable budgetary constraints. Given that limitation, and the assumption that none of the Active Army divisions would be inactivated, TRADOC needed to describe how to modify the Army 86 force structure to conform to the end-strength reality. Maj. Gen. Forman's 5 July directive advised that the following steps would be necessary: further reduce the heavy division; suggest design options for smaller light divisions; examine the design of the special operations forces; and consider new support ratios between divisions, corps, and echelons above corps.[15]

In the meantime, the Army's largest major troop command, FORSCOM, took note of the strength problem in response to the planned summer conference and raised various related issues. The FORSCOM commander, General Richard E. Cavazos, also asked whether Division 86 could be afforded as presently structured. He additionally questioned what should be the active-reserve mix, and what were the costs of bringing units to an authorized level of organization (ALO), or strength readiness, of ALO 2. Cavazos also saw the basic question of how the Army fought organizationally — with units as part of corps, or the division as a separate entity, or as separate brigades — as a fundamental principle needing resolution. The FORSCOM commander became deeply interested in the AOE project in the course of the year, visiting Fort Leavenworth often for briefings and consultation with the newly reported CAC commander, Lt. Gen. Carl E. Vuono, and the AOE planners.[16]

General Richardson was, about this time, interested in another problem related to General Cavazos' concerns. This was the disproportionate growth in combat support and combat service support in recent years at the expense of the combat elements of the force structure. The trend had begun with the increase to 20,000 spaces of the tactical support increment of what force planners called the division force equivalent, or DFE. The DFE was a planning term referring to the division plus those nondivision forces needed to support it in combat. As the tactical support

13. Memo DACA-BU, Lt Gen James M. Lee, Director, ARSTAF to Army Staff Council Members, 3 Jun 83, subj: Commanders' Summer Conference.

14. Memo, TRADOC Chief of Staff to Chiefs of General and Special Staff Offices, 5 Jul 83, subj: Commanders' Summer Conference.

15. *Ibid.*

16. (1) TRADOC Office of the Command Historian files, FY 1983. (2) Interview of Lt Gen Carl E. Vuono by Dr. John W. Partin. (3) Interview of Mr. Robert L. Keller by Dr. John W. Partin, 20 Jun 84.

increment of the DFE had increased, the nondivision combat increment had diminished. Both Division 86 and the high technology light division had had a bearing on the trend, as they reduced infantry structure and increased support. Better ways were needed to control the process, perhaps a new method. General Richardson raised this problem with his combat developers in mid-June.[17]

The Chief of Staff of the Army issued his directive to begin the redesign effort to the TRADOC commander when he visited Fort Monroe on 27 June 1983. General Wickham told General Richardson to examine a light division of 10,000 men as the future light infantry division structure.[18] Wickham's visit was followed several days later by General Maxwell R. Thurman, his successor as Vice Chief of Staff of the Army. Thurman emphasized during that visit the factor of the end-strength ceiling — unlikely to rise to accommodate the Army 86 force designs.[19] Wickham's directive to Richardson was to design a 10,000—man division and take the spaces saved to apply to the other changes needed, including the full manning of Active Army units.[20]

At TRADOC headquarters, responsibility for the redesign fell primarily to the Deputy Chief of Staff for Combat Developments, Maj. Gen. Carl H. McNair, Jr., and the DCS for Doctrine, Maj. Gen. Donald R. Morelli. Within Morelli's office, a concept statement for the light infantry division was prepared. On 15 July, TRADOC signalled the Combined Arms Center about the upcoming project, asking for development of conceptual ideas. TRADOC provided initial guidelines. The new light division should be significantly lighter than Infantry Division 86, not be a "clone" of the high technology light division, and not be expected to be self-sustaining. The division would need to be firepower-intensive, applicable to the low-intensity realm but not designed for that option alone. It should embody only minimum support, requiring corps support for much of its combat service support requirements. General Richardson did not envision the light division deploying and fighting by itself; it would always deploy with support from corps. TRADOC instructed the Combined Arms Center to take the lead in concept and force design, in the context of AirLand Battle doctrine.[21]

Following review of the agenda of the upcoming Summer Commanders' Conference, General Wickham directed TRADOC on 2 August to include a presentation of the status and balance of light and heavy forces in the Army as a major issue and with an emphasis on the "light side." In this charge, there were many planning points to consider. Maj. Gen. Forman took stock of them with Maj. Gen. McNair on 4 August. There was the overarching factor of the end-strength ceiling, but beyond that were the foreseen strategic demands for both heavy and light forces, the question of reserve component force roles, the close reexamination that would be required for Division 86,

17. (1) Memorandum, General William R. Richardson to DCS for Combat Developments, 14 Jun 83, subj: The Changing Force Structure. (2) Wishart Interview by Partin, 24 Jul 84.

18. Ltr, General William R. Richardson to Lt Gen Jack N. Merritt, Dir, Joint Staff, Pentagon, 29 Jun 83, no subj.

19. MFR, Greenway Interview.

20. Interview with General William R. Richardson, Cdr TRADOC, by Dr. Henry O. Malone, Jr., 27 Aug 86.

21. (1) Memo ATDO-C, Maj M. Ferguson, Combat Directorate, ODCSDOC to DCS for Doctrine, n.d. [July 1983], subj: Concept Statement Review Board (CSRB). Major Ferguson was the author of the July concept statement. (2) MFR ATZL-CAD-C, Lt Col Billy T. Brooks, Chief, Combined Arms Concepts Division, CACDA, 22 Jul 83, subj: General Richardson's Comments - 22 Jul 83. (3) Semiannual Historical Report, ODCSDOC, Apr-Sep 1983, p. 5. (4) TRADOC OCH files.

the diffusion of light force organizational types, special operations forces considerations, and the paramount need to define the infantry division.[22]

The Army's future organizational direction — the subject of restricted official communications since the early summer — was reaching the public forum by early August 1983. Washington Post correspondent George C. Wilson, noting Defense Department expectations of less-than-projected Reagan Administration budget amounts for Fiscal Years 1985–1989, reported on 9 August the Army's plans to create new light divisions "suitable for fighting in the kind of mountainous terrain that Soviet divisions would have to travel to attack Iranian oil fields." The report cited a forecast by General Wickham that light divisions of 10,000–12,000 men were in prospect, and that significant Defense Review Board deliberations pointed to future interservice reallocations from Navy to Army that would permit the Army to carry through the light division reforms.[23]

The AOE planning was moving rapidly at this point. A climate favorable to Army light force initiatives had developed in political and defense circles. In General Richardson's mind, it was imperative that that support under no circumstances lead to a cut in the number of Army divisions. Rather, the creation of the new 10,000–man structures should permit adding an additional Active Army division to the Army's current sixteen, within end strength. Richardson saw the moment at hand to build the light divisions, a project on which TRADOC needed to move fast.[24]

The major impact that the force structure initiatives would have was well appreciated in sum but could not be known in detail at this stage. On 12 August, General Wickham told the commanders of the major Army commands that, for various reasons including stability, the Army needed to continue to field the new heavy structure TOEs, though they might be unaffordable in manpower. Adjustments to the organizations would be made as warranted and in the light of experience in the field and at the National Training Center, as well as high technology light division and other test experience. Wickham told the commanders that the light forces were clearly the sector of the Army that needed more resources and better direction. He noted the Army's recent acquisition of substantial additional resources specifically to equip light forces with the proviso that their designs have more combat power and deployability than the ones they replaced. What the Army needed, Wickham said, was a 10,000–man division heavy in infantry and related firepower, highly deployable, relying on external support for some capabilities, and requiring innovative and perhaps unorthodox thought to design and achieve.[25]

The Summer 1983 Army Commanders' Conference

On 16–17 August 1983, TRADOC headquarters presented its estimate of "the proper force for the 1980s" to the Chief of Staff of the Army, the Army Staff, and the commanders of the major

22. Disposition Form, Chief of Staff to DCS for Combat Developments, 4 Aug 83, subj: Commanders' Summer Conference Presentation, with encl.

23. George C. Wilson, "Reallocation: Pentagon Studies Shifting $10 Billion from Navy to Army," *Washington Post*, 9 Aug 83.

24. Memo, Richardson to Chief, Planning Office, 9 Aug 83, no subject. (SECRET — Info used is UNCLASSIFIED)

25. TRADOC OCH files. A sum of $1 billion was provided the Army by Deputy Secretary of Defense decision at the 21 July 1983 meeting of the Defense Review Board.

Army commands at the Summer Army Commanders' Conference.[26] Within the manning ceiling of 780,000 personnel that was foreseen through 1989, TRADOC offered its initial suggestions for organizing a balance of light and heavy, modern, sustainable, ready divisions with capabilities across the spectrum, from antiterrorism through unconventional and minor and major conventional warfare to theater nuclear and strategic nuclear war. The most apparent problems the design of those forces faced were those of flexibility, timely response to NATO and distant contingencies, adequacy of the total force, the combat-to-support balance, the national ability to man the force, the "hollowness" of the force, as well as problems of personnel turnover.

The hypothetical options TRADOC posed at the August 1983 meeting were: first, a risky and politically difficult reduction of the force in Europe; second, reorganizing either the Active Army or reserve component divisions from heavy to light; third, changing the Active Army heavy divisions to reserve component divisions and increasing the Active Army light forces; or finally, building smaller, 10,000–man light divisions.

TRADOC made the following assumptions about the 10,000–man option. The heavy divisions would keep the Division 86 design, and at an "ALO 2" authorized level of organization, just under full manning, ALO 1. The 10,000–man division, also at ALO 2, would be a balanced division with consequent minimal impact on corps support. The Army's one air assault division would be kept substantially without change. Under the 780,000 ceiling, and if all the assumptions held, the establishment of 10,000–man light infantry divisions would free 25,000 personnel spaces in the Active Army, and as corresponding changes were made in the reserve components, 30,000 reserve spaces as well. The spaces would be usable either to form more divisions, or to reduce the current dependence of some divisions on reserve roundout brigades, or to fill the nondivision combat and tactical support increments of the division force equivalent.

TRADOC's August conclusions were that, for the foreseeable future, the requirement for heavy forces would be undiminished and could therefore not be further reduced. Adjustment of the light forces offered the best route toward solving the force structure dilemma. Small light divisions could yield both active and reserve component spaces for support forces. Retaining the sixteen active divisions kept the total force strong.

TRADOC presented a status summary of the Army 86 heavy force structure into which the Army was transitioning in 1983. For the Division 86 heavy divisions, publication of tables was scheduled for completion in October 1983. The ten active and four reserve component heavy divisions were to complete transition by the end of FY 1986. Also, new organization training for the divisions was complete in the FORSCOM and USAREUR heavy divisions.[27] The Division 86 structure, whose design strongly supported their waging of AirLand Battle, provided the command, control, and communications; intelligence and electronic warfare; fire support; and maneuver forces needed to fight the main, or FLOT,[28] and deep battles. It had better mobility and countermobility capabilities, logistics support, and survivability than the modified ROAD divisions it replaced. The heavy division's combat brigade (air attack) and forward support battalions

26. The August briefing was prepared by Colonel Greenway, then in his capacity as Chief of the Planning Directorate in the HQ TRADOC combat developments office. Greenway Interview by Partin, 26 Jun 84.

27. New Organization Training Team (NOTT) After Action Report, USACGSC, 9 Oct 83.

28. FLOT battle: the main battle, fought at the division's forward line of own troops.

had yet to be completely tested, however, and the Division 86 reductions of 1982 had eliminated the "robustness" of the original design.

The Corps 86 heavy corps also introduced stronger combat and support forces. With his division and other units, the corps commander could wage simultaneously the deep, FLOT, and rear battles. Tables of organization and equipment for the corps armored cavalry regiment were complete, while those for other corps units were in progress. The corps' separate brigades and armored cavalry regiments were to transition by FY 1986. On the other hand, Corps 86 had deficiencies. There was inadequate strength to fill certain active and reserve component units, including aviation, field artillery, and engineers. There was insufficient equipment to fill some units. Army Staff modification of the corps aviation brigade had left it a less strong organization than originally envisioned.

The echelons above corps, or EAC, organization and equipment tables awaited the completion of the Division 86 schedule. Doctrinally, echelons above corps were supported by Field Manual 100–16, related to that subject, as noted earlier. The advantages of echelons above corps were its designs — tailored to support corps and Division 86 structures on the European battlefield with modernized command and control and support forces. But the Army end strength could not support all active and reserve component units in the EAC structure, nor was there sufficient equipment or any doctrine or force design for the operational elements of this unfinished segment of the Army 86 Studies.

What adjustments should be made to the heavy structures to reach the 780,000 ceiling and accommodate new 10,000–man divisions? TRADOC posed the issues as these: Should the heavy division be made lighter, faster, and more flexible? Could more support components be moved from the heavy division to corps and EAC? What additional reductions needed to be made for affordability? Could TOE reductions be compensated for by technological advances?

The light infantry division was the linchpin of the 1983 design effort, but it would be only one part of a diverse light forces Army structure. The question here was: what amount of standardization was necessary? Besides the existing infantry divisions and brigades serving as general-purpose infantry in attack and defense, there were theater defense brigades defending specific places — such as Panama and Alaska. There were additionally the airborne division, structured for vertical assault and seizing lodgements; the air assault division for airmobile infantry operations; the high technology light division still in design, to defeat armor and deploy rapidly; and the special operations forces for low intensity conflict and deep operations. TRADOC recommended the continuing study of the light units' missions, against the threat, in order to determine the need for continuing such specialization, as well as the consideration of a light infantry division with application across a wide spectrum of conflict.

The 10,000–man light infantry division concept that TRADOC presented in August and proposed to develop in the ensuing weeks would respond to a broad spectrum of combat operations and a wide array of contingencies. By concept, it would operate as part of a corps or joint task force and would require local air superiority. Fighting on mixed or open terrain, it could attack or defend to destroy enemy light forces. In close terrain, it could attack or defend to destroy enemy heavy as well as light forces, could seize and hold terrain, and could conduct rear area combat operations and military operations on urban terrain. The 10,000-man division could deploy by air

or sea to a contingency area or to reinforce deployed forces. It would be constituted mainly of fighting strength, with limited organic combat support and combat service support. It required decentralization of command, a high state of discipline, and initiative at all levels. TRADOC presented at this time three initial 10,000–man designs based on infantry brigades of eight 675–man battalions with varying options for maximum infantry strength, some degree of battlefield airmobility, and different levels of combat support and logistics (Charts 15, 16, and 17).

TRADOC addressed changes to the airborne divisions, the high technology light division, and the special operations forces in turn. The TRADOC planners argued that the airborne and air assault divisions constituted too large and expensive a force with too much structure that perpetuated one-of-a-kind organizations and concentrated unique capabilities. They proposed instead organizing separate airborne and air assault brigades for task-organizing under purely tactical division headquarters. That course would mean reducing the air assault division to 15,000 strength with two air assault brigades, one attack brigade, and a combat aviation brigade. The airborne division, maintaining its airborne capability, would be radically reduced to a 10,000–man level.

Turning to the high technology light division, TRADOC considered the design objective of that division — an armor-defeating organization with the tactical mobility and survivability of a heavy division and superior strategic deployability — not to have been met. The HTLD's antiarmor firepower was not significantly improved. Its wheeled carriers gave only marginally improved tactical mobility. Survivability was not achieved, and the division's strategic deployability required over 1,300 C141B air sorties. Moreover, "foxhole strength" in the HTLD was actually less than in the current infantry division. The HTLD experimentation had led to some improvements, TRADOC believed. For example, it had better command control and data transmission, and it had improved tactical deception capability and logistics concepts. Should the experimental division transition in 1986 to the HTLD design as planned? Or transition to a small light infantry design? Or should it remain as an experimental test bed for all light forces, or primarily for light divisions? TRADOC regarded the current HTLD design as unsatisfactory and recommended the last option: the HTLD as a test bed for concepts, weapon systems, and equipment for light divisions.

Regarding special operations forces, it seemed evident that the future of these neglected forces was growing as the threat of low intensity conflict increased. Special operations forces could be used in an economy of force role in such conflicts, but also had a definite role in high intensity warfare. Specifically, these forces could both support deep attack and could attack deep targets on their own, as well as produce "human" intelligence. Two recent initiatives, the separation of the 1st Special Operations Command from the U.S. Army JFK Special Warfare Center, and final work on concepts for special operations forces and corps long range reconnaissance detachments, had been completed, but TRADOC judged the current special operations forces to have many deficiencies. First of all, there was insufficient structure. But there was also inadequate Special Forces and Ranger doctrine. Force designs were outdated, and insertion and extraction capabilities were inadequate. Civil affairs doctrine also needed updating.

What all these considerations boiled down to in summary, in TRADOC's view in August 1983, were the following light force issues: Should there be greater standardization of light divisions? Should a 10,000–man light infantry division be standard, or just another unique

division? Should the airborne and air assault divisions be reduced? Was the 9th Infantry Division to become an HTLD in 1986 or remain a test bed? How was the Army to develop mixed light-heavy corps?

TRADOC recommended the following courses of action: Force planning should continue based on the limited active component end strength of 780,000 through the end of the decade. Active Army divisions should be maintained at sixteen, even with infantry divisions reduced in size. The Army should study whether the divisional and tactical support increments of the division force equivalent could be reduced. Further planning to transition the HTLD should be held up till the major light division issue was settled. The Army should continue its planned increases in special operations forces. Finally, TRADOC at this juncture recommended consideration of converting one heavy division to light, with reserve component units picking up the division's heavy reinforcement mission.

TRADOC tentative recommendations at the 1983 summer conference for specific force design actions were the following: TRADOC should determine whether greater standardization of the light divisions was necessary. A light infantry division no larger than 10,000 personnel should be designed based on the TRADOC concept. The air assault and airborne divisions should be reviewed with an eye to reduction to 15,000 and 10,000, respectively. The HTLD concept and technology innovations should be used to improve the other light divisions as well as the total force where appropriate. Special operations forces organizations should be developed to accommodate the new doctrine. The scheduled transition to Division 86 and Corps 86 should continue, with design adjustments made in the heavy forces as necessary and as dictated by field evaluation, technological advances, and considerations of affordability.[29]

General Wickham's August Decisions

The Chief of Staff of the Army made significant decisions bearing on the Army of Excellence effort at the August 1983 conference. His directive to the MACOM commanders confirming those decisions followed on 1 September.

General Wickham saw his decisions in the framework of an "Army of Excellence" that met worldwide missions within money and manpower constraints but at the highest possible levels of organization across the total Army. The key to creating that Army of Excellence was to find the right balance of structure, modernization, sustainability, and readiness. Wickham affirmed that 780,000 personnel would be the Active Army ceiling achievable through 1990.

Several of the decisions of the Chief of Staff of the Army in August affected the total AOE design. Because light forces could be expected to play an increasing role in what had again become for the U.S. Army during the early 1980s, a global focus, the Army would consider the feasibility of activating a seventeenth Active Army division. It would be a light infantry division and would be followed by an additional reserve component division. General Wickham believed that unrealistic requirements for early deployment and full readiness should not be placed on the reserve components. Therefore, sufficient Active Army combat forces needed to be retained,

29. (1) Briefing charts, TRADOC briefing presented to Army Summer Commanders' Conference, 16–17 Aug 83, "The Proper Force for the 80's." (SECRET — Info used is UNCLASSIFIED) (2) Greenway Interview by Partin, 26 Jun 84.

supported by austere combat support and combat service support in order to permit essential rapid contingency deployment. Reserve forces might pick up a larger share of the later-deploying task, emphasizing heavy forces. In addition, Wickham directed that the division force equivalent methodology should be thoroughly reexamined. His decision in August on the high technology light division was to direct that preparations begin toward fielding a prototype organization of 10,000–15,000 personnel. The experimental division would meanwhile continue its provision of innovative ideas and equipment for both heavy and light force use. Wickham deferred a decision on the role, number, and size of HTLDs to the Fall 1983 Army Commanders' Conference.

For the AOE effort, General Wickham directed a number of specific actions. While continuing to implement the Division 86 force designs, TRADOC would seek to reduce heavy division strength and formulate recommendations on a number of division issues. He also told TRADOC to examine further the Army 86 designs, and consider the views and recommendations of the other MACOM commanders. Specifically, he told TRADOC to examine economizing on combat service support in division and corps through the pooling of those resources at corps and through productivity improvements. Other heavy force measures to study for recommendation were consolidating division aviation at corps, moving the combat electronic warfare intelligence (CEWI) battalion to corps, pooling the division Multiple Launch Rocket System organization at corps, reducing division direct support artillery battalions from 3 batteries of 8 howitzers each to 3 batteries of 6, and reducing howitzer crew size.

For the light division, General Wickham directed TRADOC to continue work on a 10,000–man structure with a high infantry component — 50 percent — oriented primarily to contingencies in the Pacific, Latin America, and Africa. The division would be oriented only secondarily for use in NATO Europe and Southwest Asia, when augmented and used in terrain suited to its light capabilities such as urban and forested areas. The division would also be designed for preventing escalation of low intensity conflicts, and for supplementing heavy forces. General Wickham's 1 September 1983 directive to TRADOC was to create design options that would "form the nucleus of a hard-hitting, high esprit, elite light force serving as the cornerstone of global flexible response in conjunction with air assault and airborne forces." He further specified capitalizing where possible on HTLD capabilities, basing the design variations on nine maneuver battalions, and deployability of the division by approximately 400–500 C-141 sorties.

Wickham's emphasis on the primacy of strategic lightness in the design of the light division enjoyed the support of the Secretary of the Army, John O. Marsh, Jr. In a letter to Wickham on 8 September 1983, Marsh urged on the light division initiative. Noting the Army's deployment inadequacies, Secretary Marsh declared: "Why modernize it if you can't move it? . . . Let's put together a division that can get there." Secretary Marsh was a strong supporter of the AOE redesign and made that support known in the Army.[30]

Regarding the other light forces, General Wickham directed TRADOC to carry through with its examination of standardization. He also told TRADOC to follow upon on its recommendation to review the air assault and airborne divisions with an eye to reductions to 15,000 and 10,000. Wickham directed continuing the Army's planned increase in Special Forces structure, and

30. (1) Ltr, John O. Marsh, Jr. to John Wickham, Chief of Staff of the Army 8 Sep 83, no subject. (SECRET — Info used is UN-CLASSIFIED) (2) Wickham Interview by Romjue, 20 Jan 93.

development of revised special operations forces designs in accordance with new doctrine and tailorable by region and specific threat. He stressed that the manpower saved by reducing the current infantry divisions to 10,000 men would go to expand the light combat force structure; that savings would not be used to support heavy-force needs.

General Wickham told TRADOC on 1 September 1983 to have all its recommendations for the AOE ready for presentation to the Army Commanders' Conference of October 1983. At that forum, he wanted a proposed design for the totality of the Army's required forces: divisions, corps, echelons above corps — arrayed by theater of operations and considering the balance of light to heavy and active to reserve. The total force design was to consider fully the factors of supportability, deployability, threat, and manpower ceiling. Wickham wanted ready by October proposed designs for the 10,000–man light infantry division, design modifications to Division 86, a status report on special operations forces organizational proposals, and recommendations for a new approach to the division force equivalent methodology. TRADOC would work hand in hand with the Department of the Army Office of the DCS for Operations and Plans, whom General Wickham directed to analyze the emerging designs in terms of risk, readiness, and ability to afford, sustain, and deploy.[31]

TRADOC formally passed the AOE design assignment to the Combined Arms Center on 30 August 1983. TRADOC urged the CAC force designers to develop a redesign that would exploit technology, thoroughly examine the heavy-light-SOF relationship, recognize the light forces' increasing role, and rigorously revise logistics planning factors. TRADOC gave the Logistics Center the responsibility, under CAC direction, for combat service support organizational revisions, as well as revision of logistics factors. Those factors included allocation rules, consumption rates of the classes of supply, workload, and other items. TRADOC additionally requested the Army Communications Command, the Intelligence and Security Command, and the Army Health Services Command to assist the planners.[32]

The Combined Arms Center Develops the AOE

In the meantime, AOE planning had begun at Fort Leavenworth.[33] Lt. Gen. Carl E. Vuono, who had replaced Lt. Gen. Merritt as the CAC commander in June had already set concept and force design planners to work on the new light division. On 22 August, he formally initiated the AOE project at the Combined Arms Center, issuing preliminary guidelines to the TRADOC schools on that date. Vuono named Maj. Gen. Leonard P. Wishart III, his deputy commander, newly arrived in late July 1983, to head the project task force. He directed Col. Richard A. Burke,

31. (1) Message, HQDA to Commander TRADOC, 011912Z Sep 83, subj: Force Structure and Design Initiatives for an Army of Excellence. (2) Letter, General John A. Wickham, Jr., Chief of Staff of the Army to CINCUSAREUR and Commanders, DARCOM, FORSCOM, TRADOC, and Eighth US Army, 19 Sep 83, subj: Report on the 1983 Commanders' Summer Conference. (CONFIDENTIAL — Info used is UNCLASSIFIED) (3) Wishart Interview by Partin, 24 Jul 84.

32. Message, Cdr TRADOC to Cdrs USACAC and USALOGC, 301600Z Aug 83, subj: Force Structure and Design Initiatives for an Army of Excellence. (CONFIDENTIAL — Info used is UNCLASSIFIED)

33. Except where otherwise noted, this section is substantially based on Interview, Colonel Richard A. Burke, Jr., Director, Force Design Directorate, CACDA, by Dr. John W. Partin, 24 May 84. See also Wishart Interview by Partin, 24 Jul 84.

Jr., Director of Force Design in the Combined Arms Combat Developments Activity, or CACDA, to superintend the AOE effort day to day under Wishart's direction.[34]

To the planners, Lt. Gen. Vuono identified the need to constrain force designs across the whole Army as the driving principle of the project. Vuono urged the TRADOC school commandants to consider the best interests of the Army as a whole as they expressed the branches' concerns in the organizational effort. He asked for their personal involvement and all due haste to execute the effort in the few weeks allotted.[35]

The CAC planners worked closely with the major Army commands, who provided officers on site at Fort Leavenworth to the 1983 planning effort. Changes, proposals, and decisions were communicated to the major Army command leaders by message, with 24–hour replies the rule. A series of action officer and general officer workshops drew the effort together, with strong contributions from the TRADOC commandants and school staffs. Planners and action officers from the 82d Airborne Division, 101st Airborne Division (Air Assault), the XVIII Airborne Corps, and the Forces Command met with the CAC planners during the design of the AOE airborne and airmobile divisions. Seven-day work-weeks characterized much of this quickly-done project.[36]

The decisions on the Army of Excellence design, rapidly developed upon the Army 86 basis and the new light infantry division concept, were made through the coordination of several senior leaders. The close interest of General Cavazos, the FORSCOM commander, has been noted. Lt. Gen. Vuono, the CAC commander, and his deputy, Maj. Gen. Wishart, met and communicated frequently with General Wickham and General Richardson, the TRADOC commander. Richardson worked intimately with Vuono and guided the AOE project closely. Wickham, who inaugurated the AOE redesign, gave it push and drive throughout. General Maxwell R. Thurman, as Vice Chief of Staff of the Army, was a strong AOE supporter.[37]

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34. Maj Gen Wishart and Col Burke were aided by Col Arthur Richards of the CACDA Concepts Directorate and Col John Noble of the AirLand Battle Study Directorate in the Command and General Staff College. Other key CACDA planners were Col John Hubbard for the force development issues; Mr. Robert Keller, Chief of the Plans Division in the Force Design Directorate, who developed the methodology; Lt Col George Hollwedel who worked with division design; and Lt Col Thomas Walker and Mr. James Core, who analyzed combat support, corps, and EAC issues. (1) Burke Interview by Partin, 24 May 84. (2) Interview with Mr. Robert L. Keller, Force Design Directorate, CACDA, by Dr. John W. Partin, 20 Jun 84. (3) Interview with Lt Col Ward A.Lutz, CACDA, by Dr. John W. Partin, 12 Jun 84. The CACDA Materiel Integration Directorate, headed by Col Richard P. Diehl, contributed by prioritizing affordable equipment lists for the AOE designs and coordinated the materiel design matters with DARCOM. For a later General Accounting Office critique of the AOE development methodology, see GAO Report to the Secretary of the Army, Army Force Structure: Lessons to Apply in Structuring Tomorrow's Army, Washington, D.C.: USGAO, November 1990, pp. 15–24.

35. Message, Cdr USACAC to distr, 22 Aug 83, subj: Force Design Initiatives, Army 86 Study. (CONFIDENTIAL — Info used is UN-CLASSIFIED)

36. (1) Burke Interview by Partin. (2) Interview of Col Orville Butts, Director, Combined Arms and Services Staff School, by Dr. John W. Partin, 12 Oct 84. Col Butts was the CACDA assistant deputy commander between July 1983 and July 1984.

37. (1) Interview of Col David C. Meade, Executive Officer to Commanding General TRADOC, by Dr. John W. Partin, 26 Jun 84. (2) Interview of Col Arthur E. Richards III, Director, CACDA Concepts Development Directorate, by Dr. John W. Partin, 16 May 84. (3) Wishart Interviews by Partin, 24 Jul and 7 Dec 84. (4) Interview of Lt. Gen. Carl E. Vuono, Commander, US Army Combined Arms Center, by Dr. Dr. John W. Partin.

Meeting with TRADOC school representatives on 24 August at Fort Leavenworth, the CAC planners emphasized the need, in the light division, to reduce the workload and manpower authorization criteria applicable to organizations to the minimal essential. Consumption rates had to be based on supply availability; allocation rates would have to be severe. Strength quotas were issued to the schools for their functional areas. A considerable part of the design effort lay in the give and take between school and CAC planners on unit strength.[38]

Manpower spaces were saved throughout the tactical force by conscious "productivity-enhancing" measures and technology which General Wickham supported. Significant savings in support manpower resulted from adoption of palletized loading system measures that had been tested out in the 9th Division at Fort Lewis. Institution of a new combat field feeding system, employing ready-to-eat meal packages and reducing kitchen staffs also saved significant support strength.[39]

In terms of total numbers, the initial guidance the TRADOC commander gave the planners at Fort Leavenworth was to redesign the "division force equivalent Army." The DFE Army consisted of the Active Army divisions and other combat units, totalling 435,000, together with a specific number of U.S. Army Reserve and Army National Guard, and the five Active Army corps, totalling all together 998,700 personnel. General Richardson's guidance to the CAC planners noted, significantly, that the AOE was to emphasize the capability of the corps. Some risk in an undermanned echelons above corps was acceptable. Reduction of the heavy division was to be carried out without compromise to its ability to execute AirLand Battle doctrine. The five Active Army corps — the I, XVIII Airborne, and III Corps in the United States, and the V and VII Corps in Germany — were to be redesigned against the specific governing war plans. The CAC planners were told to examine the feasibility of a seventeenth Active Army division. Richardson advised them that there were no organizational sacred cows. Clearly evident here was that the AOE effort transcended the traditional allotment of force responsibilities: force design by TRADOC, force structuring of those designs into the Army's troop units by Headquarters Department of the Army.[40]

The method the AOE planners at the Combined Arms Center followed was first to lay out, by specific corps, and down to the last company, the organization of the entire DFE force — numbering, active and reserve, 985,200.[41] They then proceeded to the question of how the DFE force should be organized within the guidance and limits. Their framework was unit disposition on the battlefield from the forward line of troops (FLOT) rearward. Thus, they dealt first with the armored cavalry regiment (ACR), then the division, followed by the corps, and finally, the echelons above corps — within the differing requirements of each of the five corps.

Allotting one armored cavalry regiment per corps left two of the existent ACRs non-corps-assigned, and these the CAC planners converted to heavy separate brigades. The approximately

38. (1) Memo ATCD-P, Lt Col George S. Mullen, ODCSCD Planning Directorate to DCS for Combat Developments, Maj Gen McNair, 29 Aug 83, subj: TRADOC Force Structure Initiatives. (CONFIDENTIAL — Info used is UNCLASSIFIED) (2) Keller Interview by Partin, 20 Jun 84.

39. Wickham Interview by Romjue, 20 Jan 93.

40. Letter, Lt Gen Carl E. Vuono to General William R. Richardson, 29 Jan 85, encl: Commander's 1984 Annual Assessment

41. A total of 13,500 non-DFE special operations forces was first subtracted from a total DFE force of 998,700.

5,000 spaces saved were placed in the artillery. That arm, throughout the Army, was converted from battalions of 3 batteries of 6 pieces, to battalions of 3 batteries of 8, excepting the artillery of the new light infantry divisions and the airborne division.

The manning guidance was that a "Level 2 Army" was what was affordable — that is, an authorized level of organization or ALO of 2, just under the full manning level of ALO 1. Maj. Gen. Wishart decided, however, that since the design effort was a total one, that a "Level 1 Army" active and reserve, would be designed. Also, each organization was given one mission only, a change from current practice where a unit might be designated to support, for example, both the III Corps and the XVIII Airborne Corps. These two design concepts produced organizations that would be in reality what they were on paper. Both concepts proved appealing to the MACOM commanders.

Turning from the ACRs, the AOE planners set aside the five types of divisions — the heavy armored and mechanized infantry, airborne, air assault, high technology light division, and light infantry division — making end-strength assumptions for each type and for the nondivision support required. They then set about "constraining" the five corps with a view to assuring capability to execute AirLand Battle doctrine.

For the two light corps, the I Corps and XVIII Airborne Corps, they used the constrained version of the Contingency Corps 86 design, while for the heavy III, V, and VII Corps, the constrained version of Corps 86 was applied. Those designs, both resulting from Army 86 substudies, had been developed during 1979–1982.[42] The corps design focus — its idea being to improve the combat capability of the corps commander to fight the AirLand Battle — was on the aviation, air defense, and field artillery elements. The next step was allotment of strength by specific corps and theater to the echelons above corps tactical support increment of the division force equivalent.

Keeping the operational concept ahead of the organizational design was the AOE planners' approach to the new 10,000–man infantry division, although in actuality concept and design were often developed at the same time. After an "umbrella," or general, concept was completed by the CACDA Concepts Directorate on 23 August 1983, the several functional concepts to support it were written by the TRADOC schools. The important thing was that the design fit AirLand Battle doctrine.[43]

Lt. Gen. Vuono, Maj. Gen. Wishart, and the Combined Arms Center planners analyzed closely previous TRADOC organizational studies. They examined the Close Combat (Light) Mission Area Analysis for the light forces deficiencies it highlighted. The recent Command and Control Systems Program Review was useful to them in showing how organizations and the new materiel systems worked together.[44] Planners also solicited from the U.S. Army Center of Military History a historical study of the World War II experimental light divisions, structures that were not

42. (1) Romjue, *Army 86*, Vol II, p. 85. (2) TRADOC Annual His-torical Review, FY 1982, pp. 71–86. (CONFIDENTIAL — Info used is UNCLASSIFIED)

43. (1) Paper, Light Infantry Division Umbrella Concept, HQ USACAC, 23 Aug 83. (2) Vuono Interview by Partin. (3) Wishart Interview by Partin, 24 Jul 84. (4) Interview of Lt Col John C. Burdette, Directorate of Tactics, USACGSC, by Dr. John W. Partin, 20 Jun 84. (5) Richards Interview by Partin, 16 May 84.

44. Wishart Interview by Partin, 7 Dec 84.

well accepted, and they analyzed the reasons for the failure of those divisions in testing at Hunter Liggett Military Reservation in California in 1943–1944.

Coordination by the AOE planners with the staff of the 9th Division at Fort Lewis produced benefits derived from HTLD testing. Results of tested concepts for a "high tech" personnel system; tactical deception; long range surveillance units; and command, control, and communications were incorporated into the design work at Fort Leavenworth. Many 9th Division concepts — the fast attack vehicle was a case in point — could not be exploited; the light infantry division could employ only that materiel available by 1986.

An important materiel decision in the light division planning was to standardize the fewest types of vehicles throughout the division. The AOE planners settled on three helicopters, the OH-58, the UH-60A Black Hawk, and the attack helicopter. They limited light division trucks to three types: the 5–ton, the high mobility multipurpose wheeled vehicle, and the commercial utility cargo vehicle. The equipment decisions were of major importance in keeping support costs low.

Few light infantry division issues were simple to arbitrate, as the branch schools made their arguments for strong divisional organizations for which they were proponents. A considerably less than "robust" air defense unit was designed, the light infantry division being organized primarily for low-to-mid-intensity warfare. It did not prove possible to allocate engineer platoons to habitual association with each maneuver battalion — there was not enough division strength to do that. The placement of antiarmor weapons required some discussion to resolve. In putting a military intelligence company in the reconnaissance battalion, planners departed from the separate military intelligence battalion concept of several years standing and went back in part to a combined reconnaissance, surveillance, target acquisition concept that had been examined in the Division 86 Study. The proposed elimination of an important innovation of Army 86, the forward support battalions of the division support command, or DISCOM, in favor of forward area support coordination officer (FASCO) units was controversial. A tentative early proposal to keep attack helicopters completely out of the light infantry division met stiff and successful resistance from the major Army command leaders.

The CAC planners entertained various light division designs, including an organic high technology brigade copied from the HTLD effort. That option received mixed reviews when propagated to the major Army commands for consideration. Those commanders, particularly those most familiar with contingency requirements in third world regions, influenced the effort toward a less pervasive antiarmor concept. In both third world and European scenarios, selected organizational designs were war gamed at Fort Leavenworth by the Combined Arms Operations Research Activity.[45]

On 20 September 1983, the CAC planners briefed the TRADOC commander on the emerging organizations of the Army of Excellence. Further directives followed, which CAC transmitted to the schools the following day.

General Richardson's late September decisions reflected the difficult costs of making the light division indeed light. Richardson affirmed a nine-man infantry squad, directed development of a concept for a dismounted reconnaissance platoon, and dismissed the idea of an antiarmor

45. Burke Interview by Partin.

company in favor of a TOW missile platoon in the infantry battalion headquarters and headquarters company (HHC). The infantry platoon's antiarmor squad was discarded in favor of a medium antiarmor platoon one level up in the infantry battalion headquarters. Richardson directed that the combat aviation brigade of the light infantry division be established with a headquarters and headquarters company, combat aviation company, one attack helicopter battalion, and a reconnaissance squadron of two air cavalry troops, one HMMWV-mounted ground troop, and a military intelligence company. Division intelligence fusion and dissemination capabilities were to be placed in the division HHC. Division artillery development was to continue, based on a structure of three 105–mm. howitzer battalions, each of 3 batteries of 6 howitzers. The engineer battalion was to be restructured to 3 companies of 2 platoons each, and the brigade engineer company was eliminated. In air defense artillery, the product-improved Vulcan air defense system (PIVADS) complement was reduced from 24 to 18 in a battalion of two PIVAD-Stinger batteries. Further cuts were directed for the division support command.

Reduction guidelines fell heavily on Division 86 as well; the TRADOC commander directed a reevaluation of a reduced nine-man squad in the mechanized infantry platoon, and of moving the division's counterfire mission to corps. General Richardson also directed examining the deletion of a maneuver battalion from the heavy division from its programmed ten battalions.

Looking to the corps and echelons above, the TRADOC commander told the AOE planners in his late September guidance to build the best structures they could. For the corps, they should maintain its ability to fight and its combat service support capability. The programmed mix of active and reserve units needed attention, but each theater had its own active versus reserve demands. For example, a corps deploying to Southwest Asia needed all active component units; Northeast Asia did not need a big structure — the Eighth Army structure was in place. Echelons above corps structure should include and be shaped by what remained from the corps development effort and from whatever could be afforded, the TRADOC commander directed.[46]

46. (1) Message, Commander USACAC to distr, 212315Z Sep 83, subj: Force Design Initiatives for an Army of Excellence. (2) DF ATCD-M, Director ODCSCD CCEMWD to DCS for Combat Developments, 28 Sep 83, subj: Force Design for an Army of Excellence, 19–23 Sep 83. (3) Memo ATCD-M, Col Douglas R. Burgess, Dir CCEMWD, ODCSCD to DCSs, 29 Sep 83, subj: Force Design Initiatives for an Army of Excellence, with encl. (4) Burke Interview by Partin, 24 May 84.

Chapter III

THE ARMY OF EXCELLENCE DESIGN

When the Chief of Staff of the Army directed that TRADOC carry through the AOE effort with an earnest ear tuned to other views, the major Army commands took him at his word. They had that opportunity when, during September 1983, the Combined Arms Center deputy commander, Maj. Gen. Leonard Wishart, and the combat developments force design director, Col. Richard Burke travelled to brief them. Their responses went into the planning as the project developed further. The light infantry division was well supported generally by the troop commands, but there was no similar enthusiasm for the cuts to the heavy division.

The MACOM Commanders Assess the Emerging Design

The commander-in-chief of U.S. Army Europe, General Glenn K. Otis, welcomed the planned increase in foxhole strength and the better deployability of the light division. For any USAREUR commander, the overwhelming reinforcement need was heavy divisions. But Otis also saw a possible role for the light division in NATO secondarily to and following receipt of adequate heavy division reinforcements. There was light-division terrain in NATO's Central Army Group sector, where two brigades of a light infantry division could be usefully married to a heavy brigade as the right tactical answer. Experience had shown that a light infantry division alone could not do much against armor. General Cavazos, the FORSCOM commander, viewed the light division design positively, but cautioned against design decisions sacrificing the range and accuracy of division howitzers for mortars. Cavazos also argued for keeping at least some 155–mm. howitzers in the light infantry division because of their capability to fire scatterable mines and the guided Copperhead round.[1]

The CAC planners' decrements to the heavy division were followed closely by FORSCOM and USAREUR. The Forces Command did not concur in the weaker engineer structure. Neither Cavazos nor Otis agreed on a proposal to delete the heavy division's tenth maneuver battalion, and that idea ultimately fell by the wayside. The nonconcurrence of U.S. Army Europe included several additional significant points. The USAREUR commander voiced serious concerns about

1. (1) Memo AEACC, General Glenn K. Otis to General William R. Richardson, 15 Sep 83, subj: Quick Review of Division 86 and Light Division Concept. (2) Otis Interview by Romjue, 15 Feb 93. (3) Burke Interview by Partin, 24 May 84. (4) TRADOC OCH files.

the proposed heavy division changes, not all of which were firm in September. General Otis believed the 8–inch howitzer - Multiple Launch Rocket System battalion had to be retained in the heavy division, and that the 155–mm. batteries should not be reduced from 8 howitzers to 6. Artillery was the most critical shortage vis-a-vis the Soviet forces. U.S. tube artillery was already outgunned and outranged. Reduction of divisional artillery would exacerbate an already inferior situation. The multiple launch rocket system, which was new in the U.S. divisional arsenal, was also vitally needed; most armies had had tactical rocket systems for a long time. And, because the corps would not gain all the projected divisional artillery losses, the result of the division-to-corps artillery transfers was an overall net loss in firepower.

Otis viewed division aviation transfers to corps with misgiving as well. He stated his belief that aviation would be the dominant combat arm and centerpiece of battle in the future, as tanks became ever more vulnerable to the increasing means to kill them. To pool aircraft at corps would be as shortsighted as pooling would have been had it been applied to tanks forty years earlier. The corps could allocate combat power and orchestrate battles, could fight the AirLand Battle, Otis argued, but it could not fight battles as such. It needed organic aviation to influence the action, but the basic battle-fighting element had to be the division. Otis welcomed a stronger corps, but he saw the proposed removal of twenty-eight attack helicopters from division to corps as a big and damaging loss.

The CINCUSAREUR also cited the proposed company-level prescribed load list (PLL) system as expensive and wrong and urged placement of the PLL package no lower than battalion. USAREUR also opposed the projected loss of the Chaparral battery and the elimination of the division support command's forward support battalions. The Eighth Army response mirrored USAREUR's objections regarding the Chaparrals and 155–mm. battery-size reductions.[2]

The Army Chief of Staff recognized the field's uneasiness with the weakening of the heavy divisions, but believed that the strengthening of the corps and the overall net increase in combat power in the Army were net gains, doctrinally and in fighting punch. The AOE realignment and division expansion measured a 20 percent increase in the number of combat battalions and companies, within existing end strength.[3]

The task of compressing the complex missions of the infantry division into a 10,000–man organization and reducing the heavy division while consolidating functions at corps with a concomitant reduction of echelons above corps structure clearly raised many difficult problems. By late September 1983 most of them were well apparent to the TRADOC headquarters, Combined Arms Center, and center and school planners. In addition to those just noted, there were others. For example, as organizations were cut to meet the force-level constraints, and combat service support companies were either eliminated or were consolidated under fewer battalions, many battalion headquarters would be lost. Morale costs were incurred when types of rations and laundry and bath services were reduced. Signal cuts were considerable, and cuts in the adjutant

2. (1) Memo, General Glenn K. Otis to General William R. Richardson, 15 Sep 83. (2) Otis Interview by Romjue, 15 Feb 93. (3) Message, Cdr USA Eight to Cdr USACAC, 202224Z Sep 83, subj: 10,000–Man Light Infantry Division - Division 86. (4) Memo ATCD-M, Col Douglas R. Burgess, Dir CCEMWD, ODCSCD to TRADOC DCSs, 29 Sep 83, subj: Force Design Initiatives for an Army of Excellence

3. Wickham Interview by Romjue, 20 Jan 93.

general activities depended greatly on the presumption of smoothly functioning communications and automatic data processing. The engineer cuts raised problems such as an inadequately defined responsibility for airfield repair. Removal of aviation capabilities from the division was seen as inhibiting the aviation's ability to operate as an integral part of the combined arms team. There was some apprehension that a major force design effort was proceeding with little or no conceptual basis. Similar reservations were voiced on the Army Staff, where the Chief of Doctrine and Force Design in the Office of the Deputy Chief of Staff for Operations and Plans, pointed out that the now much diminished Division 86 designs had been based on thorough TRADOC studies coordinated and agreed on throughout the Army. The 10,000–man light division was supportable, but would turmoil ensue from the radical changes to the heavy division?[4]

In the MACOM commanders' critique, which focused on the light and heavy divisions and the heavy corps, the High Technology Light Division and its future lay on the periphery of the Army's general concern. Yet, just what role that division had in the new Army of Excellence remained ambiguous. On 21 September 1983, General Richardson sent General Wickham a paper laying out the rationale for both the light infantry division and the HTLD, pitching the latter to Southwest Asia employment. Richardson noted that the division had not yet achieved through testing the sought-after antiarmor lethality and survivability, but he acclaimed the division's value as a test vehicle. But the TRADOC commander suggested the LID design as the eventual design for the 9th Division.[5]

TRADOC Proposes the Army of Excellence

The Combined Arms Center force design director presented the results of the summer-fall Army of Excellence project to the Army Commanders' Conference in Washington, D.C. on 20–21 October 1983.2[6]

The Light Infantry Division

The concept and design of the light infantry division that was briefed by Colonel Burke to the Chief of Staff of the Army, the Army Staff, and the major Army commanders was an organization oriented primarily to the defeat of light infantry in low-to-mid-intensity conflict, but with utility in other scenarios. The division design presented was intended specifically to meet the strategic needs of the 1980s and beyond in contingency actions where the U.S. Army response in the first days of the crisis was crucial. While the heart of the design was the light infantry division itself, the thrust of the concept was the total light force deploying. The AOE planners appreciated the

4. (1) DF ATCD-M, Director CCEMWD ODCSCD to DCSCD, 28 Sep 83, subj: Force Design for an Army of Excellence, 19–23 Sep 83. (2) Memo DAMO-FDQ, Col Raoul H. Alcala, Chief, Doctrine and Force Design Division, ODCSOPS, HQDA, 26 Aug 83, subj: Observations from a Senior Officer - Information Memorandum, DCSOPS Papers.

5. Letter, Richardson to Wickham, 21 Sep 83, Wickham Papers.

6. Except as other wise noted, this section is based on: (1) MFR ATCG-P, Col John R. Greenway, Chief, Planning Group, 8 Nov 83, subj: CG Backbrief on ACC 83. (2) Briefing presented to Army Commanders' Conference, HQDA, 20–21 Oct 83, The Army of Excellence, by HQ USACACDA Force Design Directorate. (Both SECRET — Info used is UNCLASSIFIED) (3) Message, HQDA to distr, 102231Z Jan 84, subj: AOE Force Structure Msg No. 1.

risks of deploying rapidly too small a force, an act that might actually elevate a crisis. But a large enough total light force, rapidly deployed, could defuse such a crisis. It could also buy time for the larger forces required to follow up and finish the action. On the question of a "forced entry" capability, the AOE designers decided that that capability could be provided by the airborne divisions.[7] Clearly, the Army had to have light structures constituting a credible worldwide response force — to stabilize the trouble spot, to demonstrate a show of force, and to secure a base to expand. Such a force, conducting decentralized operations on a large scale, would achieve its success by seizing the initiative, allowing no enemy sanctuary, and carrying through tactical surprise. That aim translated into a highly deployable light force, employing minimal facilities, bases, and lines of communication, high in rifle strength, highly trained and well led, aided by organic helicopter lift, that won its victories through shock tactics rather than sustained firepower. The basis of that force, the light infantry division, depended on close staff links to its corps support units (Chart 18), achieving its aim through rapid actions (Chart 19).

Thus, the common operation of the light infantry division would be the tactical offense. It would strike and maneuver to evade enemy firepower and mobility, would exploit terrain to block the enemy's own terrain corridors and separate his heavy and light forces, and would conduct multiple small-unit attacks while also protecting the avenue and staging base into which heavier U.S. forces would follow. This operational approach compelled the enemy to divert forces to protect his flanks, thus slowing his progress. The combat imperatives of the light infantry division, solidly anchored in AirLand Battle doctrine, were initiative, depth, surprise, agility, synchronization, dismounted maneuver, decentralization, and physical lightness. Even on the heavy battleground, the decision had utility as an economy of force unit, strong enough to provide a haven for flank attacks and to sever enemy lines of communication and provide a corridor for the major offensive.

Formally, the light infantry division had the following envisioned combat missions: Against enemy light forces in all types of terrain, the division could attack to destroy enemy forces or seize terrrain; defend, delay and disrupt to hold terrain or destroy the enemy; conduct mobile operations on urban terrain; and conduct rear area combat operations when augmented with vehicles giving the division tactical mobility. Against heavy enemy forces, the division had those missions too, but only in close terrain.

The CAC planners laid out a light infantry division organization of 10,023 (Chart 20), about a third of which (3,267) would be foxhole strength. The division was triangular to the lowest level. With 3 infantry brigades, it fielded 9 "straight infantry" battalions of 544 men. Each battalion would field three 124–man rifle companies and a 172–man battalion headquarters and headquarters company (HHC).

The rifle companies (Chart 21) fielded in turn 3 rifle platoons of three nine-man rifle squads each and a seven-man headquarters element (Chart 22), and a headquarters platoon. The rifle squad was armed with 2 automatic weapons and two M203 grenade launchers in addition to five M16A2 rifles (one mounting a sniper sight). The rifle platoon's headquarters element and the rifle company's headquarters platoon added heavier weapons, so that each rifle company went to the field with a total of fifty-nine M16A2 rifles, nineteen M203 grenade launchers, 18 squad auto-

7. Burke Interview by Partin, 24 May 84.

matic weapons, twenty-eight XM177 systems, 6 medium antitank weapons, and six M60 machine guns.

The infantry battalion HHC, with 34 HMMWVs and 15 motorcycles, was the lowest echelon with vehicles; it included an antitank platoon of 4 TOW missiles, a mortar platoon of 4 towed 107-mm. mortars, and a foot-mobile scout platoon, among other units (Chart 23). The light infantry battalion fielded a total of 76 machine guns of all types. Its heavy 107–mm. mortars, reversing an Army trend toward lighter infantry mortars, was necessitated by the scaling down of light infantry division howitzers from 155s to 105s.

Brigade HHCs, manned at 101 personnel, featured designated maintenance and mess teams to support each battalion, dual-trained Stinger air defense missile teams, and 2 dedicated liaison officers each (Chart 24).

Division artillery, at 1,373, relied on three 424–man 105–mm. battalions, each made up of 3 batteries of 6 towed M102 howitzers — totalling 54 howitzers for the division — aided by 4 TACFIRE systems and three Q36 target acquisition radars (Chart 25).

The light infantry division's combat aviation brigade, into which the division's intelligence collection systems were consolidated, provided an aerial antiarmor and antipersonnel force as well as command and control airmobile and resupply capability. At 954 men, the brigade fielded a 439–man reconnaissance organization, a 227–man attack battalion, a 136–man combat aviation company, and an HHC. Organic aircraft numbered 29 AH-1 Cobras, 31 OH-58s, and 19 UH-60A troop-carrying Black Hawks in addition to other equipment (Chart 26).

The light division's air defense artillery battalion, staffed at 319 personnel, fielded 2 air defense batteries and a headquarters battery, with 18 PIVADS, 40 Stinger teams, and 4 forward area alerting radars (Chart 27). The signal battalion, 399 strong, included a forward support company and a rear support company whose elements were dispersed throughout the division area (Chart 28). Engineer capability was invested in a 284–man engineer battalion of 3 companies, equipped with a total of 18 small emplacement excavators and six M9 armored combat earthmovers (Chart 29). The division's 77–man military police company consisted of 3 MP platoons along with supporting elements (Chart 30).

The division support command, or DISCOM, at 1,168 personnel (Chart 31), fielded a supply and transport battalion, maintenance battalion, medical battalion, and transportation aircraft maintenance company, in addition to an HHC. As throughout the light division, the DISCOM depended on 3 major vehicles, the HMMWVs, commercial utility cargo vehicles (CUCV), and five-ton trucks, for cargo and troop transport and prime movers. The 94–man DISCOM headquarters and headquarters company (Chart 32) employed 3 forward area support coordination officer, or FASCO, organizations for the 3 brigade areas. The supply and transport battalion (Chart 33) at 296 strength, depended on preconfigured unit loads and could support daily requirements of 123 short tons of supply, 57,000 gallons ground fuel delivery, 750 short tons of ammunition, 72,000 gallons of water, and could move 255 short tons or 600 troops in one lift. The maintenance battalion (Chart 34) manned at 354, provided intermediate forward support, test measurement and diagnostic equipment in the brigade support areas (with evacuation to the division support area or corps), and direct exchange for selected major items, but relied considerably on corps support for backup maintenance and other needs. The 298–man medical battalion (Chart 35) fielded 2 area medical support companies, employing the versatile HMMWV for ambulances.

The light infantry division could deploy to an overseas theater in no more than 461 aircraft sorties, less than half the number needed to deploy either the airborne or air assault division to a distant theater and about one third the sorties needed to deploy the current infantry division.

The AOE planners estimated that about $1 billion additional funding would be needed for the weapons and equipment required by the light infantry division. About $382 million of the total was for mobile subscriber equipment, and about $222 million for HMMWV vehicles, those two items accounting for a good three-fifths of the total. Other light division equipment needed included the 3/4 and 1 and 1/4–ton commercial utility cargo vehicles, M16A2 rifles and thermal sights, a light multipurpose rocket, the XM177E2 system, the PVS-7 night vision goggles, the small emplacement excavator, and mobile heavy mortars. Planners worked closely with the Materiel Development and Readiness Command to develop and set priorities for the acquisition plans. That effort led to a full laying out of the materiel requirements and logistical support, with close involvement by TRADOC's Logistics Center and Soldier Support Center.[8]

The Airborne and Air Assault Divisions

After some consideration of two-brigade divisions, the AOE planners opted for standardization within the types of light divisions as both desirable and feasible. On the basis of the light infantry division, they tentatively determined what specific force tailoring was needed for the airborne and air assault divisions and what other specific organizational considerations and training applied to the two specialized infantry organizations.

Airborne division changes included provision for effective enroute communications for divisional units, tailoring of the nuclear-biological-chemical company, an increase in antiarmor strength, additional helicopter lift capacity and an additional medical company, and a pathfinder platoon. Nonorganic organizations considered by the AOE planners to require a high degree of habitual association with the airborne division were a rigger company, mobile protected gun battalions, and a truck company. Parachute qualification remained the division's outstanding special training requirement. As configured at this point, the light infantry division (airborne) would be a nine-battalion organization 10,856 strong (Chart 36).

Air assault division modifications of the light infantry division design added area communications, tailoring of the NBC company, the combat brigade air attack, the air cavalry squadron, and an additional medical company. Like the airborne division, it required arrangements insuring a habitual association of specialized organizations not organic to the division, in this case, a rigger company and an engineer company. Air assault qualification was of course the major type of special training required over and above infantry training. The air assault division organization presented at the October 1983 Army Commanders' Conference was a nine-infantry battalion structure of 12,996 (Chart 37).

The TRADOC-designed light corps organization included increments to sustain the division and combat support assets to increase the corps commander's ability to influence the battle. The light corps structure was expected to be extensively modified as force planning for the light divisions continued.

8. (1) Draft Interim Operational Concept, the Light Infantry Division, HQ USACACDA, 21 Oct 83. (2) Interview with Col Richard P. Diehl, Director, Materiel Integration Directorate, CACDA, by Dr. John W. Partin, 21 May 84.

The Heavy Divisions

While the most dramatic portion of the Army of Excellence project of the summer of 1983 was the development of the new 10,000–man light infantry division, the decision to lighten the heavy designs of Army 86 was of major significance. The focus of the effort was the armored and mechanized heavy divisions that made up the great bulk of the Army's fighting forces. In mid-1983 those division configurations, following the reduction of approximately 1,000 personnel during 1982, stood at about 19,200 and 19,400, respectively (Charts 38 and 39).

In order to achieve reductions of 2,000 personnel more in keeping with the AOE guidance, the TRADOC-recommended decrements to the Division 86 designs were severe, and they had costs which the planners spelled out. The AOE planners recommended deleting one tank battalion (561 men) from both heavy division types (leaving the armored division with 5 tank and 4 mechanized infantry battalions, and the mechanized infantry division with 4 and 5). That cut would reduce Division 86 combat power markedly and would effectively eliminate the division commander's ability to balance his forces or to assign a force to protect the division rear.

Another significant reduction recommended was a cut of the mechanized infantry squad from 10 men to 9 (144 deletions for the division), resulting in obvious losses in division squad firepower and resiliency. Transfer to the corps of the heavy division's 8–inch howitzers (486 men) eliminated the division's primary tactical nuclear capability besides reducing its counterfire capability markedly. Reduction of the 155–mm. howitzer crews to 9 (72 men) diminished crew resiliency while increasing time needed to emplace and displace the artillery pieces.

Transfer to corps of the heavy division's Chaparrals (162 men) left the division bereft of its major air defense system, though the change provided the means to create a corps air defense artillery group. Similarly, deletion and transfer of 1 of the 2 attack helicopter battalions (273 men) from the air cavalry attack brigade provided resources for the corps aviation brigade, but it reduced considerably the division's antiarmor deep battle capability. Also deleted was the brigade scout platoon (105 men), forcing transfer of that mission to the military police company and assignment of brigade reconnaissance to the maneuver battalions.

The three forward support battalions of the division support command, a distinctive feature of Division 86, temporarily fell victim to the reductions as recommended (85 men). This change would reduce flexibility and agility, reduce command and control, and result in a large divisional maintenance battalion. Planners returned to the pre-Division 86 FASCO, or forward area support coordinator, concept, embodied in 15–man teams. Deletion of the sound-flash ranging platoon (62 men) removed the division's only capability for passive detection of enemy systems. A consolidation action in the administrative structure eliminated the division adjutant general company (180 personnel), and consolidated the band, strength accounting, replacement operations, and casualty reporting under the division G1, with the remaining functions transferred to the corps. Finally, a revision of food service (245 personnel) reduced the division's dependence on its trains, but carried costs in control and contracting.

Supporting AOE logistical changes was the Logistics Unit Productivity Study undertaken by the Logistics Center in 1982. That study sought ways to improve the durability and "RAM" factors of equipment (reliability, availability, maintainability). It also looked for ways to reduce weight, volume, and manpower requirements and to improve logistics productivity. The study sought to

substitute new concepts and equipment for soldiers in logistics units in order to come up with design ideas for the AOE division support command. Among such ideas were use of the palletized loading system, pipeline construction system, robotic fueling and expert diagnostic systems, and recommendations on materiel handling equipment. The 1982 study was credited with freeing upwards of 15,000 combat service support soldiers for other assignments.[9]

All together, the heavy division deletions and revisions totalled 2,375, producing recommended armored and mechanized infantry structures of 17,310 and 17,466, respectively (Charts 40 and 41). Still other potential changes were posed by TRADOC for consideration. They included transfer of the military intelligence battalion and the Multiple Launch Rocket System to corps, and a reduction of the 155–mm. batteries from 8 guns to 6.

A communication in October from the commander-in-chief of U.S. Central Command at MacDill Air Force Base, General Wallace H. Nutting, recommended to General Wickham to consider the brigade rather than the division as the Army's organizational base.[10] That idea, which had surfaced briefly during the Division 86 Study four years earlier, was not seriously considered for the AOE. But the Army's exploration of its post-Cold War structure in the late 1980s would again bring the idea to the fore.

Corps and Echelons Above Corps

On the basis of the October 1983 heavy division designs and in accordance with the strategic requirements of global war plans, revised corps and EAC structures were also proposed. Many assumptions went into the designs bearing mainly on force dispositions, the restudied issues of a new methodological reckoning of the division force equivalent, and the use of reserve component units.

Thus, in the recast AOE, there would be no dual-deployed units, and no roundout of divisions by reserve component units. The forward deployed brigades (of United States-based divisions) in Germany would be converted to separate brigades. Armored separate brigades coming under corps would consist of 3 armor battalions and one mechanized battalion. A corps mechanized infantry brigade would field 2 mech battalions and 2 armor battalions. Each corps would have a 3,000–man rear area combat operations brigade. Each corps would include a 5,000–man armored cavalry regiment, except the XVIII Airborne Corps, which would employ a light armored cavalry regiment of 3,000. The XVIII Airborne Corps would gain a new light infantry division.[11]

The AOE planners presented a Corps 86 structure of 156,143 including its five assigned divisions: 2 armored, 1 mechanized infantry, and 2 infantry (the latter for the time being representing the large 17,700–man pre-AOE infantry division design developed in 1980). The corps design presented approximately equalled the Corps 86 constrained version of 1980.[12]

9. (1) Lt Col John W. Wild, "The Army of Excellence: How Ready?" Army War College Study Essay, 23 Mar 87, p. 14. (2) Lt Col Arthur P.Dupay, "The Army of Excellence: At What Price to Combat Service Support?" Army War College Study Project, 11 Apr 88, pp. 23–24.

10. Letter, General Wallace H. Nutting, CINC CENTCOM to CSA, 25 Oct 83.

11. A final corps design assumption was that the heavy division would number about 16,000 personnel, the light infantry division and airborne division 10,000, and the air assault division 15,000 — strengths that not all the division designs of October 1983 achieved.

12. Romjue, *Army 86*, Vol II, p. 83.

Programmed and alternative designs for the corps in Europe and the corps designated for deployment were also presented in October 1983, embodying new division strengths and changes to organic corps units. Treating echelons above corps — the USAREUR - Seventh Army level — the programmed design underwent some reduction. The key changes from the corps and echelons above corps programmed designs to the alternative designs proposed by TRADOC planners were as follows. In the division increment, division sizes were reduced. The active-reserve mix would disappear with deletion of reserve component roundout organizations from the active divisions. In the nondivision combat increment of the corps, the changes included specific augmentation units (or "corps plugs") to support the light division design, reduction in the number of separate heavy brigades and armored cavalry regiments, the addition of rear area combat operations brigades — all to be reserve component organizations of high technology light division design, an increase in field artillery and air defense artillery, and some reduction in combat engineers and a larger reduction in construction engineers. In the corps tactical support increment, there would be a decrease in personnel, more reliance on host nation support, and less service in general support maintenance and in shower and bath services and other categories.

Special Operations Forces

The special operations forces organizational initiatives presented included all categories of the SOF: Special Forces, Rangers, psychological operations, civil affairs, as well as special operations aviation. This part of AOE planning would see later expansion. Most of the 1983 initiatives required additional communications and other equipment and added personnel. In the Special Forces, SOF liaison elements were needed for links to corps and to Army commanders in order to provide human agent-derived intelligence from the deployed elements. Strategic reconnaissance teams were needed to perform corridor surveillance and area and point reconnaissance. A foreign internal defense training team was also needed, in order to provide an element to train indigenous battalion and brigade staffs. The AOE planners presented SOF designs tailored to their designated theater.

In the Ranger arena, the initiative suggested was a tactical reconnaissance element to perform pre-strike reconnaissance and tactical reconnaissance when allocated to subordinate commanders. Proposed for psychological operations was a division tactical psychological operations company. In civil affairs, changes were required that would provide a cellular civil affairs team from battalion to corps. In special aviation operations, a special operations aviation group was suggested.

Revised Division Force Equivalent Methodology

As directed in August 1983, the AOE planners presented the revised division force equivalent (DFE) methodology they had employed, along with its results. Besides the division increment, the DFE consisted, secondly, of the non-division combat increment — the corps and division-attributable combat forces as well as corps, EAC, and division-attributable combat support forces. The third DFE element was the tactical support increment — corps, EAC, and division-attributable forces. The revised "division slice" methodology involved starting with doctrine and force structures to revise workload factors and allocation rules, employing the FASTALS[13] model,

13. FASTALS: force analysis simulation of theater administrative and logistical support.

determining the division-attributable units, allocating the corps and EAC slices, computing the division slices, and then computing the theater-level and Army-level DFEs.

The division slice in increments and by division type was calculated (Table 1), averaging for all the division types at a division slice of 41,000 personnel for the Southwest Asia theater. For Europe, the division slice was 37,900, and for Korea, 33,600 (Table 2).

Recommendations

TRADOC recommended approval of the concept for the 10,000-man light infantry division. TRADOC also recommended its testing by the 7th Infantry Division at Fort Ord, Calif. — FORSCOM to direct the test, and TRADOC to take responsibility for the test design and evaluation. Reduction of the heavy division was recommended, as previously outlined, as well as approval of the concept of reconfigured airborne and air assault divisions. TRADOC recommended approval of a reserve component rear area combat operations brigade for each corps, and the troop tailoring concept, by corps, that it had outlined. Further recommended was approval of the Army force structure as laid out by the AOE planners — for Army Staff analysis and refinement by all the major Army commands. TRADOC recommended further work to develop constrained allocation rules and workload factors; and the expedited development of doctrine, organizations, and materiel required for the new special operations forces mission. TRADOC recommended approval for revising the division force equivalent and for the concept for the division slice.

TRADOC additionally recommended the constitution of one additional light infantry division; conversion of the 2d, 7th, 9th, and 25th Infantry Divisions to 10,000–man designs; approval of the needed funding; and removal of reserve component roundout units from the division structures.

General Wickham Approves the AOE Design

The Chief of Staff of the Army made decisions about most of the far reaching AOE issues and recommendations at the October 1983 commanders' conference. But for some issues, he directed further study by the Army Staff and TRADOC.

General Wickham approved the 10,000–man light infantry division. He directed the conversion of the 7th Infantry Division to the new authorized design. The Chief of Staff excluded a full-blown division test, directing that the 7th Division at Fort Ord serve as a mechanism for evaluating and resolving the key organizational, operational, training, and equipment issues. He wanted quick movement on the LID, the 7th Division was in line for conversion, and testing space at Fort Ord and nearby Fort Hunter Liggett was adequate. In General Wickham's mind, waiting for the activation of the Fort Drum-based division and construction of its needed facilities would impose unacceptable delays. The 7th Division was the right certifying vehicle.[14]

General Wickham, at this time, made one additional materiel decision: to equip every infantry squad soldier in the 10,000–man division with a night sight. Both the 2d Infantry Division, based in Korea, and the 9th Infantry Division, where high-technology designs had been

14. Wickham Interview by Romjue, 20 Jan 93.

in testing since 1981, were excluded from the new design. The 2d Division, with its special missions, would keep its current structure, and the 9th Division would not be reconfigured. General Wickham directed the Pentagon staff to develop schedules for the remaining infantry division conversions. He directed the addition of a light infantry division to the force structure as the seventeenth Active Army division, as well as the addition of 2 more Army National Guard light infantry divisions, bringing the Army's programmed structure to 17 active and 10 reserve divisions.

Developing the light infantry divisions as hard-hitting, elite forces derivative of the Rangers was integral to the whole concept in Wickham's directive. High individual and unit esprit, competence, and confidence were essential to the success of a light infantry division operating with light materiel. A premium would be placed on the capabilities of the individual light infantry soldier and his unit. TRADOC was charged to prepare an approach for developing the light divisions as elite units in terms of individual and unit training requirements.

The light infantry decision was of major potential significance for the reserve components. Scheduling and sequencing the conversion of the Army National Guard infantry divisions to the 10,000–man structure would, if programmed, take some time. But the Chief of Staff of the Army directed that the first steps be taken soon, capitalizing on the active component's experience. Wickham directed that Headquarters Department of the Army and the National Guard Bureau work together to develop a conversion plan.

General Wickham directed retention of the 9th Division as a high technology test bed for both light and heavy concepts and with a wartime mission and an authorized strength of about 13,000 personnel. He decided, however, that one National Guard division, which had been programmed for conversion to a high technology light division, would be reconfigured as a light infantry division instead. The costs of the equipment needed to sustain a high-technology division, as so far envisioned in 1983, were clearly high and the Department of the Army did not consider such sustainment cost effective for a unique division. The Department of the Army deputies for operations and for logistics were to study whether the 9th Division would be formed of a high tech - light infantry mixture, or would be a pure high technology light division.

The light infantry approach for structuring the airborne and air assault divisions was approved in October 1983. Wickham generally supported the reduction, but said it should be examined in the context of the total light corps package and in the light of sustainability and contingency considerations.

General Wickham directed further review by the Army Staff of TRADOC's recommendations which included further examination of the makeup of corps artillery and of the feasibility of the rear area combat operations, or RACO, brigades as reserve component units. Rear area security was an essential, and specially designed and dedicated brigades could best meet the need. But several issues were involved. If the reserve component brigades were designed as light infantry units for rear area combat operations, they might not be suitable if needed for commitment to the front, particularly in NATO. In addition, the RACO units had to be brought in early, regardless of scarce troop lift capabilities. With those considerations in mind, TRADOC was assigned to undertake the RACO design.

General Wickham further determined that a detailed review of the modified light corps structure was needed. The impact that the smaller division-type designs would have on the XVIII

Airborne Corps and its contingency plans was considerable. Wickham told the Department of the Army operations office to review the light corps design to determine the feasibility of adopting it, with priority given to XVIII Airborne Corps considerations.

For the proposed AOE heavy division design, Wickham approved the division decrements, but disapproved eliminating the tenth maneuver battalion. He approved reduction of the mechanized infantry squad and the 155–mm. howitzer crew, each to nine men; and deletion of the brigade scout team and the sound and flash platoon of the target acquisition battery. He approved implementation of the forward area support coordinator detachments in place of the forward support battalions and reorganization of the adjutant general functions. The Department of the Army was to study the cost effectiveness of the reduced food service concept. The question of transferring the division's second attack helicopter battalion to the corps remained undecided at this time. Aviation was a corps problem, with the commander's span of control, the active-reserve mix, and its logistics considerations, just as much as it was a division problem, and General Wickham told TRADOC to reexamine it and propose the best corps and division attack helicopter structure for Department of the Army review. Regarding the proposed movement of the heavy division's 8–inch howitzers to corps, he directed further TRADOC review of the operational and doctrinal implications, with new recommendations to follow. The Chief of Staff of the Army rejected TRADOC's proposal to eliminate reserve roundout units to the heavy division. But he declared further the need to examine again the heavy division for further manpower reductions.

Several larger force structure decisions had bearing on the future AOE. General Wickham reaffirmed that a continuing Active Army end strength of 780,000 could be expected. Though the AOE was approved for implementation at full manning level — Level 1 — the ARSTAF would need to assess and determine the affordability of a Level 2 Army. The large question of the deployment of reserve component units that were unable to meet operations plan requirements, discussed at the October conference, led to directives by General Wickham to FORSCOM to identify missions that needed transfer from reserve component units to active component units, and to identify those high priority reserve component units that required more resources.[15]

The current standard division force equivalent methodology was judged to be unsuitable for further force structuring. Its related allocation rules and workload factors were inaccurate. The current DFE method did not properly allocate combat support and combat service support structure by type division to specific theater. Combat power was often improperly counted as "tail," resulting in artificial "tooth-to-tail" ratios. The Chief of Staff of the Army directed the ARSTAF Deputy Chief of Staff for Operations and Plans to determine the feasibility of adopting the new methodology TRADOC had offered: the division slice. He told TRADOC meantime to review and further revise the workload factors and allocation rules to reflect accurately the division slice by type division in specific theaters.[16]

15. (1) PROFS Note, Capt John A. Yroz, CAC-CD Force Design Dir, to John L. Romjue, TRADOC Ofc Cmd Historian, 27 Oct 92, subj: 1983 AOE Decision. (2) As determined during 1984, reserve component roundout units for divisions converted to the light design would retain their current organization, active component affiliation, and equipment priorities. The reserve component forces would be assigned to, or "rounded up" to, corps in time of war and augment light infantry forces when required.

16. (1) Encl, "Booklet, Army Commanders' Conference Wrap-up, Oct 1983," to memo DACS-DPM, Lt Gen Arthur E. Brown, Jr., Director of the Army Staff to Major Army Commanders and Principal Staff, 25 Oct 83, subj: 1983 Fall

Continued

Based on the Army Chief of Staff's decisions of 21 October 1983 and subsequent directives regarding undecided details, the Combined Arms Center force designers again briefed the AOE force to General Wickham on 10 November. On that date, Wickham endorsed it for planning.[17] On 23 November 1983, he issued directions for implementation of the Army of Excellence based on his decisions of 21 October and subsequently on the points at issue. The AOE designs, General Wickham said, combined affordability, high combat readiness, and strategic deployability. They struck a sound balance between heavy and light forces. They continued the modernization of the force, while implementing rigorous training programs and new special operations forces initiatives, while improving as well the match between the Army's active and reserve components by better alignment of missions, capabilities, and component.

General Wickham now directed the reorganization of infantry divisions to the 10,000–man design at the authorized level of organization (ALO) 1 — the most ready level. The high readiness level was crucial to rapid reaction to contingencies. Light divisions would have the designed "plug-in" capability for heavier combat missions. They would have an additional aviation lift company besides their organic helicopter lift capability in order to enhance tactical mobility. As planned, Wickham directed that the 7th Infantry Division would serve as the evaluation mechanism to "wring out" key organizational, operational, training, and equipping issues, with TRADOC in overall control of that effort. Modifications to the initial design would be made provisionally as developed during testing. The 7th Division's experience would then be applied to the subsequent infantry division conversions, excepting the hybrid 2d Division and high-technology 9th Division.

Wickham also issued final decisions on the heavy division in November 1983. Reversing an October decision, he directed that the heavy divisions would retain their forward support battalions. All the heavy divisions would keep ten maneuver battalions, and there would be two attack helicopter battalions in each combat brigade air attack design. The heavy division's Chaparral air defense missiles and 8–inch howitzers would, in accordance with TRADOC recommendations, be transferred to corps. Adjutant General functions would be placed in the corps. Wickham directed retention of the aviation brigade structures in both the heavy and light divisions.

General Wickham projected activation of the planned seventeenth Active Army division — a light division — during late FY 1984 or early FY 1985. At this time, he hazarded the prospect of either an eighteenth active or an eleventh reserve infantry division. He projected the activation of a third Ranger battalion in the force. TRADOC was to continue its ongoing analysis and development of special operations forces doctrine and organization.

(16. Continued)

Army Commanders' Conference Draft Wrap-up. (2) MFR ATCG-P, Col John R. Greenway, Chief, Planning Group, 8 Nov 83, subj: CG Backbrief on ACC 83. (Both SECRET — Info used is UNCLASSIFIED) (3) Message, Cdr TRADOC to distr, 212315Z Oct 83, subj: Organization Documentaion of the Light Infantry Division (LTD) Message Number 1. (4) Message, HQDA to distr, 102231Z Jan 84, subj: AOE Force Structure Msg No. 1.

17. DF ATCD-P, Director, ODCSCD Planning Directorate to distr, 5 Dec 83, subj: Force Structure and Design Initiatives for an Army of Excellence. (3) Interview with Lt Col Thomas G. Walker, Force Design Directorate, CACDA, by Dr. John W. Partin, 19 Jun 84.

Regarding corps and echelons above corps, the Chief of Staff of the Army endorsed, in November 1983, TRADOC's division slice concept for allocating combat support and combat service support to a specific theater.[18]

On 10 January 1984, the Department of the Army issued further general implementing decisions and instructions. The phased restructuring of the Army was to begin in late FY 1984 and extend throughout the next several years. Restructuring actions to fulfill the new heavy division, separate heavy brigade, and corps designs would proceed. Two active-component infantry divisions, the 7th to transition between late FY 1984 and late 1985, and the 25th, to transition subsequently, would convert to the light design. By the January 1984 directive, the 6th Infantry Division was named tentatively as the new light division to be activated during the period 1985–1987, and the 29th Infantry Division, consolidating existing brigades, to be activated in the Army National Guard. Evolution of the high technology light division (the 9th Division) would continue. Headquarters Department of the Army and the major Army commands would continue their assessments of new airborne and air assault division designs. The 2d Infantry Division in Korea would retain its hybrid infantry form.[19]

18. (1) Message, CSA to distr, 232049Z Nov 83, subj: Force Structure and Design Initiatives for an Army of Excellence. (SECRET — Info used is UNCLASSIFIED) (2) Ltr, Cdr CAC to Cdr TRADOC, subj: CAC Cdrs Annual Assessment

19. Message, HQDA to distr, 102231Z Jan 84, subj: AOE Force Structure Msg Number 1.

Chapter IV

THE LIGHT INFANTRY DIVISION AND ITS CERTIFICATION

With the approval of the Army of Excellence designs by the Chief of Staff of the Army in October and November 1983, many force development actions lay ahead. The new basic structure, which was built on a strong heavy corps, armor and mechanized infantry divisions in the 16,000–17,000 range, and strategically deployable 10,000–man light divisions, had been designed. Force developers at the TRADOC integrating centers and schools now set about the major tasks of completing and refining the full force designs, documenting and developing the new tables of organization and equipment (TOE), defining the necessary new system requirements to equip the force, and revising doctrinal publications, along with the residual work of revising unit allocation rules, consumption rates, and workload factors.[1]

Important issues of design still awaited resolution in early 1984, The major unfinished AOE elements included the final design of the light infantry division, the light corps, the newly expanded special operations forces, the organizations of the revised heavy corps, the rear battle issue and separate infantry brigades, the aviation arm and the combat aviation brigades, and other design questions including tanks in the cavalry squadron and long range surveillance units for the military intelligence battalion.

The major AOE design projects carried out in 1984 were the completion of the light infantry division, the airborne and air assault divisions, the heavy division, the hybrid 2d Infantry Division, echelons above division units, the separate infantry brigade, and documentation modifications relative to the whole effort.[2] Completing action on the division force equivalent examined by TRADOC in 1983, the TRADOC commander in September 1984 sent the Department of the Army the results of the further study General Wickham had directed. Planners felt that the analysis provided a methodology leading to a more accurate force structuring model than the one replaced.[3] In addition to those 1984 design and development tasks, planning went forward for evaluation of the new light infantry division.

1. DF ATCD-P, Director, Planning Directorate to distr, 5 Dec 83, subj: Force Structuring and Development Initiatives for an Army of Excellence.

2. Letter, Lt Gen Carl E. Vuono, Cdr USACAC to General William R. Richardson, Cdr TRADOC, 29 Jan 85.

3. Letter, General William R. Richardson, Cdr TRADOC to HQDA (DAMO-ZA), 20 Sep 84, subj: Notional Division Force Equivalent (DFE). (SECRET — Info used is UNCLASSIFIED)

Light Division Planning

On 18 January 1984, President Ronald Reagan approved the addition to the force of the new light infantry division as the seventeenth Active Army division. The President's decision, which approved the division type as well as the force addition, was announced the following day. Shortly thereafter, on 1 February, Secretary of the Army Marsh announced the Army's plan to convert the 7th Infantry Division at Fort Ord to the new 10,000-man design.[4] Those events set in train implementation planning for the first of the AOE's two major changes to Army tactical organization: the creation of light infantry divisions.

To aid the light infantry division, or LID, planning the Department of the Army, at General Wickham's direction, established in January 1984 an LID general officer steering committee. The steering committee included representatives from the major Army commands, the Army Military Personnel Center, and the Army Concepts Analysis Agency. Chaired by Brig. Gen. John R. Greenway, Director of Force Programs in the Office of the Deputy Chief of Staff for Operations and Plans in the Pentagon, the committee provided a single point on the Army Staff to facilitate implementing the LID developments and decisions over the next several years. The committee met numerous times to deal with the myriad of concerns and problems as they emerged regarding equipment, stationing, training, and other issues. Some of the problems were generic to the design, others specific to the divisions being activated or converted. A light infantry division task force backed up the committee.[5] Meanwhile, at the Combined Arms Center at Fort Leavenworth, the LID final operational concept was prepared in cooperation with the TRADOC centers and schools and forwarded on 16 March to Headquarters TRADOC.[6]

In April 1984, Army Chief of Staff General John Wickham issued a "white paper" on the light infantry division to his subordinates at the Army Commanders' Conference held that month. Distributed throughout the Army, Wickham's summary presented the new organizational concept in concise terms and gave direction to the further development of the divisions. Emphasizing rigorous training, a high level of skills, and resourceful leadership, the white paper announced plans to use the 7th Division as the blueprint for the light divisions that followed. The new light divisions would have, General Wickham said, not only battlefield utility but "geo-strategic value." Its high strategic mobility could act to prevent the outbreak of war by facilitating the early arrival of forces. The light infantry divisions could rapidly reinforce forces in NATO or the Far East, or deploy for contingencies elsewhere.

Wickham went on to outline the LIDs' needed characteristics. They would include tactical excellence, flexibility in tactical employment and organization for combat, and superbly led and

4. (1) Memorandum, White House, Robert C. McFarlane to Secretary of Defense, 19 Jan 84, subj: Army Light Division, Wickham Papers. (2) Article, "Reagan Approves Army Plan for a 'Light' Division," *Washington Post*, 20 Jan 84. (3) Message, HQDA to distr, 311930Z Jan 84, subj: Public Affairs Guidance - Formation of Light Divisions.

5. (1) Message, HQDA to MACOMs, 232021Z Jan 84, subj: Light Infantry Division General Officer Steering Committee. (2) Message, HQDA to distr, 271711Z Mar 84, subj: Meeting of Light Infantry Division GOSC(4). (3) Message, HQDA to distr, 121910Z Jun 85, subj: 17th Light Infantry Division General Officer Steering Committee Meeting Issues and Tasks, DCSOPS Collection.

6. Operational Concept for the Infantry Division (Light), HQ USACACDA, 15 Mar 84. (2) Message, Cdr USACAC to TRADOC Centers and Schools, 262115Z Mar 84, subj: Light Infantry Division Operational Concept.

well trained troops. The divisions would be high-performance organizations and would be equipped with the best light technology available.

The April 1984 white paper pointed to activation of the planned seventeenth division in early FY 1985 and the subsequent activation of an Army National Guard LID. The divisions' former reserve roundout brigades would keep their current organization and active component affiliation, but would become corps assets in time of war. Wickham declared the Army's intent to fill the LIDs at 100 percent authorized levels, and to integrate the "cohesion operational readiness and training," or COHORT, principle, as well as the regimental system. Those features would permit keeping trainees together for the initial years of their assignment and overseas rotation by unit. Special emphasis would be placed on individual, noncommissioned officer, and unit training and training as combined arms teams. "Extraordinary measures" would be taken to create additional time for the LIDs' training.

Equipment had high priority in Wickham's directive. Specific equipment to be sought would include a new medium antitank weapon, and light, longer-range artillery, as well as night vision systems. Corps support structures would augment the division where required by mission. General Wickham declared the goal of an "elite image" for the soldiers of the new division type. On 9 April, he placed ceilings of 10,700 personnel and 495 air sorties on the light infantry division.[7]

The spring of 1984 saw considerable analytical attention paid to the LID. Coming out of the early-1984 Light Infantry Division Capabilities Analysis were recommendations to increase the rifle companies' limited tactical mobility, to mix 155–mm. batteries into the 105–mm. artillery force, and to increase infantry company firepower with so-called "arms room" weapons, specifically 90–mm. recoilless rifles and 60–mm. mortars. By a Department of the Army decision in September 1984, two 60–mm. mortars were added to each infantry company, and four 181–mm. mortars were added to each infantry battalion. Such additions carried support costs not easy to resolve with the critical strategic lightness requirement. In May 1984 the Department of the Army directed TRADOC to analyze further the 155–105 question. Logistics analyses accompanied those developments, and a series of reviews by TRADOC's Logistics Center supported the light division's combat service support determinations. In May, the Combined Arms Center completed an independent evaluation plan to be used in connection with the projected certification of the 7th Infantry Division (Light) at Fort Ord.[8]

General Wickham also urged upon TRADOC, in April 1984, the task of familiarizing the officer corps with light infantry through the publication of a "light infantry in battle" volume containing historical vignettes of modern light infantry, along with magazine articles. General

7. (1) Booklet, Chief of Staff, US Army White Paper 1984, Light Infantry Divisions, 16 Apr 84. (2) Memo DAMO-FDP-C, Brig Gen John R. Greenway, Chairman, GOSC through DCSOPS to CSA, 22 Feb 85, subj: Increase in TOE Design Strength of the LID - Info Memo, DCSOPS Collection.

8. (1) Message, DA to Cdr TRADOC, 242100Z Apr 84, subj: Light Infantry Division Design Issues. (2) Letter, Lt Gen Carl E. Vuono to General William R. Richardson, 29 Jan 85. (3) Letter, Lt Gen Fred K. Mahaffey, DCSOPS to CSA, 16 Jul 84, subj: Army Light Forces Analysis. (4) Message, Cdr USALOGC to Comdt, Academy of Health Sciences, 021430Z May 84, subj: Combat Service Support Analysis of the Light Infantry Division. (5) Letter, Lt Gen Robert L. Bergquist, Cdr LOGC to General William R. Richard-son, Cdr TRADOC 21 Feb 85. (6) Letter ATZL-TIE, CAC to distr, 14 May 84, subj: Light Infantry Division Independent Evaluation Plan (IEP). (7) Memorandum DAMO-FDP, Brig Gen John R. Greenway, Director of Force Programs through DCSOPS to CSA, 28 Apr 87, subj: LID Initiatives - Info Memo (hereafter: Greenway Memo, 28 Apr 87)

Richardson replied to the Chief of Staff of the Army in June, noting the use and the applicability in the military history education program of General George C. Marshall's *Infantry in Battle*, a classic historical study of tactical principles and examples published in 1939 and reprinted by the Command and General Staff College in 1980. Also in circulation, Richardson noted, were a light infantry forces bibliography and a recent study of the Nomonhan campaign by the college's Combat Studies Institute, and other volumes.[9]

Documentation of the light infantry division by TRADOC had begun with outline tables (called automated unit reference sheets), which went to the Department of the Army in December 1983. A series of guidance messages supported the documentation effort. Review boards followed in early 1984. Following the review of draft tables of organization and equipment, the department approved publication of the light infantry division tables in the twice-yearly consolidated TOE update, or CTU, of April 1984, though the tables were as yet not formally approved. Publication of the TOEs, both in their base form and their objective form followed in a special CTU of July 1984. The LID TOEs were completed in their new "living" or LTOE form and sent to the Pentagon in December 1984 and were published in the consolidated TOE update of April 1985.[10]

The design, analysis, and the TOEs for the light division were thus completed by mid-1984. The final design, of course, would be dependent on the certification process soon to begin.[11] In the meantime, evaluation of the LID artillery went forward.

The perceived need for the 155–mm. howitzer with its heavier firepower and versatile munitions epitomized the lightness dilemma of the light division. As direct support artillery, its weight would be prohibitive. The UH-60 helicopter could not lift the towed 155–mm. piece, and its inclusion would be a direct threat to the 500–sortie ceiling that made the light division strategically deployable. In July 1984, the TRADOC commander decided the issue by approving a structure of three direct support battalions, each composed of three six-tube towed 105–mm. batteries, and a single general-support eight-tube towed 155–mm. battery.[12]

Planning actions to replace the standard M102 105–mm. piece with a modernized howitzer of that caliber also began in 1984. One reason why was the difficulty the division's vehicular

9. Letters, Wickham to Richardson, 5 Apr 84, and Richardson to Wickham, 7 Jun 84, Wickham Papers. The subjects of this correspondence were: *Infantry in Battle*, 2d edition (Washington, D.C.: The Infantry Journal, Inc, 1939), (reprinted by the USACGSC with permission of the Association of the United States Army, 1980; Edward J. Drea, *Nomonhan: Japanese-Soviet Tactical Combat, 1939*, Leavenworth Paper No. 2 (Ft. Leavenworth, Kan.: USACGSC Combat Studies Institute, January 1981; Maj Scott R. McMichael, *Light Infantry Forces*, CSI Historical Bibliography No. 2 (Ft. Leavenworth, Kan.: USACGSC Combat Studies Institute, Jan 1984). McMichael, *A Historical Perspective on Light Infantry*, CSI Research Survey No. 6 (Ft. Leavenworth, Kan.: USACGSC Combat Studies Institute, September 1987) provides a valuable, methodical analysis of the characteristics, organization, and operations of four light infantry forces operating in varying settings.

10. For a discussion of the LTOE process instituted in 1984, see below, pp. 105–07. (1) Letter ATCD-ZXA, DCSCD to distr, 20 Apr and 27 Jul 84 (CONFIDENTIAL — Info used is UNCLASSIFIED) and 25 Feb 85, subj: Status of Current Actions. (2) Message, Cdr TRADOC to distr, 242110Z Oct 83, subj: Organizational Documentation of the Light Infantry Division (LID), Message No. 2.

11. Message, Cdr USACAC to distr, 301501Z Apr 84, subj: CAC Update. (2) Letter Vuono to Richardson, 29 Apr 85.

12. (1) Memorandum for Record ATCS-H, Office of the Command Historian, 18 Jan 84, subj: AOE Briefing to TRADOC Chief of Staff, 11 Jan 84. (2) Message, Cdr TRADOC to Comdt Field Artillery School, 281520Z Mar 84, subj: Cannon Artillery for Light Forces. (3) Letter, Vuono to Richardson, 29 Jan 85.

mainstay, the HMMWV, had in towing the M102. An option here was the towed, but lighter British L119 105–mm. light gun. Compared to the M102's 11,500–meter range, the British gun range was 14,300 meters, and 19,000 meters with rocket assisted projectiles. The L119 was also transportable by Black Hawk helicopter.[13] On 10 May 1984, the Chief of Staff of the Army approved lease of the British gun for testing within the 7th Division. He also approved development of new 105–mm. improved conventional munitions and other rounds. Wickham in addition expedited modification of the HMMWV to permit it to tow the L119, and intensified effort to develop a lightweight 155–mm. towed howitzer.[14] Satisfactory performance of the British gun eventually led to a decision to procure it, as the M119 model. But for the interim, the M102 served, throughout the 1980s, as the LID direct support artillery. The M119 was not to be type-classified until June 1989, at which time it awaited outfitting with U.S. fire control units.[15]

A prominent light division design issue was "corps plugs." The plug, designed to upgrade the division to an antiarmor force, would consist basically of a heavy brigade, a TOW light antitank battalion, a nuclear-biological-chemical company, and a target acquisition element. By concept, the corps plug was to be assembled ad hoc from the corps force upon the assignment of an antiarmor mission to the light division in question. As it would strip away corps assets needed elsewhere, the corps plug concept was controversial, but it did constitute an answer of sorts to the selective use of a light infantry division in an armor-dominated theater.

Certain "light systems" were critical to the concept of the light division. They included not only the M102 howitzer and the one-and-one-quarter-ton HMMWV, but the M249 squad automatic weapon — the SAW, the UH-60 Black Hawk and EH-60 helicopters, and the nine-pound KY-57 Vinson secure communications system.[16]

Light infantry division planning in 1984 also led to decisions for two new active-component light divisions, rather than the single division initially forecast. On 11 September 1984, the Secretary of Defense announced selection of Fort Drum, N.Y. as the station for a reactivated 10th Infantry Division, and the creation of an eighteenth Active Army division, the 6th Infantry Division, to be stationed at Forts Richardson and Wainwright, Alaska. Activation of the 6th and 10th Divisions was scheduled for 1985 and 1986, respectively. The Defense Department announcement noted — significantly and contrary to planning theretofore — that each of the new light divisions would be rounded out with an existing reserve component brigade.[17]

13. Jim Tice, "7th Division Sheds Equipment, Soldiers," *Army Times*, 1 Oct 84.

14. Message, DA to Cdr TRADOC, 222200Z May 84, subj: Cannon Artillery for Light Forces Briefing for the Chief of Staff of the Army.

15. Article, "Army Weaponry and Equipment," *Army* magazine (*Army 1990–1991 Green Book*), pp. 264–65.

16. Message, Cdr 7th ID to Cdr FORSCOM, 241900Z Jan 84, subj: Increase of Priority for LID Equipment.

17. Message, Sec Def to distr, 112302Z Sep 84, subj: DOD News Briefing. (2) Message, HQDA to distr, 201315Z Sep 84, subj: Public Affairs Guidance, Light Infantry Divisions. (3) See below, pp. 69–73, for a discussion of this subject in relation to the 6th and 10th Division activations. (4) Army of Excellence Final Report, Vol II: The Light Infantry Division, Ft. Leaven-worth, Kan.: HQ USACACDA, 1 Oct 84, documents the development of the LID through May 1984.

Certification of the 7th Infantry Division (Light)

The infantry division chosen to certify the 10,000–man structure — the 7th Infantry Division at Fort Ord, California — was a "straight" infantry division which, in 1984, was about 18,300 strong including its reserve component roundout brigade. The new structure of 10,000–plus was to be entirely active component, consisting of 3 brigades commanding 9 infantry battalions of approximately 540 men each; a combat aviation brigade commanding 1 attack helicopter battalion, 2 combat aviation companies, and a reconnaissance squadron; a division artillery of three 105–mm. battalions, possibly to be supplemented by a general support 155–mm. battery; a division support command; and headquarters, military police, signal, air defense, and engineer units. By plan, certification results would be applied to the other active and reserve component light infantry divisions.[18]

Reconfiguration of the division to the new design began in March 1984 and extended to January 1985. The first phase of the certification process began the latter month.[19] The division's roundout brigade, the 41st Infantry Brigade, together with another roundout unit, the 2d Battalion, 218th Field Artillery, were withdrawn as the new smaller division became wholly an Active Army organization.[20] At Fort Benning, Georgia, the first of the division's battalions, the 4th Battalion, 17th Infantry, completed the new fifteen-week light infantry one station unit training course on 29 March 1985 under the COHORT concept. Ranger training was a key part of the whole idea. Other specialized training included a sapper leader course for combat engineer cadre at Fort Leonard Wood, Missouri; a three-week "light fighters" course; and a one-week "rites of passage" course. Special doctrinal literature for the light divisions was prepared in the form of field circulars and focused on light infantry operations at squad and platoon, company, and battalion level.[21]

The certification of the 7th Infantry Division (Light) went forward during 1985–1986, conducted primarily at Fort Hunter Liggett, California. It was a joint TRADOC - Forces Command effort. The principal players were the TRADOC Combined Arms Test Activity, or TCATA, headquartered at Fort Hood, Texas, aided on the scene at Fort Hunter Liggett by the Combat Developments Experimentation Center, or CDEC, based at nearby Fort Ord; the I Corps, which was the FORSCOM intermediate headquarters at Fort Lewis, Washington; and the 7th Infantry Division. The 7th Division units transitioned to their new structures in sequence between March 1984 and September 1985, the division assuming its rapid deployment force posture on 1 October that year. TRADOC's Field Circular 71–101, Light Infantry Division Operations, was published for certification use on 31 July 1984. The initial outline test plan followed in September. A TRADOC and FORSCOM memorandum of agreement of 24 October 1984 established the I Corps commander as the certification director and the 7th Division commander, Maj. Gen. James E. Moore, as his deputy. The TCATA commander, Maj. Gen. James E. Drummond, functioned as the

18. Booklet, Chief of Staff of the Army, US Army White Paper 1984, Light Infantry Divisions, 16 Apr 84.

19. 1st Lt Joseph R. Bongiovi, I Corps Light Infantry Division Certification History (Draft), Ft. Lewis, Wash.: HQ I Corps and Ft. Lewis, n.d. [1987], p. B-3.

20. Message, Sec Def to distr, 112302Z Sep 84, subj: DOD News Briefing. (2) Jim Tice, "7th Division Sheds Equipment, Soldiers," *Army Times*, 1 Oct 84.

21. (1) Bongiovi, *I Corps Light Infantry Division Certification History*, pp. 27–28. (2) Article, "New Light Infantry Program Graduates First Unit," *Army Times*, 15 Apr 85. (3) Jim Tice, "Fighting Light," Army *Times*, 9 Sep 85.

certification manager, with CDEC, headed by its director, Dr. Marion R. Bryson, developing the overall certification plan and providing subject matter experts to collect data. Maj. Gen. William H. Harrison succeeded Moore at the 7th Division in January 1985, and Maj. Gen. Robert L. Drudik replaced Drummond as TCATA commander in March 1986. Certification events progressed in three phases beginning in January 1985. The certification employed unit Army training and evaluation programs, or ARTEPs; brigade field training exercises; and a divisional command post exercise, Gallant Knight, culminating in August 1986 in the certification exercise, Celtic Cross IV, for the division and corps slice.[22]

By early 1985, a stronger light division had emerged from the continuing deliberations. At approximately 10,700, the division reflected the addition of the proposed general support artillery battery of eight M-198 155–mm. towed howitzers; a six-man 60–mm. mortar section in each infantry line company (162 soldiers in all); and a 313–man military intelligence battalion to replace the 132–man intelligence company originally envisioned.[23] In March 1985, TRADOC directed the integrating centers to reexamine the light division's forward support concept to determine whether forward support battalions of the heavy division design were not needed as well in the light divisions. A factor here, however, was the "split-stationed" 6th Division and 10th Division with their separately located reserve roundout brigades.[24] The final decision was to keep the original concept for forward support and not employ the special forward support battalions.

Considerable work went into keeping the light division transportable at 500 or fewer C-141B air sorties. During 1985, the Combined Arms Center planners found that the only way they could do this and also maintain the division's basic required capabilities would be to eliminate important elements. Options included such choices as the 155–mm. battery, the air defense artillery battalion, and elimination of one infantry battalion. Early in 1986, the Chief of Staff of the Army rejected all those options and agreed with the Leavenworth planners to postpone a sortie decision pending the results of the certification.[25]

Although full manning by active component units was an axiom of the light division concept, the compromise of that readiness requirement surfaced in 1985, as we have seen. Queried by the Department of the Army as to the likely impact of roundout units, TRADOC responded on 17 April that such an option "diametrically opposed" the whole concept of high readiness and deployability as well as the design and training objectives on which the light divisions were structured. TRADOC also noted the question of whether a rounded-out unit of the division, containing much of the divisional foxhole strength, could deploy in accordance with the War Powers Act. Training implications — time, land, distance, facilities — arising from a roundout option were severe, and these TRADOC spelled out in detail.[26]

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22. (1) For a detailed account of the certification effort, See Bongiovi, op.cit. (2) FC 71–101, Light Infantry Division Operations, Ft. Leavenworth, Kan.: HQ USACGSC, 31 Jul 84, and Change 1 (Revised Chap 3), 29 Apr 85.

23. Jim Tice, "Light Divisions Get Extra Combat Punch," *Army Times*, 18 Mar 85.

24. Message, Cdr TRADOC to Cdrs USACAC, LOGC, SSC, 251420Z Mar 85, subj: Forward Support Battalion Concept for AOE.

25. USACAC AHR, 1985, pp. 89–90.

26. Message, TRADOC to HQDA, 171952Z Apr 85, subj: Reserve Component Roundout Implications for Light Divisions.

Many other issues arose during the certification events. Among doctrinal issues were low intensity conflict doctrine, attack helicopter doctrine in such conflict, and fire support doctrine in maneuver tactics. There were numerous operational issues. An example was the adequacy of the new HMMWV to be the primary vehicle for the division. The HMMWV had several uses and configurations, including artillery prime mover. But its transportability by the UH-60 remained in question, and the HMMWV itself could not transport the battery computer system, forward area alerting radar, or position azimuth determining systems — three systems critical for the light division. Other operational issues involved a perceived inadequate number of vehicles, the size of soldiers' loads, how best to lighten, and rigger support for aerial resupply of long range surveillance units. Light infantry division in-process reviews of combat service support matters, which were convened by the U.S. Army Logistics Center at Fort Lee, Virginia during the period, enabled planners from all five of the light divisions eventually activated or converted to deal with logistics issues. Most logistics problems appeared settled by the certification process, though support of the independent brigade task force, the field feeding system, and maintenance exchange items presented challenges.[27]

In all, evaluators identified a total of twenty-seven deficiencies that they believed were significant. Numerous changes were recommended by the subject matter experts and by organizations throughout the Army to resolve the problems identified by the certification. About 2,000 such recommendations were accepted of twice that total presented.[28]

The overall conclusion of the certification was that, for the division's mission, the organizations and concepts of the 10,000–man division were basically sound. The need for changes, however, was apparent. The recommended light division strength was raised to approximately 10,800, deployable in 550 air sorties.

Certification results published in late 1986 highlighted several areas needing still further analysis. For rear battle operations, additional firepower was still needed. Command and control issues included the need for an additional general support military police platoon, reorganization of air defense artillery into four batteries, reorganization of the signal battalion into four companies, and formation of an air assault battalion headquarters. The certification results indicated that supply needed to be made more mobile through a palletized load system. Other findings were that the M9 armored combat earthmover should be replaced with a smaller airmobile bulldozer, that a five-ton wrecker be added to the infantry brigade maintenance section, and the need to add a brigade engineer cell. Other issues to be decided included consolidation of linguists at an echelon to be determined above division, deletion or non-deletion of the proposed 155–mm. artillery battery, addition of a nine-man surgical squad, addition of organic ambulances, and an increase in Army Materiel Command supply capability.[29]

27. (1) Memorandum for Record ATCS-H, Office of the Command Historian, 1 Nov 85, subj: Threat, Concepts, Doctrine Conference, 22–25 Oct 85. (2) Message, DA to distr, 061200Z Aug 85, subj: Light Infantry Division CSS IPR, DCSOPS Collection.

28. GAO Report to the Chairman, Subcommittee on Military Construction, Committee on Appropriations, House of Representatives, Force Structure: Army Needs to Further Test the Light Infantry Division, April 1988, p. 3.

29. SSHR, ODCSCD, CY 1986/II, pp/. XXI-3 to XII-4. (SECRET — Info used is UNCLASSIFIED)

The Combat Developments Experimentation Center and the TRADOC Combined Arms Test Activity published after action reports on Celtic Cross IV in October and December 1986, respectively, and results of the certification were briefed to all light division commanders.[30] The TRADOC Combined Arms Test Activity submitted the official certification report through the 7th Division and I Corps for review and comment in November 1986 and then to the Combined Arms Center on 15 January 1987. It was briefed to General Wickham on 19 February.[31] The independent evaluation report was completed in March 1987, the final documentation of the process.[32]

The certification of the 7th Infantry Division (Light) by the TRADOC Combined Arms Test Activity thus resulted in numerous final design changes to the division's tables of organization and equipment. TRADOC saw the additions as valuable and with no significant compromises to strategic lightness. The certification process was, in General Richardson's mind, a sound analytical vehicle for future use.[33] During early 1987, the Army Chief of Staff approved those changes, the major of which were new designs for the combat aviation brigade, the signal battalion, and the maintenance battalion.[34] Another result of the process was the subsequent convening of periodic light infantry division commanders conferences, held in turn at the headquarters of the several light divisions, to take up common problems.[35]

At strength of 10,843 personnel in the approved tables of October 1986 (Chart 42), the light infantry division in its certified form was a three-maneuver brigade structure of 9 infantry battalions of 559 personnel each. The division artillery, 1,356 strong, commanded 3 battalions of towed 105–mm. howitzers, each containing 3 six-piece batteries, along with the single eight-piece battery of towed 155–mm. howitzers for the division, together with a headquarters and headquarters battery. At 979 personnel, the combat aviation brigade fielded 2 combat aviation (assault helicopter) companies, an attack helicopter battalion, and a reconnaissance squadron, along with the headquarters and headquarters company (HHC). The 1,333–strong division support command disposed over a maintenance battalion, a supply and transport battalion, a medical battalion, and an HHC. Making up division troops were the division HHC at 238 personnel; band, standard at 41; military police company of 77 personnel; signal battalion at 470; air defense artillery battalion at 305; engineer battalion, 314 strong; and military intelligence battalion at 357 personnel.[36]

30. (1) Bongovi, LID Certification History, p. B-10. (2) Keller Interview by Romjue, 31 Oct.90.

31. (1) Message, Cdr USACAC to distr, 311400z Jan 87, subj: CAC Update. (2) Bongiovi, LID Certification History, p. B-10. (3) Light Infantry Division Field Certification Report, Ft. Hood, Tex.: HQ TCATA, January 1987.

32. Message, Cdr USACAC to distr, 061416Z May 87, subj: CAC Update 87–4.

33. Richardson Interview by Romjue, 24 Feb 93.

34. SSHR, ODCSCD, Jan-Jun 1987. (SECRET — Info used is UNCLASSIFIED)

35. Keller Interview by Romjue, 31 Oct 90.

36. TOE 77000L000, Light Infantry Division, 1 Oct 86.

Chapter V

THE LIGHT DIVISIONS TRANSITION TO THE AOE

The AOE goal of standardized light divisions for the active and reserve force encountered two difficulties following General Wickham's decisions of late 1983. The first problem was how to bring standard features to those divisions having specific type missions (the airborne and air assault divisions, as well as the experimental high-technology 9th Infantry Division), or to a division with a specific geographical assignment where strategic and regional considerations foreclosed standardization, the 2d Infantry Division in Korea. The second major difficulty the Army faced in achieving standardized 10,000–man light divisions throughout the force was the congeries of training and funding problems that conversion held in store for the Army National Guard infantry divisions. As the Department of the Army phased its field forces into the AOE structures in the mid-1980s, the first problem was accommodated to a degree. However, the latter problem, with the exception of one newly activated reserve division, defied solution through the end of the decade.

Conversion of the Standard Infantry Divisions

The conversion of the standard, nonmechanized infantry division to the new light division design was bound up in the more paramount consideration of readiness. Equipment delivery timetables, as well as deployment factors specific to the division involved, influenced the conversion process. That was particularly true for the two airborne divisions, the 82d Airborne Division at Fort Bragg, North Carolina, and the 101st Airborne Division (Air Assault) at Fort Campbell, Kentucky, both high in priority for strategic deployment. The conversion of those divisions will be discussed in a subsequent section.

Each of the three standard infantry divisions of the Active Army in 1983, the 2d in Korea, the 7th at Fort Ord, and the 25th in Hawaii, followed a different route to conversion. We have already taken note of the 7th Division's certification process, which set the final standard LID design. Conversion of the standard-mission 25th Division proceeded on the model of the 7th, while the focus of the hybrid 2d Division on specific Korean defense considerations required different answers.

On 8 February 1985, the Secretary of the Army formally announced that the 25th Infantry Division based at Schofield Barracks, Hawaii, would be organized as a light division during FY

1986. A myriad of actions to carry out the conversion was required. Preparations had actually begun in the last half of 1984.

In August 1984, General Wickham had written Maj. Gen. Claude M. Kicklighter, commander of the 25th Division, that the light divisions' primary orientation was low intensity conflict. Wickham told the 25th Division commander to concentrate on Army Training Evaluation Program missions appropriate to low intensity conflict but also to develop the division's ability to operate with heavy units. In September 1984, the 25th Division's concept for reorganization toward the objective TOE structure via the living TOE process went to the Department of the Army. The following month, the division named an assistant chief of staff for force integration on the division staff to coordinate the effort. In October 1984 also, the division developed a training approach for the new infantry division (light) based on General Wickham's white paper of the preceding April, as well as on a TRADOC-supplied training strategy issued in May, and on the experience of the 7th Division.

Just as had the 7th Division, the 25th called upon the light leader course at Fort Benning for its battalion leaders. Upon conversion to the AOE designs, the division's individual units trained in their new form and mission. Division personnel visited the 7th Division during late 1984 to gain insights from "lessons learned" by the California unit. A force integration standing committee began meetings in December 1984, and monthly force integration command reviews began in February 1985.

On 8 March 1985, the Chief of Staff of the Army approved the 25th Infantry Division (Light) concept plan. COHORT battalions[1] were designated. The division's reorganization plan became final in May, spelling out the personnel, logistical, training, communications, and force modernization details. Local training stepped up in mid-1985, including dispatch of division personnel to Ranger courses, construction of training facilities, and establishment of a "Tropic Lightning" Fighters School Command employing the division's nickname. The division's air defense artillery and aviation brigades were provisionally formed in June and July 1985, respectively. Planners developed special procedures to retire or redistribute equipment from the old structure that would either be surplus or not included in the new division's concept and tables. At the same time, much new equipment was arriving in the summer of 1985, requiring feats of coordination. The 25th Division completed its final organizational conversion, as scheduled, in 1986.[2]

Redesign of the 2d Infantry Division had begun in the Combined Arms Combat Developments Activity at Fort Leavenworth in the summer of 1984. Planners used the established light division and other AOE unit designs where possible, but the uniqueness of the Korea-based division created special needs and problems. The 2d Division had no local corps organization, it needed a heavy/light force mix for the six U.S. Army maneuver battalions it possessed, and it was integrally involved in combined operations with allied forces. The division was indeed a U.S. -

1. COHORT (cohesion, operational readiness, and training) was a concept the goal of which was to keep soldiers together during the first three years of their initial training and assignment.

2. (1) Letter, General John A. Wickham, Jr. to Maj Gen Claude M. Kicklighter, Cdr 25 ID, n.d. [August 1984], Wickham Papers. (2) Messages, Cdr 25th ID to Cdr WESTCOM, 162300Z and 240100Z Jul 85, subj: 25th Infantry Division (Light) Situation Reports. (3) U.S. Army Center of Military History Table, Active US Army Divisions, 1964–1987, OCH files.

KATUSA organization.[3] For those reasons, the design effort which proceeded during 1984 was a shared endeavor with the Korea-based Eighth Army headquarters. Stronger artillery and antiarmor firepower were the outcome. Following review by the Army Commanders' Conference of October that year, classified guidance by General Wickham pointed toward provision of stronger local echelons-above-division elements and a closer formal tie-in of the attached KATUSA battalions. That work was completed by the Fort Leavenworth designers by the close of 1984 (Chart 43).[4]

Presented to the Chief of Staff of the Army in April 1985 was a design for 3 brigade headquarters and 2 battalions each of armor, mechanized infantry, and standard infantry. Combat support and combat service support units reflected the heavy/light nature of the 2d Division, while the air defense artillery, signal, military police, and chemical units were standard AOE heavy division designs. The divisional engineers and military intelligence battalion, based on the heavy designs, were modified for the 2d Division's special requirements, as were the division artillery and combat aviation brigade. Echelons-above-division units included a Multiple Launch Rocket System battalion, an 8-inch howitzer artillery battalion, a military police company, a ground surveillance radar platoon, a sensor platoon, a smoke platoon, 2 Chaparral air defense battalions, a light truck company, and a remotely piloted vehicle battery.

The new design of the 2d Division notably increased the division's firepower, especially in artillery and antiarmor systems. On 1 May 1985, General Wickham approved the AOE 2d Infantry Division design, as well as that of the associated forward deployed echelons-above-division units. The 2d Division LTOE was implemented in October 1986. Chart 44 depicts the organization of the 13,600–man Korea-based hybrid division.[5]

Activation of the New Light Divisions

Planning proceeded in early 1984 toward the activation of the first of the additional light divisions. As we have seen, only one new active component LID had been planned during the design work of 1983. However, following a summer 1984 AOE review, the Secretary of the Army, on 3 August 1984, recommended to the Secretary of Defense the activation of two new light divisions in the Active Army. One would be the 10th Mountain Division, to be activated at Fort Drum in early 1985, and the other, the 6th Infantry Division (Light), in Alaska, during FY 1986.

With Joint Chiefs of Staff support, the Secretary of Defense approved, and on 11 September 1984 the Department of the Army announced, selection of Fort Drum, New York as the home for the 10th Division, the Active Army's seventeenth. On that date, the department also announced its proposal for the 6th ID (Light), to be headquartered at Fort Richardson and built upon the 172d

3. KATUSA: Korean augmentees to U.S. Army. Letter, Lt Gen Vuono to General Richardson, 29 Jan 85, subj: CAC Commander's 1984 Assessment.

4. (1) Letters ATCD-ZXA, DCSCD to distr, 22 Oct 84 (CONFIDENTIAL — Info used is UNCLASSIFIED) and 25 Feb 85, subj: Status of Current Actions. (2) Paper, Wrap-up, Army Commanders' Conference, October 1984 (SECRET — Info used is UNCLASSIFIED) (3) Message, Cdr USACAC to distr, 201615Z Dec 84, subj: CAC Update.

5. (1) CAC AHR, CY 1985, pp. 86–87. (2) TRADOC Historical Review 1984–1986, p. 114. (SECRET — Info used is UNCLASSIFIED) The 13,600 division strength included 1,361 KATUSA personnel. With TDA augmentation (396), echelons above division (EAD) slice (2,046), EAD personnel support (196), the 2ID division force totalled 16,245. CACDA Force Design Chart 85–2464, THRC.

Infantry Brigade resident at that Alaska location. The stationing would strengthen Active Army forces on the West Coast. Each of the two new divisions would by plan be rounded out, unlike the 7th Division, with a reserve component brigade. As announced, the two divisions would actually be constructed on but one new division set of resources. The 10th Division received two active component brigades, while the 6th Division acquired one, adding it to the resident theater organization already in place, the 172d Infantry Brigade.

The Department of the Army's 11 September announcement also included the projected reactivation of an additional reserve component division, the 29th Infantry Division, to be formed in the Maryland and Virginia National Guard. As noted earlier, that announcement raised immediately the issue of readiness for rapid deployment.[6]

Activation of three, rather than one, additional light divisions had not been part of the original AOE planning of 1983. The concept had called for a seventeenth division as a full-up Active Army unit. The decisions by General Wickham and Secretary Marsh on creation and placement of the seventeenth and eighteenth active component divisions had come out of executive department basing considerations. Those decisions necessitated, as noted, the rounding out of both divisions with a reserve brigade. Although the roundout solution undercut the argument for an all-active, ready and strategically deployable division in the case of the 6th and 10th, it did not affect the "division-minus" or single-brigade strategic deployability of those two divisions as parts of a force package. Opposition in Defense circles was overcome, and the Army's decision was supported by Secretary of Defense Casper Weinberger and by the congressional committees.[7]

Basing studies had begun under FORSCOM auspices in February 1984. The Forces Command initially considered nine installations, reducing those stationing possibilities to seven installations and nine mixed-basing alternatives. The seven posts were Forts Lewis, Ord, Benning, Campbell, Drum, Wainwright, and Richardson. Only Benning and Drum were considered possible sites for an entire division. The other alternatives consisted of various combinations of installations such as Forts Lewis and Ord, or Forts Drum and Campbell. Three alternatives involved Alaska locations. The stationing criteria were drawn from an earlier "Review of Division and Brigade Stationing," published by the Engineer Studies Group of the Office, Chief of Engineers in 1977. Six categories were assessed: training, support facilities, community support, environment, mission, and "other" — training being the most significant consideration.[8]

Of importance beyond doubt in the selection of Fort Drum as headquarters of the 10th Mountain Division (Light) was the active interest of the State of New York and the New York congressional delegation. The Adjutant General of New York stated the case for Fort Drum to the Chief of Staff of the Army in early February 1984. Letters to Secretary of the Army Marsh from Rep. Joseph P. Addabbo and to General Wickham from Rep. Samuel S. Stratton in February and

6. (1) Message, HQDA to distr, 111330Z Sep 84, subj: Public Affairs Guidance, LIDs. (2) Message, DA DCSOPS to Cdrs, TRADOC, AMC, MILPERCEN and Director ARNG, 111535Z Sep 84, subj: Light Infantry Division Update. (3) Keller Interview by Romjue, 22 Oct 90. (4) Greenway Memo, 28 Apr 87, Tabs: Major Event List, LID Decisions Laydown, Wickham Papers. (5) Lt Col Gale N. Smith, "AOE: Excellence or Emptiness," Army War College Military Studies Program Paper, 29 Mar 88, p. 13.

7. Wickham Interview by Romjue, 20 Jan 93.

8. GAO Fact Sheet for Chairman, Subcommittee on Military Construction, Committee on Appropriations, House of Representatives, Force Structure: Information on Stationing Army's 6th Infantry Division, August 1986, pp. 4–5.

March 1984, respectively, urged Fort Drum's selection while promising close House committee attention to that decision, so that actions would not be taken, in Rep. Addabbo's stated view, "which might preempt the committee's appropriation oversight responsibilities and unnecessarily delay or terminate the light division concept." The Fort Drum decision was to generate considerable media criticism, focused on the high construction costs involved as well as the base's cold-climate location.[9] Both the activation decisions and the basing decisions proved controversial. The internal and public critique of those and other aspects of the AOE design effort will be discussed subsequently in this history.[10]

Activation of the seventeenth division of the active force, the 10th Mountain Division (Light Infantry), took place on 13 February 1985 at Fort Drum, along with activation of selected divisional units. Only one brigade was activated initially at that location, however. Because of inadequate facilities and housing at the northern post, the division's other active component brigade was activated at Fort Benning, Ga. in October 1985 and did not make the move to Fort Drum until October 1988, following completion of facilities at that post. Selected in May 1985 as the 10th Division's roundout, third brigade was the New York based 27th Brigade of the 42d Infantry Division, ARNG. Stationing costs for a full division at Fort Drum were estimated at $1 billion.[11] Activation of divisional maneuver battalions followed in early 1986. Weapon fieldings proceeded, but with many delays.[12]

The 10th Mountain Division (Light Infantry) activation recalled to life the Army's only mountain division of World War II, the 10th Light Division (Pack, Alpine). The choice of Fort Drum in upstate New York as the division's headquarters provided the requisite cold weather basing and training site for the additional mission of the 10th Division beyond its generic low intensity conflict purpose. The 10th was designated for strategic support to U.S. Army Europe, where it was designated to serve in mountainous, hilly, and other terrain best suited to light infantry. The choice of Fort Drum also established, in the northeastern United States, the sole division-size Army force in that region.

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9. (1) Greenway Memo, 28 Apr 87, LID Decisions Laydown, Wickham Papers. (2) Quotation from letter, Joseph P. Addabbo to Hon. John Marsh, Secretary of the Army, 7 Feb 84, Wickham Papers. Rep. Addabbo was chairman of the Defense Subcommittee of the House Committee on Appropriations. (3) Letter, Samuel S. Stratton to General John Wickham, 27 Mar 84, Wickham Papers. (4) Keller Interview by Romjue, 22 Oct 90. (5) For an aggressive critique of the Fort Drum basing decision, see Michael Ganley, "Are Soldiers Headed for 'Hot' Spots Doomed to Train at Frigid Fort Drum?" *Armed Forces Journal International*, May 1985, pp. 78, 80, 84.

10. For a discussion of the controversies surrounding the AOE and light division designs and the new divisions' activation, see below, pp. 113–21.

11. (1) AHR, HQ USAFORSCOM, FY 1985, pp. 138, 140, and FY 1986, p. 120. (Both SECRET — Info used is UNCLASSIFIED) (2) Message, HQDA to Cdrs FORSCOM, ARNG, 10th Mountain Division, 221245Z May 85, subj: Roundout Brigade for 10th Mountain Division (Light Infantry), DCSOPS Collection. (CONFIDENTIAL — Info used is UNCLASSIFIED) (3) The Department of the Army estimated costs for full stationing, with three active component brigades at Fort Drum in excess of $1 billion, including $308 million for family housing construction. Memorandum, DAIG to Assistant Secretary of Defense for Manpower, Installations, and Logistics, 31 May 85, subj: General Accounting Office (GAO) Fact Sheet, "The 10th Light Infantry Division Stationing Decision," w/encl, fact sheet, SAB, DCSOPS Collection. (4) General Orders No. 4, HQDA, 12 Feb 85, effective 13 Feb 85.(5) Information from Mr. John Wilson, Org Hist Br, US Army Center of Military History, 7 Jan 93.

12. Message, Cdr 10th Mtn Div (Lt Inf) to Cdr FORSCOM, 221243Z Apr 86, subj: 10th Mtn Div Sitrep Five.

Plans to activate the eighteenth Army division, the 6th Infantry Division, were received with some concern by TRADOC. General Richardson believed, and advised the Chief of Staff that a strategic need for an Alaska-based division was not present and that the division if activated would result in support costs demanding an increase in Active Army end strength.[13]

Plans to activate an eighteenth active division also raised the issue of tailoring a division structure adaptable to the specific cold weather operations of Alaska. The original concept for the division in fact stated that the theater defense of Alaska would be its primary mission, but that the division needed the ability to deploy to any part of the world.

The selection of Forts Richardson and Wainwright for the 6th Division came following the FORSCOM stationing studies earlier noted. Facilities and housing already existed for the Active Army brigade at Fort Richardson — the converting 172d Infantry Brigade — but such facilities still had to be built at Fort Wainwright, which was projected as the division's ultimate headquarters and the location of its second Active Army brigade. The training criterion was ambiguous: the Alaska posts were excellent for arctic and northern warfare training but not usable for at least seven months of the year for other types of training. Although the Forces Command found the Alaska location disadvantageous for training, the Secretary of the Army, in a November 1984 record of decision, considered the facility and unique training environment advantageous for the Army, and that location was chosen. A deployability consideration was the Alaska division's short polar routes. The influence of Alaska's U.S. Senator Ted Stevens was also a significant factor in a federal system in which military posts and units were dispersed among the several states.[14]

Activation of both new divisions, as well as all the infantry division conversions in the continental United States, involved the U.S. Army Forces Command, which commanded those units through its corps. FORSCOM's responsibilities for the readiness and response of its units led that headquarters to urge to the Department of the Army that the new 6th Division be primarily a stand-alone, nondeploying force. FORSCOM did not judge a standard light division design solution to be appropriate for the 6th. It proposed in fact that the division's special support requirements would justify manning one of the Active Army infantry battalions from the reserve components in order to free up the billets for support.

Reviewing the FORSCOM plan, Headquarters TRADOC and Combined Arms Center planners found it unsuitable as a long-term solution, and in February 1985 they set about developing an operational concept for an "Alaska Theater Defense Division." The Combined Arms Center view recognized the reality of Alaska theater requirements, and planners wrestled with the disparate missions in the subsequent design effort. The CAC design guidance called for a structure paralleling that of the basic LID but emphasizing special arctic equipment, including the small unit support vehicle. The guidance also called for additional military police, signal, and command and control capabilities, and modified combat service support organizations. Headquarters TRADOC supported that design and, following a Fort Leavenworth workshop in April 1985, a comprehensive concept statement and a division design were ready. However, at 11,319 strong, the strength

13. Richardson Interview by Romjue, 24 Feb 93.

14. (1) GAO Fact Sheet for the Chairman, Subcommittee on Military Construction, Committee on Appropriations, House of Representatives, Force Structure: Information on Stationing Army's 6th Infantry Division, August 1986, pp. 4–6. (2) Wickham Interview by Romjue, 20 Jan 93.

of the design exceeded the light division goal by 500–600 personnel. Subsequent briefings of the design by the Combined Arms Center planners brought to the surface the continuing questions of strategic deployability, vehicles, combat service support structure, and artillery, aviation, and engineer capabilities. All the while, the FORSCOM commander, General Robert W. Sennewald, held to his insistence that the division was designed for a specific theater need and should not be considered a light division. General Richardson endorsed the proposed design in October 1985 with several changes involving above-division unit structure. The same month, the Department of the Army approved activation of three new COHORT light infantry battalions for the new 6th Infantry Division (Light) and conversion of three existing battalions to the new light infantry design.

The Alaska Theater Defense Division idea, however, failed to gain General Wickham's approval when briefed to him on 10 March 1986. On that date, Wickham directed keeping the light infantry division design. He approved that design for the 6th Division, placing the needed nonstandard elements in the above-division structure — a decision that preferred strategic deployability over the Alaska theater defense. By Wickham's direction, the special support troops and equipment for cold weather operations were placed in a separate organization under the division commander's control. The Army Chief of Staff also approved a reserve roundout brigade and other roundout units for the division, including the divisional air defense artillery battalion and 155mm. howitzer artillery battery.[15]

The 6th Infantry Division (Light) was activated at Fort Richardson on 23 March 1986. Activation of its constituent units followed.[16] With its projected two active component brigades at Fort Richardson and Fort Wainwright, the division roundout brigade selected was the 205th Infantry Brigade (Separate), USAR, Minnesota.

Detrimental to the planned fleshing out of the 6th Division were the $1 billion cost estimates for installing the full division between Fiscal Years 1985–1992 as planned at the Alaska posts. Military construction and housing, principally at Fort Wainwright, accounted for $631 million of that total.[17] The Drum and Wainwright basing for the two new light divisions, totalling together $2 billion in estimated multiyear costs, were bound to have a skewing effect on the Army military construction program. In the changing strategic defense climate of the late 1980s, that expense proved less and less defensible. FORSCOM manpower cuts of February 1988, encompassed in Program Budget Decision 731, directed elimination of 1,297 positions in the 6th Division. Unit activations projected for FY 1989, including two infantry battalions that would have filled out the division's second Active Army brigade, were cancelled.[18]

The third new light division was the 29th Infantry Division (Light), ARNG. Planning for it by the National Guard Bureau had begun in early 1984. The Secretary of Defense granted approval on

15. CAC AHR, CY 1985, pp. 91–94, and CY 1986, p. 61. (2) Message, HQDA DAPE-PS to Cdr FORSCOM and HQDA (DAMO-FDP-C), 201615Z Nov 85, subj: Airborne Battalion for 6ID(L). (3) Message, DA to distr, 142150Z Mar 86, subj: Force Design for the 6ID(L). (4) Message, DA to Cdr FORSCOM, 022316Z May 86, subj: 6ID(L) Structure.

16. FORSCOM AHR, FY 1986, pp. 118, 120. (SECRET — Info used is UNCLASSIFIED)

17. GAO Fact Sheet for the Chairman, Subcommittee on Military Construction, Committee on Appropriations, House of Representatives, Force Structure: Information on Stationing Army's 6th Infantry Division, August 1986, p. 8.

18. FORSCOM AHR, FY 1988, p. 4–3. (SECRET — Info used is UNCLASSIFIED)

31 May 1984 to activate it as a reserve component light infantry division and as the tenth National Guard division in the force. The Department of the Army formally announced the plan on 11 September 1984, along with the 10th and 6th Division announcements. Organized on 5 October 1985, the 29th Infantry Division (Light), ARNG was the only reserve component division organized in the 1980s in the new light division form. With headquarters at Fort Belvoir, Virginia, the division was formed from the 116th Infantry Brigade of the Virginia National Guard and the 58th Infantry Brigade of the Maryland National Guard, with the remaining units drawn from the two states.[19]

The 9th Infantry Division: Failure of the High Tech Solution

The remaining infantry division, the 9th Division at Fort Lewis, presented like the 2d Division, a unique case in AOE transition. TRADOC had had a several-year association with the efforts of General Wickham's predecessor, General Edward C. Meyer, to use the 9th Division as a high technology test bed to evolve a new division type and test out new concepts, as detailed earlier in this history.[20] Following concept and organizational tests of division elements through the early 1980s, the division had at length produced the design, in 1983, of a high technology light division, the HTLD (Chart 45). TRADOC's Fort Ord-based Combat Developments Experimentation Center supported the Fort Lewis activities with a test board on site. In September 1983, the HTLD work was assumed by the Army Development and Employment Agency, a new organization chartered upon the old test bed organization as a Department of the Army field operating agency.[21]

The Army's organizational experiment with the 9th Infantry Division in the 1980s bears special study, for which space is not available here. Its development outside routine combat developments procedure, while not unique,[22] was unusual. More to the point was that the 9th ID's high technology route proved to be a time consuming, expensive option that did not, as we have seen, ultimately prove successful in its design aim. The Congress, which was focused on the large, multipart, and critical modernization program of the 1980s, did not support the development of the high technology systems around which the division's concept was structured.2[23] The effort and

19. (1) Information Paper, NGB-ARO-O, 8 May 84, subj: The Formation of the Tenth Army National Guard (ARNG) Division, Wickham Papers. (2) Message, Department of the Army to distr, 112100Z Sep 84, subj: Army Announces Light Infantry Division Proposals. (3) Greenway Memorandum, 28 Apr 87, Tab: LID Decisions Laydown, Wickham Papers. (4) Chris Meyer, "Army Reactivates 29th Infantry as National Guard Light Division," *Armed Forces Journal International*, November 1985, p. 24. (5) FORSCOM AHR, FY 1986, p. 249. (SECRET — Info used is UNCLASSIFIED)

20. For a discussion of the earlier Fort Lewis effort, see above, pp. 16–18.

21. For a history of the 9th ID-centered test activities at Fort Lewis between their inception in 1980 and September 1983, see Huddleston, *The High Technology Test Bed and the High Technology Light Division*. Huddleston wrote this well-documented monograph in his capacity as the command historian of I Corps. For a useful but undocumented history of the 9th ID's test activities under the HTTB and (after 1983) the ADEA, from 1980 through 1989, see *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980–1989*, ed. Lt Col Stephen L. Bowman, Lt Col John M. Kendall, and Lt Col James L. Saunders.

22. Other U.S. Army organization design experiments executed outside the combat developments apparatus were the tests of the 11th Air Assault Division at Fort Benning during 1963–1964, the TRICAP division at Fort Hood in the early 1970s, and the Division Restructuring Evaluation at Fort Hood during 1977–1978.

23. Richardson Interview by Romjue, 24 Feb 93.

funding expended toward the high-tech aim yielded a motorized division design for the 9th Division in 1986, and that design, heavily vehicle-dependent, failed to furnish the lightness in deployability the Army sought. Even the motorized design was not to be fully implemented in the Army of Excellence.

The TRADOC Combined Arms Center, the agency charged with the major force design responsibility for the Army throughout the 1980s, had registered problems with the HTLD's definition from the start and had not believed that such a division could be preferred for any anticipated area of conflict.[24]

Despite such misgivings, and with the basic design work of the Army of Excellence completed in late 1983, General Wickham had decided to continue the 9th Infantry Division's essentially separate course of development, though not to replicate the division type further. Then, following extensive testing and exercises at Fort Lewis and Yakima Firing Center, Washington during 1984, TRADOC and FORSCOM together developed the division as a motorized design. The TRADOC commander's view was that the 9th Infantry Division (Motorized) should continue to serve as a test bed for new concepts and equipment, while being oriented simultaneously to the Southwest Asia contingency. General Richardson was skeptical, however, about prospects for the advanced equipment the division needed to realize its concept. He preferred its eventual conversion to a light division of the 10,000-man form.[25]

General Richardson found that skeptical view affirmed in October 1984 when Lt. Gen. Fred K. Mahaffey, the Deputy Chief of Staff for Operations and Plans in the Pentagon, wrote the TRADOC, Army Materiel Command, and FORSCOM commanders that the assault gun system, the fast attack vehicle, and the combat service support items for the 9th Division might not be available to meet the planned fielding of the HTLD in FY 1986. Lt. Gen. Mahaffey suggested that a "relook" of the division design would be prudent. All the same, the 9th would remain focused on Southwest Asia, and its desired characteristics of high mobility and firepower would stay as they were, within a 13,000 strength goal.[26]

Notwithstanding doubts about funding the needed high-technology equipment, the Chief of Staff of the Army approved, in December 1984, the motorized design at an end-strength, which was expected to be reached by 1990, of 13,600 (Chart 46). The division featured specialized combined arms battalions, both heavy and light in type, and a light attack battalion (Charts 47, 48, and 49) which the 9th Division had experimented with since late 1983. At that time, General Wickham also approved the M551 Sheridan vehicle as the interim assault gun system. He directed that the division transition from its current tables to the authorized design.[27] The December 1984

24. CAC Annual Historical Review, 1982–1984, pp. 252–60.

25. Letter, General William R. Richardson, Cdr TRADOC to Lt Gen Alexander M. Weyand, Cdr USAJ/IX Corps, 7 Sep 84.

26. Message, DA DCSOPS to Cdrs, FORSCOM, TRADOC, AMC, 261455Z Oct 84, subj: Design of the 9th Infantry Division (Mtz).

27. (1) Bowman et.al., eds., *Motorized Experience of the 9th Infantry Division*, p. 25. (2) FORSCOM Annual Historical Review, FY 1985, pp. 171–72. (SECRET — Info used is UNCLASSIFIED) (3) Message, Cdr USACAC to distr, 281530Z Jan 85, subj: CAC Update. (4) Operational Concept for an Infantry Division (Motorized), 1 Feb 85, HQ ADEA, Wickham Papers. (5) Issue Paper DAMO-FDQ, HQDA, n.d. [1985], subj: Status of 9ID(Mtz), Wickham Papers.

motorized design, had it ever been realized, would have provided a highly mobile division with heavy firepower and deployable in approximately 1,200 to 1,300 air sorties.

Plans soon changed, however. In April 1985, the Department of the Army told the Army agencies involved that its analysis had determined that the M551 vehicle was not supportable as the division's interim assault gun and that the Chief of Staff of the Army had blocked further development of it for that purpose. Based on that conclusion and on a recognition of the impossibility of developing the needed new high-technology equipment in time, General Wickham directed ADEA and TRADOC to prepare interim division designs based on existent equipment so that the division could transition by FY 1987. The advanced equipment was not written off at this point, however. Wickham also told the Army Staff and TRADOC to pursue actively the definition of Army-wide requirements for the equipment — the operational and organizational concept for the motorized division remained valid. In the meantime, various high mobility multipurpose wheeled vehicle, or HMMWV, "surrogates" were to be pursued.[28]

The equipment dilemma of the motorized division was almost total. A HMMWV with TOW missile armament was deployable but could not hope to survive on an armor-dominated battlefield. The only current-inventory alternative to the M551 Sheridan, the M60A3 tank, was survivable but could not, with its great weight, rapidly deploy.

The documentation dilemma was doubly complex at this juncture. The "living TOE" process in use had to accommodate both the reality of a division using substitute current equipment and an objective division for which congressional approval to acquire the advanced equipment remained in doubt. ADEA and TRADOC agreed to transfer the documentation responsibility for the 9th Division from the former to the latter command by 1986.[29] At length, on 26 September 1985, the Chief of Staff of the Army approved an interim design which mirrored the objective design with the exception that HMMWVs were substituted for the future assault gun system on a three for two basis.[30]

The 9th Division became operational as an interim motorized division in October 1986, a limbo state that was rendered still more uncertain when, in February 1988, Department of the Army manpower reduction decisions cut the division by 2,510 personnel. The reduction forced inactivation of one Active Army maneuver brigade. Further design options were subsequently explored by TRADOC planners, including both armor-mechanized-motorized and armor-mechanized mixes of divisional maneuver battalions. Nothing came of those alternative designs, however.[31]

At the close of its turbulent experimental decade, the 9th Infantry Division (Motorized) in 1989 was a 16,663–man organization of two Active Army brigades filled out with a National Guard mechanized infantry brigade of two mechanized and two armor battalions. Both of the two division-unique motorized maneuver brigades featured combined arms battalions. One brigade

28. (1) Message, DA to ADEA, 181802Z Apr 85, subj: 9ID Motorized Design. (2) Letter ATCD-ZXA, DCSCD to distr, 28 Aug 85, subj: Status of Current Actions.

29. Letters ATCD-ZXA, DCSCD to distr, 25 Feb, 28 Aug, and n.d. [Jul-Sep] 85, subj: Status of Current Actions.

30. Letter ATCD-ZXA, DCSCD to distr, n.d. [Jul-Sep 85], subj: Status of Current Actions.

31. (1) FORSCOM Annual Historical Review, FY 1988, p. 4–3. (SECRET — Info used is UNCLASSIFIED) (2) CAC Annual Historical Review, CY 1988, pp. 346–49.

consisted of a light combined arms battalion, a heavy combined arms battalion, and a light attack battalion, while the other motorized brigade employed a standard tank battalion in lieu of the light attack battalion. Charts 50, 51, 52, and 53 depict the late-decade division design, with constituent interim special maneuver battalion types. In February 1989, the Department of the Army, after long delay, reached a decision to stop the development process for the armored gun system, a decision that all but foreclosed a future evolution of the 9th Division from its interim to its objective design.[32] The Army's failure to justify the armored gun system led directly to the demise of the HTLD idea. The general officer leadership did not support the vehicle, and without it, the high tech division remained a concept only, which inadequate substitute vehicles could not flesh out. In any event, its strategic lightness problem remained unsolved.[33]

While a high technology division did not emerge from the 9th Division, valuable concepts did come out of the test experience in the 1980s. Concepts in the areas of aviation, air defense, reconnaissance and counterreconnaissance, desert warfare, unmanned aerial vehicles, light mobile vehicles, small command posts and standard command posts, brigade operations, training techniques, palletized loading, and command and control had benefit throughout the Army. Those improvements were translated into materiel need documents by the combat developments directorates of the branch schools and placed in development. In its concept testing role, the 9th Division, albeit at some cost to division readiness, succeeded well.[34]

Restructuring the Airborne Divisions

Conversion of the 82d Airborne Division and the 101st Airborne Division (Air Assault) to the smaller designs presented by TRADOC to the Chief of Staff of the Army in 1983 was to a high degree subject to factors of readiness, equipment delivery, and specific deployment requirements owing to the divisions' high priority for contingency use. TRADOC's "downsizing" of the two airborne division designs called for the then current 16,500 and 18,900 structures to be reduced to AOE designs of 13,200 and 14,900, respectively. TRADOC worked with FORSCOM planners during the period toward implementation of those design goals in a phased effort. The idea was not the imposition of an inflexible standardization, but the better alignment of the two special-purpose infantry divisions with the Army of Excellence initiatives. The AOE designers considered the organizations to be essentially light divisions that were modified to their special purposes. Accordingly, the AOE designs were consciously built upon the new standard light infantry division base and were "force tailored" to meet their unique mission requirements.[35]

For his part, the FORSCOM commander directed the two division commanders and the XVIII Airborne Corps commander to involve themselves fully in the design work. In April 1984, the FORSCOM designs were briefed to General Richardson and passed to the AOE designers in

32. Bowman et.al., eds., *Motorized Experience of the 9th Infantry Division.*

33. Wickham Interview by Romjue, 20 Jan 93.

34. (1) Bowman et.al., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980–1989.* (2) Otis Interview by Romjue, 15 Feb 93. (3) Richardson Interview by Romjue, 24 Feb 93.

35. (1) TRADOC Historical Review, 1984–1986, p. 114. (SECRET — Info used is UNCLASSIFIED) (2) Keller Interview by Romjue, 22 Oct 90. (3) Army Commanders' Conference Wrap-up, April 1984 (SECRET — Info used is UNCLASSIFIED), Wickham Papers.

the Combined Arms Combat Developments Activity at Fort Leavenworth. That month, CACDA began the redesign of the two divisions and the light corps. Following a general officer workshop at Fort Leavenworth in July 1984, both commands were in basic agreement on the designs. Briefed to General Wickham in August, they were approved in principle, but with some air assault points still at issue. After study, the major of those points — one rather than two aviation brigades, and four air cavalry troops per squadron rather than three air and one armored cavalry troops — were decided by General Wickham in early 1985.[36]

The Forces Command and XVIII Airborne Corps had an obvious and strong interest in the design outcome of the two strategically vital specialized divisions, and joined with the divisions in making their wishes known within the design ceilings established. One FORSCOM point of insistence, on which the TRADOC AOE designers gave way, was for forward area support coordinators in the division support commands, rather than forward support battalions.[37]

An example of the airborne division's special equipment problems was the unsuitability of the new M9 armored combat earthmover, the ACE, for use by the divisions. Because the ACE was not certified for airdrop, could not be lifted by the UH-60 Black Hawk helicopter, and required disassembly for C-141 and C-130 transport, the TRADOC commander ruled that the new bulldozer should not be substituted in the airborne divisions' and corps' light equipment engineer company for the D5 bulldozer, which was retained.[38]

Work on the new tables of organization and equipment, or TOE, for the air assault division began in 1984 under the living TOE process. The division's base TOEs with incremental change packages went to the Department of the Army in early 1985 and were published in April that year. The airborne division tables were published in October 1985.[39] Conversion of the 101st Airborne Division (Air Assault) to the AOE design began in 1986, followed shortly by that of the 82d Airborne Division, and both completed the transition to their AOE designs by September 1987.[40] The approved final AOE designs of the two divisions (Charts 54 and 55) put their strengths at 12,961 and 15,674, respectively.

Although "light" and, like the LID, commanding nine maneuver battalions, the two airborne divisions were both considerably more powerful than that division. The airborne division infantry battalion had 697 men as opposed to the LID infantry battalion of 559. The 82d had a greater number of vehicles than the LID. The air assault division fielded a strong air component — its combat aviation brigade had a general support aviation battalion, 2 combat support aviation battalions, 4 attack helicopter battalions, and a reconnaissance squadron.

36. (1) FORSCOM Annual Historical Reviews, FY 1984, p. 182, and FY 1985, pp. 165–66. (Both SECRET — Info used is UNCLASSIFIED) (2) Letter, Lt Gen Carl E. Vuono, Cdr USACAC to General William R. Richardson, Cdr TRADOC, 29 Jan 85, w/encl: CAC Commander's 1984 Assessment. (3) Interview with Alonzo D. Daugherty, Force Design Directorate, CACDA, by Dr. John W. Partin, 16 Oct 84.

37. Keller Interview by Romjue, 22 Oct 90.

38. (1) TRADOC Annual Historical Review, CY 1987, pp. 113–14. (SECRET — Info used is UNCLASSIFIED) (2) Issue Summary Sheet, ODCSCD, 82d/101st Reorganization, 30 Sep 87.

39. Letters ATCD-ZXA, DCSCD to distr, 22 Oct 84 (CONFIDENTIAL — Info used is UNCLASSIFIED), 22 Feb 85, and 22 Aug 85. (2) SSHR, ODCSCD, Oct 85 - Mar 86.

40. (1) FORSCOM Annual Historical Review, FY 1987, p. 147. (SECRET — Info used is UNCLASSIFIED) (2) "Fast Reaction Forces - US Style," *International Defense Review 9*, 1987.

The National Guard Infantry Divisions Keep the Old Form

Although the AOE design effort encompassed most of the Army's TOE units active and reserve, a redesign of the five Army National Guard straight infantry divisions was not part of AOE planning.[41] The 1980s would thus come to an end without the conversion of a notable segment of the total force. The new 29th Infantry Division (Light), ARNG, which had been activated in September 1985, was the sole nonmechanized Guard infantry division fully structured on AOE tables at the close of the decade.

In October 1983 when the Chief of Staff of the Army approved the basic AOE planning and design, there were eight divisions in the reserve components, all Army National Guard divisions. They included the five standard infantry divisions — the 26th, 28th, 38th, 42d, and 47th Infantry Divisions, ARNG; two armored divisions — the 49th and 50th Armored Divisions, ARNG; and one mechanized — the 40th Infantry Division (Mechanized), ARNG. Besides the light 29th Division, one additional reserve division, the 35th Infantry Division (Mechanized), ARNG, was activated in FY 1985, which brought the reserve component count to ten.[42]

Except for the 29th Division, the National Guard nonmechanized infantry divisions lagged far behind their active component counterparts on the timetable to conversion. With the 10,000–man light design to undergo certification between 1984–1986 in the 7th Division exercises at Fort Hunter Liggett, and with controversy attendant on the Army's development of light divisions for mission use against heavier challenges, no immediate decision was made to convert the National Guard infantry to the light structure. There were in addition both political and fiscal considerations at issue. With their numerous community and other obligations to the state governments to which their units reported, the Guard infantry divisions were reluctant to give up the manpower and equipment they employed under the old, much larger H-series TOEs. In the end, the funding to restructure the units and their facilities in hundreds of U.S. cities and towns did not materialize anyway.[43] Although the Army's emphasis on modernization in the 1980s put resources into both active and reserve component units under the Total Force Concept, the new 29th Division was the only light reserve division to be outfitted on a priority timetable.

Facing those realities, the CACDA planners developed a redesign for the five old-style National Guard infantry divisions during 1985. Planners recommended changing the H-series maneuver battalion mix of 8 infantry battalions, 1 tank battalion, and 1 infantry mechanized battalion. CAC analysis of several alternatives supported a 6–2–2 mix as having the greatest flexibility for task organizing in tactical battle. In January 1986, General Wickham approved the design for planning purposes only. Further work by the Leavenworth force designers included analysis of combined arms battalion structures but resulted in Pentagon approval in June 1988 of a heavier National Guard infantry division overall design better suited to European needs and numbering approximately 16,900 personnel, with standardized battalions instead (Chart 56). The issue of the mix of maneuver battalion number and type remained incompletely resolved, with the preference being a 4–armor, 3–mech, 3–infantry battalion structure (Chart 57). The National

41. Richardson Interview by Romjue, 24 Feb 93.

42. FORSCOM Annual Historical Reviews, FY 1984, p. 312, and FY 1985, p. 296. (Both SECRET — Info used is UNCLASSIFIED)

43. Keller Interview by Romjue, 22 Oct 90.

Guard Bureau was charged to prepare a transition plan for each individual division to the objective design. Approval of a final design remained contingent on prospects for programming.[44]

Consequently, at the close of the 1980s, many of the units of the National Guard standard infantry divisions remained organized under the old H-series tables. Only a few maneuver battalions had transitioned to new J-series TOEs. At the end of the decade, the typical H-series reserve infantry division fielded 3 maneuver brigades and 10–11 maneuver battalions, of which 7 were infantry, 1 or 2 were mechanized infantry, and 1 or 2 were armored; a division artillery of 3 battalions of towed 105–mm. howitzers, and one combined 8–inch self-propelled - 155–mm. towed howitzer battalion; a division aviation brigade of 2 assault helicopter companies, an attack helicopter battalion, and a cavalry squadron; a division support command with functional maintenance, supply and transport, and medical battalions, and an aviation maintenance company; signal, air defense artillery, and engineer battalions; and military police and chemical companies and a division band.[45]

The Light Corps

AOE redesign of the light corps began in April 1984 at the same time as the design efforts for the airborne and air assault divisions. Much early design work had already been done for the corps within the staff of the XVIII Airborne Corps, as that organization attempted to bring down the size of its constituent divisions. In September 1984, the Department of the Army directed a major analytical evaluation of the proposed new AOE light corps. Its purpose was to analyze the pros and cons of the transfer of capabilities from division to corps and the capability of corps units to augment the divisions.[46]

An additional aim of the light corps capabilities analysis was to examine the relative utility of the new high mobility multipurpose wheeled vehicles with mounted tube-launched, optically-tracked, wire-guided missile, the HMMWV-TOW, compared to the standard M-151 jeep vehicles mounting TOW missile systems, in the airborne and air assault divisions. That issue was not to be immediately resolved. FORSCOM planners believed the new HMMWV-TOW should be issued, although that action did not satisfy the requirements of all contingency deployments since the Black Hawk helicopter could not lift the heavier new system. The issue was only one of a number of equipment problems bound up in the conflicting aims of modernizing the light corps while also maintaining its immediate and near-term readiness.[47]

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44. (1) Messages, Cdr USACAC to distr, 281900Z Mar, 301900Z Apr, and 281500Z May 85, subj: CAC Update. (2) Message, DA to Cdr TRADOC, 032025Z Feb 86, subj: Force Designs for the Infantry Division (ARNG) and the 6th Infantry Division (L).

45. (1) Charts, Divisions of the United States Army, Arlington, Va.: Institute of Land Warfare, 1989 (effective 1 Oct 89) and 1991 (effective 1 Oct 90). (2) Keller Interview by Romjue, 22 Oct 90. (3) Responding in October 1990 to a General Accounting Office inquiry, the Assistant Secretary of Defense for Force Management and Personnel, Mr. Christopher Jehn, reported 100 percent conversion by the 26th Infantry Division. That division, however, retained on 1 October 1990 two tank battalions and 1 mechanized battalion — organizations that were not in the AOE LID design. Jehn also reported between 38 and 45 percent conversion of the 28th, 38th, 42d, and 47th Divisions and that all five divisions had fully converted aviation brigades. Letter, ASD(FMP), Christopher Jehn to Frank C. Conahan, Asst Compt Gen, GAO, 24 Oct 90.

46. (1) Message, Cdr TRADOC to Cdrs LOGC, CAC, SSC, 171330Z Sep 84, subj: Light Corps Capabilities Analysis (LCCA). (2) Letter, Vuono to Richardson, 29 Jan 85.

47. For a detailed discussion of these issues, see FORSCOM Annual Historical Review, FY 1985, pp. 166–71. (SECRET — Info used is UNCLASSIFIED)

To carry out the capability analysis for the light corps, several TRADOC elements joined FORSCOM, the Army Materiel Command, and Army War College planners to examine the issues involved in the doctrinal shift from division to corps. The analysis compared the current light corps modified TOE design to the new AOE design, as well as to other designs. Various scenarios and campaign operations, together with deployment, field artillery, and command and control factors, and questions of resiliency, ability to survive against artillery, sustainability, and tactical mobility were examined. TRADOC's Combined Arms Operations Research Activity supported the effort with war gaming. Completed in July 1985 and briefed to the Army leadership the following month, results showed that the AOE light corps markedly outperformed all previous light corps.[48]

General Wickham approved TRADOC's proposed light corps design for the XVIII Airborne Corps on 14 February 1985 (Chart 58), subject to refinements, the ongoing analysis, and final review by the Army Staff. At that time, the light corps capabilities analysis was expanded to include transition to the AOE structure and several other issues. On 28 February, the Department of the Army further determined that a proposed light armored cavalry regiment was not needed in conjunction with the light corps and directed the programming instead of two light armored battalions in the corps and retention of all air cavalry units in the corps aviation brigade.[49]

The AOE light corps design for the XVIII Airborne Corps at just under 140,000 personnel included one mechanized infantry division, an airborne division and an air assault division, and a motorized division. The AOE light corps included the following additional units: an air defense artillery brigade, two light armored battalions (in place of a light armored cavalry regiment), a headquarters and headquarters company, a signal group, a military intelligence group, an air defense artillery brigade, a military police group, an engineer brigade, a chemical group, a rear area operations center, a long range surveillance company, a division artillery, a combat aviation brigade, a corps support command, and separate brigades heavy and light. The XVIII Airborne Corps was increased in artillery fire support and in attack and general support aviation. The corps support command was restructured to support additional maneuver units.[50]

Low Intensity Conflict and Special Operations Forces

The designing of the Army of Excellence and its new 10,000-man light division coincided with the reviving interest during the early 1980s in low intensity conflict and special operations forces, which we earlier noted. That interest had been submerged for most of a decade by the Army's concentrated focus upon the heavy armored threat in Europe. Implicit in the reopening of the contingency sector following the political-strategic changes of 1979–1981 was a wide range of possible military actions, both at the so-called high-intensity and mid-intensity levels, but also in the low intensity conflict realm — "LIC" in familiar Army parlance.

48. (1) Memorandum for Record ATMH, TRADOC Office of the Command Historian, 1 Dec 85, subj: TRADOC Commanders' Conference, 18–21 Nov 85. (2) CAC Annual Historical Review, CY 1985, p. 217. (3) TRADOC Historical Review, 1984–1986, p. 115. (SECRET — Info used is UNCLASSIFIED) (4) OCH files.

49. Message, DA to Cdr TRADDOC, 281601Z Feb 85, subj: XVIII Airborne Corps Design Briefing for Chief of Staff of the Army, 14 Feb 85.

50. (1) Combat developments briefing slides, TRADOC Commanders' Conference, 28 Nov 84. (2) CAC Annual Historical Review, CY 1985, pl. 87.

In the early 1980s, the global sponsorship by the Soviet Union and its clients of programs of subversion and armed struggle to promote socialist revolution in Latin America and Africa continued as a major power factor in the international arena. At the same time, an escalating traffic of cocaine and other illegal drugs from Latin America into the United States had emerged as a serious social, political, and security problem in the Western Hemisphere. Operation Urgent Fury, the U.S. action of 1983 which freed the Caribbean island nation of Grenada from an imposed communist dictatorship, was a symbol of the high security stakes of the era. That event, however, while militarily successful, pointed up shortcomings in U.S. capabilities to meet such responses and galvanized the efforts already under way to prepare the Army for the challenges of the contingency world. A part of that preparation was a more acute appreciation of two significant points. The first was the need, highlighted by the well-publicized interservice problems of Urgent Fury, for U.S. joint-service cooperation across the whole military spectrum. The second point was an increasing perception that the low side of the spectrum existed as a diverse doctrinal realm with its own rules and sets of demands.

For the U.S. Army, the recognition of interservice shortcomings and of the new notions of low intensity conflict set in motion a train of actions. Those actions led, first, to the development through the 1980s of LIC concepts and doctrine. They led, second, to the AOE expansion of tactical organizations for low intensity conflict, the special operations forces (SOF). A third consequence was the establishment of Special Forces as a branch separate from infantry, in April 1987.[51]

An important doctrinal emphasis of the decade, low intensity conflict attracted increasing interest within and outside the Army from the early 1980s on. As the foreign policies of the Reagan Administration developed rapidly in the direction of involvement against Soviet sponsored subversions in Latin America, Africa, and Asia, the need emerged for forces trained, equipped, and organized to function in low intensity combat. Army doctrinal thinking in the early 1980s increasingly viewed that sector as the more likely, if less dangerous, sector of the global U.S. strategic challenge. Following the Grenada action, the new emphasis on the low end of the conflict spectrum and on a joint-service approach to it, prompted in turn several significant interservice doctrinal and organizational developments.

Chief among those was the Goldwater-Nichols reorganization of the Defense Department of 1986, an action which increased the planning and development influence of the regional joint-service commanders-in-chief. Also significant, however, were the Joint Low Intensity Conflict Study, launched in July 1985 and reported in August 1986; the cooperative joint Air Force - Army 31 Initiatives Program, treating critical biservice issues and problems across the entire conflict spectrum and carried through during 1984–1986; and the establishment of a special Air Force - Army integrating cell, the Joint Center for Low Intensity Conflict, at Langley Air Force Base, Virginia in 1986. The upshot of those developments collectively was the emergence of low intensity conflict as a specifically joint endeavor and as a converging doctrinal trend, both for the Army and for the Air Force.[52]

51. For a discussion of the Special Forces branch activation, see TRADOC Annual Historical Review, CY 1987, pp. 140–41. (SECRET — Info used is UNCLASSIFIED)

52. For the results and recommendations of the Joint LIC Study, see Joint Low Intensity Conflict Project Final Report, Vol I: Analytical Review of Low Intensity Conflict, Fort Monroe, Va.: Joint Low Intensity Conflict Project,

Continued

Against the backdrop of the trends just noted, the Army carried through an important strengthening of the special operations forces. Headquarters Department of the Army guided actions through a modernization action program issued in successive editions as a management tool to deal with the many issues. A department-level general officer steering committee oversaw the flow of change, and a special operations forces systems program review was held under TRADOC sponsorship in April 1986.[53]

The Army special operations forces design changes took place in the context of joint organizational developments. On 18 October 1986, the U.S. Special Operations Command, or USSOCOM, was activated at MacDill Air Force Base, Florida as the unified combatant command for the special operations forces.[54] USSOCOM set major policy and exercised operational control of the SOF for all the services. The mission of supporting the Army SOF resided with Headquarters Forces Command. However, with the new emphasis on jointness under way, that mission began to shift from FORSCOM headquarters to USSOCOM and to its designated Army component headquarters at the lst Special Operations Command (SOCOM) at Fort Bragg, North Carolina. The lst SOCOM and its subordinate units were assigned to USSOCOM in May 1987.[55] In October 1987, prompted by legislative changes announced by the 99th Congress in the Goldwater-Nichols Department of Defense Reorganization Act of 1986, FORSCOM recommended elevation of the 1st SOCOM to a major Army command the following year. That concept was approved by the Chief of Staff of the Army, General Carl E. Vuono. The U.S. Army Special Operations Command (USASOC) was established at Fort Bragg on 1 December 1989.[56]

The Forces Command had, however, already assigned its Ranger, Special Forces, psychological operations, civil affairs, and certain selected Army aviation units to the 1st SOCOM (Provisional) as early as October 1982. As the Army expanded its special operations forces in the face of the LIC challenge, other organizational changes occurred. During 1984, FORSCOM reorganized the Rangers into a regiment, adding a third Ranger battalion, and also added a fourth Special Forces group. Those events carried through the recommendations the AOE planners had made to the Chief of Staff of the Army in October 1983.[57]

(52. Continued)

USATRADOC, 1 Aug 86. For a study of the 31 Initiatives, see Richard G. Davis, *The 31 Initiatives: A Study in Air Force - Army Cooperation* (Washington, D.C.: Office of Air Force History, 1987). See the annual historical volumes of the Center for Low Intensity Conflict (CLIC) and TRADOC from 1986 through the end of the decade for information on the CLIC cell. The literature on LIC in the 1980s is voluminous; for a select bibliography, see the following references: (1) Steven Metz, *The Literature of Low Intensity Conflict: A Selected Bibliography and Suggestions for Future Research*, CLIC Paper, Langley Air Force Base, Va.: USA-AF CLIC, September 1988. (2) *Low Intensity Conflict: A Selected Bibliography*, comp. by Virginia C. Shope, Carlisle Barracks, Pa.: US Army War College Library, May 1992. (3) *Low Intensity Conflict*, Washington, D.C.: Pentagon Library, December 1989.

53. (1) Message, DA to Cdr FORSCOM, 301134Z Sep 86, subj: Clarification of Special Operations Aviation Concepts. (2) Message, DA to Cdrs TRADOC and FORSCOM and Chief NGB, 051321Z Jun 86, subj: Special Operations Forces Systems Program Review. (CONFIDENTIAL — Info used is UNCLASSIFIED)

54. Message, DA to distr, 280014Z Oct 86, subj: Special Operations Command Implementation Task Force

55. Message, JCS to distr, 062233Z May 87, subj: Assignment of Forces to US Special Operations Command (USSOCOM)

56. (1) FORSCOM Annual Historical Review, FY 1988, pp. 7–9 to 7–10. (SECRET — Info used is UNCLASSIFIED) (2) Paper, Special Operations Forces: A Primer, AUSA Background Brief No. 42, April 1992.

57. FORSCOM Annual Historical Reviews, FY 1984, p. 150; FY 1985, pp. 171, 291. (Both SECRET — Info used is UNCLASSIFIED)

Assumption by the 1st SOCOM of its responsibilities for the various types of SOF units required some transition time. Concomitant with the transfers was the conversion of the units to new AOE tables. The special operations forces encompassed, as noted, five major elements: the Special Forces, the Rangers, the psychological operations units, the civil affairs units, and the special operations aviation units of the 160th Aviation Group of the 101st Airborne Division (Air Assault).

Special Forces groups included the 1st SF Group (Airborne) at Fort Lewis, the 5th at Fort Campbell, the 7th at Fort Bragg, and the 10th at Fort Devens, Massachusetts. Following approval of an implementation plan by the Army Chief of Staff in May 1987, general orders signed on 19 June established the Special Forces branch effective 9 April 1987. A ceremony took place at Fort Bragg on 11 September 1987.[58] Plans at the close of the decade called for activation of a fifth Special Forces unit, the 3d SF Group (Airborne). The AOE Special Forces expansion from 3 to 4 groups and, with a fifth planned, greatly extended the Army's low intensity conflict capability in support of the theater commanders-in-chief. The groups each commanded 3 battalions, for a total in the force of 12. Chart 59 indicates the Special Forces group design.

The Army's Ranger units were organized into the 75th Infantry, activated on 1 July 1984 at Fort Benning. The third Ranger battalion was activated on 2 October 1984. Redesignation of the Ranger structure as the 75th Ranger Regiment took place on 2 February 1986. The expansion of the Rangers corresponded to Department of the Army steps to channel a strong Ranger component into the 7th Infantry Division, as we have seen.[59] Ranger structure was as shown in Chart 60.

Psychological operations units were gathered into the 4th Psychological Operations Group, headquartered at Fort Bragg. The group commanded four psychological operations battalions. The Combined Arms Center AOE designs for the units were approved by General Wickham in October 1986.[60] Conversion to the new TOEs was delayed and did not become effective until March 1990. Chart 61 depicts the group structure.[61]

The Army Chief of Staff approved TRADOC's redesign of Army civil affairs organizations in September 1987. Most civil affairs units were found in the Army Reserve, only a single civil affairs battalion being present in the active force.[62] The objective design of a special operations aviation brigade was approved by the Chief of Staff of the Army in September 1987, but planned activation of the brigade was cancelled in November 1987 by request of the 1st Special Operations Command.[63]

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58. SSHR, ODCSCD, Jan-Jun 1987. (SECRET — Info used is UNCLASSIFIED)

59. (1) FORSCOM Annual Historical Reviews, FY 1984, p. 150; FY 1988, p. 6–35. (Both SECRET — Info used is UNCLASSIFIED) (2) Message, HQDA to Cdrs TRADOC, 7ID, and MILPERCEN, 161413Z Apr 84, subj: Personnel Management Issues for 7ID(L) Conversion. (3) Larry Carney, "Light Division Leader Course to Start in August," *Army Times*, June 1984.

60. CAC Annual Historical Review, CY 1987, pp. 63–64.

61. FORSCOM Annual Historical Review, FY 1988, p. 7–11. (SECRET — Info used is UNCLASSIFIED)

62. (1) Issue Summary Sheet, ODCSCD, Civil Affairs, 2 Oct 87. (2) Message, Cdr CACDA to distr, 071900Z Oct 87, subj: Special Operations Forces (SOF) Design and Structure.

63. (1) Message, Cdr CACDA to distr, 071900Z Oct 87, subj: Special Operations Forces (SOF) Design and Structure. (2) FORSCOM Annual Historical Review, FY 1987, p. 7–13. (SECRET — Info used is UNCLASSIFIED)

Chapter VI

THE HEAVY DIVISIONS TRANSITION TO THE AOE

Doctrinal Currents and the Heavy Corps

At least equally significant to the AOE's introduction of new light infantry divisions were the doctrinal and organizational realignments of the heavy units that more firmly established the strong corps as the command and control organization that fought the AirLand Battle. The AOE heavy corps of 1983 realized organizationally, in a stronger way, the operational art implications of the fighting doctrine the Army had adopted in 1982. That organizational change, together with the other doctrinal efforts of 1983 and the period following, resulted in a further refinement of AirLand Battle doctrine, which the Army published in a new FM 100–5 *Operations* edition in May 1986, clarifying the roles and interaction of the corps and the heavy divisions.[1]

Corps Doctrine and the Operational Level of War

The respective roles and balance of the division and the corps in the waging of AirLand Battle was a central question of the new doctrine in the early 1980s. The Army 86 Studies had yielded strong heavy corps and heavy division structures but had placed the focus of combat power in the Division 86 heavy divisions, originally designed at almost 20,000 men. Divisions, employing their battalions, waged battle. Just how, or if, the divisions waged AirLand Battle was not, however, completely clear. Doctrine briefings by the Combined Arms Center, for example, sometimes posed an entire division as the deep-strike maneuver element, rather than maneuver task forces. Such ambiguities fed the notion that the operational-level organization, the corps, required more organic combat and combat support power of its own to implement more effectively the operational doctrine of AirLand Battle. As we have seen, the restructured AOE corps was marked out more strongly as the operational and doctrinal focus of the fighting force, while the heavy divisions were reduced and redesigned, retaining their focus on the tactical battle. Whereas Corps 86 had had most of its combat power in its constituent divisions, the AOE redesign gave strong

1. For a summary of the major changes to AirLand Battle doctrineintroduced by the FM 100–5 edition of 1986, see "FM 100–5: TheAirLand Battle in 1986," *Military Review*, March 1986, pp. 4–11,by the TRADOC commander who superintended the revision, GeneralWilliam R. Richardson. For an account of the revision and staffing of FM 100–5 and a summary of changes, see TRADOC HistoricalReview, 1984–1986, pp. 73–75. (SECRET — Info used is UNCLASSIFIED)

combat assets to the corps itself. Those organizations included added artillery, an air defense artillery brigade, two heavy separate brigades, one light separate brigade (for the rear battle), increased attack helicopter strength, and long range surveillance.

With his new and stronger organic organizations, the corps commander possessed the capability to mass his attack helicopters. Corps artillery was increased, with more 8–inch howitzers in the corps, and a corps target acquisition battalion. The strengthened corps possessed one cannon brigade per division, and it had a general support field artillery brigade of Multiple Launch Rocket Systems and Lance missiles. All the AOE additions together increased considerably the corps commander's influence on the battle, enabling him to better conduct the operational level of war; to fight close-in, deep, and rear; and to taskorganize and structure his forces to meet the need at hand. The Army Chief of Staff saw it as a doctrinally sound move.[2]

The new stronger-corps focus was signaled by a significant doctrinal conference held at Headquarters Combined Arms Center in October 1983, the Corps Systems Program Review. The first of a series of corps commanders conferences inaugurated by General Wickham to help bring out the thoughts and concerns of the corps leaders, the October meeting was attended widely by major Army command leaders, the Army Staff, corps and division commanders, the TRADOC center and school commanders, and other service commanders and representatives. The October review took up the question of the ability of the individual corps to fight the AirLand Battle in the near term. Its focus was on critical doctrinal, training, force structuring, and materiel "war-stopping" factors involved, and on how TRADOC could help the corps commander to fight the battle. The capability of the corps to wage the AirLand Battle was analyzed in European, Korean, and Southwest Asian scenarios. The October 1983 review helped drive home for the corps commanders the "depth" tenet of AirLand Battle. It helped them visualize their responsibility beyond the immediate front line to the deep area of interest and maneuver beyond the forward line. The October 1983 meeting also revealed the corps commanders' conviction that a strong corps was needed in order to influence the AirLand Battle.[3]

Just as the original redesign from Army 86 to the Army of Excellence facilitated the shift to a stronger corps focus, so did the refinement of AirLand Battle lead to a stronger focus on the operational level of war. Although that level of combat action had been introduced into the 1982 doctrine, the inclusion had occurred late in the writing and had not sufficiently permeated the doctrine. The 1986 edition, which used the revised term, operational art, would integrate it more fully. The whole intent of the corps-division realignment was indeed to support AirLand Battle, an operational-level doctrine of which the corps was the centerpiece.[4]

The corps and the operational level received considerable attention during the period, as doctrinal planners perceived the need for its increased clarification and inculcation through instruction. Not all problems of the stronger corps were solved in 1983. There remained the central

2. Wickham Interview by Romjue, 20 Jan 93.

3. (1)Letter, Lt Gen Carl E. Vuono, Cdr CAC to General William R.Richardson, Cdr TRADOC , 19 Apr 84, no subj, w/encl: CAC Commander's 1983 Assessment. (2) Booklet, Corps Systems Program Review,4–6 Oct 83, Fort Leavenworth, Kan. (SECRET — Info used is UNCLASSIFIED) (3) Wickham Interview by Romjue, 20 Jan 93. (4)Richardson Interview by Romjue, 24 Feb 93.

4. Interview with Lt Gen Carl E. Vuono, Cdr CAC by Dr. John W.Partin.

war-fighting problem of adequate Air Force close air support and battlefield air interdiction. Corps force structure, in all its components, was not affordable at 1983 Army end-strength levels. Training simulations needed further work. But what AirLand Battle doctrine had done, TRADOC's planners believed, was change the Army's focus and thinking from the tactical to the operational level of corps and above. Tactical battles won outside a successful operational context tended to be futile, and the defeats fatal. The new focus had many ramifications — not only for the deep battle, but for the many other changes consequent upon the new focus.[5]

The AirLand Battle Study

In order to examine the impact that AirLand Battle would have on the conduct of combat operations, TRADOC in October 1983 assigned the Combined Arms Center to study the subject in detail. The AirLand Battle Study focused on the 1989 force against a 1992 threat, employing the Cordivem analytical model. The aim of the study was to determine the Army's capability to synchronize rear, close-in, and deep battle. The Combined Arms Operations Research Activity commander, Brig. Gen. David M. Maddox, headed a monitoring committee. Conducted during 1984–1985, the extensive war gaming for this study was analyzed and published in a final report in June 1986.

Results of the AirLand Battle Study were classified. They revealed insights pertaining to the whole range of corps battle functions and organizations. The general thrust of the findings was to confirm the tenets of AirLand Battle doctrine.[6]

Deep Attack

A prominent part of the corps AirLand Battle was attack upon the enemy's second or follow-on echelons deep in his own part of the battlefield simultaneously with action in the close-in battle against the enemy's assault echelon. That aspect of doctrine was the subject of a second important doctrinal study of the mid-1980s, which was launched by the chartering of a Deep Attack Programs Office (DAPO)[7] at Fort Leavenworth by the Vice Chief of Staff of the Army, General Maxwell Thurman, in March 1984. The purpose of the DAPO group was to coordinate and synchronize deep attack related programs to support AirLand Battle doctrine. The group, headed by Brig. Gen. Wilson A. Shoffner, produced several major analytical and doctrinal products which set the direction of subsequent deep attack inquiries.

The DAPO group completed a number of useful analyses and tools focused on command and control and including operational templates, as well as a field circular on corps deep battle operations and a Deep Battle Action Plan. The plan was comprehensive, treating doctrine, organization, training, and equipment questions. General Thurman approved it in July 1985 to

5. (1) Memorandum for Record ATCS-H, TRADOC Office of the Command Historian, 21 Jun 85, subj: TRADOC Threat, Concepts and DoctrineConference, 29–31 May 1985. (SECRET — Info used is UNCLASSIFIED) (2) Memorandum for Record ATCS-H, TRADOC Office of the Command Historian, 4 Oct 85, subj: TRADOC Liaison Officers Conference, 23–27 September 1985. (3) OCH files.

6. (1) AirLand Battle Study War Gaming Summary, Vol I, MainReport, CAORA, 30 Apr 86. (2) Memorandum for Record ATCS-H,TRADOC Office of the Command Historian, 6 Dec 84, subj: AirLandBattle Study Recap, 29 Nov 84. (Both SECRET — Info used isUNCLASSIFIED) (3) CAC Annual Historical Review, 1985, pp. 27–31.

7. Originally titled Deep Battle Programs Office

guide the continuing deep battle work. The plan called for an advanced capability for sensing, acquiring, and attacking deep targets by 1991. Within TRADOC, a TRADOC System Manager - Deep Battle was chartered under Headquarters Combined Arms Center to continue and coordinate the Deep Attack Programs Office work. The DAPO corps battle analysis cell continued its efforts under the Combined Arms Operations Research Activity at Fort Leavenworth as the corps battle analysis task force to develop corps training simulations and to continue to examine key issues at the corps level of command. Closely related to the deep attack project were the Army's growing commitment in the mid-1980s to the J-STARS and J-TACMS deep battle systems.[8]

Results of these doctrinal currents — the further inculcation of the operational level of war and the insights gained from the AirLand Battle Study and the Deep Attack Program Office work — were integrated directly into Army doctrine during 1985 and 1986.[9]

Doctrine, the Corps, and NATO

No discussion of the convergence of operational organization and doctrine in the AOE heavy corps would be complete without a note on another powerful inducement to doctrinal change. AirLand Battle doctrine created uncertainty in the minds of Soviet planners in central Europe, and was intended to do so.[10] But during 1983, misperceptions by journalists and political critics in Europe regarding the application of portions of AirLand Battle doctrine within the specific framework of the NATO alliance gave rise to controversy. The problem centered on at least four misperceptions. Some critics found the initiative-oriented AirLand Battle incompatible with the essentially defensive stance of the alliance. Others charged that AirLand Battle's tenet of waging battle across the full depth of the enemy's formations signified a primary intention to cross borders and strike deep. A third misunderstanding was that AirLand Battle emphasized early nuclear use. Finally, critics charged that, in sum, the doctrine signified a new U.S. strategic doctrine.

Sensitive to the public charges as the American commander of the NATO forces, the Supreme Allied Commander, Europe (SACEUR), General Bernard Rogers, was compelled to take the European concerns into account. General Rogers did so by emphasizing his own view of land force doctrine in Central Europe, known as Follow-on Forces Attack, or FOFA, in preference to AirLand Battle doctrine. Whereas AirLand Battle was U.S. doctrine applicable at corps and below and involved fighting throughout the depth of the battlefield, Follow-on Forces Attack involved missions to be achieved by NATO commanders senior to corps commanders, and emphasized breaking up the enemy's uncommitted echelons through airpower and long-range artillery. Theater rules of engagement had to take precedence.

8. J-STARS: the airborne Joint Surveillance Target Acquisition Radar System. J-TACMS: Joint Tactical Missile System. (1) Memorandum for Record DAMO-ZA-DAP, Maj Robert L. Richardson, Jr., ExecutiveOfficer, DAPO, 30 Jun 85, subj: Deep Attack Programs Office FinalReport. (SECRET — Info used is UNCLASSIFIED) (2) Charter, TSM Deep Battle, n.d. [March 1985]. (3) Message, Cdr USACAC to distr,151946Z Aug 85, subj: Deep Battle Action Plan. (4) Memo ATZL-CG,Lt Gen Carl E. Vuono, Cdr CAC to Cdr CAORA, 10 Jun 85, subj:Mission and Assignment of the DAPO Analysis Team. (5) Letter,General M.R. Thurman, Vice Chief of Staff of the Army to distr, 15 Jul85, subj: Deep Battle Action Plan. (6) Memorandum for RecordATCS-H, TRADOC Office of the Command Historian, 4 Oct 85, subj:TRADOC Liaison Officers Conference, 23–27 September 1985.

9. Message, Cdr USACAC to Cdr TRADOC, 300800Z Sep 85, subj: Deep Attack Instruction for US Army Officers.

10. Starry Interview by Romjue, 19 Mar 93.

In an effort to overcome the misperceptions, TRADOC spokesmen stressed, in various forums, that AirLand Battle was not specifically a NATO-focused doctrine, but one applicable to U.S. forces worldwide in all theaters, and that it addressed the operational-tactical levels only, not the strategic level of the critics' concerns. At the same time, work was carried through to promulgate the doctrine in NATO, an effort aided through publication of an official change to the basic document of NATO land force doctrine, Allied Tactical Publication 35(A), in January 1987. The 1986 revision of AirLand Battle also went far to disarm both the friendly and unfriendly critiques. In Europe, AirLand Battle was applied to Allied Command, Europe's operational concept not only for FOFA but for other plans of that command. Follow-on Forces Attack, not officially NATO doctrine but applicable specifically to Europe, accommodated alliance political considerations of the policy and strategic realm that AirLand Battle did not touch upon.[11]

The Heavy Divisions Convert

With most heavy division unit designs complete and approved in General Wickham's decisions of October-November 1983, the organizational documentation of the heavy division began the latter month, by means of a series of TRADOC messages. Involved were principal changes including reduction of the mechanized infantry squads and howitzer crews to nine soldiers, deletion of the brigade scout platoon and the flash and sound ranging platoon, reorganization of the adjutant general function, and movement of a significant part of the division's field artillery, air defense artillery, and aviation capabilities to corps. The message series also conveyed instructions for the significant corps TOE adjustments that were necessary.[12] Review boards followed in February-March 1984. By Department of the Army authority, the heavy division TOEs were published in April 1984 — but as with the light infantry division — without department approval at that time. A consolidated TOE update document (the TOE publication vehicle) was issued in a special edition in July.[13]

Already in conversion to their Division 86 designs at the outset of the AOE effort in 1983, the ROAD-structured Army heavy divisions continued transition after 1983 to their new designs as changed by the AOE revisions. Because the divisions and their elements, as well as the many corps units and other nondivisional tactical units, had to change in accordance with priorities of delivery for the new 1980s equipment, transition could hardly proceed in clockwork fashion. The transition of the heavy divisions, which constituted the bulk of the fighting force, took place with its focus on the most critical forward force: U.S. Army, Europe. The transition was also characterized by its necessarily incremental, phased, and overall piecemeal nature, always conditioned by equipment delivery schedules. This truly monumental effort, which encompassed major new weapon systems

11. (1) Memorandum for Record ATCS-H, TRADOC Office of the Command Historian, 28 Nov 83, subj: AirLand Battle and Army 21. (2)Otis Interview by Romjue, 15 Feb 93. (3) Change 1 to ATP-35(A),January 1987. (4) General William R. Richardson, "FM 100–5: theAirLand Battle in 1986," *Military Review*, March 1986, p. 9.

12. Message, Cdr TRADOC to distr, 091500Z Nov 83, subj: Organizational Documentation of Changes to the Heavy Division - HD MsgNo. 2, and 212100Z Nov 83, Msg No. 4.

13. (1) Letter, DCSCD to distr, 20 Apr 84 and 27 Jul 84, subj: Status of Current Actions. (CONFIDENTIAL — Info used is UNCLASSIFIED) (2) Letter, Vuono to Richardson, 29 Jan 85, subj: CAC Commander's Annual Assessment.

in virtually every combat category from M1 tanks to combat field feeding systems, is detailed in the annual histories of the troop commands.

All the heavy divisions — the 10 Active Army and the 4 reserve component heavy divisions — converted to the AOE designs. They included the Active Army's 4 armor divisions, the 1st, 2d, and 3d Armored and the 1st Cavalry Division (organized as armored); and 6 mechanized infantry divisions, the 1st, 3d, 4th, 5th, 8th, and 24th. The Army National Guard fielded its 2 armored, the 49th and 50th Armored Divisions, ARNG, and its one mechanized, the 40th Infantry Division (Mechanized), ARNG in the new design. A second Guard mechanized division, the 35th, was organized in FY 1985. The AOE armored divisions were 16,924 in objective design strength, the mechanized divisions 17,203 (Charts 62 and 63).[14]

Related to the AOE project of 1984 was a further TRADOC study, directed by the Chief of Staff of the Army, of a standardized heavy division of 5 armor and 5 mechanized infantry battalions, the results of which General Richardson presented to the Army Commanders' Conference in August 1984. The Army commanders, however, did not support the doctrinal and stationing changes that a single "5–5" heavy division would entail, and nothing came of that 1984 effort. At the conference, Richardson additionally raised the idea of a reduction by one maneuver battalion, of the heavy divisions in order to garner spaces for other force strength needs. That recommendation, which the USAREUR commander-in-chief, General Otis, opposed, was not accepted.[15]

By 1985, only three major actions remained to complete the conversion of the heavy divisions to their AOE designs: the activation of the aviation brigade in each division, the fielding of the newly configured 155–mm. field artillery battalions, and the air defense artillery changes. Division air defense would for some time remain in uncertain status, following the termination of the Sergeant York division air defense weapon program in August 1985.[16] The demise of that program led to the major multipart Forward Area Air Defense System program, which forecast deliveries of its first components in the 1990s. Thus, throughout the late 1980s, the air defense artillery battalion of the heavy division remained based on Vulcan air defense guns and manportable Stinger missiles, the Improved Chaparral air defense system moving to corps.

The TOEs for the heavy division were completed and approved by the Department of the Army in 1986 and were implemented in October of that year.[17] The same month, all of FORSCOM's heavy divisions, following those of USAREUR, completed conversion, except for their air defense artillery units and 155–mm. batteries. The latter action awaited distribution of the new artillery pieces, which in some instances had not arrived at the close of the decade.[18]

14. (1) The AOE Final Report, Vol III: The Heavy Division, 1 Oct 84, Ft. Leavenworth, Kan.: HQ USACACDA, details the developmentof the AOE's individual heavy division organizations through May1984. One other volume of that projected four-volume report was produced, Vol II: The Light Infantry Division. Information from Mr. John Rogers, Combined Arms Research Library, Ft. Leavenworth, Kan., 26 Jun 89. (2) TOEs 87000L300, Armored Division, and 87000L100, Infantry Division (Mechanized), both 1 Oct 86.

15. (1) Memorandum for Record, General William R. Richardson, CdrTRADOC, 1 Mar 84, subj: Meeting with Chief of Staff of the Army.(2) Letter, General William R. Richardson, Cdr TRADOC to Lt GenAlexander M. Weyand, Cdr, US Army Japan/IX Corps, 7 Sep 84, no subj.

16. FORSCOM Annual Historical Review, CY 1985, p. 141. (SECRET— Info used is UNCLASSIFIED)

17. SSHR, ODCSCD, Apr-Sep 1986. (SECRET —Info used is UNCLASSIFIED)

18. (1) FORSCOM AHR, FY 1986, p. 121. (SECRET — Info used isUNCLASSIFIED) (2) US Army Field Artillery Center and Ft. Sill Annual Historical Review, CY 1988, p. 115.

With 3 maneuver brigades, the AOE armored divisions fielded six 543–man armor battalions and four 814–man mechanized infantry battalions, while the three-brigade mechanized infantry divisions fielded 5 maneuver battalions of each type at the same strength. In USAREUR, those battalions were, by the end of the 1980s, typically M1A1 tank battalions and Bradley Fighting Vehicle mechanized battalions. In the heavy divisions of the Forces Command, some tank battalions had converted to M1 tanks, while some remained equipped with the M60A3 tank. FORSCOM's mechanized infantry battalions showed a similarly mixed picture, with both Bradley and M113 battalions in the force. The reserve heavy divisions were mostly equipped with M60A3s, with a few armor battalions still employing the M60A1. All the reserve heavy division mechanized battalions still fielded the M113 armored personnel carrier, as they awaited delivery of the Bradley vehicles. Reserve roundout battalions remained a reality in the heavy divisions at the close of the decade. Of the mechanized divisions of the active force, three divisions numbered four roundout battalions each in their complement of ten maneuver battalions, while one mech division fielded one reserve roundout battalion, as did one armor division. The 1st Cavalry Division also called on a complement of four reserve roundout maneuver battalions. All the rounded-out heavy divisions were based in the Forces Command.

The heavy division DIVARTY, 2,594 strong in the armored version and 2,618 in the mechanized, maintained 3 battalions of self-propelled 155–mm. howitzers, each with 3 batteries of 8, plus a target acquisition battery and a battery of 9 Multiple Launch Rocket System launchers together with a division artillery headquarters and headquarters battery. National Guard heavy division artillery, however, remained at the pre-AOE configuration of 3 batteries of 6, with a general support battery of 8-inch self-propelled howitzers rather than the MLRS.

The division aviation brigade, at 1,430 personnel, fielded a headquarters and headquarters company, a command aviation company, an assault helicopter company, and 2 attack helicopter battalions. The second attack helicopter battalion, however, existed only in the four USAREUR-stationed heavy divisions and had not been activated for the remaining heavy divisions at the close of the 1980s. Although UH-60 Black Hawk helicopters were ubiquitous through most of the division aviation brigade assault helicopter companies, active and reserve, most attack helicopter battalions relied on the AH-1 Cobra. Only the 1st Cavalry Division and the 2d Armored Division, both stateside stationed, had transitioned from the Cobra to the AH-64 Apache. The division combat aviation brigade also commanded the division cavalry squadron, which in most cases still retained its pre-AOE configuration of M60A3 tanks and M113 vehicles; only three Active Army divisions saw their cavalry squadrons converted to the Bradley-based tables by the end of the decade.

Keeping the 3–forward-support-battalion design that came out of Division 86 (a reversal of the AOE October 1983 decision for forward support coordinators instead), the new AOE heavy division support command, at 2,822 personnel in the armored version and 2,806 in the mechanized, fielded additionally a main support battalion consolidating the old maintenance, supply and transport, and medical battalions. The latter change had eventuated since the late-1983 decisions, as the AOE planners sought to reduce division "tail" to the minimum. The DISCOM also fielded an aviation maintenance company and a headquarters company. The heavy division troops consisted of a signal battalion of 659 personnel; an air defense artillery battalion at 626 strength

and now limited to Vulcans and Stingers; a 904–man engineer battalion; a military intelligence battalion of 470 personnel; a military police company of 153; a chemical company manned at 161; and a 41–man division band.[19]

The Rear Battle and Separate Infantry Brigades

The critical need to protect the rear area of the battlefield and to wage any rear battle that might erupt had maintained rear area protection as a steady focus throughout the Army 86 planning period. The Army 86 organization conceived for that mission was a rear area combat organization, or RACO, brigade. Under the Army of Excellence, RACO functional missions were, however, assigned to reserve component units — to undergo the necessary reorganization. But controversy attended the so-called RACO brigades. Should they be organizationally distinct from the AOE separate infantry brigades? Was there not a critical readiness problem present in the concept of manning them with reserves?

In 1984, the rear area conceptual problem was settled when, in September of that year, the TRADOC commander General Richardson, approved a concept statement for a separate infantry brigade (light) as a corps-level brigade to replace the hypothesized RACO brigade. A shift in terminology accompanied the change. "Rear battle" replaced both "RACO" and "rear area protection" in the tactical lexicon. Richardson directed that the new light brigade be built primarily from new-type light battalions, with necessary add-ons.[20]

Characteristics of the AOE separate infantry brigade were at that time listed as the following. It was rapidly deployable for early introduction into the theater. It was composed primarily of fighters. The brigade would consist of a mix of light and heavy antiarmor systems and have organic field artillery and aviation. Combat support units were highly mobile, and the brigade could be sustained and supported by organic and corps capabilities. Commonality of organic vehicles and equipment was important. The brigade would draw selected equipment from prepositioned overseas stock. General Richardson approved the 1 mechanized battalion - 2 infantry battalion structure of the 1984 separate infantry brigade (light) concept in November 1984.[21]

Design of the brigade proceeded at the Combined Arms Center. The unit provided the corps commander not only a rear battle capability but a flexible means of otherwise concentrating combat power. Filled out by mid-1985, the design proposed a 4,719–man brigade disposing over 3 infantry battalions, an artillery battalion, and a support battalion. Approving that concept, the Chief of Staff of the Army postponed its implementation until after the remaining AOE designs would be completed.[22] Then, in early 1986, the Department of the Army assigned TRADOC to adjust the five existing National Guard separate infantry brigades to a strong "robust" AOE

19. (1) TOEs 87000L300, Armored Division, and 87000L100, Infantry Division (Mechanized), both 1 Oct 86. (2) Chart, Divisions of the US Army, 1 Oct 89, Arlington, Va.: AUSA Institute of Land Warfare, 1989.

20. (1) Briefing slides, Doctrine Briefing, TRADOC Commanders'Conference, 27–29 Nov 84. (2) Forman Backbrief, 11 Sep 84.(Both SECRET — Info used is UNCLASSIFIED)

21. Briefing slides, Combat Developments Presentation by Maj Gen Carl McNair, TRADOC Commanders' Conference, 21 Nov 84.

22. (1) CAC Annual Historical Review, CY 1985, pp. 878–88. (2)Letter ATCD-ZXA, DCSCD to distr, 25 Aug 85, subj: Status of Current Actions.

design. CACDA consequently combined this latest effort with its design of theater defense brigades. The identical designs were briefed to General Wickham in January 1986. As conceived, the separate infantry brigades were to fight as part of the corps, while the theater defense brigades required augmentation to conduct independent theater operations.[23]

General Wickham approved the separate infantry brigade design at length in December 1986, a decision which made the theater defense brigades standard with them, with the exception of the Berlin Brigade. The theater brigades would be augmented with an Army forces staff in those cases where the brigade commander was assigned, in the interservice theater, as the Army forces commander. Further actions developed theater-specific combat support and combat service support augmentation packages.[24]

The separate infantry brigade/theater defense brigade commanded 3 infantry battalions, each with 3 infantry companies and an antitank company, and a headquarters and headquarters company. The brigade commanded a multi-functional support battalion, a 105–mm. towed artillery battalion, and company- and platoon-size support units.[25]

The Aviation Arm and Combat Aviation Brigades

The Chief of Staff of the Army approved the AOE division and corps aviation brigade designs, as recommended by the Army Staff, on 27 February 1984. The heavy division version fielded, as noted earlier, a headquarters and headquarters company, a command aviation company, an assault helicopter company, two attack helicopter battalions, and the division cavalry squadron. The design of the corps aviation brigade, however, differed in active and reserve unit composition, according to the specific corps and the corps mission. All the corps aviation brigades were organized initially to consist of a combat group with a headquarters, a general support aviation battalion, a medium helicopter battalion, and two combat assault battalions. The corps aviation brigades also each fielded two attack groups.[26]

In April 1985, high projected costs for those designs caused the Department of the Army to direct a reexamination of the AOE aviation structure.[27] At the same time, the basic doctrinal question as to whether the division combat aviation brigade, or CAB, was in fact a fourth maneuver brigade of the division — the Division 86 concept — came under discussion. The Division 86 planners believed that the aviation brigade had that function in addition to employment of constituent elements to support the ground maneuver brigades and battalions. There was agreement in TRADOC that, while an aviation brigade headquarters was needed and the brigade had without question a maneuver capability, it could not duplicate the ground maneuver brigades' ground-holding capability. Was the concept of a fourth maneuver brigade then doctrinally sound?

23. (1) CAC Annual Historical Review, CY 1986, pp. 64–65. (2)Message, DA to Cdr TRADOC, 032146Z Feb 86, subj: Separate Infantry Brigades - design Guidance.

24. (1) CAC Annual Historical Review, CY 1987, pp. 178–79. (2)Message, Cdr USACAC to distr, 311400Z Jan 87, subj: CAC Update 87–1.

25. Army War College Reference Text, Forces/Capabilities Handbook, Vol I, Organizations, 1990, p. 2–29. Publication of the separate infantry brigade TOE was delayed; it had not been published as of December 1992.

26. Message, HQDA to Cdr TRADOC, 131515Z Mar 84, subj: Aviation Force Structure.

27. Message, HQDA to Cdr TRADOC, 191717Z Apr 85, subj: Aviation Force Design Relook.

General Richardson viewed the issue as boiling down to an overstatement on holding ground. The Army aviation's development as a maneuver element should in no case be stifled. At the division and corps level, aviation could maneuver, not just support. Richardson preferred the term "a maneuver element capable of multifunctional uses."[28] The following year, the Chief of Staff of the Army made decisions which affected the employment of the division CAB and clarified its mission and structure. General Wickham's decisions of October 1986 maintained the consolidation of all division aviation under a single commander, but provided for tailored aviation force packaging in support of division operations. The division cavalry squadron, for example, would frequently operate under division control as it executed its traditional mission. Other task organizations might put tank companies under the operational control of the cavalry squadron or place an attack helicopter battalion of the combat aviation brigade with a ground maneuver brigade.

By the decisions of 1986, the combat aviation brigade, organic to all divisions, would be structured differently for heavy and light divisions (Charts 64 and 65). The heavy CAB, totalling 1,430 personnel for both active and reserve divisions, was composed of an HHC, the division cavalry squadron, one or two attack helicopter battalions, an assault helicopter company, and a command aviation company. The aircraft maintenance company in the division support command provided support for the brigade. The light division CAB consisted of an HHC, a reconnaissance squadron, one attack helicopter battalion, and two assault helicopter companies, totalling 979 personnel. In the late 1980s, an assault helicopter battalion was the preferred structure vis-a-vis two assault helicopter companies in the combat aviation brigade of the light infantry divisions, the 2d Infantry Division, the 9th Infantry Division (Motorized), and the 82d Airborne Division. In either case, light division or heavy, the division CAB might be assigned to the operational control of the corps for specific corps-level operations. Or elements could be employed simultaneously in any of the deep, close, or rear operations of the division, and could execute not only combat, but combat support and combat service support functions for the division.[29]

Cavalry Organizations

The 1983 AOE concept for eliminating the armored cavalry regiments (ACR) in favor of brigades did not survive review by Army cavalrymen and others, and the ACRs remained intact in the Army of Excellence. The ACR fielded 3 armored cavalry squadrons and 1 combat aviation squadron; an air defense artillery battery; a support squadron; engineer, military intelligence, and chemical companies; and a headquarters and headquarters troop. Each armored cavalry squadron commanded a headquarters and headquarters troop, 3 armored cavalry troops, a howitzer battery, and a tank company, the combat power of the squadrons greatly enhanced by their new M1 tanks and cavalry fighting vehicles (Chart 66). Tables of organization and equipment for the ACR were implemented in April 1986.[30]

28. Memorandum for Record ATMH, John L. Romjue, Office of theCommand Historian, 1 Dec 85, subj: TRADOC Commanders' Conference,18–21 Nov 85, Ft. Monroe, Va.

29. (1) Combat Developments Briefing, TRADOC Commanders' Conference, 16–20 Nov 86. (2) Paper, HQ TRADOC, Employment of the Division Combat Aviation Brigade, n.d. [January 1987]. (3)Chart, Divisions of the US Army 1 Oct 89, Arlington, Va.: AUSA Institute of Land Warfare. (4) Composition of the 101st Airborne Division (Air Assault) CAB was materially different: HHC, aviation general support battalion, two assault helicopter battalions, four attack helicopter battalions (two not activated),medium helicopter battalion, and cavalry squadron.

30. SSHR, ODCSCD, Oct 85 - Mar 86.

The AOE redesign brought change to other cavalry organizations. In 1985, planners designed the light reconnaissance squadron component of the light infantry division combat aviation brigade. Organic to the brigade but normally operating under control of the division headquarters, the light reconnaissance squadron consisted of a headquarters and headquarters troop, a cavalry reconnaissance (light cavalry) troop, two air reconnaissance troops, and a long range surveillance detachment.[31]

Inclusion of the long range surveillance detachment in the cavalry organization of all divisions resulted from a Department of the Army directive in March 1985.[32] In June 1986, however, TRADOC designers moved the detachment from the cavalry and reconnaissance squadrons to the division military intelligence battalions. The corps long range surveillance unit companies were placed in the tactical exploitation battalion of the military intelligence brigades. Those shifts consolidated human intelligence capabilities with signal and electronic intelligence in both corps and division.[33]

Meanwhile, a study of the heavy division cavalry squadron was begun in 1985 by the Armor School, which completed it in May 1986. Major recommendations were to expand the squadron's mission to include the traditional guard mission and to develop an organization of 2 air cavalry troops and 3 ground troops, the latter troops each to command two M3 Bradley platoons and two M1 tank platoons. The proposals were widely briefed and were strongly supported by Army corps, division, and squadron commanders, but some senior commanders disagreed about the guard function. In October 1986, General Wickham determined the suggested organization with its third ground troop to be unaffordable. Thus, the Division 86 squadron design of 2 air cavalry troops and 2 ground troops of three M3 platoons only, and no tanks, would continue under the AOE. The heavy division cavalry squadron TOE was implemented in October 1986. At the close of the decade, however, five of the six mechanized infantry divisions and one armored division still retained the pre-Division 86 division cavalry squadrons with M60A1 tanks and M113 armored personnel carriers, rather than the new, and "tankless," Bradley fighting vehicle system configuration.[34]

Did the AOE designs resolve satisfactorily the dilemmas of the cavalry units' multiple missions? At the close of the 1980s, most observers would probably have answered no. The reconnaissance-counterreconnaissance-surveillance, or RCRS, mission carried out by the battalion scout platoon, the division cavalry squadron of the heavy division and reconnaissance squadron of the light division, and the armored cavalry regiment all pointed up the problem. The sheer complexity of the multiple missions raised special problems of organization and training. The new cavalry squadron, for example, did not appear to be either organized or equipped for its wide mission range. Nor was an adequate reconnaissance capability available to the brigade commander. Late-1980s decisions by the Chief of Staff of the Army approved the redesign of the maneuver battalion scout platoon, replacing six M3 cavalry fighting vehicles with ten HMMWV

31. US Army Armor Center and Fort Knox Annual Command History,1985, pp. 8–11.

32. Message, DA to CINCUSAREUR and Cdr FORSCOM, 041302Z Mar 85,subj: Long Range Surveillance Detachment (LRSD).

33. Message, Cdr TRADOC to distr, 111355Z Jun 86, subj: Long Range Surveillance Units (LRSU).

34. (1) US Army Armor Center and Fort Knox Annual Command History, 1986, pp. 239–40. (2) Chart, Divisions of the U.S. Army, 1Oct 89, Arlington, Va.: AUSA Institute of Land Warfare. The reserve component heavy division cavalry squadrons were unaffected by the decision and retained organic tanks.

vehicles. Provision of a stronger RCRS unit to the heavy brigade appeared excluded by cost. Additional ground troops for the light division's reconnaissance squadron and the heavy division's cavalry squadron remained unattained and unresolved, even as the assumed linearity of the future battlefield came in question following upon the operational-strategic changes in Central Europe after 1989. The protracted issue of providing tanks for the division cavalry squadron, however, appeared closed as the decade ended.[35]

Heavy Separate Brigades

The AOE design for the heavy separate brigade, following its briefing to the existing brigade staffs in late 1983 and early 1984, underwent further refinement in March 1984. The design had originally called for a four-maneuver battalion organization, a structure subsequently reduced to three. In June 1984, TRADOC examined the three versus four issue at Department of the Army direction. Despite the greatly increased combat power an additional armor or mechanized infantry battalion would bring, TRADOC planners came down on the side of facility of deployment and cost. For ten heavy separate brigades (2 in the Active Army and 8 in the reserve component), more than 8,400 additional personnel would be needed, with 4,000 more required for tactical support. Finding that neither personnel nor materiel were available, TRADOC recommended, in July 1984, that the three-battalion structure be preferred.[36]

The AOE heavy separate brigade was a highly mobile and powerful force none the less. Organic combat support and combat service made it self sustaining. It provided the corps commander a flexible combined arms organization he could use in independent operations in support of the corps battle or to reinforce a division. AOE tables were completed and approved by the Department of the Army in 1986 and implemented in October that year. The heavy separate brigade, at 4,178 personnel, commanded three maneuver battalions and other units (Chart 67). A mechanized brigade had two mechanized and one armor battalions; the ratio was reversed for the armor heavy separate brigade. Both battalion types were standard heavy division designs.[37]

The Heavy Corps Structure

Dependent on the design and approval of many constituent elements, the AOE heavy corps designs lagged well behind those for the divisions. The heavy corps TOE was implemented in October 1985, although subsequent design revisions and decisions altered specific corps unit tables. Along with all division, brigade, and group TOEs, all corps TOEs were completed and

35. (1) Briefing slides, AOE Semiannual Update presented byTRADOC to Chief of Staff of the Army, 10 Jul 89. (2) Message,Cdr TRADOC to distr, 161115Z Aug 89, subj: Spring 89 Army of Excellence (AOE) Update Briefing. (3) Briefing slides, AOE Semiannual Update - Fall 89. (4) Message, DA to distr, 221230Z Jan 90, subj: Fall 89 Army of Excellence (AOE) Update Briefing.

36. (1) Message, Cdr TRADOC to DA, 092000Z Jul 84, subj: SeparateHeavy Brigade Structure. (2) Letter ATCD-ZXA, DCSCD to distr, 20Apr 84, subj: Status of Current ACtions. (CONFIDENTIAL — Infoused is UNCLASSIFIED)

37. (1) TOE 87100L300, Heavy Separate Brigade, Armor Version, 1Oct 86. (2) SSHR, ODCSCD, Apr-Sep 86. (SECRET — Info used is UNCLASSIFIED) (3) Army War College Reference Text, Forces/Capabilities Handbook, Vol I, Organizations, 1990, p. 2–28.

implemented as of October 1988.[38] The practical reality was that, in the AOE concept as before, corps were tailored for the theater and the mission for which they had been deployed abroad or stood in readiness stateside. There was no standard organizational structure beyond the notional model. Chart 68 shows the 1983 AOE design. Chart 69 reflects the notional corps organization under the Army of Excellence.

The AOE heavy corps of the mid-1980s would normally command 2 to 5 armored, mechanized infantry, or other divisions. It also commanded separate maneuver brigades, an armored cavalry regiment, an aviation brigade, a corps artillery, an engineer brigade, an air defense artillery brigade, a signal brigade, a military police brigade, a military intelligence brigade, a civil affairs brigade, a psychological operations battalion, a finance group, a personnel group, and a corps support command providing supply field services, transportation, maintenance, and medical support.[39]

38. SSHRs, ODCSCD, Oct 85 - Mar 86 and Jul-Dec 88. (SECRET —Info used is UNCLASSIFIED)

39. FM 100-15, Corps Operations, HQDA, September 1989, pp. 2-3 to2-7.

Chapter VII

PROGRAMMING AND DOCUMENTING THE AOE

The transition to the AOE — planted squarely atop the major materiel modernization of the 1980s Army — was no mere exercise in organizational change. It was a complex, multi-year effort. Although largely accomplished by the close of the decade, some unit conversions remained unfinished even at that juncture. The sheer complexity of the AOE transition was astonishing. For any single organization, the design, the approval of that design by the Army Chief of Staff, the development of requisite TOEs, and the conversion of the organization being replaced or transformed to a new table with receipt of its new equipment, all proceeded in sequence. But the transition of the AOE as a whole offered no such orderly path. Final designs, documentation, and conversion old to new, occurred simultaneously along numerous routes. The steps in the process were always subject to the primary concern of equipment acquisition and the paramount concern of the readiness of the organization. In this chapter, we will discuss the transition and modernization challenge and the mechanisms by which the AOE as a whole was documented and programmed.

The Challenge of Transition

From start to finish, the development of the Army of Excellence entailed four distinct tasks: designing the new AOE organizations, programming the existing organizations for conversion, documenting the AOE designs with new TOEs and related documents, and actually converting the old organizations and structures to the new. Once designed, the new organizations of the AOE needed to be programmed by type and increment into the force, displacing the old. Since that process coincided with a massive infusion of weaponry and equipment, the programming action by the Department of the Army — aided by TRADOC, the Army Materiel Command, and particularly by the troop commands whose tactical units were the object of the exercise — was a vastly complex, multiform, multiyear process. Concomitantly, TRADOC was fully engaged to document the new organizations with new TOEs, tables which in many cases necessarily had interim forms to accommodate the receipt at different times of the various new equipment. Finally, with receipt of its new equipment and transfer or retirement of its old equipment, came the troop commands' conversion of the unit — the completion of the modernization cycle. While responsible by mission for designing and documenting the organizations of the Army of Excellence, the Training and Doctrine Command played a supporting role in programming the force and lent assistance to the troop commands as they converted their tactical organizations to the AOE designs.

AOE Planning

As it completed the major portions of the AOE design effort, TRADOC's method for bringing the remaining issues and designs to decision was through the means of semiannual AOE briefings to the Chief of Staff. Most of the design issues were resolved by late 1986, although design adjustments to the 1980s Army continued through the decade, as did the semiannual update briefings for the Chief of Staff's decisions.[1]

The TRADOC commander, General Richardson, presented an initial AOE status report to the summer 1984 Army Commanders' Conference. The presentation highlighted the difference between the projected AOE force and the then programmed force. Following thereon, the Vice Chief of Staff of the Army, General Maxwell Thurman, asked TRADOC to develop a plan outlining required actions to transition the FY 1986–1990 programmed force to the Army of Excellence. In November 1984, General Richardson sent Thurman the result, termed "the Difference Report," a product of a comparison of the FY 1990 programmed force and the AOE, which he described as a management tool to assist in determining what manpower requirements should be programmed year by year to reach the AOE design by the end of FY 1991.[2]

The "Difference Report" presented a master matrix that delineated the manpower spaces necessary to reach the AOE, by functional area. It also provided potential manpower space reductions in the Army's Program Objective Memorandum 1991 covering Fiscal Years 1987–1991. The report further provided a ready audit to the Army's efforts to implement the AOE and enabled the ARSTAF to monitor the programming status of the AOE initiatives.[3] This force structure review was presented to General Wickham on 30 November 1984. The Army Chief of Staff approved the recommended changes and most of the AOE force was incorporated into the programmed force.[4]

The Modernization Dilemma

The transition to the AOE was greatly complicated by the sheer number of new weapons coming into the force. Few outside the Army were aware either of the massiveness and complexity of the modernization events under way in the 1980s, or of the limitations under which they proceeded. Speaking to a conference in July 1984, the Assistant Deputy Chief of Staff for Force Development on the Army Staff, Maj. Gen. Louis C. Wagner, Jr., described the ongoing modernization of the Army as "occurring at an astronomical rate." Thirty-five percent of the 7,500 programmed M1 tanks had been delivered and accepted to date, 17 percent of the Bradley Fighting Vehicles, 40 percent of the UH-60A Black Hawk helicopters, and 11 percent of the Multiple Launch Rocket Systems. Over 3,500 trucks a month would soon be rolling into the kasernes of U.S. Army Europe.

1. (1) Combat Developments Briefing presented to TRADOC Commanders' Conference, 19 Nov 86. (2) MFR ATMH, Interview with Maj Gen George M. Krausz, DCSCD, by John L. Romjue, 9 Jun 87.
2. Letter, General William R. Richardson to Vice Chief of Staff of the Army, 16 Nov 84, subj: The Difference Report
3. Letter, General Maxwell R. Thurman to Cdr TRADOC, 11 Jan 85.
4. (1) Letter, Lt Gen Carl E. Vuono to General William R. Richardson, 29 Jan 85, subj: CAC Commander's 1984 Annual Assessment. (2) CAC Historical Review, 1982–1984, pp. 263–64. (3) Letter ATCD-ZXA, DCSCD to distr, 22 Oct 84, subj: Status of Current Actions, p. B-1. (CONFIDENTIAL — Info used is UNCLASSIFIED)

The modernization affected parts of the reserve components almost as directly as the Active Army, as the distribution of new equipment was accelerated in 1984 and 1985. Roundout units were provided the new materiel the same time as their parent active divisions.

But Maj. Gen. Wagner additionally noted that the cycle of higher modernization funding was coming to a close. The first two years influenced by the higher defense commitment of the Reagan Administration had seen a 12 percent growth in Army resources for modernization. That cycle, Wagner said, had ended.[5]

Maj. Gen. Wagner's reminder pointed up the dilemma of force modernization in the mid-1980s. The fruits of the Reagan buildup of the early part of the decade were in delivery to an Army force and support structure for which growth had stopped and which indeed would soon be in retrenchment. The fielding of the new AOE designs and their equipment had nonetheless to go forward as rapidly as possible.

At the same time, the transition from old to new was considerably more complicated than the simple deployment of new equipment to redesigned battalions and divisions. In remarks to the TRADOC headquarters staff in July 1983, General Richardson declared that planners needed to get away from viewing the modernization effort only in terms of weapon systems and instead to focus on organization. It was force integration, Richardson said, that developers needed to emphasize. Some measures to do that involved the institution of integration staff officers in the Training and Doctrine command, together with the conduct of organization assessments, and a focus on fielding viable units. Those were all steps that had begun in 1983 and that developed more fully in 1984–1985.[6]

Force Programming

With many basic AOE decisions made by early 1984, planners at Headquarters Department of the Army turned to the tasks of programming the force, based on the AOE designs, in accordance with the successive five-year Total Army Analysis, or TAA, cycles the department employed to execute the modernization of the force.

The Army of Excellence was initially programmed for implementation in three successive annual cycles of the TAA. This annual five-year programming mechanism and document provided future budgeting data to the Army's yearly Program Objective Memorandum, or POM. The goal was that TAA-91, covering Fiscal Years 1987–1991, would implement the combat increment of the AOE; TAA-92, the combat support increment; and TAA-93, extending through FY 1993, the combat service support increment. TRADOC headquarters, its integrating centers, and its schools contributed to those annual planning and programming documents, assisting in the preparations for the final of the three cycles, TAA-93, in 1986. The TAA-93 effort completed the programming of the AOE except for a revised combat service support command and control design and a revised health services support structure. As late as the latter part of 1987, estimates by the Training and

5. (1) Memorandum for Record ATCS-H, TRADOC Historical Office, 17 Jul 84, subj: Combat Developments Conference, 10–11 Jul 84. (2) Article, "Army to Lighten, Restructure All Combat Divisions," [interview of Lt Gen Fred K. Mahaffey, DCSOPS DA], *Army Times*, 23 Jul 84.

6. (1) MFR ATCS-H, TRADOC Historical Office, 8 Jul 83, subj: Richardson's Remarks to TRADOC Action Officers, 1 Jul 83. (2) TRADOC ACH, FY 1983, pp. 293–303. (SECRET — Info used is UNCLASSIFIED)

Doctrine Command Chief of Staff, Maj. Gen. Carl H. McNair, were that conversions would be complete by the end of FY 1993, with the entire Army in the field operating under the AOE structure, by that time.[7] As it happened, the levelling-off of funding for the Army's modernization, joined with funding cuts in the late 1980s, led to reduced equipment purchases, a smaller Active Army, and revisions to the conversion plans. At the close of 1989, projections were for AOE conversions to extend at least into 1996.[8]

Several force modernization and integration documents and processes supported the programming of the force structure. The Department of the Army Force Modernization Master Plan (FMMP) was published in its first edition in 1982. It provided an Army-wide audience with the modernization goals and objectives, the transition plan for the future, materiel distribution and redistribution plans, management guidance, and supportability assessments of organizations and equipment. With the institution of functional area assessments, to be discussed below, the master plan also listed the issues arising from those assessments.

The Department of the Army annual Army Modernization Information Memorandum (AMIM) provided descriptions of the distribution plans for the new equipment being fielded to the major Army commands. The memo enabled those commands to program their resources to accommodate the incoming systems. TRADOC center and school equipment submissions were combined with those of the Army Materiel Command for application to the AMIM.

Another document was the Modernization Resources Information Submission, a Department of the Army document that identified the operation and support requirements for fielding selected new materiel systems and for transitioning units to new configurations. TRADOC reviewed relevant Army Force Modernization Facility Support Plans, which provided the facility requirements for the new equipment and organizations.

In addition, a series of Department of the Army force structure messages to the major Army commands amplified and adjusted the recurring documents that were in use. The messages announced specific decisions and guidance governing the programmed changes in whole or in part.

An important programming document published quarterly by the Army Materiel Command was the Force Modernization Milestone Reporting System. That document provided key milestone events in the fielding of systems covered in the AMIM; TRADOC provided relevant data to this reporting and accounting system. In 1987, the Army Materiel Command document was replaced by an updated mechanism, the Acquisition Management Milestone System. The new document encompassed the development cycle of each of the several hundred weapon and equipment systems, from the weapon's earliest requirements document, the operational and organizational plan, to the examination of the produced weapon by means of a System Operational Readiness Review, to be discussed below. Another group of Army Materiel Command documents were the Materiel Fielding Plans containing plans, schedules, and procedures necessary to suc-

7. Jim Tice, "AOE Conversion Just Weeks Away" [sic] [interview of TRADOC Chief of Staff, Maj Gen Carl H. McNair], *Army Times*, 14 Sep 87.

8. (1) Message, Cdr USACAC to distr, 151830Z Feb 86, subj: CAC Update. (2) Semiannual Staff Historical Report (SSHR), ODCSCD, Apr-Sep 86. (SECRET — Info used is UNCLASSIFIED) (3) GAO Report to the Secretary of the Army, Army Force Structure, Lessons to Apply in Structuring Tomorrow's Army, Wash., D.C.: US General Accounting Office, November 1990, p. 25.

cessfully process, deploy, and sustain materiel being fielded for the first time; TRADOC reviewed and processed numerous of those plans during the period.

A further force integration tool was the System Operational Readiness Review, or SORR. Following a Logistics Systems Program Review and subsequent directives by the Vice Chief of Staff of the Army, TRADOC and the Army Materiel Command developed the SORR as a means to review the operational capability of a weapon after fielding, in all its aspects. The first SORR, held in July 1985 by the Field Artillery School and the AMC Missile Command, reviewed the Multiple Launch Rocket System. Procedures were then codified which provided for readiness reviews for new major materiel systems and selected nonmajor systems shortly after the first Army unit received the new equipment, in order to determine the impact on readiness. A SORR for the M1A1 tank was conducted in September 1987.

During the period of transition, TRADOC developers also aided the troop commands by means of force structure conferences. Held at the headquarters of the Forces Command, U.S. Army Europe, Eighth Army, and U.S. Army Western Command, those meetings dealt with the many force integration issues arising from the ongoing modernization and propagation of AOE tables of organization and equipment. U.S. Army Europe, for example, held several periodic force structure conferences to grapple with the AOE tables and their impact on its fielded units. Conferences convened in December 1985 and in June and December 1986. The USAREUR meetings dealt with as many as 300 separate issues at a time. Between the conferences, TRADOC planners at the Combined Arms Center worked to solve problems, major and minor, such as the fighting capability of the corps headquarters and the regulations governing camouflage equipment. The TRADOC school deputy commandants also paid visits to the troop commands to examine force integration issues arising at the battalion level. Throughout the period, other TRADOC teams paid fact-finding visits to major Army command, Army National Guard, and U.S. Army Reserve field units.[9]

Organization Assessments and Functional Area Assessments

A direct means by which TRADOC assisted the Department of the Army aims in the force transition was through its organization assessments, or OAs, an analytical tool implemented in August 1983. The purpose of the OA was to serve as the basic vehicle by which TRADOC managed the creation of viable organizations through the integration of doctrine, organizational structure, training, and materiel, As defined, the OA would identify issues that impeded effective integration of new or changed organizations into the force. The OA would conceive the remedial actions and would insure a smooth transition in the organizations involved. Together with the functional reviews of the ARSTAF Deputy Chief of Staff for Personnel, and reviews by the Deputy Chief of Staff for Logistics, Headquarters Department of the Army, TRADOC's OAs were intended to serve the new functional area assessments (FAA) of that headquarters — to be

9. (1) CAC AHR, 1986, p. 63. (2) TRADOC ACH, FY 1983, pp. 29596. (SECRET — Info used is UNCLASSIFIED) (3) Status of Current Actions (SCA), ODCSCD, FY 1984/I, p. 21; FY 1984/II, p. 22; FY 1984/III, p. E-2. (All CONFIDENTIAL — Info used is UNCLASSIFIED); FY 1985/II, p. E-1. (4) SSHRs, ODCSCD, CY 1986/I, Tab IX; CY 1986/II, pp. IX-1, IX-2, IX-4, XII-2. (SECRET — Info used is UNCLASSIFIED) (5) TRADOC AHR, 1987, pp. 109, 110. (SECRET — Info used is UNCLASSIFIED) (6) TRADOC AHR, 1988, p. 83. (FOR OFFICIAL USE ONLY — Info used is not protected)

discussed below. For the OAs, some forty TOE organization designs were involved, each with a proponent among the TRADOC centers and schools. TRADOC headquarters oversaw all the OAs completed by the proponents, whose first submissions were completed in November 1983.

Thus, the OA methodology was TRADOC's way of managing its responsibilities in the force integration process under way in the mid-eighties. The methodology involved integrating the TRADOC development functions of doctrine, organizational structure, training, and materiel, and was a means of evaluating the Army's ability to field new and changed organizations. The OAs examined twenty-two elements, including such items as the organization's manpower and personnel, supply support, training and training devices, and deployability. The comprehensive review approach focused on pinning down issues. Proponents were charged to perform OAs on a continual basis and forward results directly to TRADOC for resolution or further treatment by the Department of the Army's FAA process.

By July 1984, the TRADOC proponents had completed nearly thirty OAs and had already begun the second round of the assessments. In early 1985, TRADOC introduced an internal organizational management system to standardize the OAs and more closely align them with the FAAs.[10] Thereafter, the headquarters oversaw all the assessments, which it increasingly monitored by reviews. By May 1988, with most AOE tables of organization and equipment completed (but with many unit conversions to those tables yet to occur), OAs had become a tool used by exception when there was a change in the way a unit prosecuted its mission due to the combination of doctrine, new structure, activations or conversions, or equipment. One such assessment was executed in 1988, for example, for the division support command of the 2d Infantry Division.[11]

The Department of the Army functional area assessments, or FAA, were instituted in 1983 by the Vice Chief of Staff of the Army, General Maxwell Thurman. The aim was to evaluate the actions needed to field new organizations in each functional area and thereby to support smoother force integration. Encompassing the current year and two years into the future, their scope was the key organizations and systems within a given branch of the total Army. The Department of the Army viewed them as an apt tool for the Vice Chief of Staff to assure the success of Army force integration and to integrate the efforts of the Army Staff, TRADOC, AMC, and the other major Army commands.

The first FAAs were those for field artillery and aviation. In late 1983, FAAs were projected for seventeen selected areas through 1985. Areas included all those identified with the TRADOC mission areas, together with non-TRADOC areas such as medical developments and special Army Staff-selected categories including decision systems and rationalization-standardization-interoperability. As a contributor to the Vice Chief-chaired FAAs, TRADOC received assessment issues and tasks from the Department of the Army for action.

By the middle of 1984, FAAs had been completed for military intelligence, air defense artillery, armor, infantry, ordnance, and quartermaster, besides the two already noted, with more

10. (1) TRADOC ACH, FY 1983, pp. 301–02. (SECRET — Info used is UNCLASSIFIED) (2) Memorandum for Record ATCS-H, TRADOC Historical Office, 17 Jul 84, subj: Combat Developments Conference, 10–11 Jul 84. (3) SCAs, ODCSCD, FY 1984/I, p. 22; FY 1984/II, p. 23 (Both CONFIDENTIAL — Info used is UNCLASSIFIED); FY 1985/I, p. H-22; FY 1985/II, p. E-1

11. (1) Fact Sheet ATCD-OR, ODCSCD, 19 May 88, subj: Define and Discuss Organization Assessments. (2) Fact Sheet ATCD-ORGD, DCSCD, 19 May88, subj: Organization Assessments.

scheduled. By that time, General Thurman had directed their institution as a "living process," and late in 1984 a schedule was developed for a two-year cycle. Twenty-one FAAs had been presented by March 1985.

The Communications-Electronics Functional Area Assessment of September 1984 was an example of how the new system worked to consolidate Army-wide data to facilitate a smooth and orderly modernization process for a functional area. The Department of the Army selected specific type signal units to be analyzed on a cyclical basis, looking at the current year plus two years. All programmed changes were carefully scrutinized to insure that an Army-wide perspective was achieved. The department, the proponent commanding general, and TRADOC headquarters contributed to the assessment, briefed to the Vice Chief of Staff, who followed up with the necessary directives. The major initiative resulting from the September 1984 assessment was the development of an integrated Army strategy to synchronize doctrine, force structure, equipment and distribution plans for the Army's communications systems and units from division through echelons above corps. TRADOC planners believed the FAAs enabled them to look at many force integration problems that they would otherwise not have seen.[12]

Useful for the period of organization transition to the AOE, the functional area assessments continued in use but were, in 1988, reduced to a schedule of one per quarter, inasmuch as they complemented to a degree the longer-range 5–to-10–year Department of the Army system program reviews for individual branch or functional developments.[13]

Documentation Modernization and the Completion of the AOE Tables

The massive operation of documenting the conversion of the Army in the field from the old H-edition tables of organization and equipment of the ROAD organizations introduced in the 1960s, to the interim and final J-edition of the new designs produced by the Army 86 Studies was altered by the advent in 1983 of the Army of Excellence designs. While the AOE did build upon the Army 86 structures, with the notable exception of the light infantry divisions, the new AOE organizational designs introduced comprehensive changes throughout the Army's TOEs. At the same time, rapid development of the interim and final tables of the AOE was a pressing necessity.

Working from the old H-series into the new J-series (there was no "I" series) forecast for the Division 86 units involved, initially, several types of tables. The JT tables were the Army 86 transition TOEs — the Army 86 design with the old equipment. JO tables were the final Army 86 design — the Army 86 objective design which included the new equipment. JFT tables were the AOE transition design with the old equipment. Finally, the JF tables were the J-series final design — the AOE design with the new equipment.[14] Events, however, soon brought the application of a

12. (1) Memorandum for Record ATCS-H, TRADOC Historical Office, 17 Jul 84, subj: Combat Developments Conference, 10–11 Jul 84. (2) SCAs, ODCSCD, FY 1984/I, p. 22; FY 1984/II, p. 23; FY 1984/III, p. E-3; FY 1984/IV, P. E-2 (All CONFIDENTIAL — Info used is UNCLASSIFIED); FY 1985/I, p. H-21; FY 1985/II, p. E-1; FY 85/III, p. B-1; FY 1985/IV, pp. B-1 to B-2. (3) SSHR, ODCSCD, CY 1986/I, Tab XIII.

13. (1) Issue Summary Sheet, ODCSCD, 23 Sep 88, subj: Status of the FAA-SPR System After General Brown's decision. (2) TRADOC AHR, CY 1987, pp. 81–82. (SECRET — Info used is UNCLASSIFIED)

14. Briefing slides, Combat Developments Briefing, TRADOC Commanders' Conference, 28 Nov 84.

new TOE development method and system to accelerate the documentation process for the Army of Excellence.

The standard TRADOC vehicle since the 1970s for publishing new and revised TOEs, as well as the equipment basis of issue plans, or BOIP, was the consolidated TOE update, or CTU, document which was brought out, on tape and microfiche semiannually on 1 April and 1 October. An additional CTU was published in July 1984 in order to incorporate comments of the Department of the Army and the major Army commands on the light infantry division and the heavy division of the AOE. The CTUs continued in use as a publishing vehicle through the period of AOE development. In 1984, however, TRADOC implemented a new method and system of TOE development under the general rubric of documentation modernization.

The 1984 initiative was instituted by the Army Vice Chief of Staff, General Thurman, who monitored its early progress closely. Thurman's aim was to provide more timely documents to the field. A Documentation Modernization Study Group was established by the Department of the Army with Combined Arms Center representatives, to address the problems. The documentation modernization effort was facilitated by a series of department messages bearing that title, beginning in September 1983.[15]

Called the "living TOE," or LTOE, the method started with a base TOE representing an organization in its least modernized form, then established logical mixes of mission-significant equipment to form incremental change packages, or ICP. The ICPs included the other organizational documents in use — the BOIPs and manpower requirements criteria, or MARC — as well as doctrine and unit-unique elements. Application of the ICPs then formed intermediate TOEs, which were the unit's path to modernization. The intermediate TOEs, since they represented a unit's modernization status at any given point in the process, effectively replaced the old modification TOEs, or MTOEs, that until that time the troop commands had customarily developed for their specific use as adaptations from the formal department-approved TOEs. At the end of the LTOE sequence were the final, or objective, TOEs. "L" became a part of each TOE number in 1985, replacing the "J" of new TOE editions and the "H" of old ones.

Literally thousands of changes were entailed in any given consolidated TOE update, as the TOEs of the Army of Excellence were implemented. Whereas some TOE changes applied to a single unit, others implemented equipment changes to many type units at once, sometimes force-wide, such as the Army's mortar structure, and its field feeding system.

How well did "Docmod" work? Briefed to the TRADOC Commanders' Conference in November 1984, several problems were evident. The simultaneous AOE redesign and transition to the LTOE methodology had compounded the documentation problem. The new situation required major adjustments at all levels in order to keep the two efforts in parallel. Although the documentation modernization schedule had been published in March 1984, priorities changed often, requiring the ARSTAF operations office to take steps to stabilize the flow. The automation and communications governing the effort were inadequate, as automation upgrades lagged. Resources to carry through the documentation effort, too, were tight. TRADOC did not have the manpower to

15. (1) Letter, Vuono to Richardson, 29 Jan 85. (2) Message DACS-ZB, HQDA to distr, 272236Z Sep 83, subj: Documentation Modernization Msg No. 1 (DOCMOD 1).

execute all the steps on schedule. A solution to the problem, considered in late 1984 and subsequently adopted, was the engagement of a private contractor to execute portions of the effort.[16]

That step was taken in 1985 with the award of a contract to the Allen Corporation of America for commercial preparation of sixty-five draft company-size LTOEs. Those LTOEs were completed during the last half of 1986 and were approved by the Department of the Army. The contractor's performance, improving with experience, was considered good by TRADOC, and the contract was extended to cover subsequent AOE LTOEs. Production of "Commanders' TOE Handbooks," containing LTOEs for specific company, battalion, or larger-size units, also began under contract, in 1987. The handbooks provided type-unit commanders an "audit trail" of the force modernization changes that advanced their units from a base level of requirements to a fully modernized level.

Objective TOEs for the light infantry division were published in July 1984[17] and for the heavy divisions, separate heavy brigade, and M1 tank brigade by late 1984. Unit conversions to the AOE began in late 1984. Thereafter, TRADOC increasingly published TOEs in the living TOE format, which was well established by 1985. At that time, they existed for the light infantry division, the airborne and air assault divisions, corps aviation brigade, field artillery command (Pershing), and other units. By late 1986, developers had published almost half of the 1,200–odd LTOEs forecast for the Army of Excellence, with 550 completed. Approximately 1,000 tables were completed by late 1987, and the last of the 1,262 AOE tables of organization and equipment were finished a year later.[18]

Problems and Lessons

Writing in *Army* magazine in October 1988, Secretary of the Army John Marsh chronicled the Army's growth during the decade. Since 1980, the Army had added 2 active and 2 reserve divisions, for a total of 28 — 18 active and 10 in the reserve components. In the past 8 years, the Army had grown by 79 combat battalions (to 379), 4,844 new M1 series tanks, and 4,919 Bradley Fighting Vehicles acquired or with funds committed against an end goal of 6,882. The Army had

16. Briefing slides, Combat Developments Briefing, TRADOC Commanders' Conference, 28 Nov 84.

17. A series of TRADOC messages beginning in October 1983 provided guidance specifically for the LID documentation effort (Message, Cdr TRADOC to distr, 212315Z Oct 83, subj: Organizational Documentation of the Light Infantry Division (LID), Msg No. 1).

18. (1) Memorandum for Record ATMH, Office of the Command Historian, 23 Nov 86, subj: TRADOC Commanders' Conference, 16–200 Nov 86. (2) SCAs, ODCSCD, FY 1984/I, p. 30; FY 1984/II, pp. 34, 35; FY 1984/III, pp. G-1 to G-4; FY 1984/IV, p. G-1 (All CONFIDENTIAL — Info used is UNCLASSIFIED); FY 1985/I, pp. G-1, G-2; FY 1985/III, pp. G-2, G-4; FY 1985/IV, p. G-4. (3) SSHR, ODCSCD, CY 1986/I, Tab XI-2. (SECRET — Info used is UNCLASSIFIED). (4) Memorandum for Record ATCS-H, TRADOC Historical Office, 4 Oct 85, subj: TRADOC Liaison Officer Conference, 23–27 Sep 85. (5) TRADOC AHR, 1987, p. 111. (SECRET — Info used is UNCLASSIFIED) (6) TRADOC ACH, 1989, p. 53. (FOR OFFICIAL USE ONLY — Info used is not protected) (7) Interview with Mr. Robert L. Keller, Current Forces Directorate, USACACDA by John L. Romjue, 22 Oct 90. (8) Briefing slides, ODCSCD Organization Documentation Directorate, TRADOC Liaison Officer Conference, 24 Sep 85. (9) GAO Report to the Secretary of the Army, Army Force Structure: Lessons to Apply in Structuring Tomorrow's Army, Washington, D.C.: U.S. General Accounting Office, 29 Nov 90, p. 6 (10) Briefing slides, Combat Developments Briefing, TRADOC Commanders' Conference, 21 Nov 84.

by late 1988 accepted or had funds to acquire 603 of 675 AH-64A Apache attack helicopters, 931 of 1,107 Black Hawk helicopters, and 416 Multiple Launch Rocket Systems. The quantities of equipment in prepositioned overseas readiness had been doubled. The Army had by 1988 converted 3,124 M60 series tanks from older models to M60A3 models and upgraded 342 Cobra attack helicopters to the modern AH-1S version. A total of 61,719 commercial utility cargo vehicles, 21,825 high mobility multipurpose wheeled vehicles, and 6,963 heavy expanded mobility tactical trucks had been placed in the force.[19]

These weapon and equipment figures reflected a major modernization achievement. But they masked a weakness in units at the theater army level and to a degree at the corps level, that resulted from the increase in the number of Active Army divisions within the constant 780,000 active ceiling. Some such units were of the "component 4" category, the unmanned portion of the required force. Divisional understrength, too, was a dilemma of the 1980s. Whereas the Army force in Europe was maintained at 100 percent manning levels during that crucial decade, and the Eighth Army in Korea stood at a high readiness level, the U.S.based divisions of the Forces Command were, out of necessity, manned at much lower strength levels. Of the Army's 28 total divisions, active and Guard, many could not have called upon sufficient combat support and combat service support elements to deploy.[20] The cited statistics also masked a lagging transition to the new designs in the Army's support units and in the reserves. As of September 1989, approximately 85 percent of the Active Army combat manpower — but only 41 percent of Active Army support manpower — were converted to Army of Excellence designs. The combined total was 72 percent. The corresponding figures for the Army National Guard were 64 combat and 23 support, for a total of 53 percent converted units. In the U.S. Army Reserve, only 29 percent of combat units and 20 percent of support units — a total of 22 percent overall — had converted to the AOE designs.[21]

The statistics told a two-sided story about the 1980s transition of the U.S. Army's tactical units to their AOE forms. Whereas the great bulk of the Active Army had successfully converted by the close of the decade, the conversion of the reserve components, integral to the concept of the interdependent Total Army, measured a much smaller success rate.

The question also remained as to what degree the very "hollowness" that force designers and force structuring planners had set about to eliminate in the late 1970s and early 1980s was in fact remedied. If that hollowness had been ameliorated to some degree, it had by no means been eliminated. The larger number of divisions, but also the receding defense resources in the late 1980s, together with the decrease in urgency owing to the decline of Soviet power, and the beginnings of a drawdown of the force — all were factors in the two-sided story of transition.

A review of the AOE design and implementation experience by the General Accounting Office during 1990 supplied lessons about the complex and arduous conversion project.[22] Empha-

19. Secretary of the Army John O. Marsh, Jr., "Army Training: Ancient Roots, Future Benefits," *Army* magazine, October 1988, pp. 16, 18.

20. Otis Interview by Romjue, 15 Feb 93.

21. GAO Report: Lessons to Apply, 29 Nov 90, p. 55.

22. *Ibid.*

sizing the slowness of reserve units to convert, the 1990 GAO report placed total Army conversion to the AOE design at 56 percent — an uneven record, measuring the active and reserve contrasts. This only partial gain resulted, however, from the AOE's reduction in the number of unresourced units, and from its dedication to staffing more units at 100 percent of their required levels. A sizable disparity persisted in 1989 between requirements and authorizations. The GAO attributed the disparity to several causes. The first was the Army decision to add a twenty-eighth division. Another was the retention of unique or one-of-a-kind division structures. A third was the failure to convert the National Guard infantry division to AOE designs.

Nor had the AOE succeeded in its design aim of increasing Army combat forces in relation to the size of its support force, the GAO survey found. Though the number of combat battalions had increased, the ratio of combat to support, in 1989 as in 1983, stood at 64 percent to 36 percent. And despite that unchanged status, organic support problems remained significant. The integration of active and reserve forces — in reserve roundouts to some divisions and in many crucial functions — remained a dilemma. Nine of the 18 active divisions had roundout brigades or battalions as of September 1989. By definition, how could reserve units deploy in a state of readiness as high as that of Active Army units? A total of 67 percent of all the Army's support forces were in the reserve components. In addition, the AOE aim of division standardization was only partially achieved.

The GAO critique declared that the manpower savings that should have been realized through labor-saving initiatives of the Logistics Unit Productivity Systems Program undertaken during the period, had suffered from inadequate management. Relatively few of the logistics units had converted to the new designs by late 1989. A question mark in the entire transition exercise was the Army's increased reliance on host nation support personnel — documentable by formal agreements in a friendly theater, but an unknown quantity in undeveloped theaters into which Army forces might have to go.

The 1990 GAO assessment of AOE conversion found, in sum, that the force structure design of the Army of Excellence was realistic, that it had matched force structure requirements to authorized personnel, but that the Army lacked a systematic tracking system for the conversion that could have identified the emerging problems early.[23]

The other side of the modernization story was that the very validity of the General Accounting Office critique of the Army's conversion to the AOE was itself a measure of the immensity, and the complexity, of the historic Army modernization effort of the 1980s. The buildup and conversion of the Army of Excellence, if incomplete in its result, was a none the less substantial achievement. The military challenge to the West mounted by the Soviet Union in the late 1970s and early 1980s was unprecedented and massive. During the period, the U.S. Army experienced major doctrinal reform and a generational flood of new weapons and equipment. Those events were followed in the last half of the decade by the historic shift from aggressive Soviet threat to recession of Soviet power, and by the levelling-off and decline of defense resources and the move to force drawdown. All those factors were powerful influences penetrating and affecting the implementation of the AOE designs in the force of the 1980s. In the end, the overall achievement of the Army of Excellence greatly outweighed its shortcomings.

23. *Ibid.*, pp. 25–42, 52.

Chapter VIII

THE LIGHT INFANTRY DIVISION DEBATE AND THE HEAVY/LIGHT ARMY

Most initial reaction to the redesigned Army of Excellence, inside and outside the Army, was positive. The new heavy division and heavy corps structure, which made the corps the prosecutor of AirLand Battle and cockpit of combat power, was a convincing adjustment of organization to AirLand Battle doctrine. The real decline in divisional strength was indisputable, both in transferred units and in artillery crews and infantry squads smaller by one man. But there was a recognition that the corps together with its divisions retained, as a unit, very strong combat power and that it constituted the right doctrinal answer.

The new light infantry division also met an initial positive response. The 1982 British action in the Falkland Islands by which naval-deployed, well-trained British foot infantry dislodged a heavily manned Argentinean occupation force in a dramatic and decisive action 8,000 miles distant from the British Isles was fresh in memory in 1983. Operation Urgent Fury, the successful U.S. action liberating the Caribbean island-nation of Grenada from a communist coup in October-November 1983 was an even more immediate reminder of the vulnerability of U.S. interests outside NATO. Urgent Fury was a reminder, too, of the need for rapidly deployable light forces. If anything, the Grenadan action, which clearly signalled the end of post-Vietnam American military passivity in the face of Soviet-sponsored and Soviet client-sponsored moves on independent third-world states, indicated the rising likelihood of future U.S. contingency involvements. Many of those actions could be expected to fall into the light force sector.

Though overall the AOE maintained its early support throughout the 1980s, a critique of the new light division arose in the public forum in late 1984. The debate extended into 1986 and had not fully subsided at the close of the decade. As we have seen, the certification process of 1984–1986 resulted in numerous changes to the division that left it marginally larger, at 10,843 personnel, and somewhat stronger than its initial 10,212 version. Those adjustments did not, however, go to the heart of the main points of the debate. The critique focused not only on the capabilities of the light infantry division and its design methods, but upon motives and assumptions alleged to lie behind the new design. As a major organizational departure with doctrinal implications, the formation of the LID also bore upon, and stimulated discussion of, another permanent and axiomatic consideration of force design: the proper organizational mix of heavy and light forces.

The Heavy/Light Connection

Writing in *Armed Forces Journal International* in July 1982, Major General John R. Galvin, who was then commander of the 24th Infantry Division (Mechanized) at Fort Stewart, Georgia, noted the Army's necessary reliance on both types of forces, heavy and light. He went on to emphasize the advantages of using those forces together. "The heavy/light combination equals more than the sum of its parts," Galvin noted in a discussion of the successful tactical combinations resulting from the Bold Eagle 82 exercise. That 1982 exercise pitted his own 24th Division mechanized units against elements of the 101st Airborne Division and the 194th Armored Brigade. Galvin also took note of Exercise Bright Star 82, in which the 24th Division had deployed a battalion task force to Egypt by sealift to link up with a battalion of the 82d Airborne Division. In his 1982 article and in a later article published in July-August 1984 in *Infantry* magazine after he had become commander of VII Corps in Germany, Galvin brought attention to the recent book of Maj. Gen. Franz Uhle-Wettler, *Gefechtsfeld Mitteleuropa*. In that book, the author argued for additional light forces in the West German Army, forces needed to cover the 50 percent of the "central European battlefield" of the Federal Republic of Germany that was hilly, mountainous, forested, or urban. Galvin's articles argued that in such terrain, light forces were necessary and that the AirLand Battle precept, METT-T,[1] sometimes meant "heavy-light." Galvin argued for the utility of light divisions not as substitutes for, but in augmentation of, the NATO heavy divisions, by mixing light brigades with heavy brigades. General Glenn Otis, the USAREUR commander, favored that force blend for some applications.[2]

While Army commanders, meeting at their annual summer conference in 1984, recognized that the type of terrain in some potential areas of conflict dictated the use of both force types — there remained a training problem. Although heavy and light forces might cooperate in special exercises to the demonstrated advantage of both, routinely they trained separately. Development of heavy/light force doctrine and training was required.[3]

Lt. Gen. Galvin's articles, as well as his briefings to key decision makers during 1983–1984, provided a balanced backdrop for many issues of the light division debate that began in 1984.[4] Preceding that debate, Steven Canby, a noted defense analyst, made the case in December 1983 for a hypothetical light infantry defense in conjunction with armor forces in the Zagros mountains of Iran as well as in Europe.[5] General Wickham's influential light infantry division white paper, noted earlier, appeared in April 1984. *Infantry* magazine had also introduced the light division in its March-April 1984 issue, noting both the focus on low-intensity use and the division's utility on

1. METT-T: mission, enemy, terrain, troops - time available
2. Maj Gen Jack Galvin, "The Heavy/Light Concept," *Armed Forces Journal International*, July 1982, pp. 66–80. (2) Lt Gen John R. Galvin, "Heavy-Light Forces and the NATO Mission," *Infantry*, July-August 1984, pp. 10–14. (3) Otis Interview by Romjue, 15 Feb 93.
3. Paper, Army Commanders' Conference Wrap-up, August 1984, Wickham Papers. (SECRET — Info used is UNCLASSIFIED)
4. Rodler F. Morris, draft manuscript, A History of the Joint Readiness Training Center, Vol I, CAC Historical Office, pp. 105–06.
5. Noted in William F. Hixon II, "Heavy vs. Light: What is the Optimal Structure for the U.S. Army?" US Army War College Study Project. Carlisle Barracks, Pa.: US Army War College, 30 Mar 88.

all types of terrain when properly augmented.[6] In the spring of 1984, Capt. Timothy Hassell, an AOE project officer at the Combined Arms Combat Developments Activity, also described the new light division comprehensively in *Army RD&A Magazine*, as a "new direction in force design." Hassell emphasized also the division's LIC focus, for employment "when getting there first counts," as well as the division's heavier utility when augmented.[7]

Along with Lt. Gen. Galvin's *Infantry* article, that journal devoted much of its July-August 1984 issue to the new division and its utility in Europe. Examining the "heavy-light connection," Maj. Gen. Howard B. Crowell, Jr. and Lt. Col. Jared L. Bates argued that a light brigade could be integrated into a heavy division if the combat support of the heavy division were linked in, if the light force were supported logistically, and if the mobility differential between mounted and foot infantry were overcome. Crowell and Bates argued that the heavy divisions needed more foot soldiers. When a mechanized infantry division with five mounted battalions opened its Bradley vehicle ramps, only slightly more than one thousand soldiers dismounted.[8] Lt. Col. Jack B. Wood, in his discussion of heavy/light use, recommended the attachment of an incoming light battalion to a heavy brigade as an advantageous heavy/light mix.[9] Defense writer Steven Canby noted the increasing displacement of conventional infantry in European armies by light infantry by virtue of its strong points in speed and movement, tempo, and surprise in advantageous conditions. But Canby also took note of the light infantry's vulnerability. It could not survive in static conditions. In positional warfare, it would be outflanked.[10]

What was in dispute in these 1984 discussions was not the validity of heavy/light complementarity, but the appropriate mix in disparate scenarios. The question was: just what part did the new division type play on the widely varying battlefield to which it could expect to be sent?

The Debate of the Light Infantry Division

Major Richard M. Saunders, writing in *Armed Forces Journal International* in November 1984, and Edwin W. Besch, writing in *Army* in February 1985, were two early critics who opened up the public forum to the host of issues revolving around the light infantry division.[11] Saunders saw the light divisions as needed but found a critical gap in how they would face the enemy forces they encountered. Light forces sent in fast could stabilize situations rapidly, as they had in Lebanon in 1958 and in the Dominican Republic in 1965. However in the 1980s, many third world states, such as Syria and Libya, possessed large amounts of sophisticated and heavy weapons. Thus, light divisions programmed for contingency areas could well face high-intensity realities.

6. "Infantry Division (Light)," *Infantry*, March-April 1984, pp. 14–16.

7. Capt Timothy Hassell, "The Light Division: A New Direction in Force Design," *Army RD&A Magazine*, May-June 1984, pp. 14–16.

8. Maj Gen Howard B. Crowell, Jr. and Lt Col Jared L. Bates, "Heavy-Light Connection: Division," Infantry, July-August 1984, pp. 15–18.

9. Lt Col Jack B. Wood, "Heavy-Light Connection: Brigade," *Infantry*, July-August 1984, pp. 19–22.

10. Steven Canby, "Light Infantry in Perspective," *Infantry*, July-August 1984, pp. 28–31.

11. For a summary discussion of the "storm over the AOE," see Rodler Morris, USACAC Annual Historical Review, 1988, Ft. Leavenworth, Kan.: CAC History Office, HQ USACAC, n.d. [August 1989], pp. 168–72.

Saunders noted the LID's specific weaknesses. It was plainly limited in tactical mobility and in maneuverable and survivable firepower. Its TOW missiles were slow, and that missile's HMMWV[12] mounts easy to suppress. It had no protective or crosscountry vehicles. The LID's lift resources — helicopters — were vulnerable to unsophisticated enemy antiaircraft fire as well as to bad weather. For antitank purposes, the LID was overreliant on missiles, which were not effective assault weapons. Even the corps plugs would not correct the fundamental maneuver and firepower weakness. Saunders' answer for the vulnerable light infantry division was the attachment of light armor forces or units that fielded a tank-killing cannon mounted on a mobile protected vehicle. Preferred were light armored regiments at corps or army level, composed of a mechanized combined arms team and trainable together with the LIDs. Policymakers needed to recognize the gap, Major Saunders argued, between the rapidly deploying light division and the slowly deploying heavy division.[13]

The light armored prescription noted ran counter to the rationale of lightness as the prerequisite for rapid deployment. Writing in November 1984 in *National Defense*, writer Tony Velocci noted the "light fighters'" high deployability and their deterrent value. He also took note of the LID's night fighting capabilities and higher "foxhole strength" advantages and stressed the division's utility where properly deployed. But Velocci also noted "unanswered questions" such as what happened when the battle situation "tilted" and lightly armed forces found themselves facing heavily armed attack or found themselves, with their thin logistics bases, cut off from resupply. Velocci noted former Army Chief of Staff General Edward Meyer's caution regarding the LID's corps plugs: "When you plug something in, you find it does not do well unless you offset the fact that plugs are not permanent by [instituting] some very, very strong training relationships."[14]

Writing to *Army* magazine in December 1984 at the outset of the debate, the noted defense analyst and military historian Edward N. Luttwak, whose light division studies had supported the concept,[15] described the new light infantry division as a "longstanding necessity." For Luttwak, the LID was the result of "TRADOC's mandate to give a practical or force structure definition to the concepts contained in the AirLand Battle doctrine and the new FM 100–5."[16]

To NATO readers, the Army Chief of Staff outlined another light division use — its European utility — in January 1985. Beyond the division's quick-response LID function was its ready light infantry role in the significant "close terrain" of Europe: the forests, wet lands, and great urban areas. The LIDs had an additional dimension in the "appropriate mixing of heavy and light forces" in order to secure the flanks for heavy forces attacking through choke points, or in air assault forward to overwatch the advance of heavy forces. In the defense, light forces could defend on restricted terrain, or conduct spoiling attacks to support the main effort of heavy forces. Rapid intratheater movement was another attractive role for the light divisions.[17]

12. HMMWV: high mobility multipurpose wheeled vehicle

13. Maj Richard M. Saunders, "Light Armor, Necessary Addition to the Light Infantry Division," *Armed Forces Journal International*, November 1984, pp. 78–85.

14. Tony Velocci, "The New Light Division: Will it Work?" *National Defense*, November 1984, pp. 56–60.

15. For a discussion of Luttwak's views, see above, pp. 26, 27.

16. Letter, Edward N. Luttwak, *Army*, December 1984.

17. General John A. Wickham, Jr., "Light Infantry Divisions in Defense of Europe," *NATO's Sixteen Nations*, 1/85 [January 1985], pp. 102–07.

General Wickham was convinced of the need for light infantry on much of the terrain that NATO had to defend in Europe. Much of the key avenue for armor warfare, the North German Plain, consisted of forests and bog lands. The LIDs in Europe, he believed, were not a "fictional application." They had real application in NATO Europe, in Korea where Wickham had served as commander-in-chief during 1979–1982, and elsewhere in the world. Beside such applications, he believed, the general criticism of the light infantry division paled into insignificance.[18]

But Edwin Besch's critique of the light infantry division, like that of Saunders, found the LID too vulnerable for the likely enemy forces it would face. Scoring the AOE planners for stressing strategic mobility by airlift, he found that they had "seemingly compromised too much on firepower as well as tactical mobility." Besch believed that "the assumption that light infantry divisions still have a place in potential battlefields in areas of key interest to the United States grows weaker every year." Modern light armor vehicles were proliferating in other armies, he pointed out. Besch, too, suggested a heavying-up of the LID, but with a light mechanized brigade outfitted with light armored vehicles and mobile protected guns. Like some other critics, however, Besch viewed the LID's low intensity conflict function as specious: separate infantry brigades and Ranger battalions should, he argued, be focused on those specialized light infantry missions, not LIDs.[19]

Following the early AOE critiques, General Wickham appeared before the Senate Armed Services Committee in early 1985 to defend the rationale and establishment of the LIDs. Wickham argued for the division's rapid deployability and its fighting power in situations where heavy forces could not easily operate. The Chief of Staff's testimony, however, did not assuage critics. Intense debate ensued in the Congress and the press, as well as within the Army through most of the year 1985.[20]

In the summer of 1985, the Defense Science Board Summer Study focused on the type of threat that U.S. forces could expect to face in over fifty countries around the globe. Chaired by former TRADOC commander General Donn Starry, the study detailed the substantial armor forces possessed by many armies by the mid-1980s, a threat deemed by the group as consequential for U.S. Army light divisions not well equipped to meet it.[21]

Lt. Col. Robert B. Killebrew, writing in *Military Review* in May 1985, took note of the LID's vulnerability in NATO Europe. Although light forces would have obvious use in some European terrain, in an all-out war, they would likely be caught in and committed to a grinding defensive against superior forces.[22] Adding fuel to the fire of the debate the same month was the pointed critique of "MG Sam Damon" and "BG Ben Krisler," pseudonyms for two officers described as having served in Vietnam commanding light and heavy forces. Charging "a shell game of grand proportions to create more divisions with zero growth in end strength" — a maneuver that would institute "chaos well into the '90s" — the Damon-Krisler critique declared the light infantry divisions a mismatch for the United States' strategic situation.

18. Wickham Interview by Romjue, 20 Jan 93.

19. Edwin W. Besch, "Are Our Light Divisions Too Light?" Army, February 1985, pp. 42–48.

20. USACAC Annual Historical Review, 1988, p. 169.

21. Starry Interview by Romjue, 19 Mar 93.

22. Lt Col Robert B. Killebrew, "NATO, Deterrence, and Light Divisions," *Military Review*, May 1985, pp. 2–15.

With five Special Forces groups projected, along with a Ranger regiment of three battalions, Damon-Krisler declared it "hard to envision where all these units [the LIDs] might deploy in an LIC environment" with Soviet and Soviet-surrogates in all the major theaters. Damon and Krisler concluded that the LIDs would deploy, rather, to high-intensity contingencies. For such use, the light infantry division was "lo-tech to the point of being primitive." The two critics also scored the AOE's lack of analysis and questioned whether the corps plugs were a viable concept. What would the corps plugs' price be to the corps? Nor was LID-corps plug co-training provided for.

The Damon and Krisler critique addressed other issues as well. Interestingly, their argument declared the high technology light division to be well on the way to meeting the needs of a modernized light force. The critique attacked the creation of two extra divisions at a time when the Army did not have the end strength to fully man, with active component brigades, the sixteen divisions it already had.

The point was well-taken. Did the seventeenth and eighteenth divisions, or the latter division alone, over-extend the whole force structure, "hollowing-out" the Army? The debate in the journals mirrored an internal Army debate on the same point. One senior Army leader, General Otis, the commander-in-chief of U.S. Army Europe, believed that eighteen divisions signified an overextension and a return to hollowness.[23] The TRADOC commander, too, had not advised for an eighteenth division, believing that it brought costs in corps support and in the training base that would require additional Army end strength, a prospect that could not be realized.[24]

The anonymous critics Damon and Krisler noted the handicap to early deployment of the roundout brigades that several FORSCOM heavy divisions would have to rely on — a roundout principle that, it had become clear, the two new LIDs also would indeed employ. They additionally questioned the stationing of the two new light infantry divisions — in Alaska and at Fort Drum, N.Y. Did the U.S. Army now face, they asked, "a large, low-intensity, cold-weather oriented threat?" The modernization program was meantime only 50 percent complete, they averred, and it was slowing. For the pseudonymous pair, the upshot of the AOE effort was an 18–division Active Army force with 7 division types — an "operational justification for a political solution" taken in fear of losing out to the Marines.[25]

By May 1985, other defenders of the light division had joined the debate in the journals. In a letter to *Army* that month, Brig. Gen. John R. Greenway, Director of Force Programs in the Pentagon operations office and a former Deputy Chief of Staff for Doctrine and force designer in TRADOC, replied to most of the substantiative points. Greenway, who had been an originator of the light division effort at Fort Monroe in 1983, strongly affirmed the need for a force that could be sent quickly to a trouble spot. Rapid deployment was a U.S. strategic requirement which other nations, for policy reasons, did not have — permitting those armies therefore to structure their forces differently.

Thus, Greenway allowed that Edwin Besch made a good case for light armored vehicles in the armies of the Soviet Union, its third world surrogates, the United States' allies, and the U.S.

23. Otis Interview by Romjue, 15 Feb 93.

24. Richardson Interview by Romjue, 24 Feb 93.

25. Maj Gen Sam Damon, USA and Brig Gen Ben Krisler, USA, "'Army of Excellence'? A Time to Take Stock," *Armed Forces Journal International*, May 1985, pp. 86–94.

Marine Corps. However, the Soviet need for rapid deployment was mitigated by its ability to use surrogates who, together with the Soviet Union, could pick the time and place of their military actions. They did not share the U.S. need for a rapid force. The allied armies, for their part, would by policy fight close to home. The Marine Corps, possessing its own shipping, was not constrained by sortie requirements.

By contrast, Brig. Gen. Greenway argued, the United States had global responsibilities. The LID had deployability strengths, and it had utility on applicable European terrain. Greenway emphasized that, in the AOE effort, the Army had analyzed the pros and cons of strategic deployability, tactical mobility, and antiarmor lethality. The LID was not too light for the missions assigned. If the mission assigned to it became more demanding as the situation developed, the division could be tailored or augmented accordingly. A light mechanized division, he further argued, would be a division no more deployable than a ROAD-based standard infantry division and equipped with light armored vehicles that could not survive against the enemy's direct fire weapons. Critics of the light division could not have it both ways. "A division light enough for rapid deployment has to trade off some tactical mobility and track-mounted antiarmor firepower. A division able to outmaneuver and slug it out with modern armored forces requires a lot of strategic lift."[26]

Writing in June 1985, retired Army General William E. DePuy, the former TRADOC commander, spoke out in support of the Army's controversial new division type as an "indispensable element of the balanced force." DePuy noted the Meyer-Wickham halt and reversal of a 50–year trend toward larger heavier divisions as a positive move. He noted, too, the mixed reaction to the light division: yes for strategic mobility, but concern about its utility once there, and how it would measure up to the continuing Soviet emphasis on heavy armor and how it fit in with the maneuver doctrine of AirLand Battle.

General DePuy's rejoinder emphasized the use of light infantry in light infantry terrain. That included not only some contingency areas like Central America and Korea, but the mountains, forests, and cities of Central Europe. DePuy also emphasized the LID's function to prepare the way for other arms — the artillery — and to protect those arms — the armor — in Europe's "close" areas. DePuy took note of General Uhle-Wettler's appeal for more light infantry, and he noted the NATO support for light divisions or parts of light divisions in places such as the wedge between V Corps and VII Corps in Germany, the Wildflecken triangle, and in the large urban "coagulations" around Munich, Frankfurt, and the Ruhr.

DePuy, however, also pointed to "the chief problem which faces the light infantry" — the advances in armor that precluded the light infantry from carrying frontal-armor penetrating weapons. He also pointed to the dictate, in war, of events themselves. Events and not conditions would dictate where the light infantry would be sent. If the utility of the light divisions in NATO was accepted, light divisions made sense, DePuy said — when the antiarmor problem was solved. Five light infantry divisions was not extravagant. But the former TRADOC commander argued against beefing up the division into a heavier hybrid. Such a construct, he believed, would be "too encumbered to be mobile in the forest and too vulnerable to survive in the open."[27]

26. Letter, Brig Gen John R. Greenway, Director of Force Programs, Office of the Deputy Chief of Staff for Operations and Plans, HQDA, *Army*, May 1985, pp. 5–6.

27. General William E. DePuy, "The Light Infantry: Indispensable Element of a Balanced Force," *Army*, June 1985, pp. 26–41.

Writing in the July-August 1985 issue of *Infantry*, Colonel Huba Wass de Czege, a co-author of the 1982 FM 100–5 manual and then on the staff of the Command and General Staff College, drew a useful distinction among the *three* kinds of infantry needed for U.S. Army war-fighting missions. Wass de Czege called the three types *armored* infantry — mounted in Bradley Fighting Vehicles with the primary mission of supporting the advance of the tank; *regular* infantry whose primary mission was to hold ground and to take fortified or infantry-defended positions; and light infantry that was highly mobile — strategically, operationally, and tactically — and that could fight best in difficult terrain. Wass de Czege believed that though both armored infantry (the current mechanized infantry) and *light* infantry could do regular infantry tasks, they could not do them as well as regular infantry could. Much of the debate over how to use Bradley-equipped infantry mounted and dismounted and how to use light infantry resulted, he believed, from trying to use either force as regular infantry. The Army needed to develop a third type of infantry — one which in actuality it already had in its not-yet Bradley-converted M113–equipped mechanized battalions — especially when they were trained to fight using tactics suited to their equipment.[28]

Also entering the lists, in an interview with *Armed Forces Journal International* in May 1985, Secretary of the Army John Marsh defended points at issue. Marsh declared that "we're building a force structure that will adapt to lift." The Army secretary defended the Fort Drum and Alaska stationing choices. Noting the Soviets' possession of six airborne divisions, the driving factor for an Alaskan division was to build up the Alaska defense.[29]

The Greenway, DePuy, and other responses placed the contested issues of the lively debate in perspective by pointing to the virtually unique national policy considerations that made the U.S. Army light division — as the centerpiece of a deployable light ground-holding army — strategically necessary and, in stated circumstances, tactically vulnerable. A key consideration of the LID's visibility was, as its defenders repeatedly noted, its selective use — for those occasions and for that terrain where there was no substitute for using it.

The LID defenders also emphasized that the light division was not an all-purpose stand-alone force, but a part of the force tailored in light and heavy elements to the specific strategic and tactical situation. That light-heavy LID role was affirmed by a primary figure in the AOE design effort, General Richardson in an August 1986 interview. The light and heavy matchup would be determined by the contingency. Light divisions could be used in Europe, but only where it made sense.[30]

Further debate ensued. William J. Olson, in *Military Review*, in June 1985, believed that "the LID may have more teeth to tail, but the teeth may not have enough bite." He took additional note of the problem of airlifting the LID's corps plugs. Lifting the plugs would compete with lifting the other support needed by the division after the first forty-eight hours of action. Olson questioned why corps plugs should be developed when they would almost always be needed anyway. He also raised the political intra-Army spectre of the LID as the start of a process to create two armies: heavy and light.[31] Major Scott R. McMichael, writing in the same journal in September 1985,

28. Colonel Huba Wass de Czege, "Three Kinds of Infantry," *Infantry*, July-August 1985, pp. 11–13.

29. Millard Barger and Benjamin F. Schemmer, "An Exclusive AFJ Interview with John O. Marsh, Jr., Secretary of the Army," *Armed Forces Journal International*, May 1985, pp. 44–54.

30. Interview with General William R. Richardson, Commander TRADOC, by Dr. Henry O. Malone, Jr., 27 Aug 86.

31. William J. Olson, "The Light Force Initiative," *Military Review*, June 1985, pp. 2–17.

argued for a purer light infantry structured not for its strategic lightness but its tactical lightness.[32] Brig. Gen. John C. Bahnsen, too, weighed and found wanting the new LID in a comprehensive critique of the Army of Excellence in November 1985. Though it was properly designed for low intensity conflict, the major issue of the LID was its capability in mid- and high-intensity war. Noting, like others, the increasing mechanization of third world armies, Bahnsen warned that arriving at the scene of battle was not enough. "To lose an LID prematurely deployed would create a national disaster."[33]

Major Peter N. Kafkalas viewed it as a mistake that the light division, crafted for low intensity conflict, was being modelled for augmentation to heavy forces. Writing in *Military Review* in January 1986, Kafkalas noted an earlier, overlooked alternative proposed by the defense analyst Robert H. Kupperman. That proposal was for a light infantry brigade — one that would be specifically regionally LIC-oriented. That concept had clashed with the Army's large-unit, division-and-above emphasis, Kafkalas believed, stating that the real reason for establishing the light divisions was global deployment in support of Reagan Administration policy rather than low intensity conflict. Major Kafkalas believed firmly that the best use of light infantry in mid-to-high-intensity war, however, was in brigade units, not division. Although he found the light division more appropriate for low intensity conflict, Kafkalas, too, suggested that Ranger, airborne, and Marine Corps units might be adequate for that mission. Light infantry divisions should not, in any case, be general purpose forces.[34]

The debate about just what the light division's most likely combat role would be was hardly academic. Visiting the 7th Infantry Division (Light) in training at Fort Ord in March 1986, former TRADOC commander General DePuy, a supporter of the LID's dual utility, found troops confused as to what mission they were training for. It was Nicaraguan, Libyan, or Iranian forces that the 7th Division would most likely face in future combat, DePuy declared in a subsequent letter to the Army Chief of Staff, General Wickham. DePuy suggested that the training needed for that kind of low-mid intensity warfare was the kind the 7th Division should be undertaking. "Someday they may be sent to. . . stop the Revolutionary Guards on the approaches to Kuwait City," DePuy averred. "These military tasks require much more than Ranger techniques."[35]

General Wickham's reply to DePuy took cognizance of the LID's start-up needs, as the light divisions came into the force. His guidance had been that those divisions should train initially for low intensity conflict, and then train for mid-to-high-intensity battle. That priority was necessary to preclude the light division commanders from training for all types of battle at once and thus confusing the rationale for the LIDs in the first place. Wickham also noted that LID doctrine was in revision and would focus increasingly on conventional operations.[36] In early June 1986,

32. Maj Scott R. McMichael, "Proverbs of the Light Infantry," *Military Review*, September 1985, pp. 22–28.

33. (1) Brig Gen John C. "Doc" Bahnsen, "The Kaleidoscopic US Army," *Armed Forces Journal International*, Nov 1985, pp. 78–88. (2) Letter, Bahnsen to same journal, "The Kaleidoscopic Army is Still Fuzzy on LIDs," *ibid.*, July 1986, pp. 10–12.

34. Peter N. Kafkalas, "The Light Infantry Divisions and Low Intensity Conflict: Are They Losing Sight of Each Other?" *Military Review*, January 1986, pp. 18–27.

35. Letter, General (Ret.) William E. DePuy to General John A. Wickham, 4 Apr 86, Wickham Papers.

36. Letter, Wickham to DePuy, 16 Apr 86, Wickham Papers. Interim LID doctrine was contained in Field Circular 71–101, LID Operations.

Wickham directed TRADOC to adjust the doctrine and training focus of light infantry divisions in favor of combined arms teams, emphasizing counterinsurgency, operations in close terrain, and urban areas. In his directive, Wickham emphasized that LID units needed to train to operate alongside heavy units.[37]

While an emphasis on mid-intensity war was not yet developed in the internal training of the 7th Division in early 1986, the division had begun heavy/light training at the Army's National Training Center at Fort Irwin. The training of heavy and light battalions together had been inaugurated at Fort Irwin in 1985, with the 101st Airborne Division. In March 1986, the very month General DePuy visited the 7th Division at Fort Ord, the first "true" heavy/light training rotation involving a LID, the 7th Infantry Division (Light), took place at the national facility.[38]

The debate about LID utility alongside the heavier divisions of the corps continued in late 1986. Writing in *Military Review* in September of that year, Brig. Gen. Wayne A. Downing affirmed the role of light infantry forces in armor-heavy Central Europe. Downing saw typical missions to be defense of urban or forested terrain, air assault operations in support of heavy forces, limited dismounted offensive operations in periods of poor visibility on close terrain, rear area combat operations against Warsaw Pact light forces when augmented with transportation, and stay-behind positioning in selected areas. Due to the LID's lean structure, light infantry brigades offered the best-sized element for integration into a heavy unit. Downing discouraged hybridizing the division with motorized or mechanized elements whose logistics tails would negate the very strengths that made LIDs useful in Europe.[39]

But other voices registered disagreement with the LID-utility-in-Europe thesis. John A. Adams, writing in *Military Review* in October 1986, focused on the LID's weakness in tactical mobility. "It is not going to walk from town to town." The division's helicopter lift was insufficient and, Adams asked, "what is a battalion commander supposed to do on a rainy, foggy night with a tank division bearing down on him?" Helicopters would not be picking up passengers under direct fire from massed enemy armor. Adams' answer, as many before, was light mechanization, specifically mechanized light infantry companies, separated from their Bradley Fighting Vehicles or M113 carriers, to provide both tactical mobility and on-the-ground foot infantry. Mechanized light infantry could also screen extended frontages and perform rear area combat.[40] David Segal, writing in *Armed Forces Journal International* in October 1988, found the LID, despite the significant strengthening it had undergone as a result of certification procedures, to be still too

37. Memorandum, Lt Gen Carl E. Vuono, Department of the Army Deputy Chief of Staff for Operations and Plans to Chief of Staff of the Army, 23 May 86, subj: Light Infantry Division Doctrine and Training Focus — Info Memo w/message, DA to TRADOC, SAB, 101235Z Jun 86, Wickham Papers. Wickham's handwritten note on the draft message approved it 3 Jun 86.

38. Interview with Maj Gen Wesley K. Clark, TRADOC DCS for Combat Developments, by Anne W. Chapman and John L. Romjue, 8 Jul 92. Maj Gen Clark commanded the TRADOC Operations Group at the National Training Center between September 1984 and April 1986.

39. Brig Gen Wayne A. Downing, "Light Infantry Integration in Central Europe," *Military Review*, Sep 1986, pp. 18–29. For a British observer's view, see also David D. Isby, "The US Army's New Light Infantry Divisions: The Quest for Strategic Mobility and Combat Power," *Jane's Military Review*, 5th edit., 1986, pp. 92–110. Isby recommended specific readiness and mobility-enhancing measures to bring to full development the LIDs' deterrent value.

40. John A. Adams, "Heavy vs. Light Forces: A Middle Ground," *Military Review*, October 1986, pp. 64–73.

immobile tactically to fight effectively in mid-intensity war.[41] A year later, Michael J. Mazarr found that the final chapter had yet to be written for the light divisions, still too weak to carry out their likely heavier assignment. Arguing to keep three LIDs as constituted, Mazarr also suggested the need for "fresh thinking," including the infusion of light mechanized and light armored units into the Army's force structure.[42]

Heavy/Light Directions

Whatever the degree of dissent registered about the light infantry division in the public debate, heavy/light doctrinal concepts and training programs were gaining ground in the Army in the late 1980s. Creation of the light forces — both the light infantry divisions and the increased special operations forces including a full Ranger regiment — affected subsequent war plans. By the dictates of scenario and circumstance, those plans could factor in light divisions or elements of them. In August 1988, General Wickham's successor as Chief of Staff, General Carl E. Vuono directed the Training and Doctrine Command to build on the experience the Army was gaining in the employment of heavy and light forces together. General Vuono directed that further steps be taken to integrate heavy and light capabilities and to employ various mixes of the two force types at all levels, including division, corps, and echelons above corps. The directive, as it affected doctrine, was to incorporate heavy/light discussions into doctrinal publications where apt. A review of the Army of Excellence was to be undertaken with the aim of improving the heavy/light structure.[43]

TRADOC actions responding to the Vuono directive followed. Planners developed a concept to create tailored brigade packages to respond to specific scenarios in order to enhance the LID's strategic utility across the spectrum of warfare. At Headquarters Department of the Army, a monitoring group pursued means to improve the LID's flexibility for battalion-brigade operations in an escalating military action. In 1988, a study by Colonel Huba Wass de Czege, who had been intimately involved in the 7th Division light infantry certification events at Fort Hunter Liggett, pointed up salutary operational effects of the LID. The light division could keep mobile formations from being pinned down or "fixed" by the enemy. It could shape and restrict the flow of enemy forces. Use of the LID forced enemy mechanized forces to dismount, and forced enemy airborne and air assault forces to be used in the forward sector, rather than in disruption actions behind U.S. lines. Though not a substitute for heavy forces, light infantry, in early deployment, could free heavy divisions to do the heavy missions.[44]

41. David Segal, "Army LIDs: Are They Fit to Fight?" *Armed Forces Journal International*, October 1988, pp. 82–88.

42. Michael J. Mazarr, "The Light-Heavy Debate Rears its Head Again," *Armed Forces Journal International*, October 1989, pp. 99–104.

43. (1) Memorandum for Record, TRADOC Office of the Command Historian, 14 Aug 89, subj: TRADOC Liaison Officers Conference, 7–11 August 1989. (2) Briefing slides, LID Update, Briefing presented by Maj M. Ritter, ODCSDOC to TRADOC Liaison Officer Conference, 7–11 August 1989. (3) TRADOC General Officer Notes 89–10, October 1989. (4) Wickham Interview by Romjue, 20 Jan 93.

44. (1) Memo ATZW-SACG, Col Huba Wass de Czege, Sp Asst to CG 7th Inf Div (Lt) to Maj Gen Burba, CG, 7th Inf Div (Lt), 10 May 88, subj: Employment Concepts for Light Infantry in Europe. Wass de Czege's study was in response to a request by General John Galvin, the SHAPE commander and Commander-in-Chief, U.S. European Command, for an examination of Central Army Group scenarios for employing light infantry in NATO. (2) CAC Briefing, LID Concept Review, prepared for Force Design Update 1991 to Chief of Staff of the Army.

In the meantime, the accumulating heavy/light task force experience at the National Training Center shed light on the new training emphasis. Among the many lessons coming out of the unit training at Fort Irwin were the following. Use of light infantry enlarged, or extended, the battlefield, but light and heavy forces had a different point of concentration for intelligence. In maneuver, the heavy/light composition forced the enemy to disperse his combat power, but synchronization of light forces was critical. Air assault and heavy force maneuver provided a flexible, lethal force. Light forces could free up a heavy reserve. Light forces could infiltrate and penetrate enemy defenses and they could remain hidden from the enemy on a night battlefield. Regarding fire support, light forces enhanced the target acquisition capability.

Other lessons were that mobility tasks were fewer for the light force. Light force units were an effective breaching force. Light units could hold open a passage for the heavy force. Light forces could emplace mines and wire obstacles rapidly. In air defense, although the two forces' priorities were different, air defense systems integrated easily between heavy and light forces. In combat service support, while the heavy force "pulled" the required logistics to it, the principle applying to logistics support for the light force was "pushing" that support. Aerial resupply was a key to the light force. Ammunition for the two types of forces was different, however. Regarding command and control, liaison officers were a critical requirement. Another lesson was that light units should be attached to a heavy force, whereas heavy units going to a light force should be under that force's operational control. Between the types, the overall lesson was that "familiarity breeds esteem."

Preceded by earlier deployments to Europe by elements of the 7th Infantry Division and the 82d Airborne Division, the year 1988 saw significant heavy/light maneuvers in REFORGER, the annual U.S. Army training exercise which brought Stateside units to Germany. In the REFORGER field training exercise CERTAIN CHALLENGE during September 1988, the 1st Battalion, 87th Infantry of the 10th Mountain Division successfully conducted a night infiltration of enemy lines, affirming the capability of light and heavy forces to complement each other successfully. Though the light infantry division had weaknesses, it had proven capabilities, too. This topic was the subject of a TRADOC "warfighting seminar" held at Fort Leavenworth in September 1989, where developers focused on the light force as part of a corps operating with a heavy force and operating with heavy force augmentation.[45]

But misgivings about the light infantry division had not ended at the close of the 1980s. Though many observers supported its utility in specific light infantry scenarios and within its well recognized limitations, other critics continued to emphasize the LID's vulnerabilities in general purpose warfare and its designed-in shortage of combat support and combat service support.

45. (1) Memorandum for Record ATMH, TRADOC Office of the Command Historian, 14 Aug 89, subj: TRADOC Liaison Officers Conference, 7–11 August 1989. (2) Briefing slides, Light Infantry Division Update, briefing presented by Maj M. Ritter, ODCSDOC to TRADOC LO Conference, 7–11 August 1989. (3) TRADOC General Officer Notes 89–10, October 1989. (4) Otis Interview by Romjue, 15 Feb 93. (5) Letter, General Crosbie E. Saint, Cdr CENTAG to General Joseph T. Palastra, Jr., Commander-in-Chief FORSCOM, 20 Dec 88, w/encl, After Action Report, Employment of Light Infantry in FTX Certain Challenge. (6) See also Col William M. Hartzog and Col John D. Howard, "Heavy/Light Operations," *Military Review*, April 1987, pp. 24–33. Colonels Hartzog and Howard conducted a series of heavy/light training operations at the National Training Center in February-March 1986. Participating units were the 197th Infantry Brigade (Mech)(Sep), and a task force of the 2d Brigade, 7th Infantry Division (Light).

Defenders felt with equal conviction that the tailoring approach — the composition of heavy and light forces according to the specific contingency — made the objection moot. Heavy/light or light/heavy mixes made good tactical sense where mission, enemy, terrain, troops, and time available — the "METT-T" considerations of doctrine — dictated the need and the wisdom of a mixed force.[46] At the same time, the critique had begun to focus on another aspect of the Army of Excellence.

The AOE and Beyond

The Army of Excellence as a whole had not drawn significant criticism when its designs were revealed in late 1983. Once the reduction of the heavy divisions to build a stronger corps to conduct AirLand Battle doctrine was well understood, there was general agreement on the shape of that predominant portion of the AOE. However, as we have seen, the onset of the debate about the capabilities of the AOE light infantry division also included criticism of the retention of so many division types. To that criticism were joined, in the latter half of the 1980s, the beginnings of a more fundamental critique that went beyond the AOE and its perceived gap between heavy and light division capabilities and that extended to the relative roles of brigade, division, and corps.

During 1985–1986, a markedly different corps was theorized and designed in a study conducted at the National Defense University. The Maneuver Oriented Corps - 1996 (MOC-96) Study posited an even greater combat role for the corps but with an organization whose divisions were smaller and more numerous. Separate brigades were eliminated in the MOC-96 concept, and the AOE division size reduced, so that five divisions could be carved out of three. Self-sustaining and independent regimental combat teams (RCT) were the centerpiece for tactical maneuver. The RCTs and corps constituted the operational and tactical fighting forces, with divisions becoming control headquarters.[47]

Another feature of the late-1980s critique was the growing discussion of the viability of combined arms battalions. Brig. Gen. Bahnsen's *Armed Forces Journal* article of November 1985 viewed the AOE as essentially a continuation of the ROAD concept of a common division base and task-organized brigade and battalion-level combined arms teams. Bahnsen called for eliminating the ad hoc task force concept and forming combined arms battalions composed of the AOE's single-weapon companies. He argued that AirLand Battle doctrine placed a premium on combined arms forces that could be rapidly concentrated, an imperative not supported by ad hoc task-organizing by battalion and brigade.

Noting the maneuver-oriented corps and division initiatives recently advanced by the National Defense University, Bahnsen also argued for a shift in corps-division-brigade roles. He noted that the World War II corps had been an operational echelon strictly, and that the divisions had received their logistical support from the field armies. Elimination of the field army level in the early 1970s had saddled the corps with the double role of operations and logistics, abridging its ability to concentrate maneuver combat power. Bahnsen recommended resurrecting that capability in the division, which he saw as "easily the equivalent of a World War II corps." The ROAD-style division base should be dismantled, the division should get out of the logistics business, and its assets should be moved down to fixed-strength brigades or up to corps. Bahnsen thus pushed to

46. Richardson Interview by Romjue, 24 Feb 93.

47. Lt Col Gale N. Smith, "AOE: Excellence or Emptiness," Army War College Military Studies Program Paper, 29 Mar 88, pp. 20–21.

the fore the fixed maneuver brigade with organic tank, mechanized infantry, artillery, engineer, logistics (in forward support battalions), and signal units, with general support artillery and air defense artillery going to corps. With the smaller, more agile heavy division resulting, the corps commander would fight his divisions and artillery brigades, using the division echelon as a purely tactical headquarters under which to rapidly concentrate fixed brigade structures.[48]

A major difficulty lying in the advocacy of fixed or independent brigades as the future central fighting element was the resulting break-up of the supple and demonstrated division artillery system in order to provide direct-support artillery battalions to the brigades. In addition, brigades which were staffed at more junior levels lacked by definition the division-level staff maturity and experience needed to fight the battle. Divisions themselves had potential for further, valuable development in a new doctrinal world. Maneuver in the "third dimension" introduced by attack helicopters that were served by real-time intelligence and targeting and that possessed pinpoint-accurate weapons opened the potential of a more powerful forward-reaching divisional aviation brigade. Future corps needed flexible structuring, based foremost not on heavy or light theories but on where the corps would be deployed. A future corps could be both heavy and light.[49]

Writing in August 1988 in *Military Review*, and looking ahead into the air-land future, Kevin D. Stubbs proposed a new force design also based on combined arms battalions but in a restructured single heavy division with three mechanized brigades, an aviation brigade, and a headquarters brigade incorporating division support and artillery. Stubbs also recommended a restoration of the cavalry role by taking full advantage of the helicopter in a corps air cavalry division of three attack regiments, one air cavalry regiment, and a fighter-bomber regiment equipped with AV-8B Harrier VSTOL aircraft, and an air assault infantry brigade. Stubbs believed creating the air cavalry division for corps would bring a revolution in warfare akin to that created by the German Panzer divisions.[50]

At the close of the 1980s, the general ideas being bandied about — the concept of combined arms battalions, and the concepts for redefined designs and structures for corps, divisions, and brigades — had acquired a foothold in the Army's organizational thinking. Out of its evolutionary development, the 9th Infantry Division (Motorized) had fielded heavy and light combined arms battalions. In the AirLand Battle - Future concept developed by the Training and Doctrine Command in 1991, planners advanced concepts of moving traditional division functions.[51] Although those ideas were not new to the 1980s, the critique of the AOE and the light division stimulated debate about them and provided a springboard for doctrinal and organizational studies to come.

48. Bahnsen, "The Kaleidoscopic US Army." In June 1989, Bahnsen elaborated on his earlier recommendations in a *Military Review* article with Colonel Robert C. Stack. Continuing the call for combined arms battalions, the authors presented a "Division 90," described as a "mobile division for future war" with two combined arms brigades, each with three combined arms battalions, plus an aviation brigade, a cavalry squadron, and a new element: a high-technology brigade. Bahnsen and Col Robert C. Stack, USA Ret., "A Mobile Division for Future War," *Military Review*, June 1989, pp. 27–37.

49. The author is indebted for these ideas to the thinking of General William R. Richardson. Richardson Interview by Romjue, 24 Feb 93.

50. Kevin D. Stubbs, "Beyond the AOE," *Military Review*, August 1988, pp. 24–41.

51. For a discussion of the AirLand Battle - Future concept, retitled AirLand Operations in 1991, see TRADOC Annual Command Histories, 1989, pp. 32–36 and 54–56; 1990, pp. 27–36; and 1991, pp. 54–60. See TRADOC Pam 525–5, AirLand Operations: A Concept for the Evolution of AirLand Battle for the Strategic Army of the 1990s and Beyond, HQ TRADOC and HQ Tactical Air Command, 1 Aug 91, for a description of the mature concept.

AN ASSESSMENT

The central historical question pertinent to the Army of Excellence of the 1980s — as to any military fighting force — was the following: was the military design right for its time? In the context of the American Army of the 1980s, that question was pertinent at both at the doctrinal-organizational level and the national policy level.

The design and activation of the 10,800–man light divisions resolved for the 1980s and the early 1990s the infantry division dilemma that the Department of the Army and its agent for force design, the Training and Doctrine Command, had wrestled with since the late 1970s. It embodied in two respects a noteworthy turn in the history of Army tactical organization. The Army's leadership faced in the first instance the consequence of the fact that an infantry division could not be light enough in manpower and in equipment to deploy rapidly, and at the same time be strong enough to confront enemy heavy forces on the open European battlefield in direct roles. The European mission imposed high strength, equipment, and support costs that obviated that kind of design intent. The primary use of the light infantry division was elsewhere — in the contingency world. Its collateral mission in support of NATO or other heavy forces was a strictly limited one. It would be sent to fight in NATO Europe only when augmented and specifically for use on the urban, forested, and other "light infantry terrain" that called for such units. It would ordinarily fight in components as part of an integrated heavy/light or light/heavy force. In addition, General John Wickham's related decision as Army Chief of Staff, not to extend the high technology light division design further than the 9th Division — followed by his subsequent decision to motorize that organization instead — spelled an end, at least for a time, to the light, high-technology route out of the heaviness dilemma.

Significant in the light infantry decision, secondly, was the implicit commitment to smaller low-intensity and noncombat operations as an important sector of the Army's challenge in the new era. The decision embodied a strengthened recognition that such operations in contingency actions worldwide imposed their own strategic, operational, and tactical demands.

The light infantry division provided in sum a rapidly deployable, strategically deployable fighting unit to confront a global range of light force challenges, and it provided the light infantry element of integrated heavy/light forces against heavier challenges in Europe and the third world. The light infantry division gave the Army a new and necessary flexibility.

The question as to whether the AOE heavy division was doctrinally and organizationally right for the 1980s must be answered on the doctrinal terms that were new in 1982. Though reduced in capability from the Division 86 heavy divisions, the scaled-down heavy divisions of the AOE project were the constituents of a scaled-up heavy corps that was better organized and equipped than before to fight more flexibly the AirLand Battle. The stronger heavy corps design

that was developed in concert with the late-1983 decisions produced a more powerful fighting organization at the operational level. That level of power would increase even more with delivery of the doctrinally far-reaching Joint Surveillance and Target Acquisition Radar System and the Army Tactical Missile System. New AirLand Battle doctrine placed central emphasis on the corps as the organization that focused command and control of the forces fighting the battle. As Lt. Gen. Carl Vuono, commander of the Combined Arms Center in early 1985 stated, "the Army of Excellence supports the operational level of war and AirLand Battle. That is the key."[1] Thus, the AOE design moved Army tactical organization more fully into consonance with doctrine at the most significant level of organization. With more artillery, aviation, and other assets organic to the corps, the Army of Excellence realized organizationally the operational art implications of AirLand Battle more fully.

Just as is true in most major military structures, the combat balance and diversity of the force embodied compromises purchased at some cost. In 1968, the Active Army had consisted of eighteen and two-thirds divisions in an active force of 1.5 million personnel.[2] In 1986, the Active Army's 18 divisions were carved from an end-strength of 780,000, and many of the divisions contained large reserve roundout elements. The fielding of 18 divisions from so small a force had been achieved only by drastic cutbacks in combat support and combat service support in the active force and by the maintenance or placement of much of the support force, corps and above, in the nonexistent "component 4" category or in the reserve components. There was some degree of validity to the hollowness charge. But in no army in a democracy in peacetime will a fully adequate force be funded. If the Army of Excellence was not the best possible Army, it was an Army of the best affordable divisions and corps at the time.

By maximizing combat power in more divisions but with no added Active Army end strength, the AOE decisions left many corps and theater functions unmanned and some U.S.-based divisions dependent on less-ready reserve roundout brigades. That inadequacy was the price and prudent risk of General Wickham's decision, a decision supported by the Joint Chiefs of Staff, for the deterrence value believed to be gained. Facing worldwide defense challenges in the 1980s, the U.S. Army leadership chose more divisions and battalions, more forward combat strength and combat diversity, over the security of a force of fewer divisions, stronger in support, manned adequately top to bottom. Whatever the insufficiency in support units, the Army of Excellence that emerged out of the labors of a remarkable decade of modernization and reform was — in its training, its technologically advanced materiel, its initiative-oriented fighting doctrine, its well-crafted organizations, and in its spirit and purpose — a professional army of a high order attained by few other armies in modern history.

The development of the AOE had additional significance at the level of national policy as a major part of the 1980s modernization and reform drive. The adoption of AirLand Battle doctrine early in that decade by the U.S. Army forced the Soviet political and military leadership to the direct realization that their powerful battle echelons could and would be attacked at great depth by

1. Vuono Interview by Partin.

2. (1) Paper, U.S. Army Center of Military History, Active U.S. Army Divisions, FY 1964–1976. (2) Russell F. Weigley, History of the United States Army (Enlarged Edition). Bloomington, Ind.: Indiana University Press, 1984. p. 600.

U.S. Army and Air Force systems. At the same time, the steady and increasing modernization of American weaponry, including high-technology components, gave the doctrinal reform concrete meaning.[3] Together with those factors, the AOE's alignment of organization to doctrine and its expansion of global contingency forces contributed to the unmistakable message of a resurgent American will to halt worldwide Soviet expansionism. To what extent the U.S. military buildup contributed to the fundamental revision in Soviet economic, political, and military policy beginning in the mid-1980s, future historians must examine. But by the middle months of 1991, the revolution in Eastern Europe, discussed at the outset of this study, had led to the collapse of the Warsaw Pact as a military alliance, to democratic revolution in the Soviet Union, and to the retrenchment of Soviet power worldwide.

In 1990–1991, the Army of Excellence was deployed in significant portion to the Persian Gulf to assist in the dislodgement of the armored armies of Iraq from their seizure in August 1990 of the independent state of Kuwait. Whether it would be employed in deterrence or in war, the Army of Excellence provided the nation an organizationally and doctrinally ready force in a strategically new world.

3. Richardson Interview by Romjue, 24 Feb 93.

LIST OF ACRONYMS

ACR	armored cavalry regiment
ADEA	Army Development and Employment Agency
AGF	Army Ground Forces
ALO	authorized level of organization
AMIM	Army Modernization Information Memorandum
AOE	Army of Excellence
ARNG	Army National Guard
ARSTAF	Army Staff
BOIP	basis of issue plan
CAB	combat aviation brigade
CAC	U.S. Army Combined Arms Center/Command
CACDA	U.S. Army Combined Arms Combat Developments Activity
CC 86	Contingency Corps 86
CDEC	U.S. Army Combat Developments Experimentation Center/Command
CEWI	combat electronic warfare intellilgence
CINCUSAREUR	Commander-in-Chief, U.S. Army Europe
COHORT	cohesion, operational readiness, and training
CONARC	U.S. Continental Army Command
CTU	consolidated TOE update
CUCV	Commercial Utility Cargo Vehicle
DAPO	Deep Attack Programs Office
DFE	division force equivalent
DISCOM	division support command
DIVARTY	division artillery
DRS	Division Restructuring Study
EAC	echelons above corps
EACC 86	Echelons Above Contingency Corps 86
FAA	functional area assessment

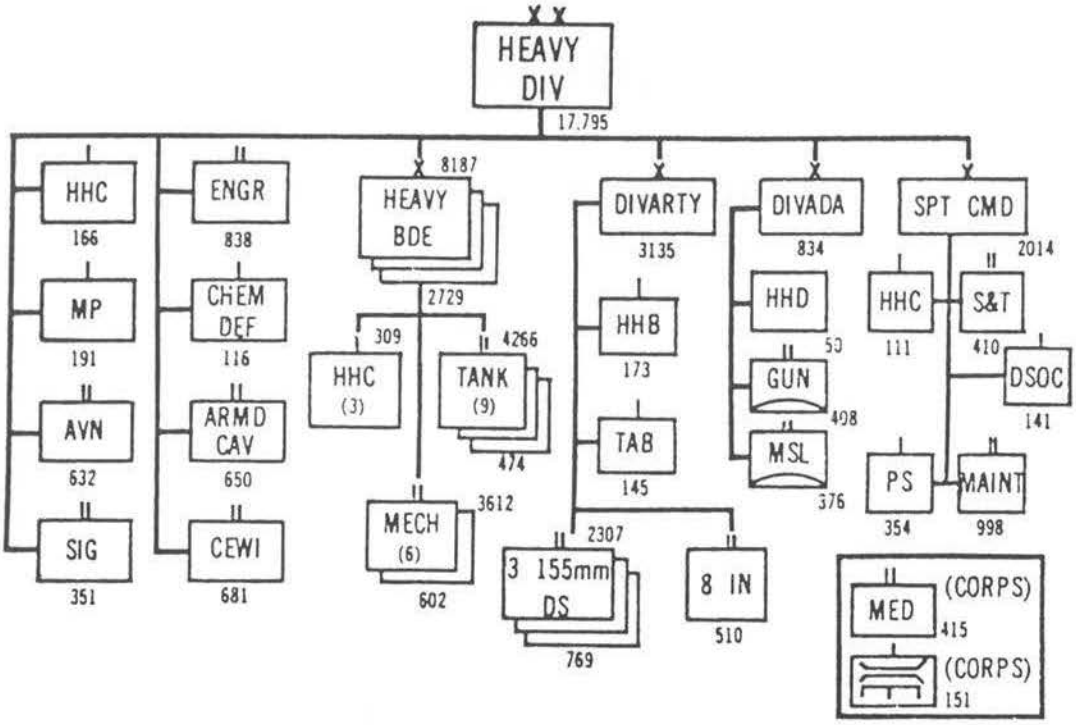
FASCO	forward area support coordinator
FASTALS	force analysis simulation of theater administrative and logistical support
FM	field manual
FMMP	Force Modernization Master Plan
FLOT	forward line of troops
FOFA	Follow-on Forces Attack
FORSCOM	U.S. Army Forces Command
GAO	General Accounting Office
HHC	headquarters and headquarters company
HMMWV	High Mobility Multipurpose Wheeled Vehicle
HTLD	high technology light division
HTTB	High Technology Test Bed
ICP	incremental change package
ID 86	Infantry Division 86
J-STARS	Joint Surveillance Target Acquisition Radar System
J-TACMS	Joint Tactical Missile System
LIC	low intensity conflict
LID	light infantry division
LTOE	living table of organization and equipment
MACOM	major Army command
MARC	manpower requirements criteria
MTOE	modification table of organization and equipment
NATO	North Atlantic Treaty Organization
OA	organization assessment
OCAFF	Office, Chief of Army Field Forces
PIVADS	product-improved air defense system
PLL	prescribed load list
RACO	rear area combat operations
RCRS	reconnaissance-counterreconnaissance-surveillance
RCT	regimental combat team
ROAD	Reorganization Objective, Army Divisions
R3	robustness, redundancy, resiliency
SACEUR	Supreme Allied Commander, Europe
SAW	Squad Automatic Weapon
SF	Special Forces

SOCOM	special operations command
SOF	special operations forces
SORR	special operational readiness review
TAA	Total Army Analysis
TAACOM	theater army area command
TOE	table of organization and equipment
TOW	tube-launched, optically-tracked, wire-guided
TRADOC	U.S. Army Training and Doctrine Command
TRICAP	tri-capability
USAR	U.S. Army Reserve
USAREUR	U.S. Army Europe
USASOC	U.S. Army Special Operations Command
USSOCOM	U.S. Special Operations Command
VSTOL	vertical and short take-off/landing

Appendix A

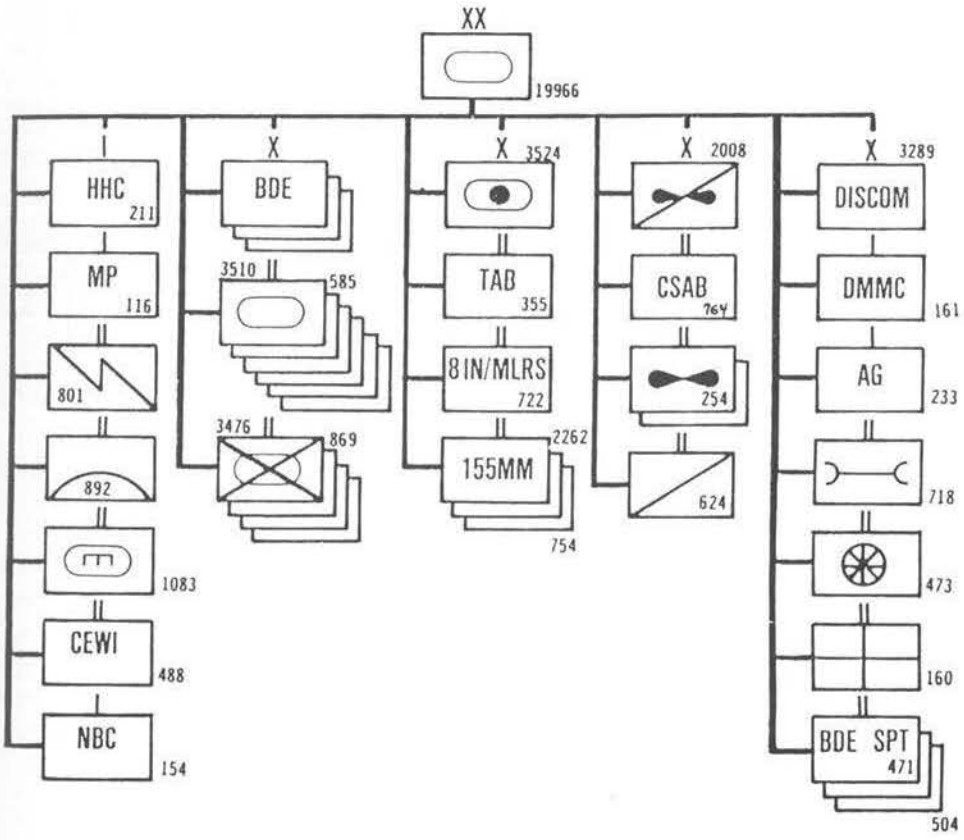
ORGANIZATIONAL CHARTS

Chart 1
CONCEPTUAL HEAVY DIVISION—DIVISION RESTRUCTURING STUDY
July 1976



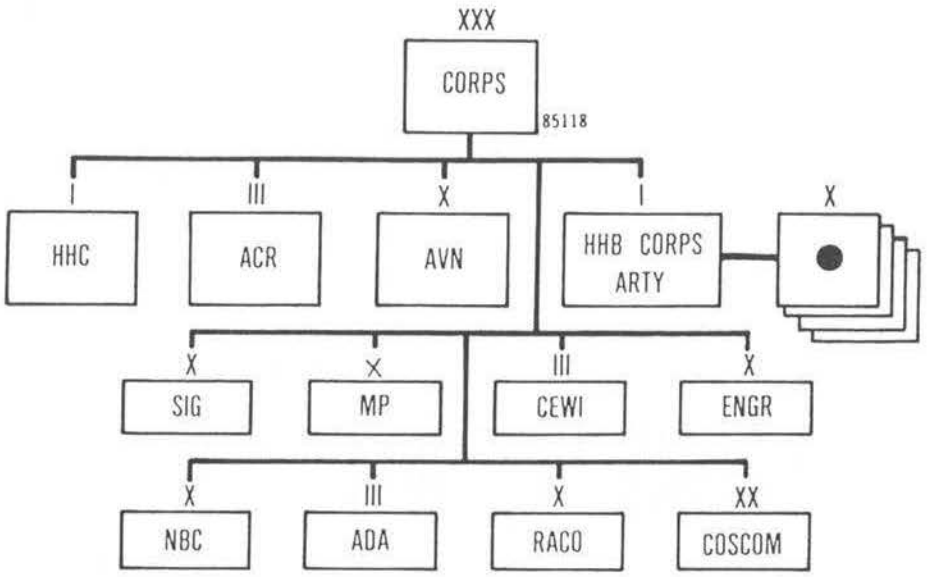
Source: Division Restructuring Study, Phase I Report, 1 Mar 77, Vol I, p. A-2.

Chart 2
DIVISION 86—THE HEAVY DIVISION
August 1980



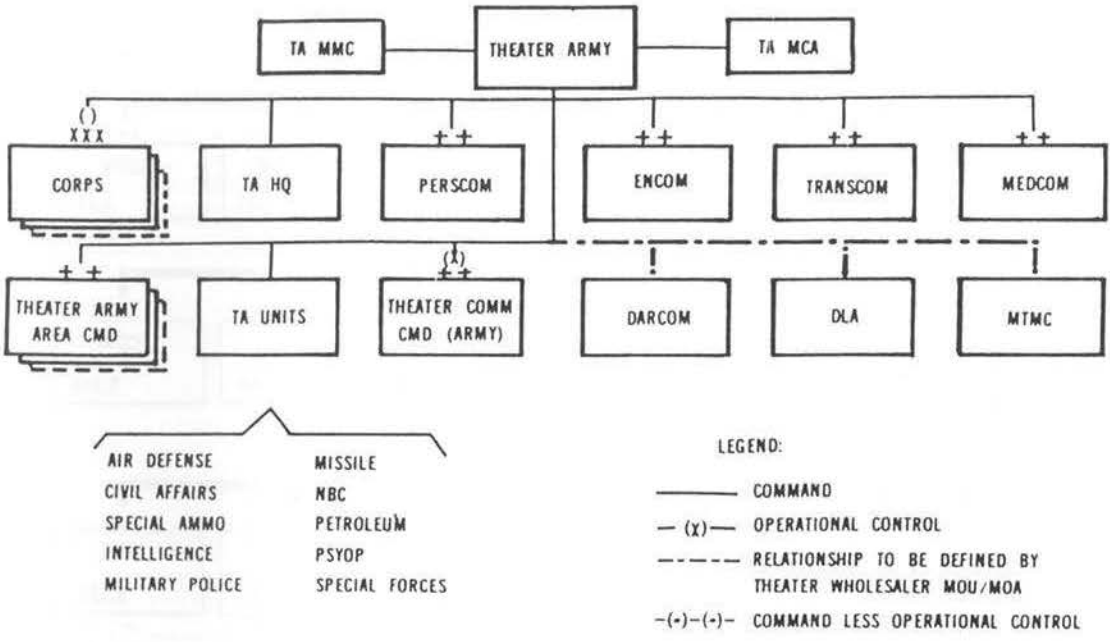
Source: CAC Briefing, Army 86, presented to General Meyer, CSA, 1 Aug 80.

Chart 3
CORPS 86—D-DAY REQUIRED FORCE
August 1980



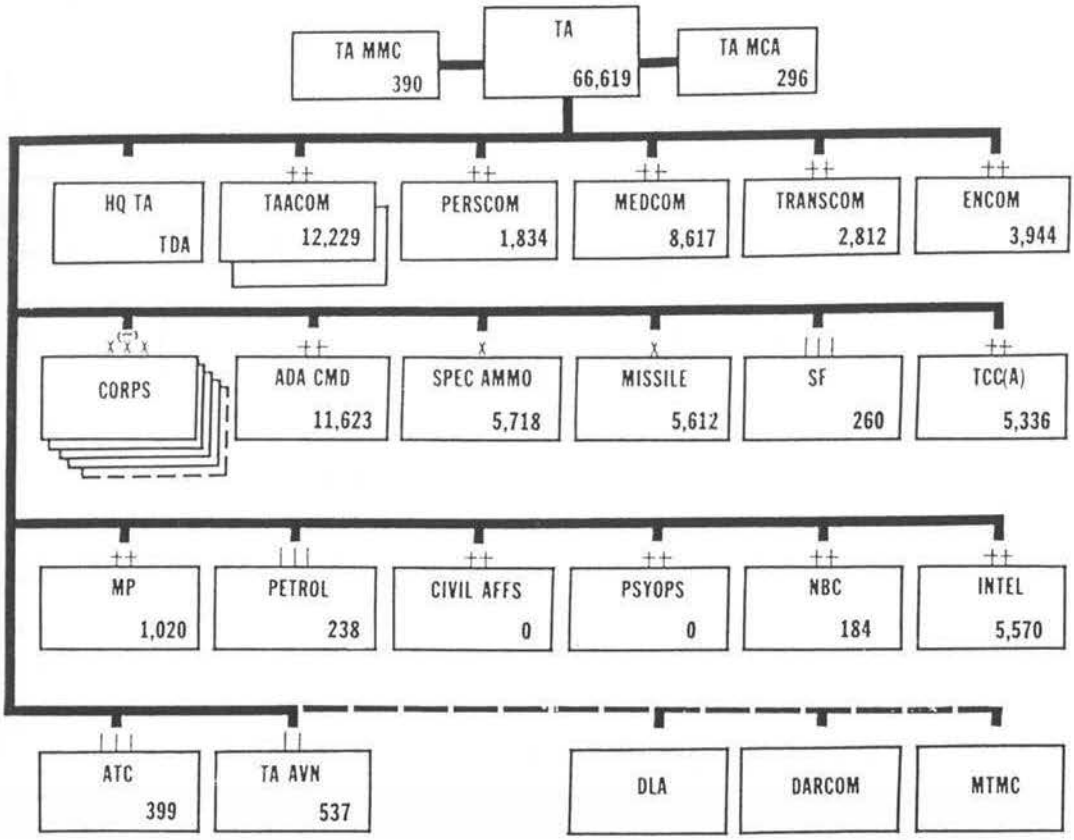
Source: CAC Briefing, Army 86, presented to General Meyer, CSA, 1 Aug 80.

Chart 4
ECHELONS ABOVE CORPS 86
THEATER ARMY AT D-DAY
August 1980



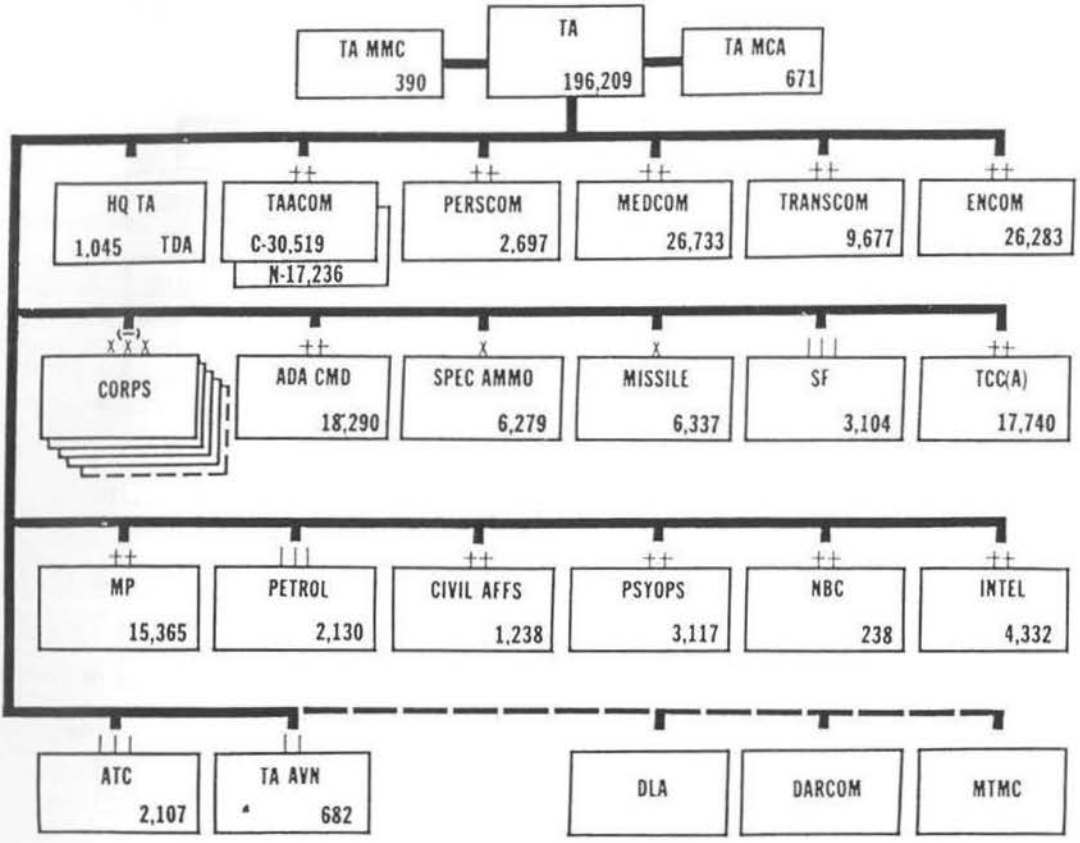
Source: Echelons Above Corps Phase I Report, Vol I, 15 Aug 80.

Chart 5
ECHELONS ABOVE CORPS 86
THEATER ARMY AT D-DAY—CONSTRAINED FORCE
April 1982



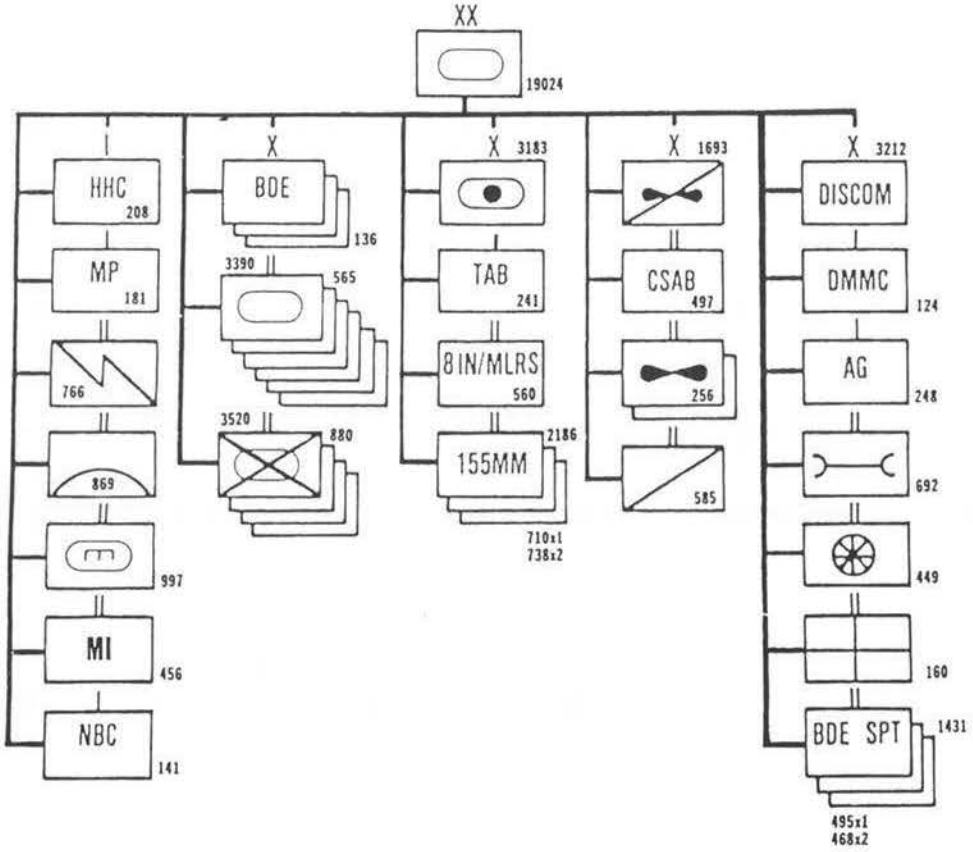
Source: CAC Briefing, Echelons Above Corps, presented to General Meyer, CSA, 29 Apr 82.

Chart 6
ECHELONS ABOVE CORPS—THEATER ARMY AT D-DAY PLUS 180 DAYS, CONSTRAINED FORCE
April 1982



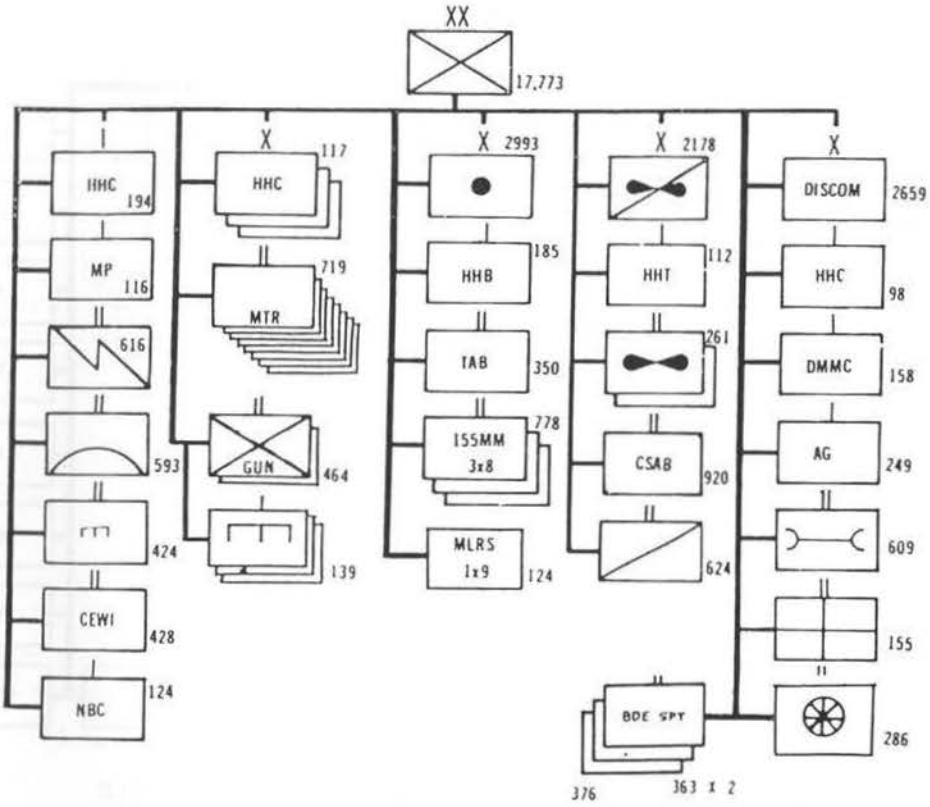
Source: CAC Briefing, Echelons Above Corps, presented to General Meyer, CSA, 29 Apr 82.

Chart 7
DIVISION 86—THE HEAVY DIVISION
March 1982



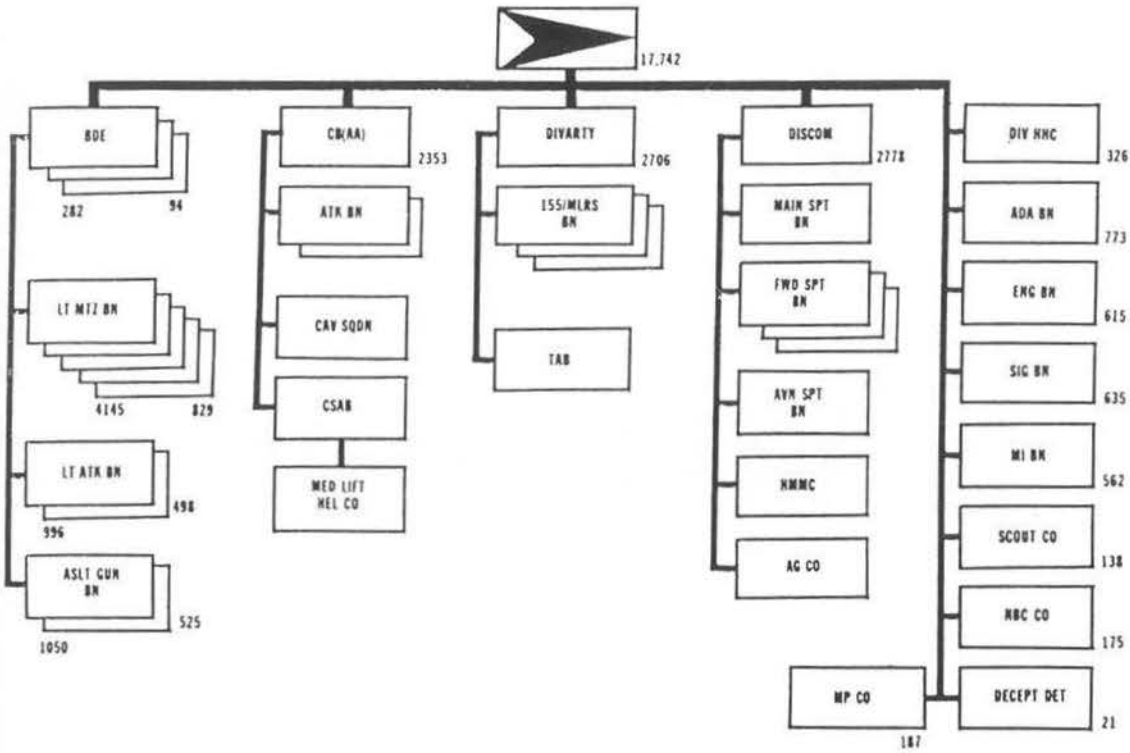
Source: TRADOC Briefing Charts, Division 86 Design Restructured and Approved by General Meyer, CSA, 25 Mar 82.

Chart 8
INFANTRY DIVISION 86—THE LIGHT DIVISION
September 1980



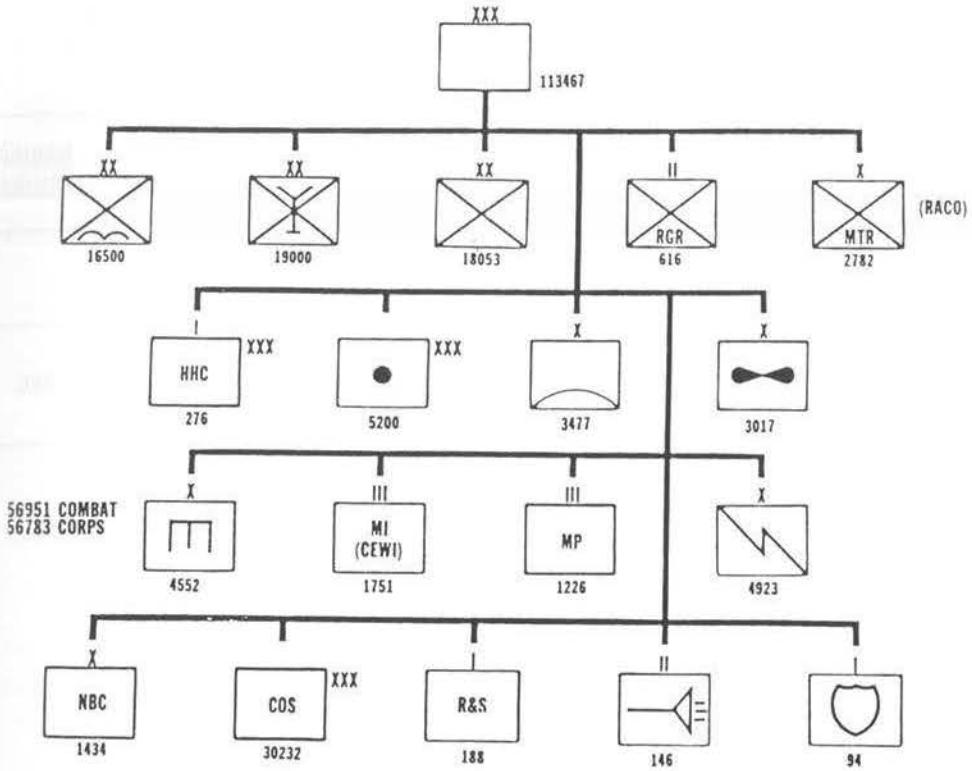
Source: CAC Briefing, Infantry Division 86, presented to General Meyer, CSA, 18 Sep 80.

Chart 9
HIGH TECHNOLOGY LIGHT DIVISION
September 1982



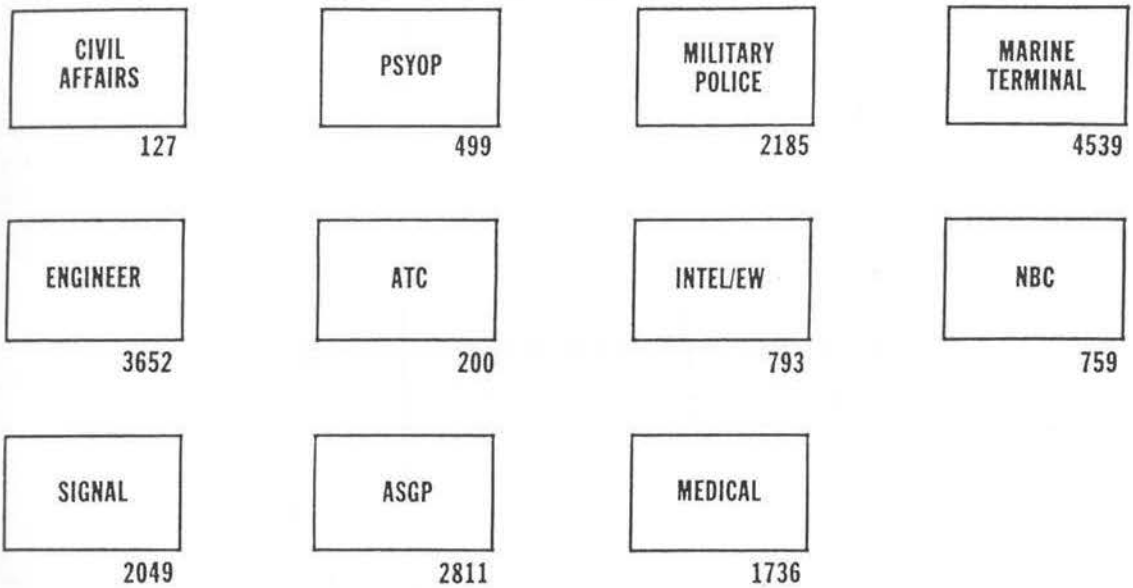
Source: Message, Cdr USACAC to distr, 011921Z Sep 82, subj: HTLD Documentation and Analysis.

Chart 10
CONTINGENCY CORPS 86—MINIMUM FORCE
October 1981



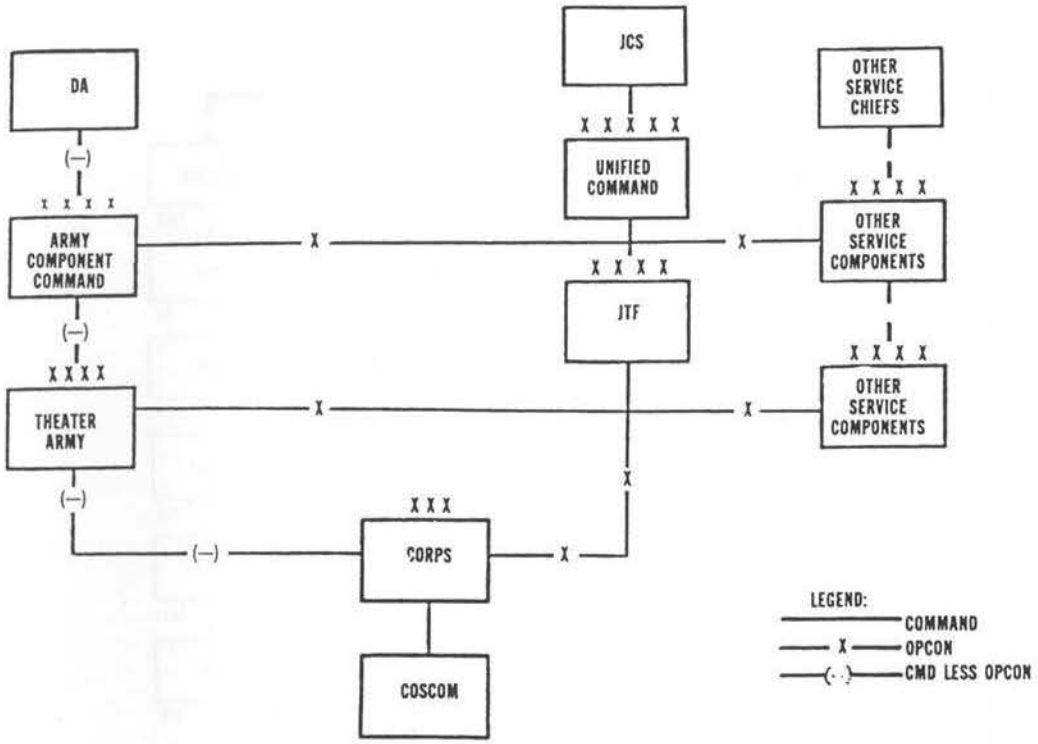
Source: CAC Briefing, CC 86 and EACC 86, presented to CG TRADOC, 28 Oct 81.

Chart 11
ECHELONS ABOVE CONTINGENCY CORPS 86
MINIMUM FORCE
October 1981



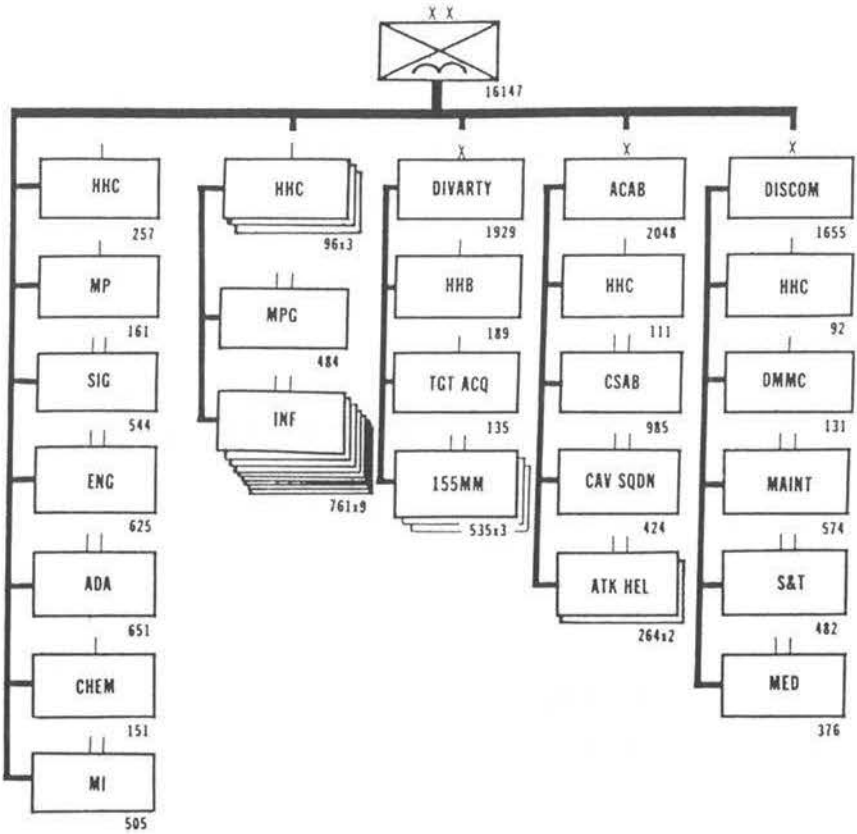
Source: CAC Briefing, CC 86 and EACC 86, presented to CG TRADOC, 28 Oct 81.

Chart 12
CONTINGENCY FORCE COMMAND RELATIONSHIPS



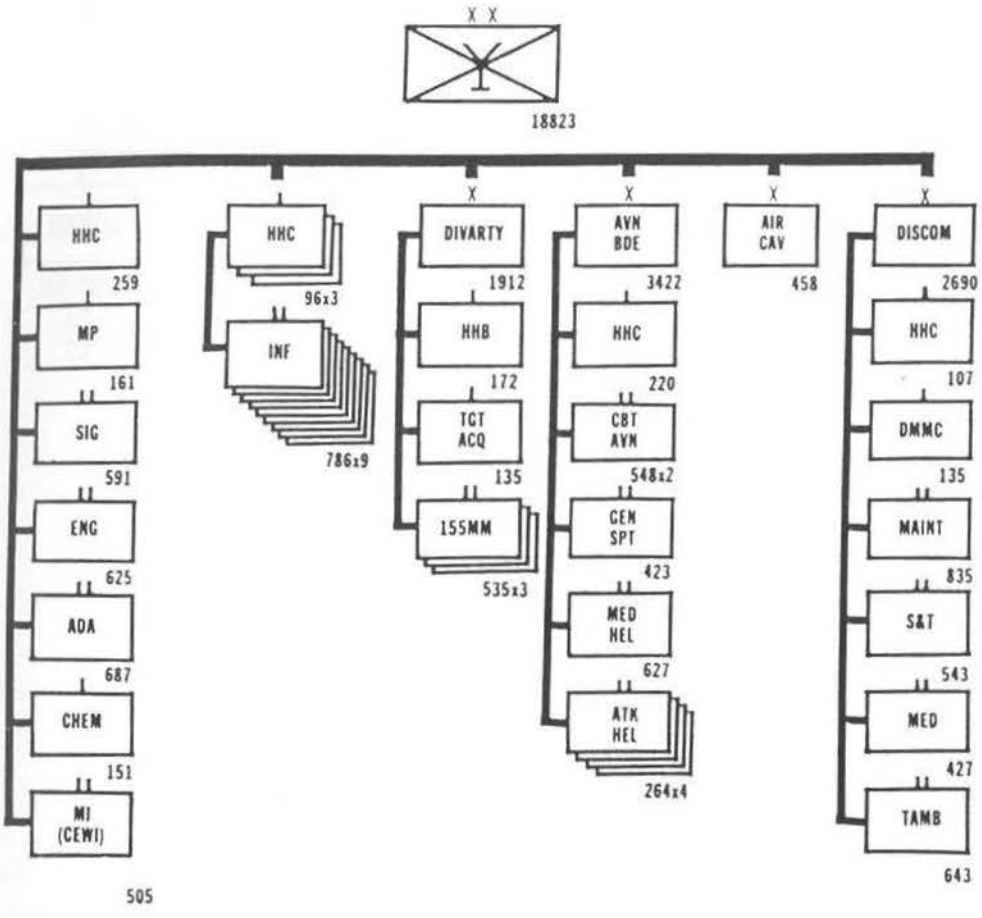
Source: FM 100-16, Support Operations: Echelons Above Corps, (Coordinating Draft), June 1982, p. 3-16.

Chart 13
AIRBORNE DIVISION 86
August 1982



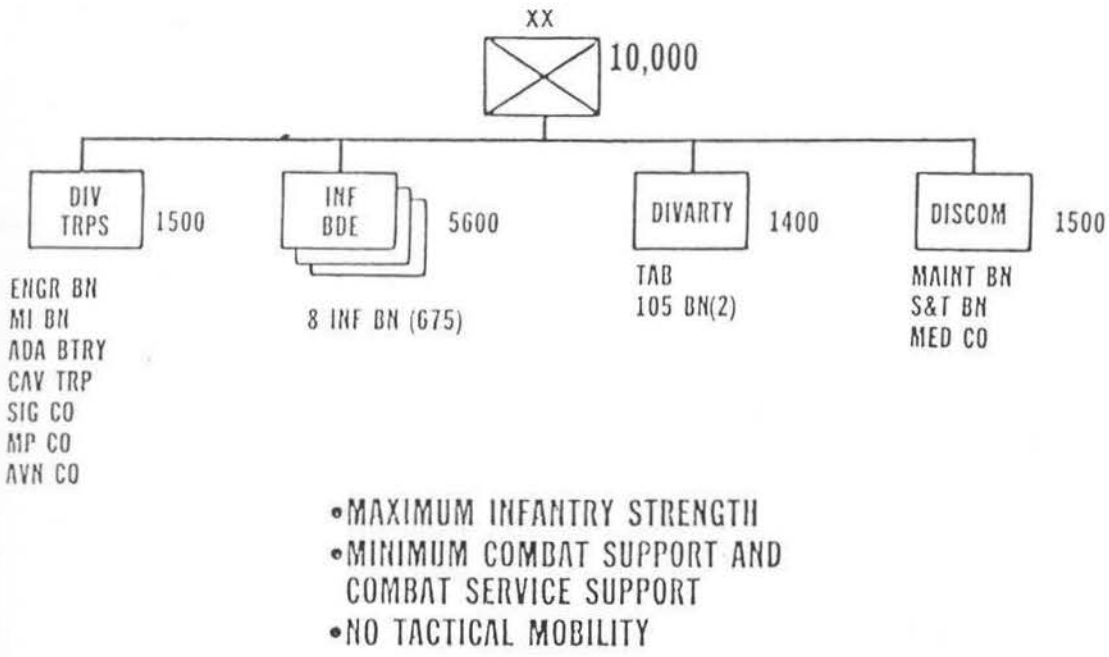
Source: Message, CDR USACAC to distr, 121615Z Aug 82, subj: Results of 28-29 Jul 82 General Officer Workshop. (CONFIDENTIAL—Info used is UNCLASSIFIED).

Chart 14
AIR ASSAULT DIVISION 86
August 1982



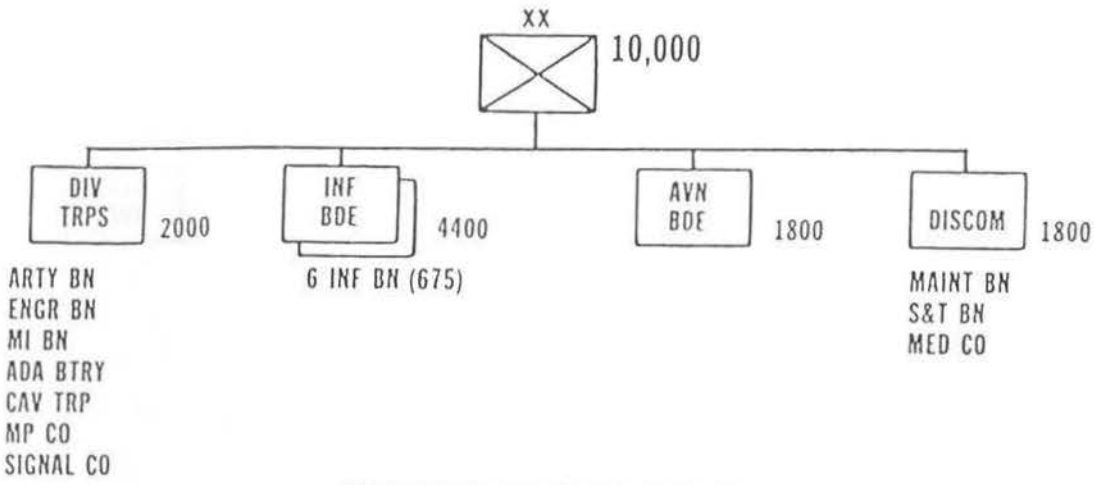
Source: Message, Cdr USACAC to distr, 121615Z Aug 82, subj: Results of 28-29 Jul 82 General Officer Workshop. (CONFIDENTIAL—Info used is UNCLASSIFIED).

Chart 15
LIGHT INFANTRY DIVISION—NOTIONAL DESIGN *A*
August 1983



Source: Briefing charts, TRADOC briefing presented to Army Summer Commanders' Conference, 16-17 Aug 83, "The Proper Force for the 80's." (SECRET—Info used is UNCLASSIFIED).

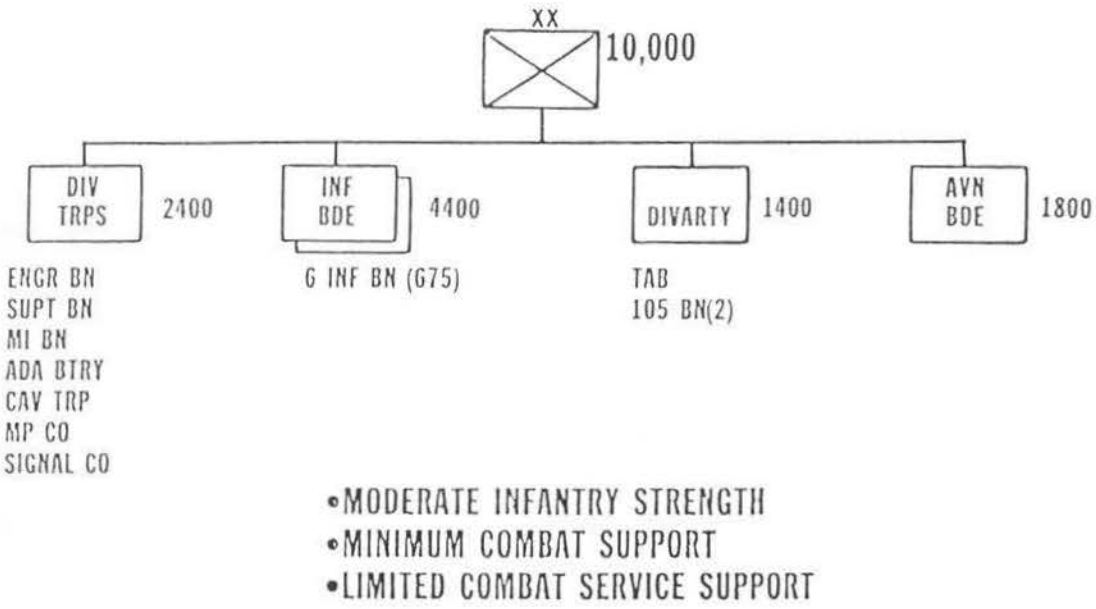
Chart 16
LIGHT INFANTRY DIVISION—NOTIONAL DESIGN *B*
August 1983



- MODERATE INFANTRY STRENGTH
- MINIMUM FIRE SUPPORT
- SOME BATTLEFIELD AIRMOBILITY

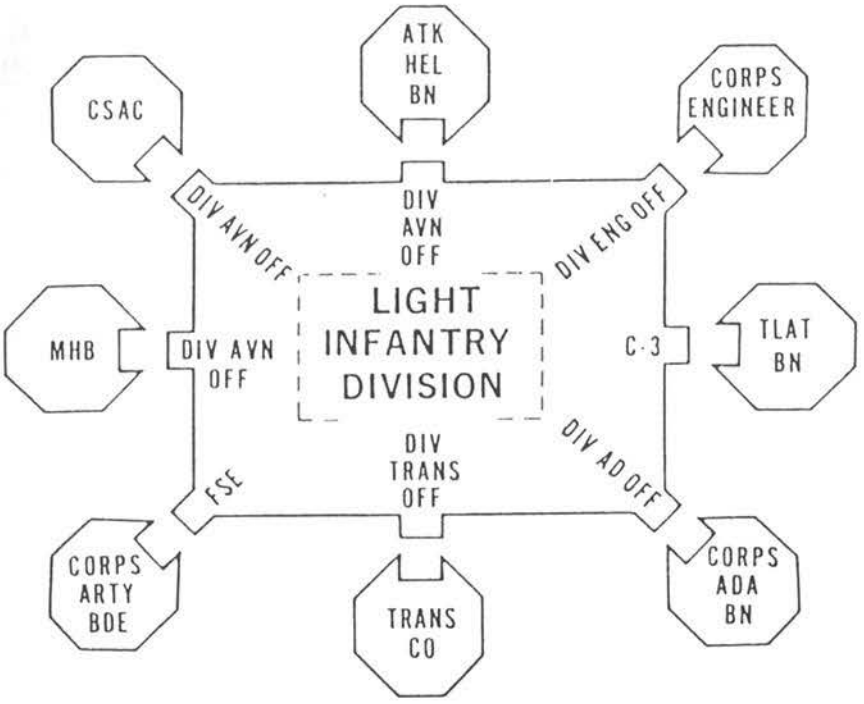
Source: Briefing charts, TRADOC briefing presented to Army Summer Commanders' Conference, 16-17 Aug 83, "The Proper Force for the 80's." (SECRET—Info used is UNCLASSIFIED).

Chart 17
LIGHT INFANTRY DIVISION—NOTIONAL DESIGN *C*
August 1983



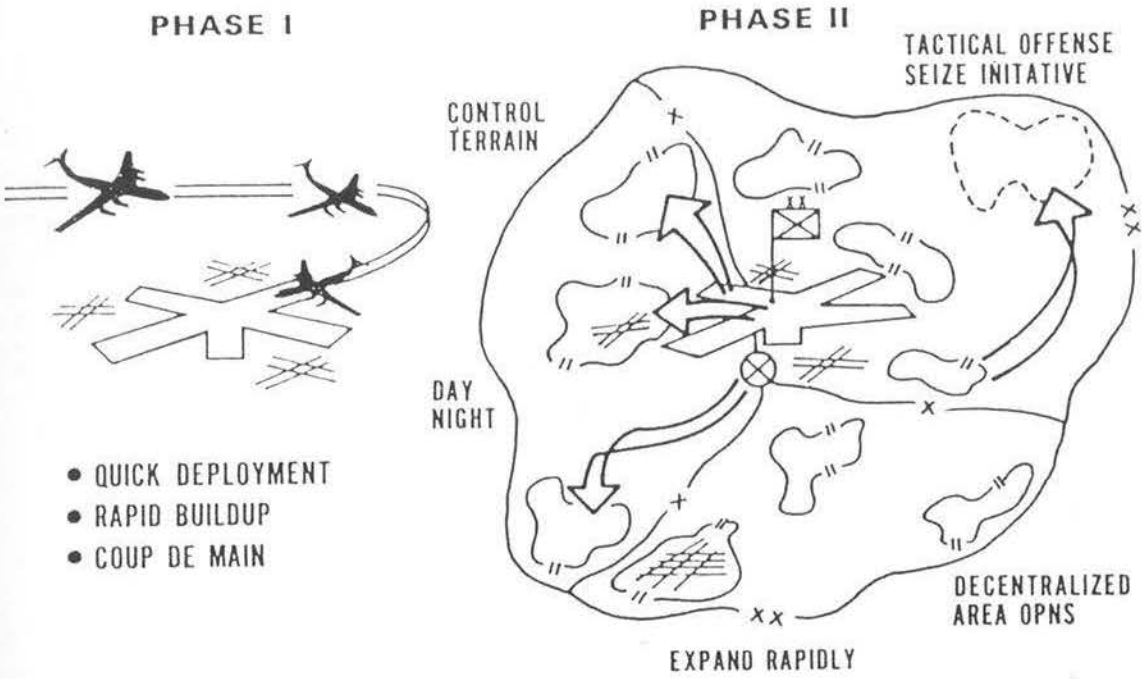
Source: Briefing charts, TRADOC briefing presented to Army Summer Commanders' Conference, 16-17 Aug 83, "The Proper Force for the 80's." (SECRET—Info used is UNCLASSIFIED).

Chart 18
LIGHT INFANTRY DIVISION—CORPS SUPPORT LINKS
(CORPS PLUGS)



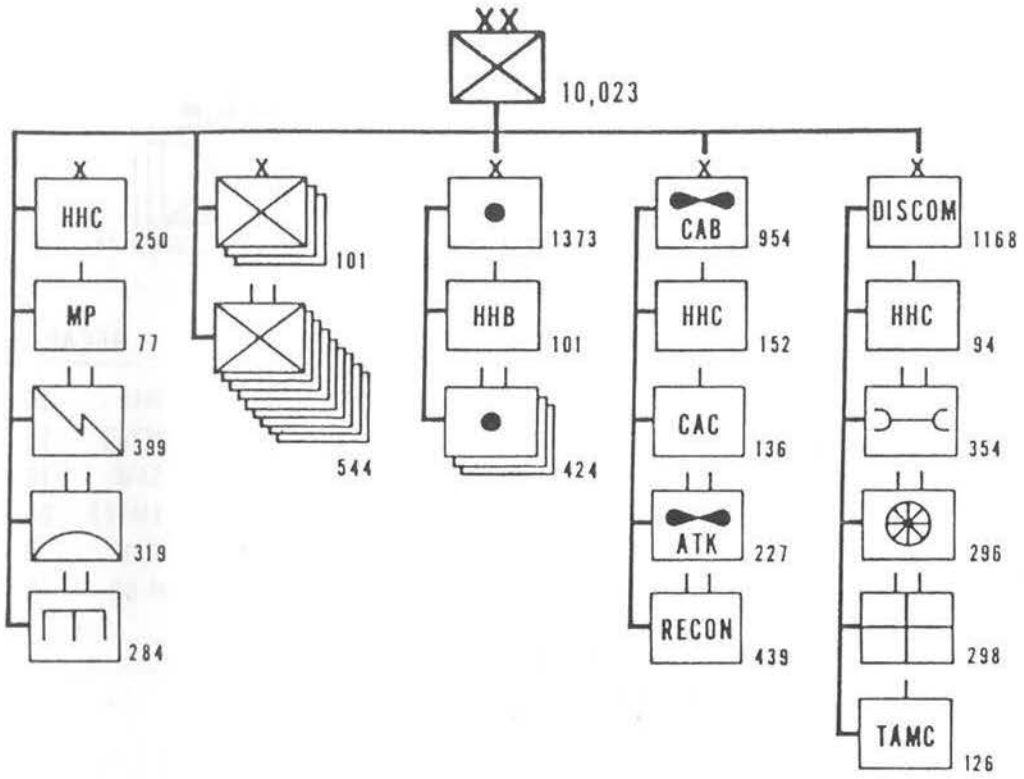
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, The Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 19
A TACTICAL SETTING—LOW INTENSITY



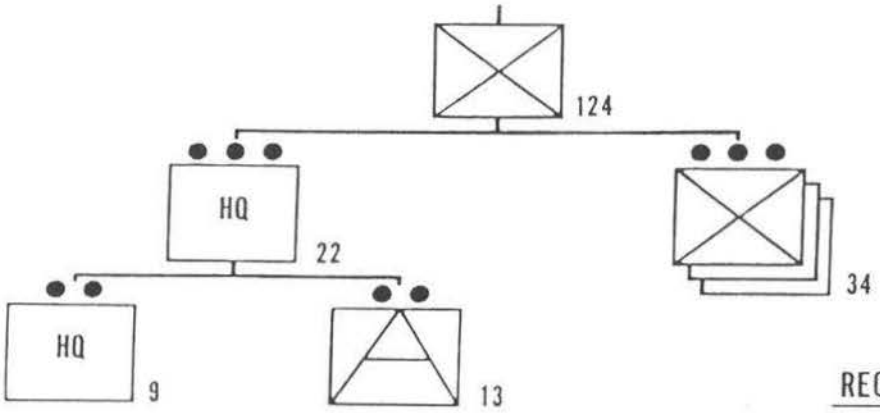
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 20
AOE LIGHT INFANTRY DIVISION
October 1983



Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 21
AOE LIGHT INFANTRY DIVISION RIFLE COMPANY



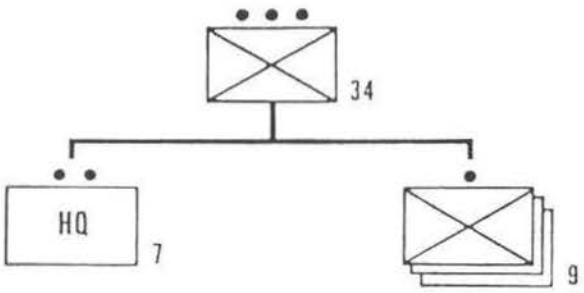
1 COMMANDER	1 ARMORER	1 SEC LDR	
1 XO	3 RTO	3 TM LDR	
1 1SG	5 M-16	6 AA SPEC	
1 COMMO CHIEF	3 XM-177	3 ASST AA SPEC	
1 SUPPLY SGT	1 M-203	13 XM-177	

RECAP

M16	59
M203	19
SAW	18
XM177	28
MAW	6
M-60	6

Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 22
AOE LIGHT INFANTRY DIVISION RIFLE PLATOON



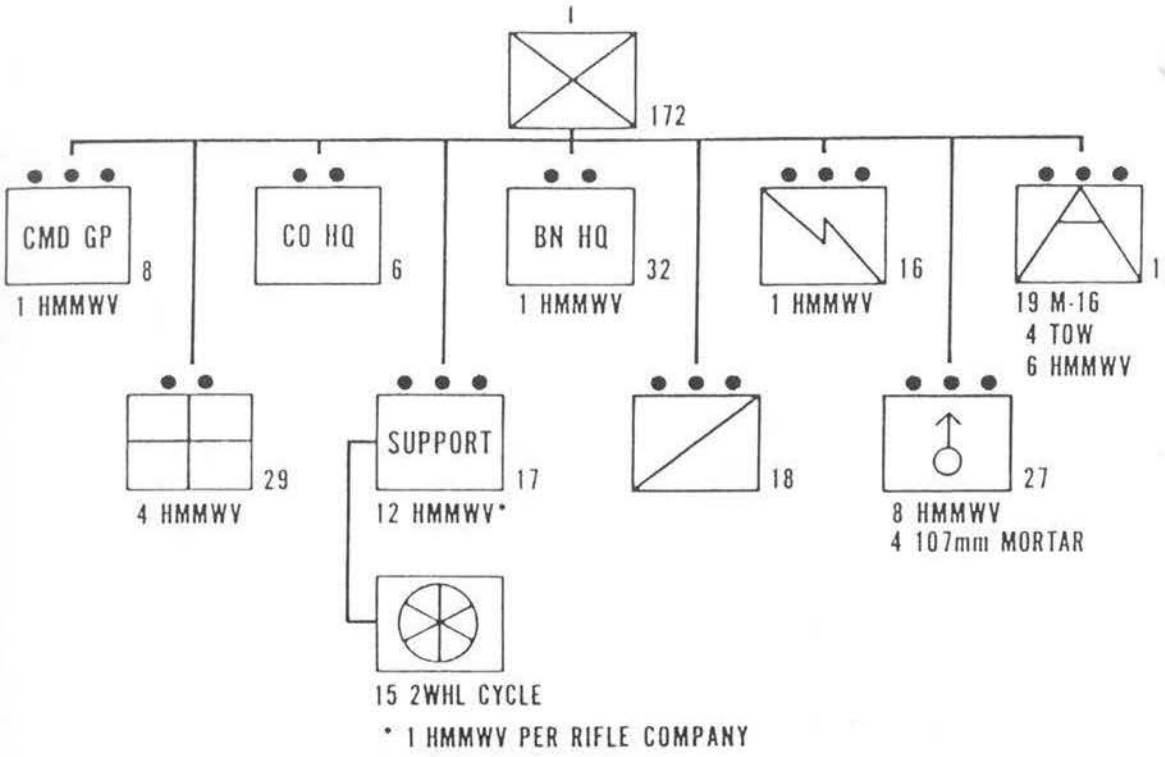
RECAP
18 M-16
6 M-203
6 SAW
4 XM177
2 M-60

HQ	
PLT LDR	1
PLT SGT	1
RTO	1
2 M-60 GUNNER	2
2 ASST M-60	2
4 XM177	
3 M-16	
2 M-60	

SQD LDR	1
2 TM LDR	2
2 SAW GUNNER	2
2 RIFLEMAN	2
2 GRENADIER	2
2 SAW	
5 M-16	
2 M-203	

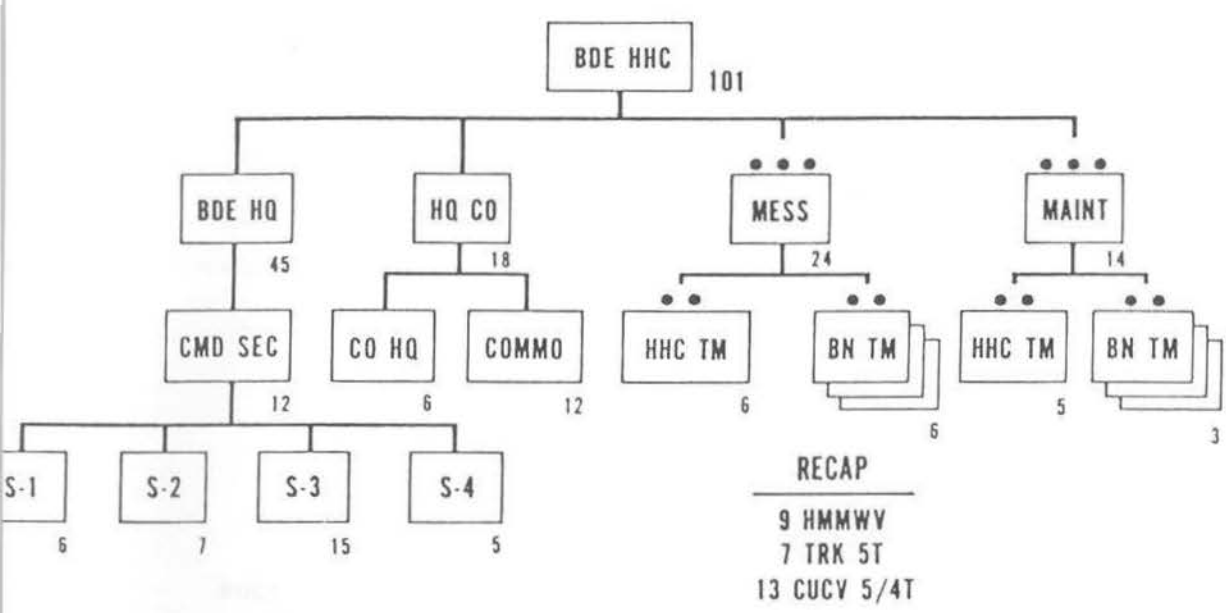
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 23
AOE LIGHT INFANTRY DIVISION INFANTRY BATTALION HHC



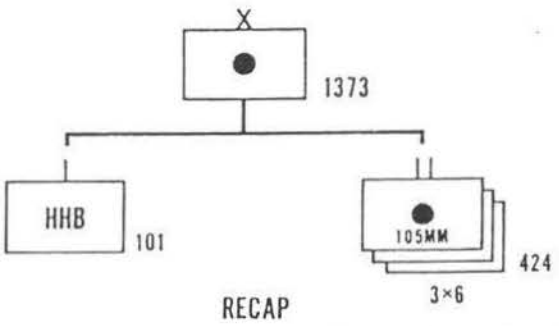
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 24
AOE LIGHT INFANTRY DIVISION BRIGADE HHC



Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 25
AOE LIGHT INFANTRY DIVISION ARTILLERY

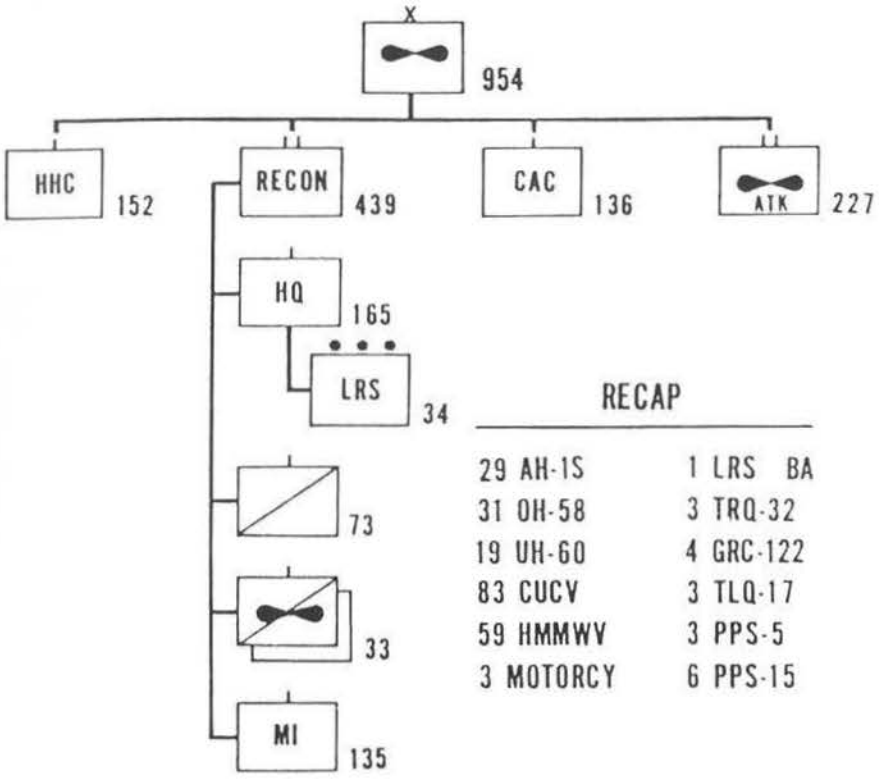


RECAP

4 FDC (TACFIRE)
54 M–102 HOWITZER
3 Q–36 RADAR
246 HMMWV
25 TRK 5T

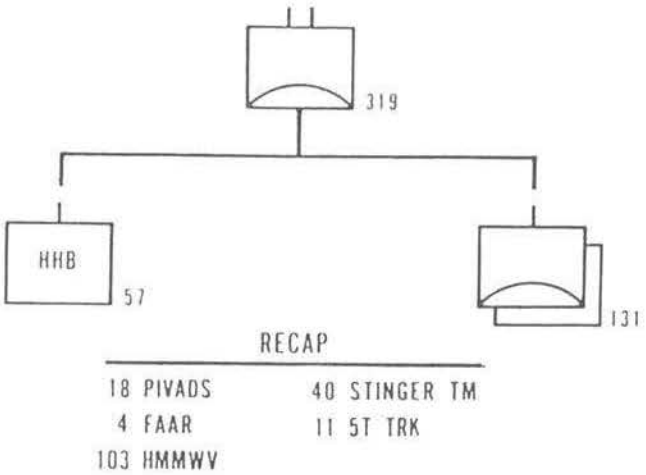
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 26
AOE LIGHT INFANTRY DIVISION
COMBAT AVIATION BRIGADE



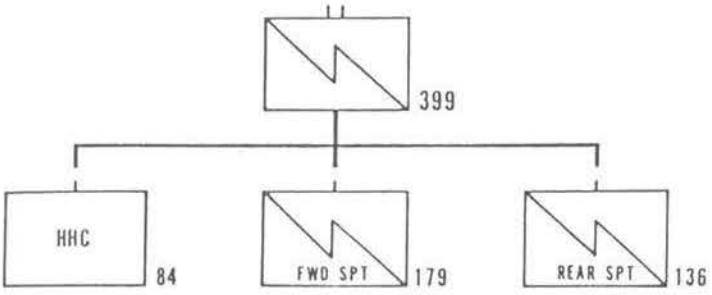
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 27
AOE LIGHT INFANTRY DIVISION AIR DEFENSE ARTILLERY BATTALION



Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 28
AOE LIGHT INFANTRY DIVISION SIGNAL BATTALION

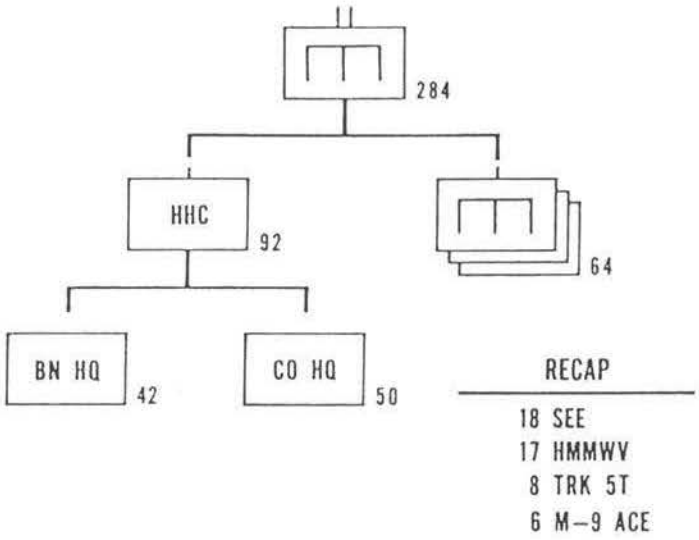


RECAP

73 CUCV	MSE –4 NODE CEN
90 HMMWV	2 CNTL FAC
8 MCHAN TROPO	17 EXT SW
2 MCHAN TACSAT	34 MCHAN LOS

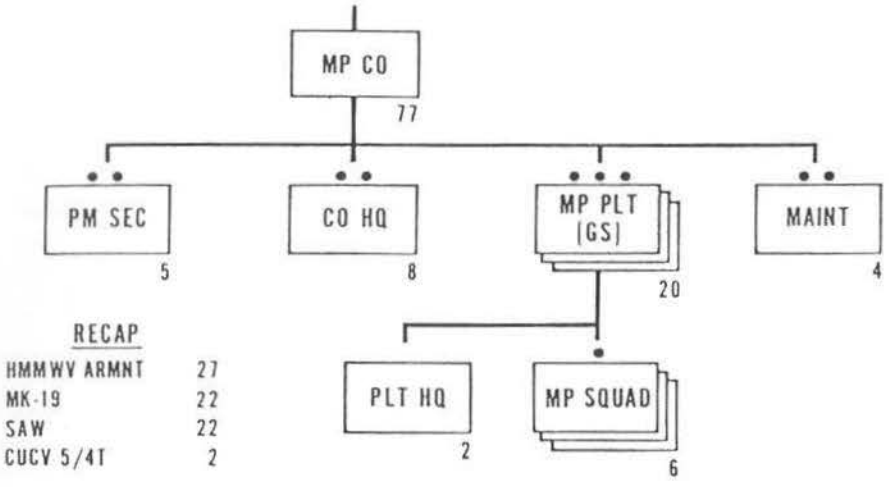
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 29
AOE LIGHT INFANTRY DIVISION ENGINEER BATTALION



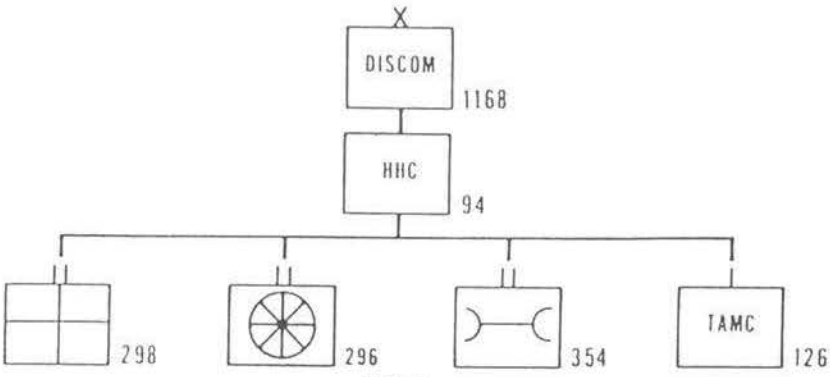
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 30
AOE LIGHT INFANTRY DIVISION MILITARY POLICE COMPANY



Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 31
AOE LIGHT INFANTRY DIVISION SUPPORT COMMAND

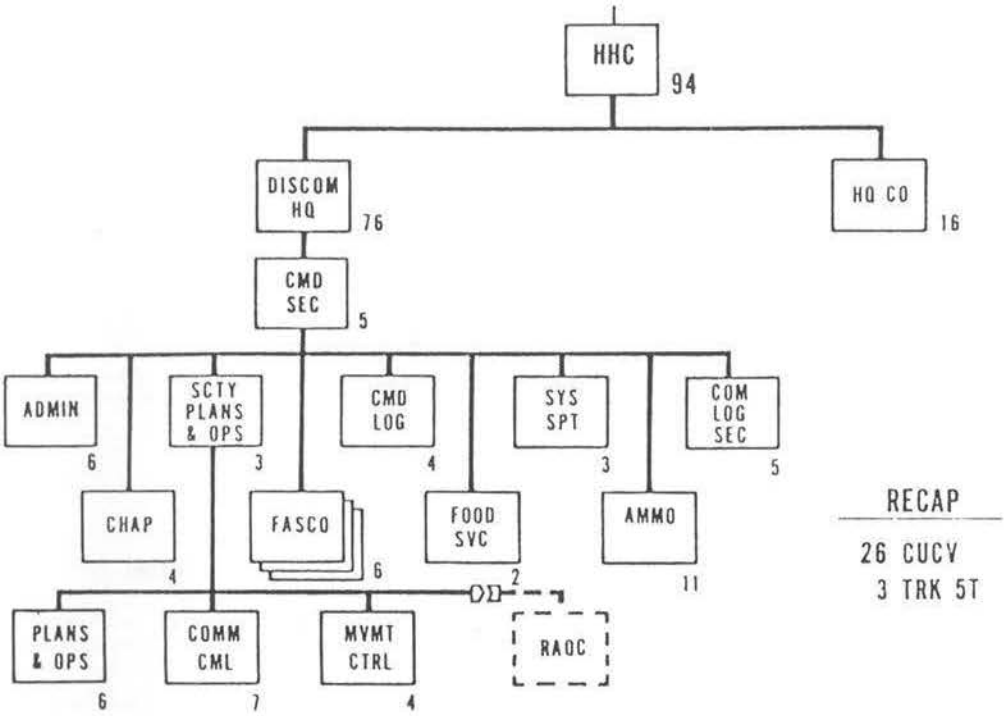


RECAP

129 CUCV	2 UH-60
84 HMMWV	35 MHE
103 TRK 5T	3 TRK FORKLIFT 4000 LB
9 TRK WKR 5T	18 SEMI TLR 221/2T
20 TRK TRAC 5T	4 SEMI TLR VAN

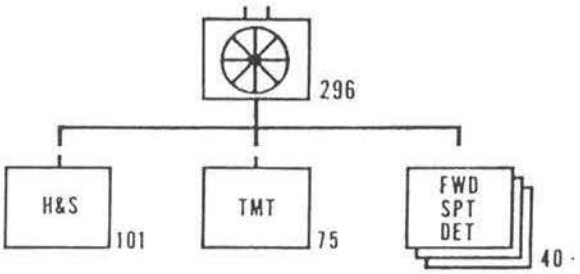
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 32
AOE LIGHT INFANTRY DIVISION DISCOM HHC



Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 33
AOE LIGHT INFANTRY DIVISION
SUPPLY AND TRANSPORT BATTALION

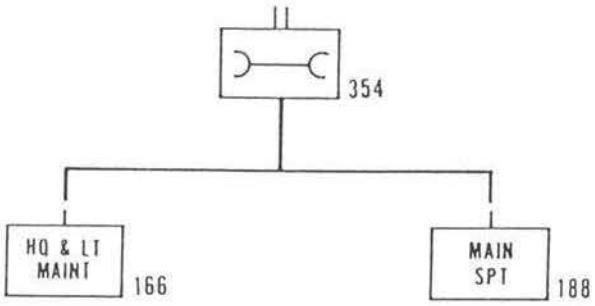


RECAP

18 CUCV	13 TRK TRAC ST
42 HMMWV	31 HI MOB MHE
41 TRK 5T	10 SEMI TLR 22 1/2T
1 TRK WKR 5T	5 BAGS 10,000 GAL

Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 34
AOE LIGHT INFANTRY DIVISION
MAINTENANCE BATTALION

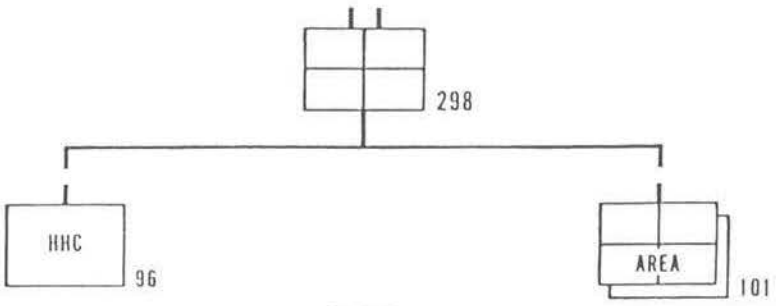


RECAP

42 CUCV
31 TRK 5T
46 SHELTER SHOP EQUIP

Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 35
AOE LIGHT INFANTRY DIVISION
MEDICAL BATTALION

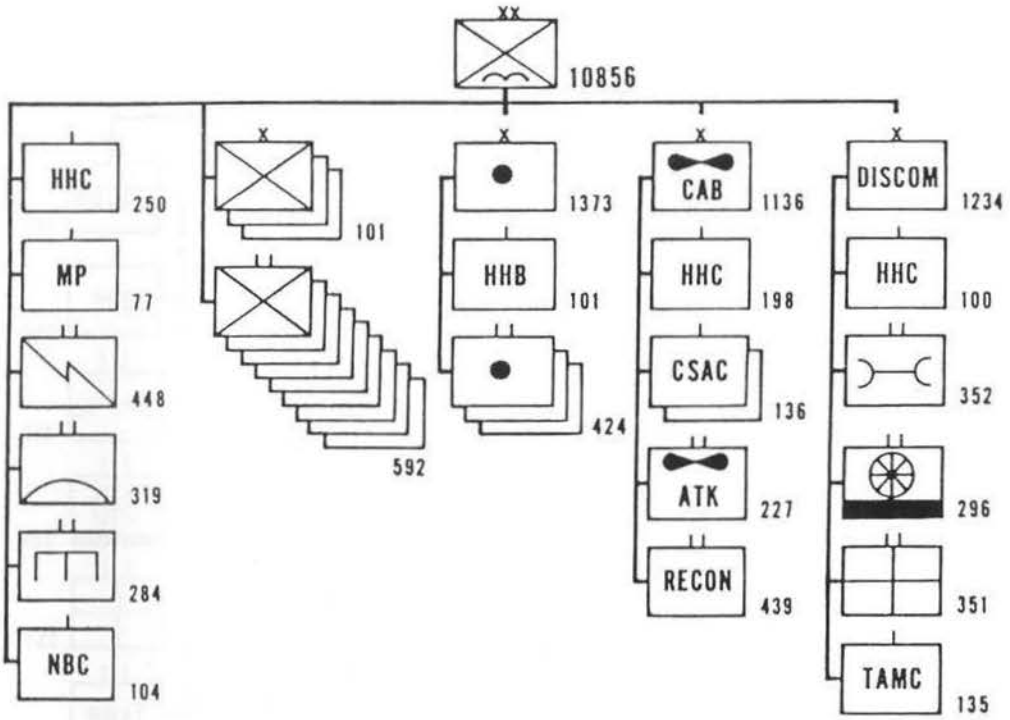


RECAP

24 CUCV
42 HMMWV AMBUL
21 TRK 5T

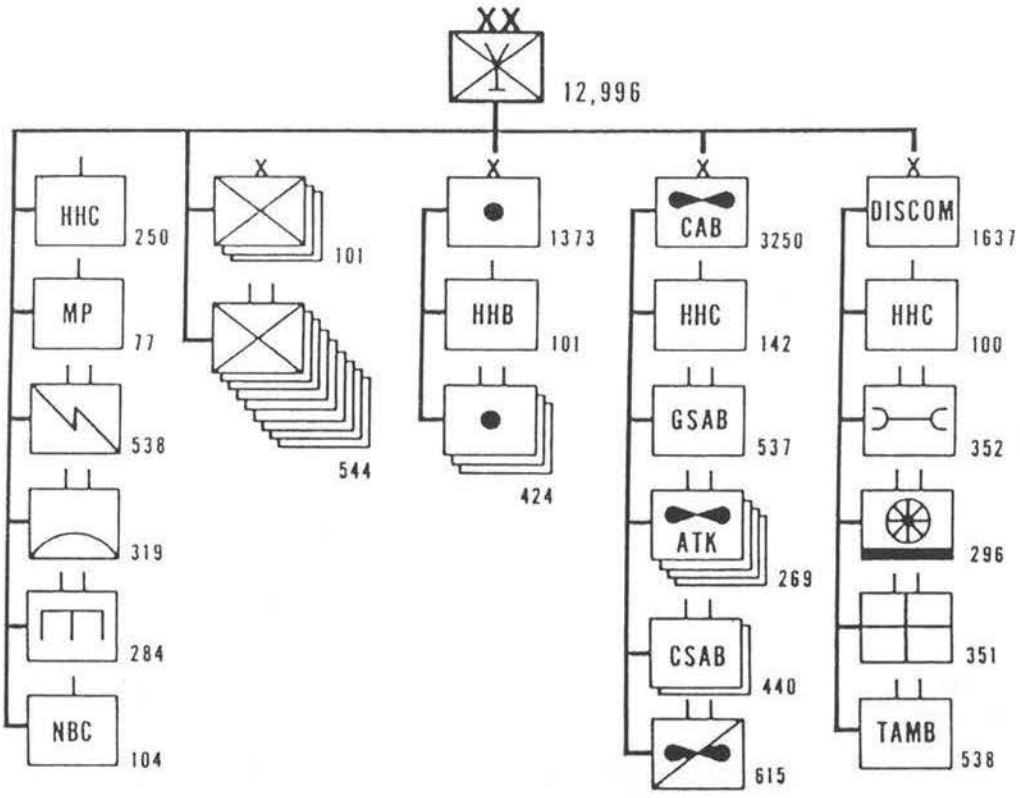
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 36
AOE LIGHT INFANTRY DIVISION (AIRBORNE)
October 1983



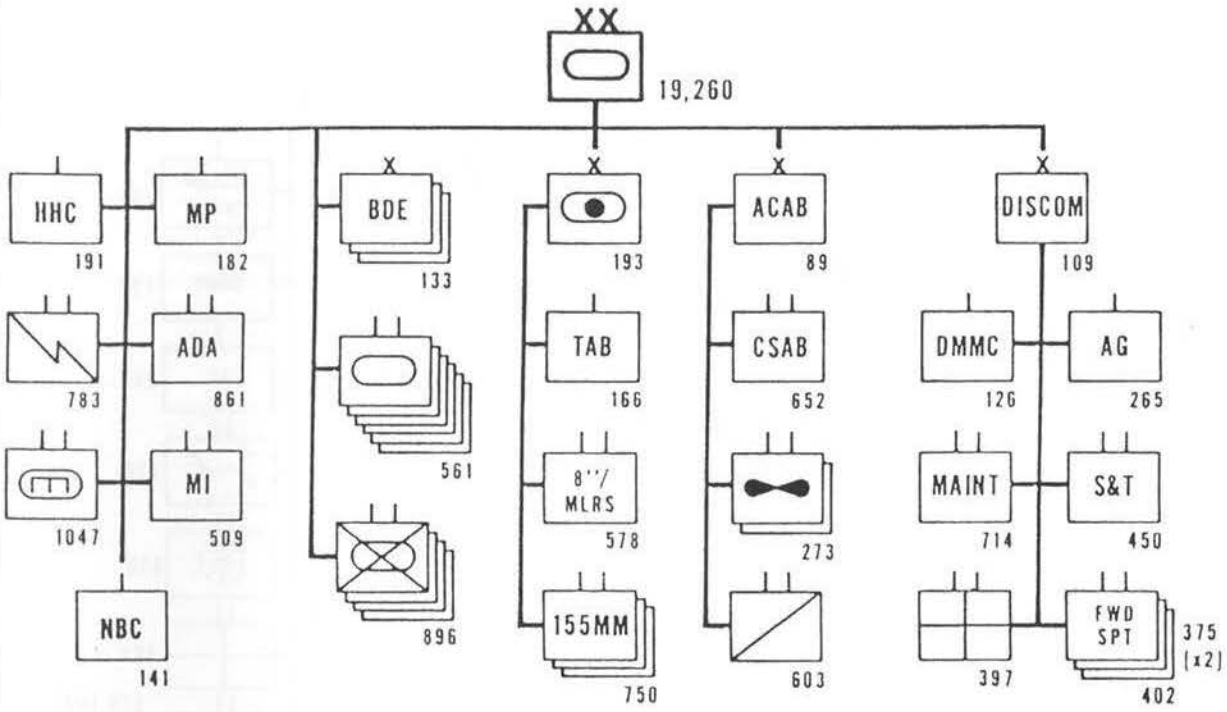
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 37
AOE AIR ASSAULT DIVISION
October 1983



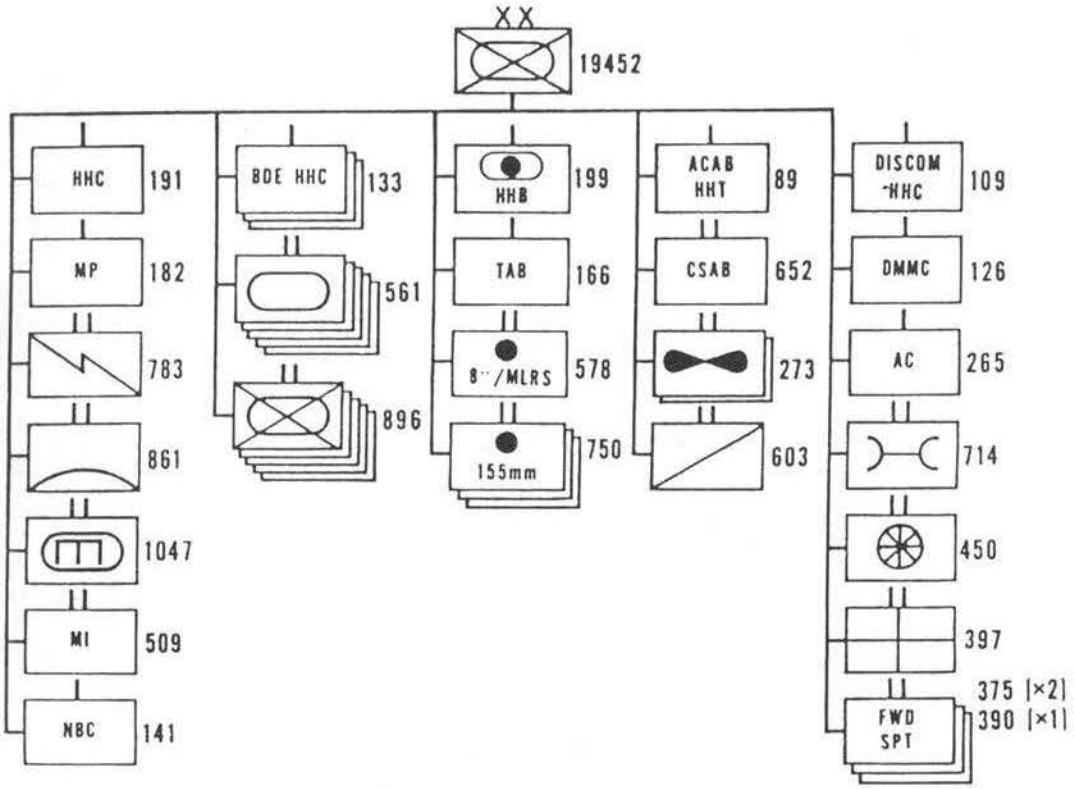
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 38
ARMORED DIVISION 86—1982



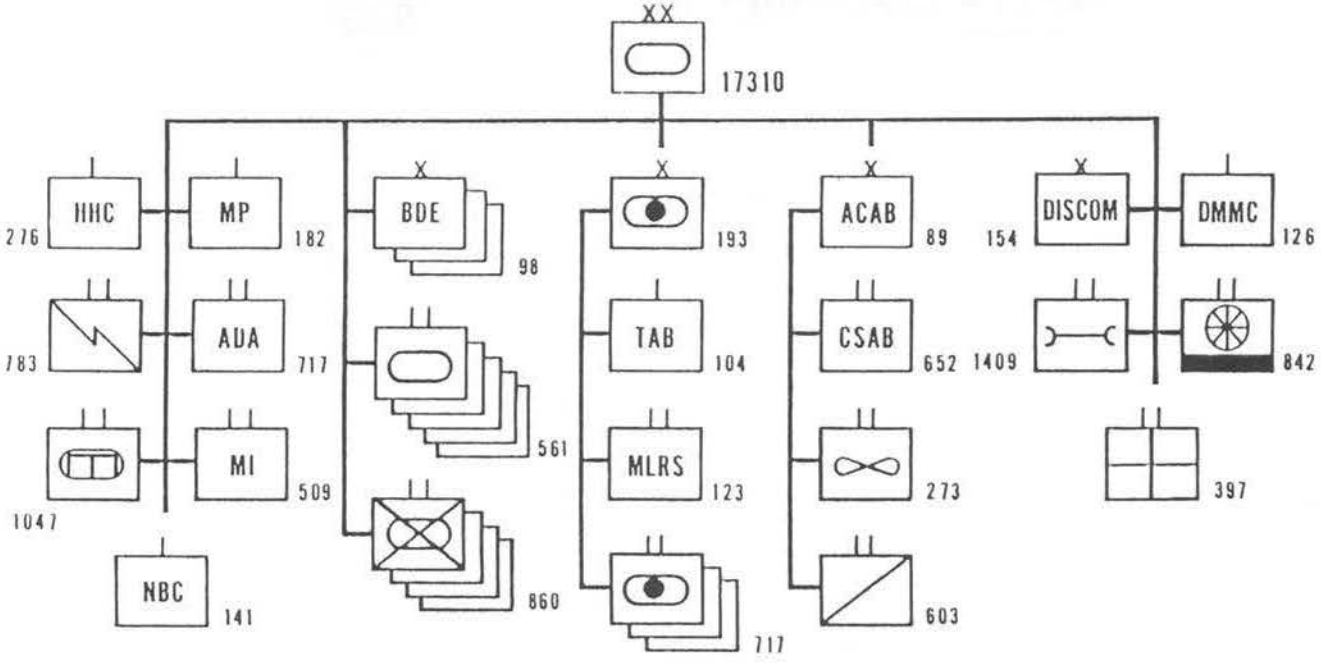
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 39
MECHANIZED DIVISION 86—1982



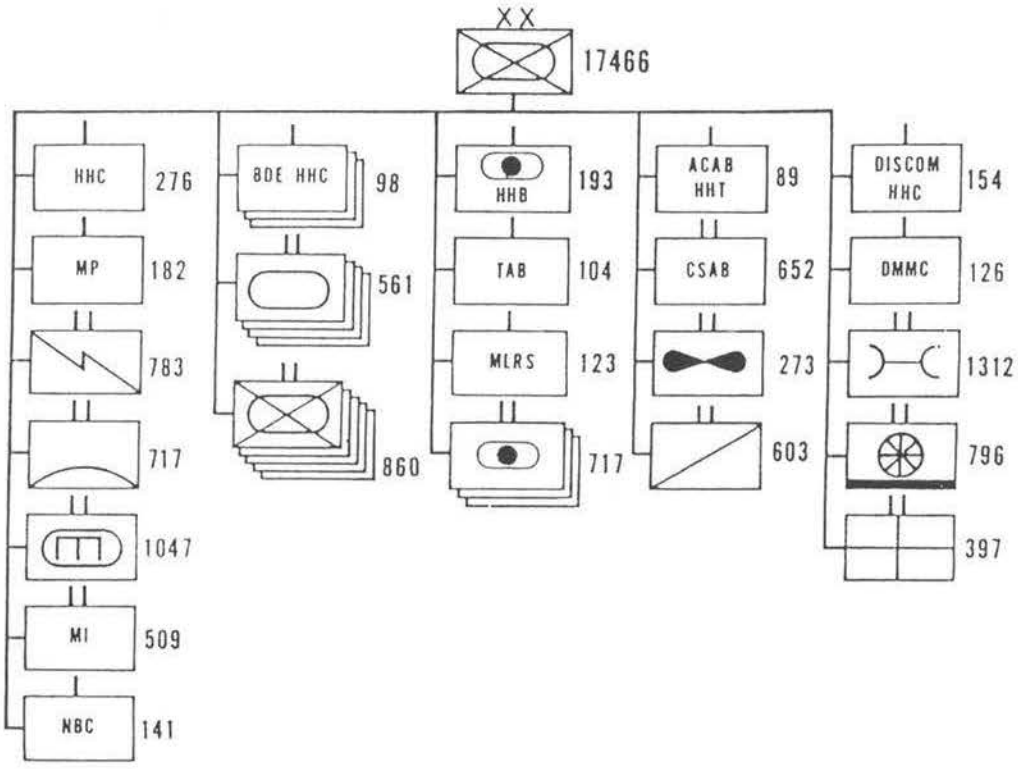
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 40
AOE ARMORED DIVISION 86
October 1983



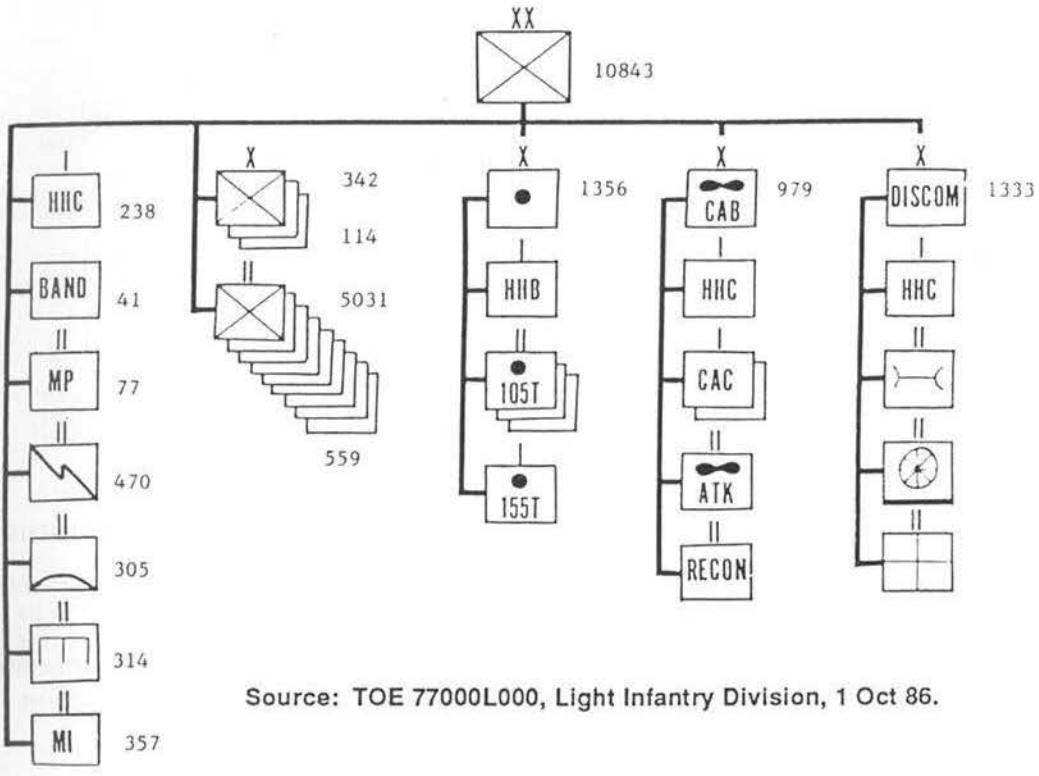
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 41
AOE MECHANIZED DIVISION 86
October 1983



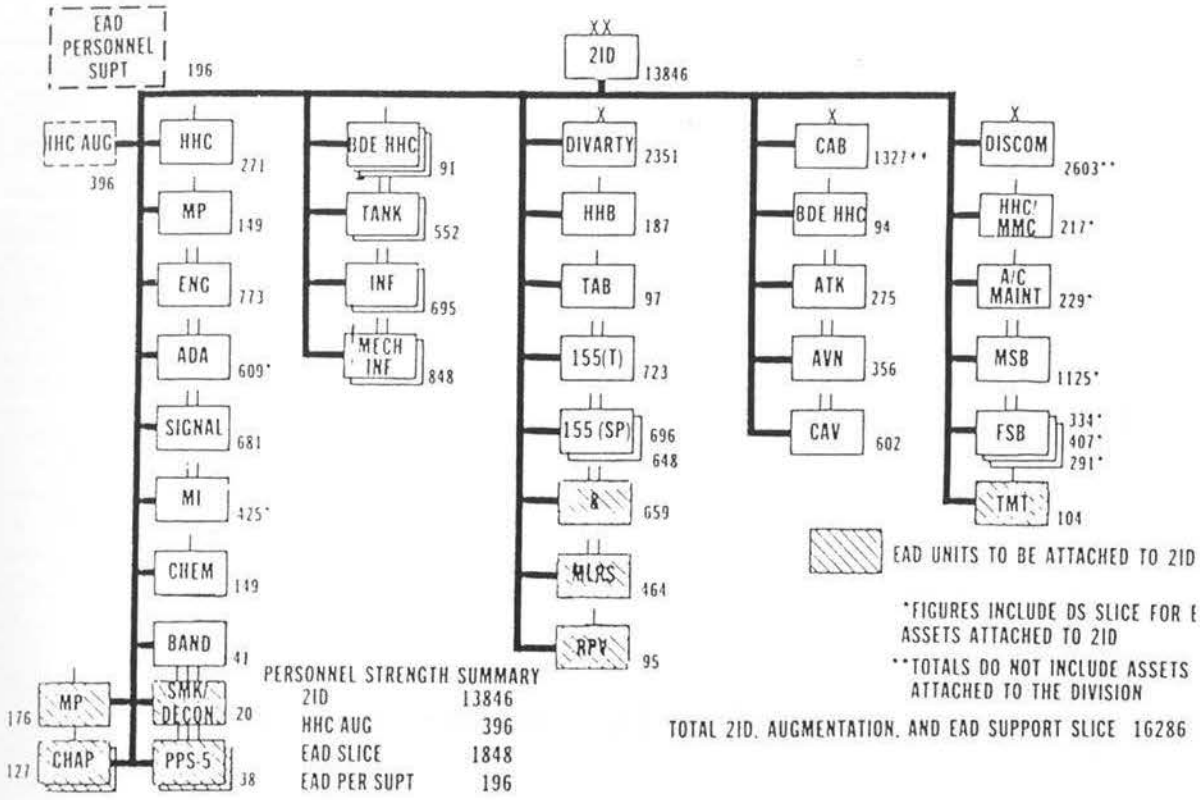
Source: Briefing presented to Army Commanders' Conference, HQDA, 20-21 Oct 83, the Army of Excellence, by HQ USACACDA, Force Design Dir. (SECRET—Info used is UNCLASSIFIED).

Chart 42
AOE LIGHT INFANTRY DIVISION
October 1986



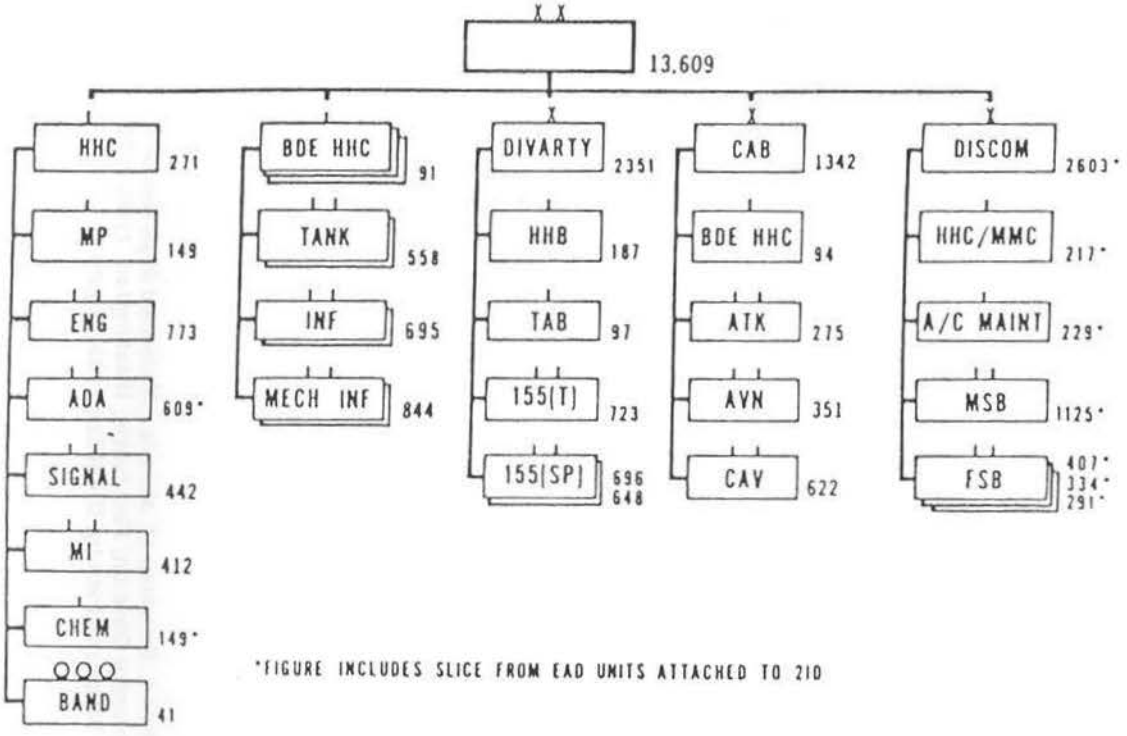
Source: TOE 77000L000, Light Infantry Division, 1 Oct 86.

Chart 43
2d INFANTRY DIVISION
November 1984 Design



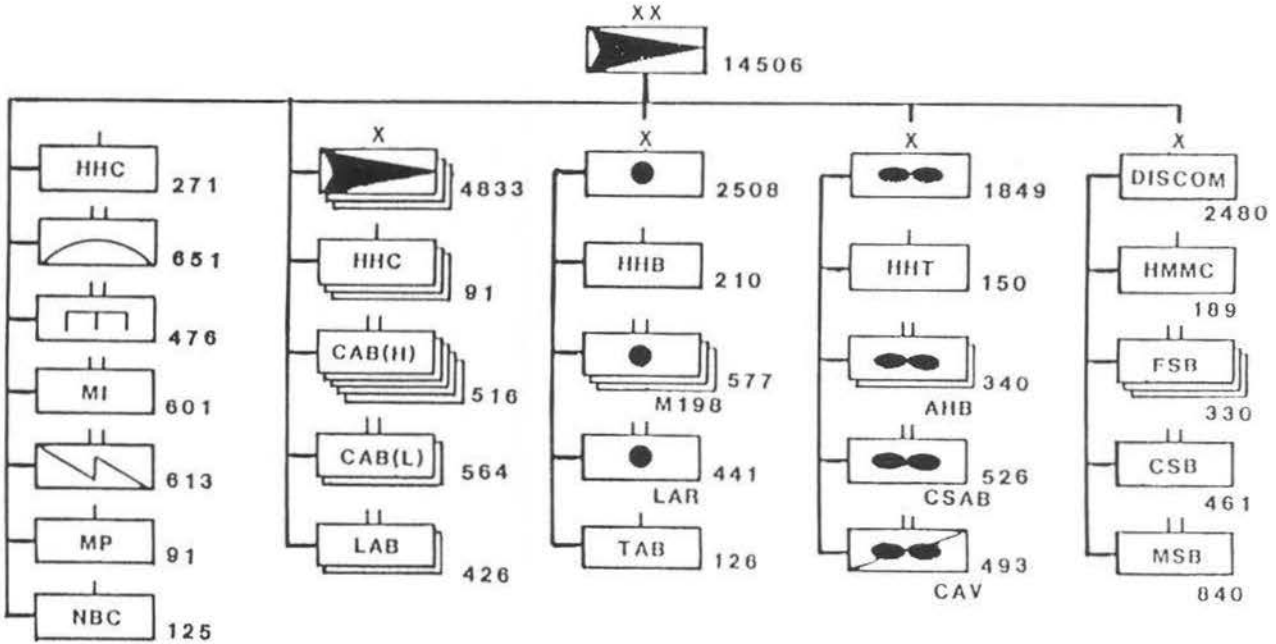
Source: Combat Developments Charts presented to TRADOC Commanders' Conference, 21 Nov 84.

Chart 44
AOE 2d INFANTRY DIVISION
1985



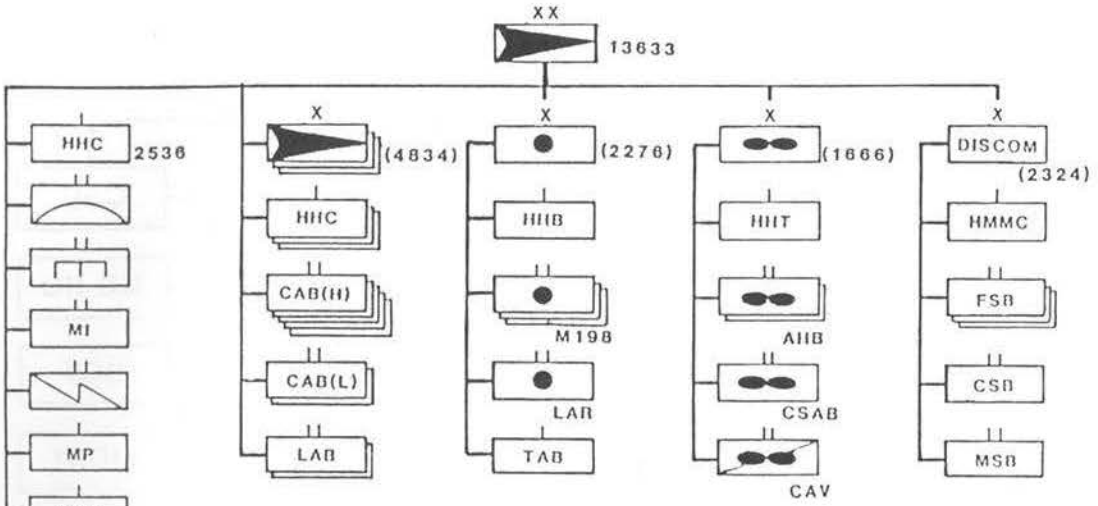
Source: CACDA Chart 84-7262, AOE 2ID. The AOE TOE developed by CACDA was not published.

Chart 45
HIGH TECHNOLOGY LIGHT DIVISION
December 1983



Source: Lt Col Stephen L. Bowman et. al., eds., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980-1989,* Fort Lewis, Wash.: HQ 9th Inf Div (Mtz), 1989, Figure 8.

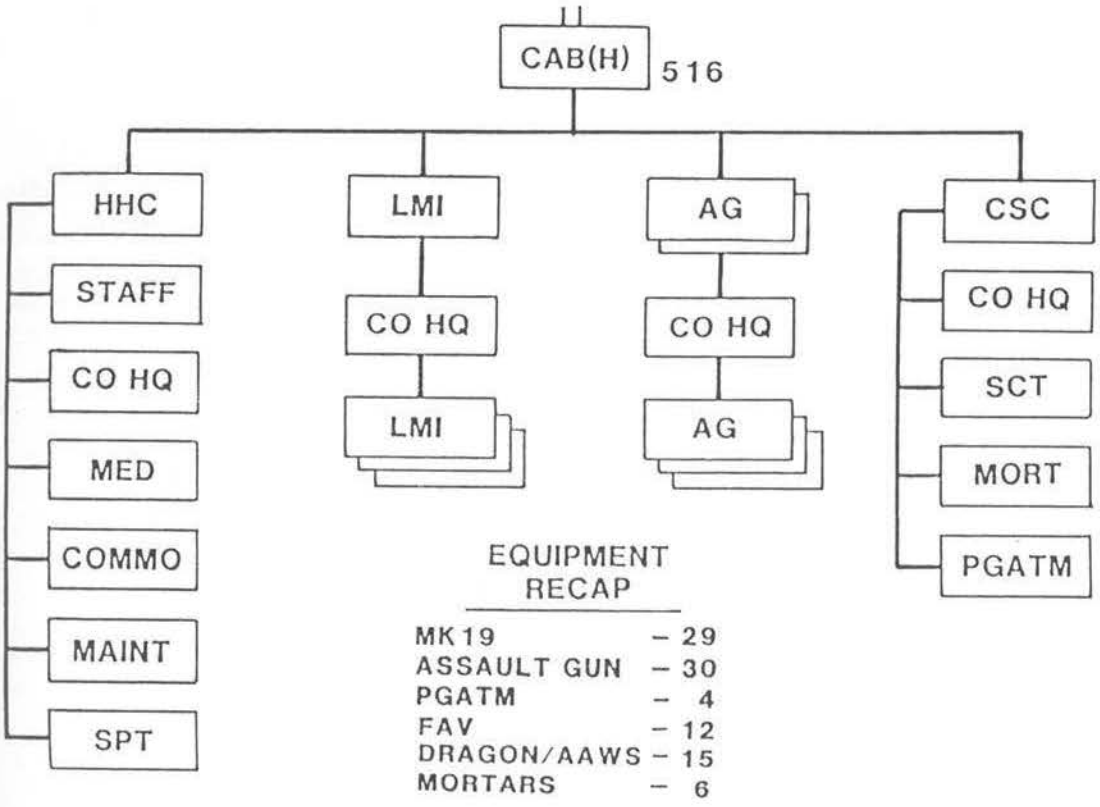
Chart 46
AOE 9th INFANTRY DIVISION (MOTORIZED)
0BJECTIVE DESIGN—December 1984



AGS	166	AH 64	36	M198	54
TOW II	54	AH 1S	8	M102	12
GLH	36	AHIP	40	MLRS	9
120mm	60	OH 58	22		
MK19	965	UH 60	47		
FAV	327	TOW II	12		

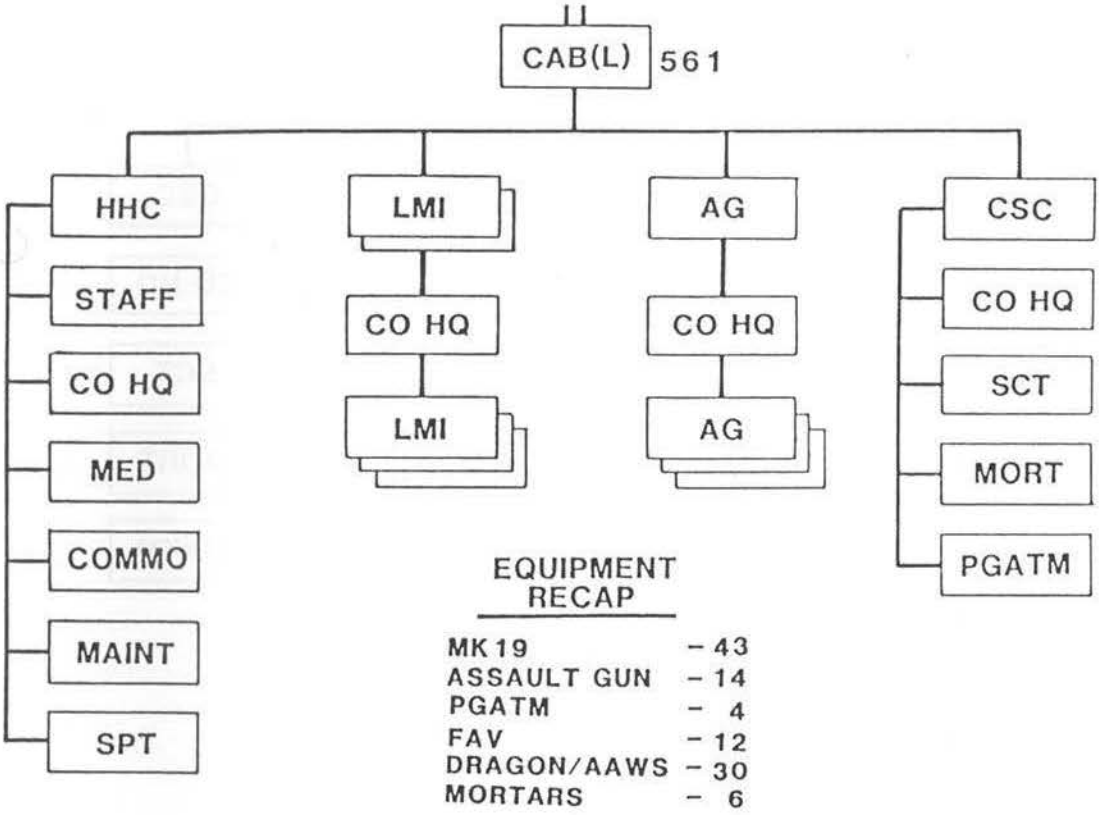
Source: Lt Col Stephen L. Bowman et. al., eds., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980-1989,* Fort Lewis, Wash.: HQ 9th Inf Div (Mtz), 1989, Figure 7.

Chart 47
OBJECTIVE HEAVY COMBINED ARMS BATTALION
9th INFANTRY DIVISION



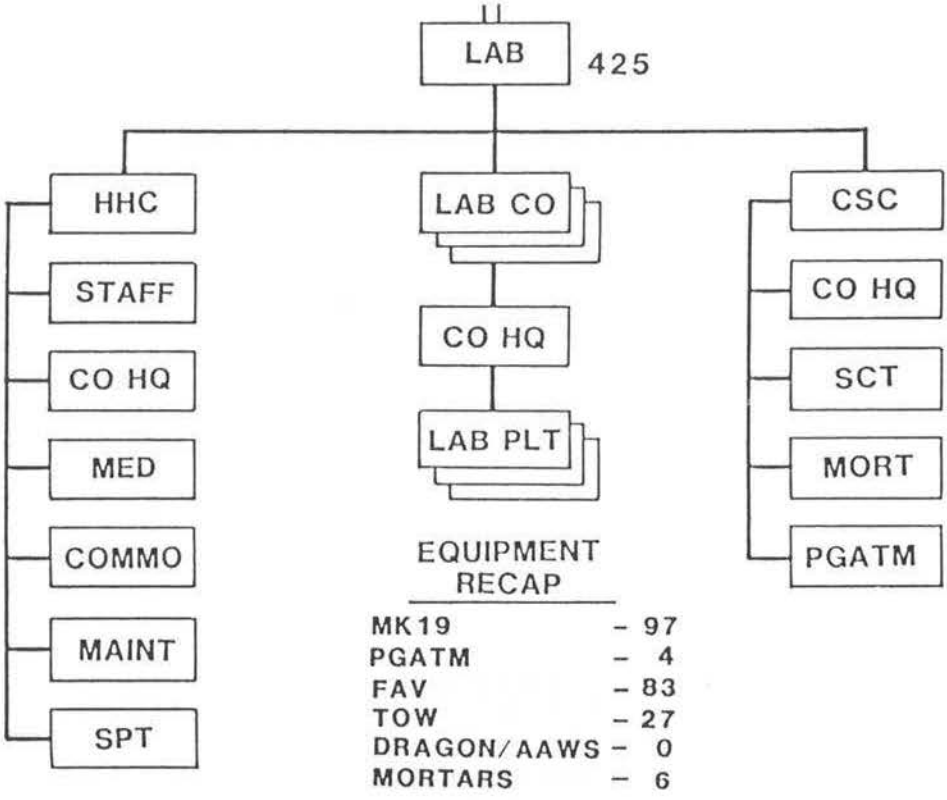
Source: Lt Col Stephen L. Bowman et. al., eds., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980-1989,* Fort Lewis, Wash.: HQ 9th Inf Div (Mtz), 1989, Figure 4.

Chart 48
OBJECTIVE LIGHT COMBINED ARMS BATTALION
9th INFANTRY DIVISION



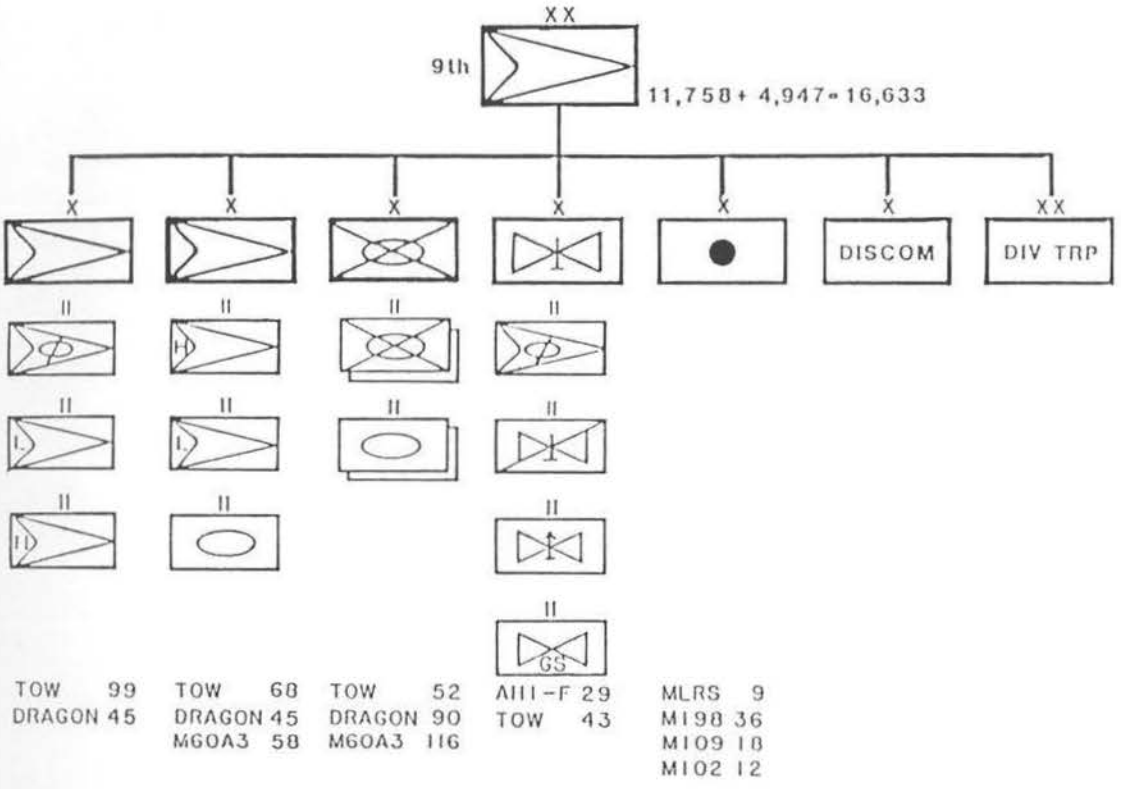
Source: Lt Col Stephen L. Bowman et. al., eds., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980-1989*, Fort Lewis, Wash.: HQ 9th Inf Div (Mtz), 1989, Figure 5.

Chart 49
OBJECTIVE LIGHT ATTACK BATTALION
9th INFANTRY DIVISION



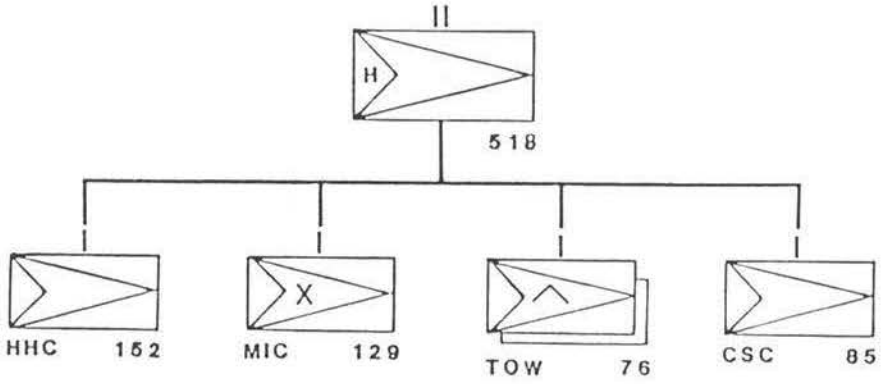
Source: Lt Col Stephen L. Bowman et. al., eds., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980-1989,* Fort Lewis, Wash.: HQ 9th Inf Div (Mtz), 1989, Figure 6.

Chart 50
AOE 9th INFANTRY DIVISION (MOTORIZED)
1988



Source: Lt Col Stephen L. Bowman et. al., eds., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980-1989,* Fort Lewis, Wash.: HQ 9th Inf Div (Mtz), 1989, Figure 13.

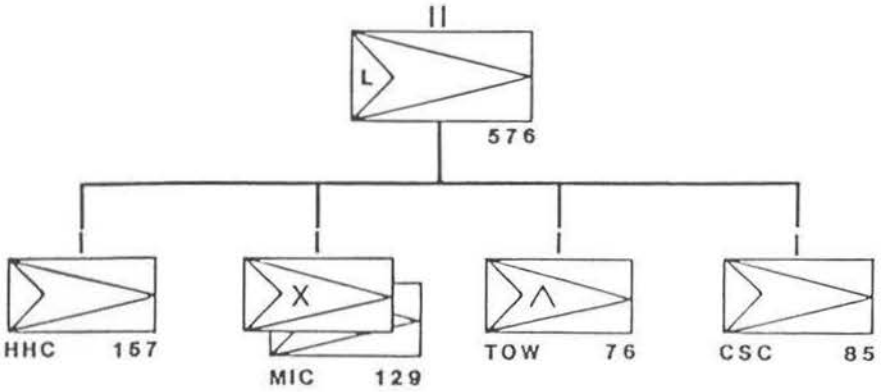
Chart 51
INTERIM COMBINED ARMS BATTALION HEAVY
9th INFANTRY DIVISION



44 - HMMWV TOW
67 - MK19 GMG
15 - DRAGON
6 - MORTARS, 107mm
9 - INF SQUADS

Source: Lt Col Stephen L. Bowman et. al., eds., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980-1989*, Fort Lewis, Wash.: HQ 9th Inf Div (Mtz), 1989, Figure 11.

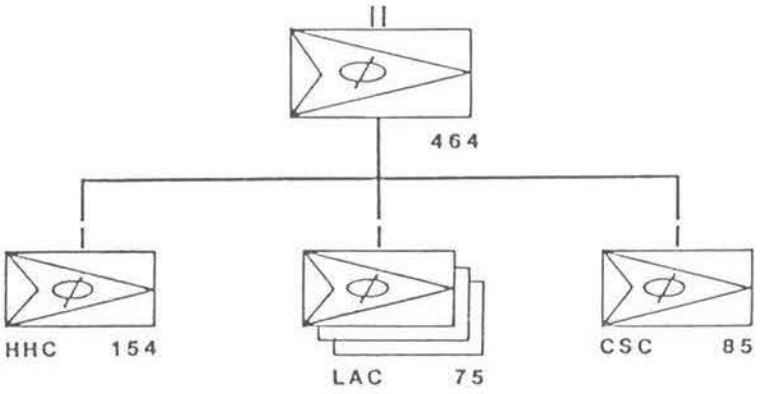
Chart 52
INTERIM COMBINED ARMS BATTALION LIGHT
9th INFANTRY DIVISION



24 - HMMWV TOW
75 - MK19 GMG
30 - DRAGON
6 - MORTARS, 107mm
18 - INF SQUADS

Source: Lt Col Stephen L. Bowman et. al., eds., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980-1989,* Fort Lewis, Wash.: HQ 9th Inf Div (Mtz), 1989, Figure 12.

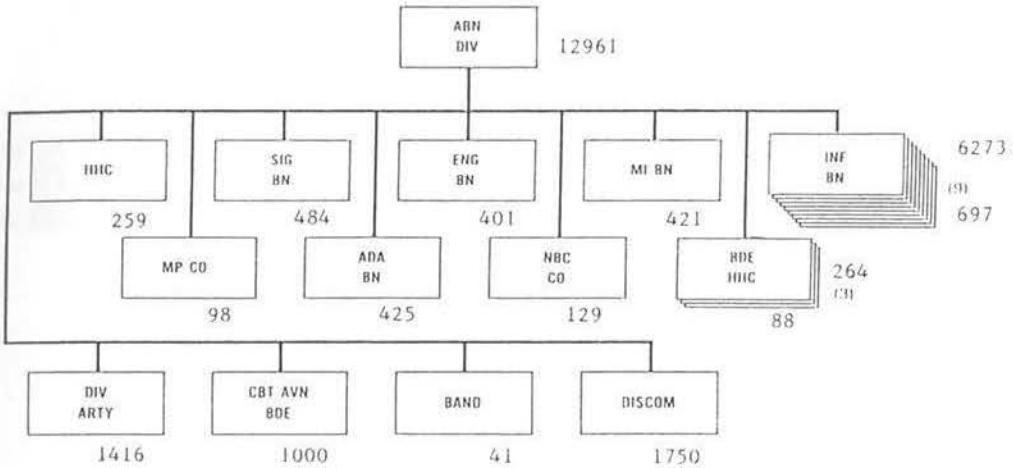
Chart 53
INTERIM LIGHT ATTACK BATTALION
9th INFANTRY DIVISION



31 - HMMV TOW
91 - MK19 GMG
6 - MORTARS, 107mm

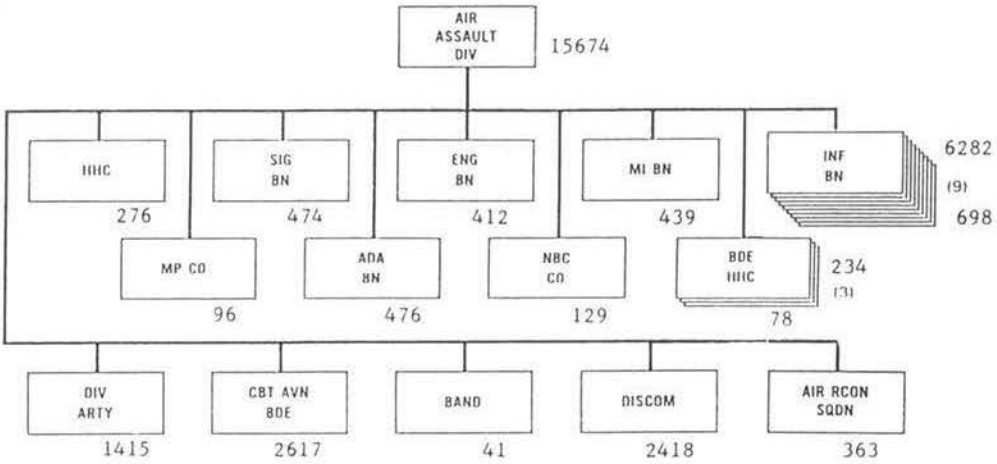
Source: Lt Col Stephen L. Bowman et. al., eds., *Motorized Experience of the 9th Infantry Division, Fort Lewis, Washington, 1980-1989,* Fort Lewis, Wash.: HQ 9th Inf Div (Mtz), 1989, Figure 10.

Chart 54
AOE INFANTRY DIVISION (AIRBORNE)
1985



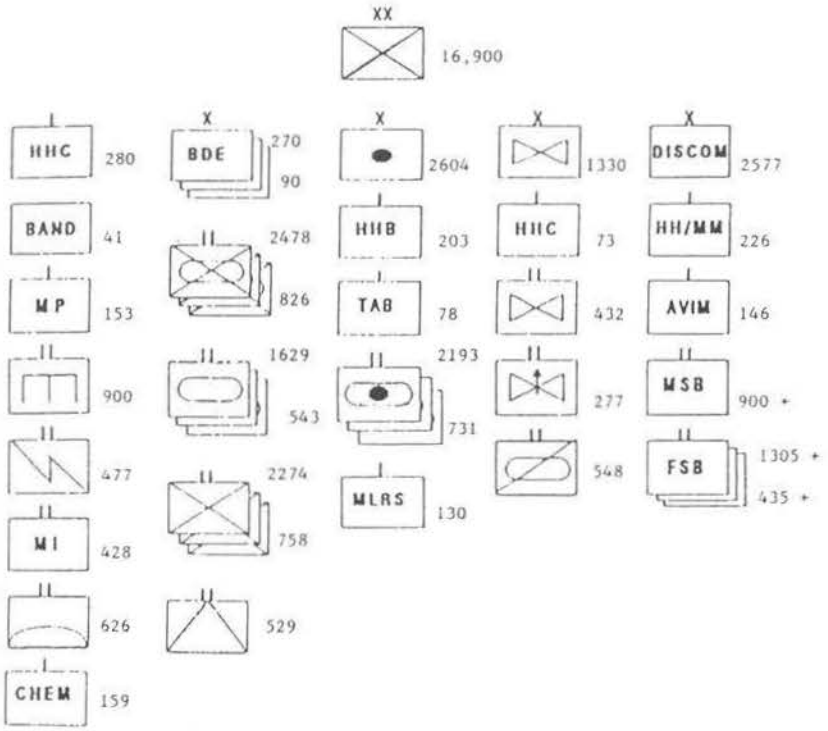
Source: TOE 57000L000, 1 Oct 85.

Chart 55
AOE INFANTRY DIVISION (AIR ASSAULT)
1987



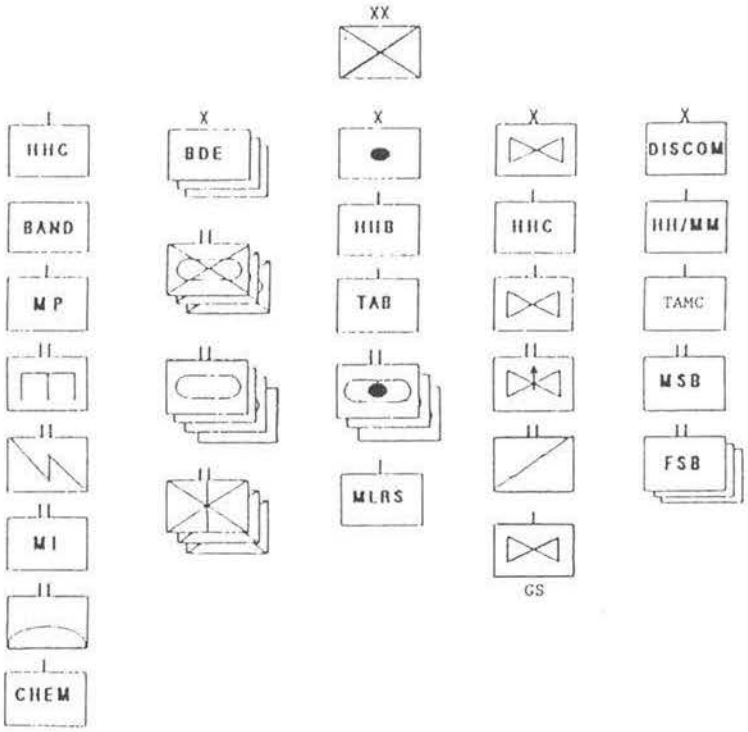
Source: TOE 67000L200, 1 Apr 87.

Chart 56
AOE INFANTRY DIVISION, ARMY NATIONAL GUARD
DESIGN—1988



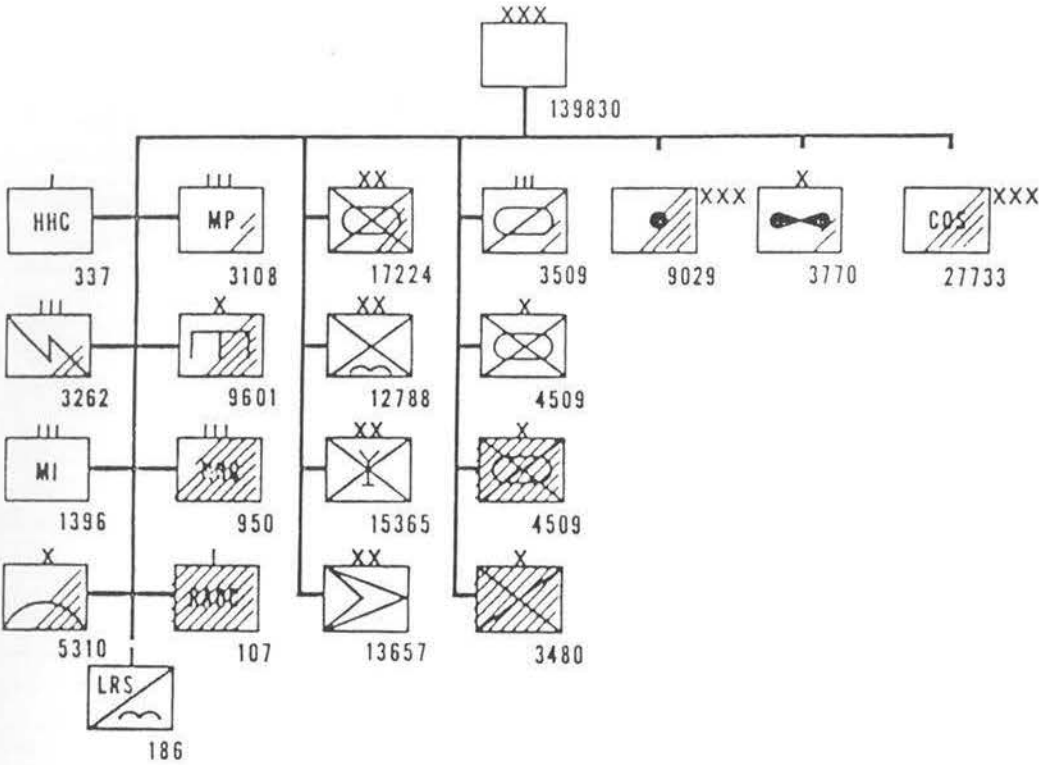
Source: AOE Semiannual Update Briefing for CSA, 8 Jun 88. The AOE TOE developed by CACDA for the Infantry Division, Army National Guard, was not published.

Chart 57
AOE INFANTRY DIVISION, ARMY NATIONAL GUARD
4/3/3 PREFERRED VERSION—1988



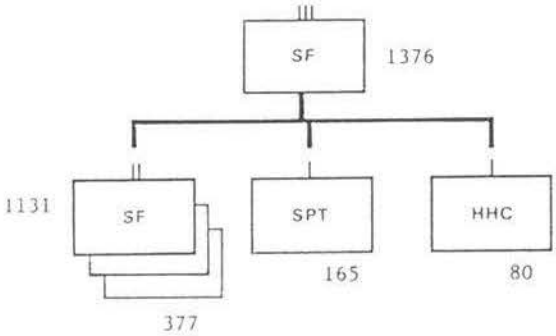
Source: National Guard Infantry Division Follow-on Study Charts, HQ USACADA

Chart 58
AOE LIGHT CORPS DESIGN
1985



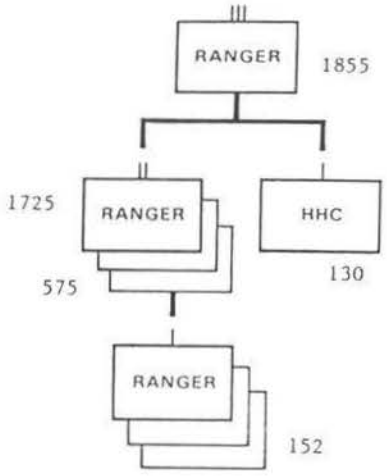
Source: CACDA Chart 84-7262, Proposed XVIII Airborne Corps. Hatch-Marks indicate Reserve Component fill. No Total-Corps TOE was published for the AOE Light Corps.

Chart 59
AOE SPECIAL FORCES GROUP (AIRBORNE)
1986



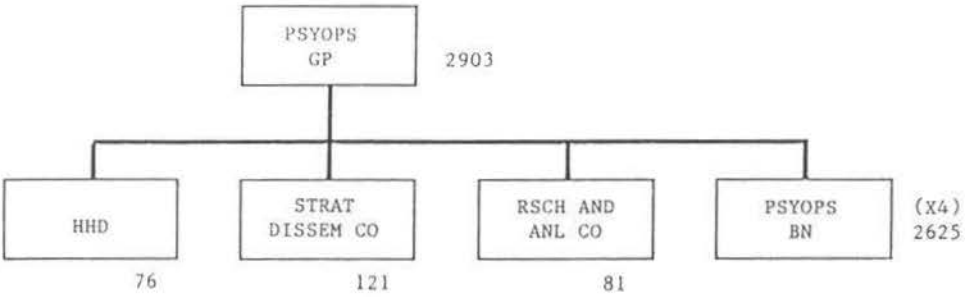
Source: TOE 31800L000, 1 Apr 86.

Chart 60
AOE RANGER REGIMENT
1986



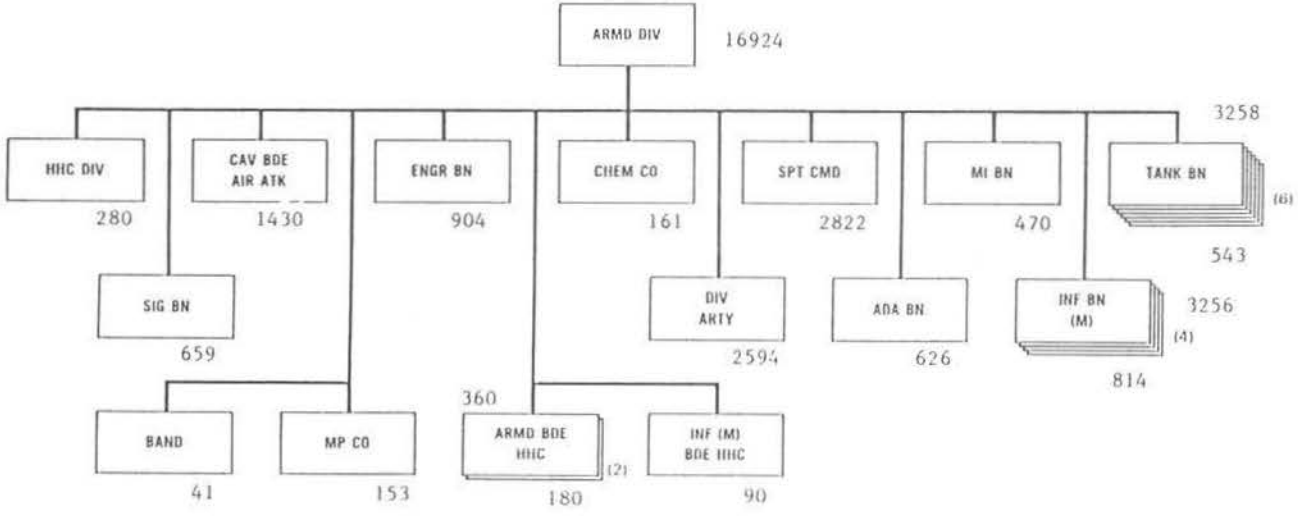
Source: TOE 07300L000, 1 Apr 85; TOE 07085L000, 1 Apr 86.

Chart 61
AOE PSYCHOLOGICAL OPERATIONS GROUP
1988



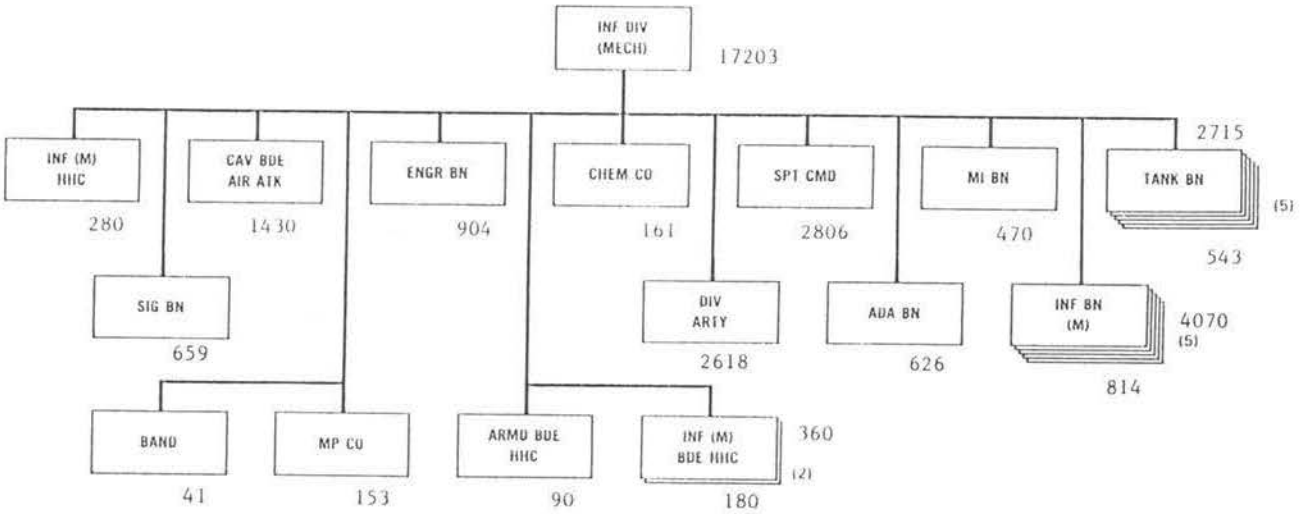
Source: TOE 33700L000, 1 Apr 88.

Chart 62
AOE ARMORED DIVISION
1986



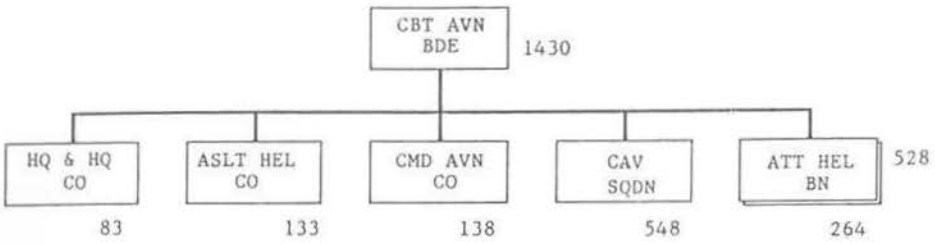
Source: TOE 87000L300, Armored Division, 1 Oct 86.

Chart 63
AOE INFANTRY DIVISION (MECHANIZED)
1986



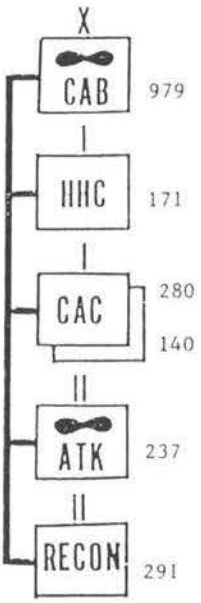
Source: TOE 87000L100, Infantry Division (Mechanized), 1 Oct 86.

Chart 64
AOE COMBAT AVIATION BRIGADE
HEAVY DIVISION
1986



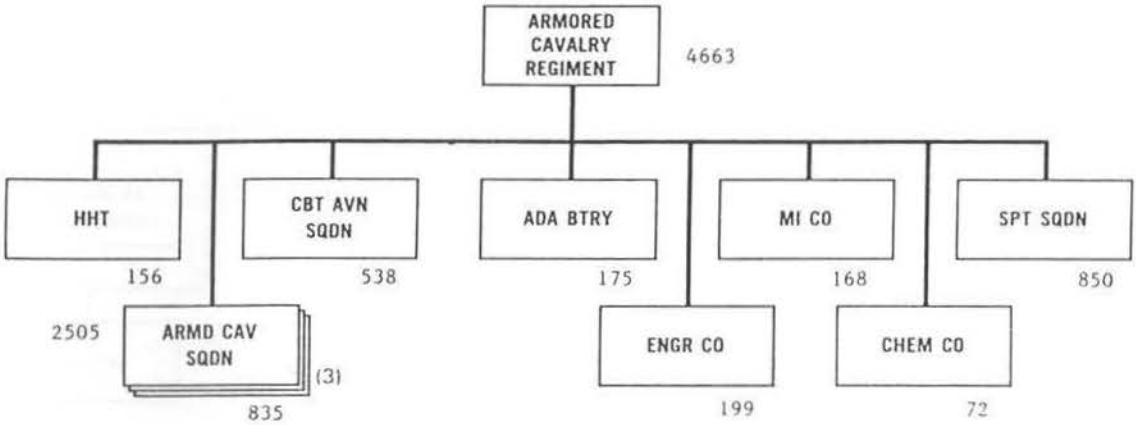
Source: TOE 01300L200, 1 Oct 86.

Chart 65
AOE COMBAT AVIATION BRIGADE
LIGHT INFANTRY DIVISION
1984



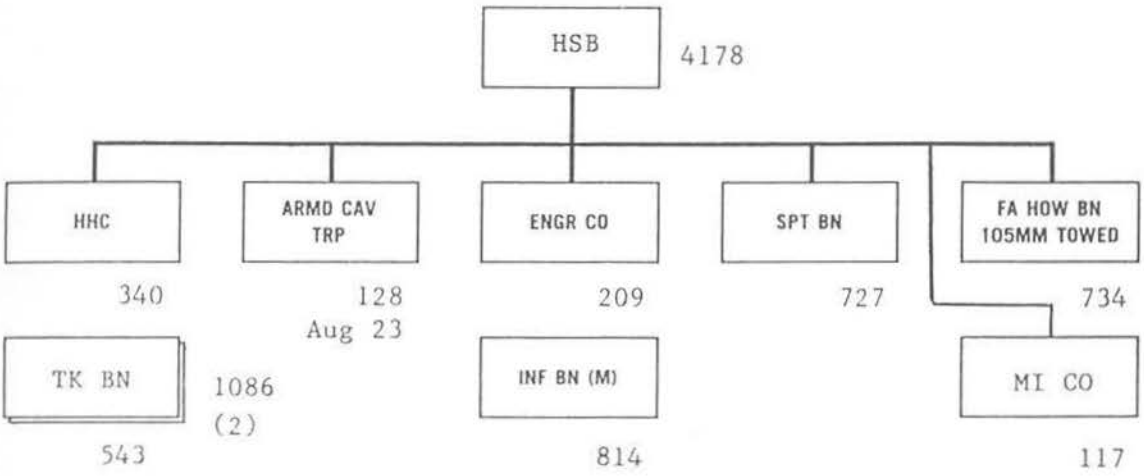
Source: TOE 01100L000, 1 Apr 84.

Chart 66
AOE ARMORED CAVALRY REGIMENT
1985



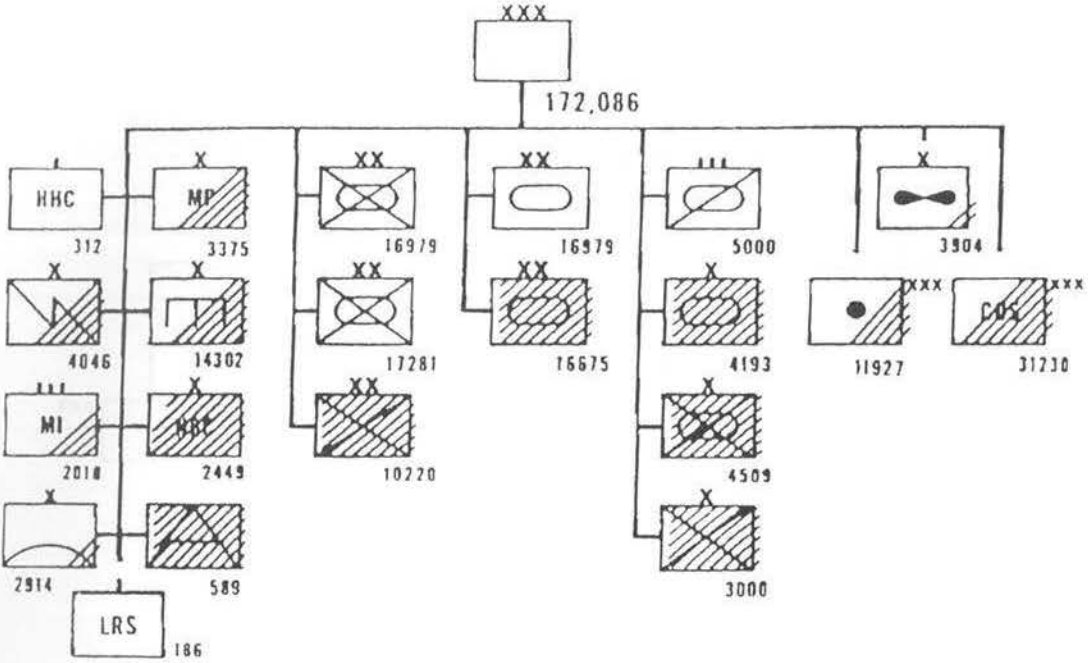
Source: TOE 017440L100, 1 Oct 85.

Chart 67
AOE HEAVY SEPARATE BRIGADE
1986



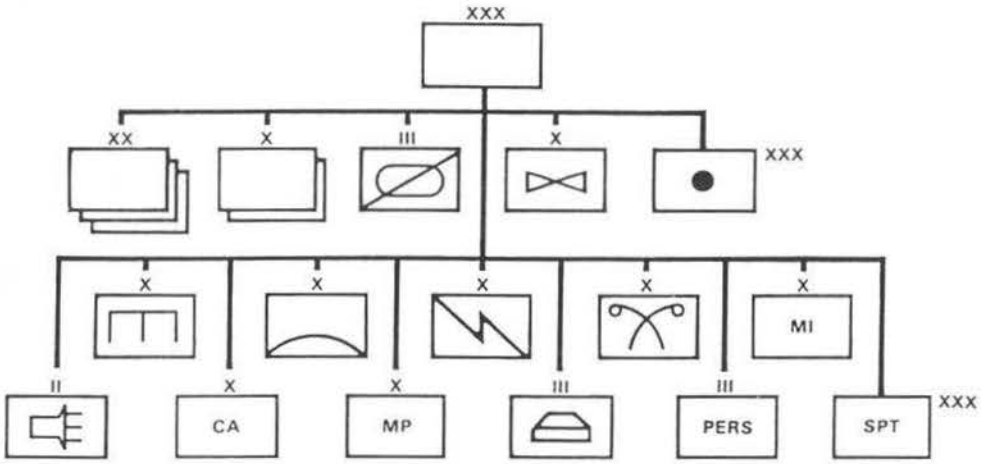
Source: TOE 87100L300, Heavy Separate Brigade, Armor Version, 1 Oct 86.

Chart 68
AOE HEAVY CORPS DESIGN
1983



Source: CACDA Chart 83-6505A, Alternative (AOE) Heavy Corps. Hatch-Marks Indicate Reserve Component Fill. No Total-Corps TOE was published for the AOE Heavy Corps.

Chart 69
AOE CORPS NOTIONAL DESIGN
1989



Source: FM 100-15, Corps Operations, 13 Sep 89, p. 2-3.

Appendix B

TABLES

Table 1
DIVISION SLICE—SOUTHWEST ASIA

	MECH DIV	AB DIV	AASLT DIV	LID	THEATER
DIVISION INCREMENT	17.5	10.9	13.0	10.0	12.9
NON-DIVISION COMBAT INCREMENT	7.8	7.9	7.9	8.0	7.9
TACTICAL SUPPORT INCREMENT	22.1	18.8	21.1	18.8	20.2
DIVISION SLICE	47.4	37.6	42.0	36.8	41.0

Source: CACDA Briefing, The Army of Excellence, presented to Army Commanders' Conference, HQDA, 20-21 Oct 83. (SECRET—Info used is UNCLASSIFIED)

Table 2
DIVISION FORCE EQUIVALENT

THEATER LEVEL	DI	NDCI	TSI	DFE
SWA	12.9	7.9	20.2	41.0
EUROPE	14.1	7.7	16.1	37.9
KOREA	10.0	8.3	15.3	33.6
ARMY LEVEL	13.1	7.5	16.1	36.7

Source: CACDA Briefing, The Army of Excellence, presented to Army Commanders' Conference, HQDA, 20-21 Oct 83. (SECRET—Info used is UNCLASSIFIED)

Appendix C

ARMY TACTICAL REORGANIZATION BIBLIOGRAPHICAL NOTE ON SOURCES

The best single source on the Army as an institution and the evolution of its tactical organization since the colonial period is Russell F. Weigley, *History of the United States Army*, Enlarged Edition (Bloomington: Indiana University Press, 1984). John B. Wilson's manuscript, "Divisions and Separate Brigades," projected to be published in the Army Lineage Series by the U.S. Army Center of Military History (CMH) in 1993 is a comprehensive study of U.S. Army tactical organization in the 20th century. In that series, John K. Mahon and Romana Danysh, *Infantry, Part I: Regular Army*, 1972, pp. 3–121, provides a history of the organization of the infantry into the Vietnam era. Glen R. Hawkins' manuscript, "United States Army Force Structure and Force Design Initiatives, 1939–1989," scheduled for CMH publication in 1993, is an analysis of the major force design and structuring studies and decisions since the beginning of World War II. Major Robert A. Doughty, *The Evolution of U.S. Army Tactical Doctrine, 1946-1976*, Leavenworth Paper No. 1 (Fort Leavenworth, Kan.: Combat Studies Institute, U.S. Army Command and General Staff College, August 1979) contains discussions of post-World War II and Cold War force changes up to the time when the Training and Doctrine Command assumed the Army force design mission. Capt. Jonathan M. House, *Toward Combined Arms Warfare: A Survey of 20th Century Tactics, Doctrine, and Organization*, Combat Studies Institute Research Survey No. 2 (Fort Leavenworth, Kan.: Combat Studies Institute, U.S. Army Command and General Staff College, August 1984) furnishes discussions of organizational change in the U.S. Army. See also Virgil Ney, *Evolution of the U.S. Army Division, 1939–1968*, Fort Belvoir, Va.: HQ U.S. Army Combat Developments Command, prepared by Technical Operations Inc., Combat Operations Research Group, January 1969. For the T/O of the World War I square division, see *Order of Battle of the United States Land Forces in the World War, American Expeditionary Forces: Divisions*, Vol 2 (Washington, D.C.: US Army Center of Military History, 1988) [facsimile reprint of 1931 edition], pp. 446–47. Marvin A. Kreidberg and Merton G. Henry, *History of Military Mobilization in the United States Army, 1775–1945* (Washington, D.C.: 1955) provides a

discussion of postwar changes to the World War I square division. Kent Roberts Greenfield, Robert R. Palmer, and Bell I. Wiley, *The Organization of Ground Combat Troops* in the Army Ground Forces series of the *United States Army in World War II* (Washington, D.C.: Historical Division, Department of the Army, 1947) is the comprehensive source for the World War II divisions. See also Palmer, Wiley, and William R. Keast, *The Procurement and Training of Ground Combat Troops* (Washington, D.C.: Office of the Chief of Military History, 1948), and Shelby L. Stanton, *Order of Battle, U.S. Army World War II* (Novato, Calif.: Presidio Press, 1984). A.J. Bacevich, The Pentomic Era: *The U.S. Army Between Korea and Vietnam* (Washington, D.C.: National Defense University Press, 1986) contains information on the pentomic formations. The background to the creation of the ROAD divisions, including discussions of the influential pentomic-era studies and those that immediately followed, may be found in E.F. Fisher, Jr., "Relationships of the ROAD Concept to Moral Considerations in Strategic Planning," OCMH Monograph No. 106S (unpublished study), 1964. See also Memo ATCG, Ghost [Lt Col George Dramis] to General [Donn A.] Starry, 16 May 79, subj: Historical Background on Three Versus Four Companies, in the TRADOC Historical Research Collection for an analysis of the origins of the ROAD reorganization. The new ROAD divisions are discussed, with charts, in Myles G. Marken, Sr., "The Atomic Age Divisions," in the September 1965 issue of *Army Information Digest*. See John L. Romjue, A *History of Army 86*, Vol. I, *Division 86: The Development of the Heavy Division, September 1978–October 1979*; Vol. II, *The Development of the Light Division, the Corps, and Echelons Above Corps, November 1979–December 1980* (Ft. Monroe, Va.: Historical Office, HQ TRADOC, 1982) for a documented account of the Army Training and Doctrine Command's force design work through 1980.

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