SELECTED PAPERS OF GENERAL WILLIAM E. DEPUY

Compiled by
Colonel Richard M. Swain







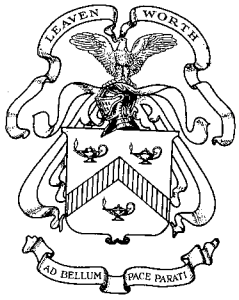
Combat Studies Institute
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas

TRADOC
Twentieth Anniversary Commemoration

The First Anniversary of the Founding of the
Gen. William E. DePuy
Chair of Leadership, USACGSC

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SELECTED PAPERS OF GENERAL WILLIAM E. DEPUY

First Commander, U.S. Army
Training and Doctrine Command, 1 July 1973

Compiled by
Colonel Richard M. Swain

Edited by
Donald L. Gilmore
and
Carolyn D. Conway

Combat Studies Institute
U.S. Army Command and General Staff College
Fort Leavenworth, Kansas 66027-6900

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INTRODUCTION

William E. DePuy was likely the most important figure in the recovery of the United States Army from its collapse after the defeat in Vietnam. That is a rather large claim, and it suggests a precedence over a number of other distinguished officers, both his contemporaries and successors. But it is a claim that can be justified by the test of the "null hypothesis": *Could the Army that conducted the Gulf War be imagined without the actions of General DePuy and those he instructed and inspired?* Clearly, it could not. There are few officers of the period about whom one can make the same claim.

To judge properly the accomplishments of General DePuy and his talented subordinates at the U.S. Army Training and Doctrine Command (TRADOC), one must understand the sense of crisis and defeat that pervaded the Army in the 1970s. By 1973, the United States had lost the war in Vietnam. Only the most optimistic or naive observer held out hope that the Geneva Accords would provide security for the Republic of South Vietnam. The U.S. Army was in a shambles, with discipline destroyed and the chain of command almost nonexistent. The "All Volunteer Army" was borne on a wave of permissiveness that compounded the problems of restoring discipline. Moreover, the Army was ten years behind its most likely enemy in equipment development, and it had no warfighting doctrine worthy of the name.

The 1973 Middle East War shocked the Army. In the midst of the post-Vietnam trials, the fundamental weakness of the U.S. Army was thrown into sharp relief against the graphic demonstration of the viciousness and cost of modern warfare as conducted on the Golan Heights and in the Sinai. The U.S. Army had to be taught to walk again before it could run, and there were plenty of critics willing to solve the larger, long-range problems before addressing the immediate task of reestablishing the Army's ability to perform the fundamentals of combat. No sophisticated operational task can be accomplished by an army that cannot fight, and there was little evidence in 1973 that the U.S. Army was capable of fighting a first-class enemy. That signal fact, together with the personal experiences General DePuy brought to his newly formed command, are critical to understanding many of the choices made by the Army in the mid-1970s.

With the able assistance of the commandant of the Armor Center, General Donn Starry, General DePuy wrenched the Army from self-pity and recrimination about its defeat in Vietnam into a bruising doctrinal debate that focused the Army's intellectual energies on mechanized warfare against a first-class opponent. Critics might argue correctly that the result was incomplete, but they ought not to underestimate how far the Army had to come just to begin the discussion. AirLand Battle Doctrine would not and could not have existed had the "active defense" not been imposed on the unwilling Army of 1976. Furthermore, given the climate of the mid-1970s, the focus on the Soviet threat across the inter-German border, and the press of ten years of lost time in equipment and intellectual development, the active defense was not a bad place to begin to build. Moreover, it remains to be seen what else but active defense a U.S. mechanized battalion or brigade could have employed in the 1970s against a Soviet breakthrough attack in Europe. Active defense was hardly a comprehensive solution, but it gave the Army a place to begin training while military metaphysicians began to read Clausewitz and Jomini and develop a more comprehensive and general approach to warfighting.

General DePuy also changed the way Army battalions prepared for war. He made the U.S. Army a doctrinal force for the first time in its history. Ably seconded by General Paul Gorman, DePuy led the Army into the age of the Army Training and Evaluation Program (ARTEP). The ARTEP was founded on no less than a Cartesian approach to combat operations, the idea that any complex battle task could be reduced to a set of precise actions that could be identified and against which the performance of soldiers and units could be evaluated against a standard. This approach was then combined with electronic devices at a piece of almost forgotten desert terrain in California, and the Army was on the way to creating the most effective battalion maneuver trainer in the world—the National Training Center at Fort Irwin, California.

The intellectual and training initiatives were joined, then, with a third concern of General DePuy's TRADOC: the development of a set of equipment requirements, with a concentration of effort on a limited number, ultimately called the "Big Five." The result was the suite of weapons that overmatched the Iraqis in Operation Desert Storm—Apache attack helicopters, M1 tanks, Bradley fighting vehicles, Patriot air defense missiles, and Black Hawk assault helicopters. In the mid-1970s, describing this equipment—equipment that was two generations removed from that which the Army was familiar—required forecasting a world ten to twelve years in the future and trying to train the Army to be prepared for its arrival. General DePuy championed the recruitment of a high-quality soldiery, an effort beyond his own significant responsibilities but, even so, one he never ceased to support and forward.

But General DePuy was not only a strong and effective commander of a large and complex organization during its early years. What makes him stand out for a historian is his intellectual strength and discipline. He stands apart from his peers as a man of both the sword and the pen. "The trouble with Bill DePuy," a former Pentagon colleague once told me, "was that he never realized how much smarter he was than the rest of us." General DePuy was marked by an unusually perceptive and highly disciplined and robust mind and, it is true, a certain impatience with those who could not keep up with him—and there were many. Unlike many general officers who bark out a few main points and leave the balance of any composition to harried staff officers, General DePuy often would take pen in hand and write much of his own work. The discipline of writing was one he observed most of his life. His papers are marked by an economy of words, precision of expression, and tightness of concept worth preserving and emulating. The power of the mind behind those words retained its influence over the men and women who followed him to the end of his life.

While General DePuy left no autobiography, he guided an autobiographical statement, his oral history, *Changing an Army*, edited by Lieutenant Colonels Romie L. Brownlee and William J. Mullen III, then students at the U.S. Army War College, Carlisle Barracks, Pennsylvania.[1] This work is a model of what oral history should be. General DePuy was clearly an active participant, and the document was passed between interviewers and subjects until it said precisely what the general intended. The draft transcripts now maintained with General DePuy's papers at the Army's Military History Institute (MHI) are indicative of the team effort involved.

The defining period of General DePuy's professional life was the time he spent in World War II as an infantry officer in the 90th Division. The 90th Division had a bad reputation in the Normandy campaign. Indeed, Omar Bradley considered disbanding the division in light of its poor performance. "In Normandy," DePuy wrote later, "the 90th Division was a killing machine—of our own troops!"[2]

Rising from staff positions to command the 1st Battalion, 357th Infantry, in the 90th, DePuy was wounded twice and decorated for valor four times, receiving the Distinguished Service Cross and three Silver Stars. He ended the war as a twenty-five-year-old infantry battalion commander. Soon after V-E Day, he was appointed division G3. His determination that the U.S. Army not repeat the experience of the 90th Division marked the rest of General DePuy's long and influential career. His interests were many, but he continued to think and write about war at the cutting edge and how he could make the tactical Army more effective.

The collection that follows contains a number of pieces selected precisely because they indicate this fundamental interest in the nature of the tactical fight. The first two entries, "Mission Complete!" and "The Guide to Competence" are training pamphlets written by General DePuy when he commanded the 2d Battalion, 8th Infantry, in 1954. These pamphlets, written after both his wartime battalion command and two years of testing infantry units in Germany and Austria, laid the foundation for General DePuy's simplified battle drills. He refined the ideas developed in these years in a March 1958 essay, "11 Men 1 Mind," published in *Army* magazine.

The article "11 Men 1 Mind" is one of General DePuy's seminal works. Aside from introducing a common sense approach to battle drills (traveling, overwatch, and bounding overwatch), the author provides a concept of the infantry squad that is unique in its explicit statement of the centrality of submerging individual consciousness into a practical group identity. DePuy recognized an often overlooked truth that the infantry squad, composed of independent thinking men, is in fact one of the most complex organizations in war, one that deserves its own theoretical frame of reference. He called the squad "an idea shared by a group of men" and emphasized the central importance of a common purpose uniting these independent players into a team. The essay was in fact a critique of the highly stylized minor tactics then contemporary, a tactical formalism that survived well into the period of the war in Vietnam.

Years later, in 1988, General DePuy would write a second essay of equal importance, "Concept of Operations: The Heart of Command, the Tool of Doctrine." This essay was also published in *Army* and like "11 Men 1 Mind" emphasized the importance of sustaining a common idea throughout any complex organization—be it the infantry squad or a fighting corps. The central problem now was the complexity of the task. Combat, General DePuy concluded, had become very complex precisely because of "the multiplication of battlefield functions." He showed this expansion in a figure that suggested that the eleven principal battle functions of Clausewitz' day had become thirty by the day of AirLand Battle. To harmonize the functions, he provided both the intellectual device—a well understood set of "nested" concepts—and a mechanical tool—the "synchronization matrix"—a device suggested in a 1984 *Army* essay, "Toward a Balanced Doctrine."

General DePuy's concern for the complexity of the battlefield and the need to harmonize the elements of combat power to achieve tactical synergy remained with him to the end of his life. In his testimony before the House Armed Services Committee in December 1990, he attempted once more to convey the difficulty of battlefield synchronization to those who had never been confronted with the task. Sadly, they seemed not to understand. Nonetheless, in the Army headquarters of the Gulf War, the synchronization matrix was a ubiquitous planning tool, perhaps the most practical physical evidence of the direct intellectual influence General DePuy exercised over the Army that fought in Desert Storm.

General DePuy had gained his earliest appreciation for battlefield complexity and the consequent need for synchronization of systems as a battalion commander in the 90th Division. In his discussion of World War II combat in his oral history, he made clear that what he came to call *synchronization* did not mean an abandonment of maneuver.[3] Rather, it was the skillful and timely use of all available fire resources to *enable* maneuver. In the case of World War II combat, the response to complexity involved the use of suppressive fires from both organic direct and supporting indirect fire systems. These ideas were reinforced in the late 1950s and early 1960s when he commanded a battle group in Germany. Later, in Vietnam, he elevated the idea to the division. He skillfully coordinated all combat and combat support systems horizontally and vertically to enable him to respond to contact with the elusive enemy immediately upon location.[4]

Ultimately, he found the highest expression of this idea in the Israeli experience in Lebanon. Here, synchronization was raised to the level of an Army's relentless attack. General DePuy described this most effectively in a book review of Chris Bellamy's *The Future of Land Warfare*, published in *Parameters* in December 1987. He compared, unfavorably, the early 1980s fascination with the metaphysics of *Auftragstaktik* and Israeli practice in the Bekaa Valley. To anyone reading both "The Concept of Operations" and the *Parameters* review, it is clear that synchronization was a necessary preliminary to creative execution—not a rigid substitute for imagination. The common concept would provide purpose and direction; synchronized actions—discipline and simple well-understood battle drills—would create a more effective whole. The "Concept of Operations" article expanded on the "11 Men 1 Mind" article, emphasizing in the most pronounced manner the centrality of the governing idea in cooperative warfighting.

The Israeli experience influenced General DePuy's writing from the time he arrived at TRADOC until he died. It is not surprising that it did. The U.S. Army came out of Vietnam dispirited and lacking focus. It expended a great deal of energy adapting to an all-volunteer force as conscription became a late casualty of an unpopular war. At the same time, it was apparent to any who thought about it that the Army's future was not in direct involvement in rural insurgencies. The immediate strategic problem was the Soviet threat to Western Europe that had intensified while U.S. energies were directed elsewhere. War in Europe, should it come, would involve heavy combat by mechanized and armored forces, with the NATO allies at a great numerical disadvantage.

Just as this began to become clear, the 1973 Arab-Israeli War occurred and provided what seemed to be a metaphor for the NATO tactical problem: forward defense on a high-technology battlefield by an outnumbered force. Almost immediately, General DePuy, now commanding the new Training and Doctrine Command, began a detailed study of the Israeli experience. References to the Israelis run through his papers. The best summary of what he believed was to be learned from this conflict can be found in the briefing he gave around the Army, "Implications of the Middle East War on U.S. Army Tactics, Doctrine and Systems." The edition of that briefing found here is undated, but it is printed with the 1974 selections that address the TRADOC study upon which it was founded and the early conclusions drawn from TRADOC's study of the Israeli experience.

The external influence on General DePuy second only to that of the Israelis was the German one. There were two reasons for this. First of all, the Germans had fought the Soviet armies thirty years earlier, and many veterans of those battles remained alive and active. General DePuy

retained a life-long respect for the professional skill of his World War II enemies. Second, the new American doctrine had to satisfy those who provided the largest army on the central front in Europe. Reference to German expertise and concern for the compatibility of U.S. and German doctrine mark the General's letters in the 1970s.

Unlike General DePuy's published papers, whose selection was fairly easy, the official papers from General DePuy's tenure as founding commander of TRADOC required a certain amount of discretion. In that regard, this volume represents an attempt to collect under one cover selected documents that address the general's principal concerns and that seemed, for one reason or another, to have his "finger-prints" on them (recognizing that general officers have around them a number of people to compose their epistles). Some of the selections were obvious. No collection would be complete without the famous "Pot of Soup" letter of July 1974 that solicited the views of the various Army "communities" on warfighting. An identical letter was sent to each school commandant, initiating the undertaking of doctrinal reform. The "Draft Concept Paper" that accompanied the letter follows, though there is no way from the archives to tell if it is the edition that first went out. A number of the documents were easy to identify as the general's. These were handwritten on yellow legal pads and generally show both the date and "Highfield," the DePuy home in Virginia.

General DePuy concerned himself with all aspects of Army training. He even gave his name to a foxhole designed with a frontal cover and described it in great detail. He personally wrote portions of the 1976 FM 100-5 and, having published it, set out to sell it and observe it in the field. In this regard, he was fortunate in the promotion of General Starry to command of V Corps in Europe. Starry became the "outside man" in the partnership. He tried the new doctrine in the field and learned from that experience. When he succeeded to the command of TRADOC, he was the principal overseer of a new FM 100-5, published in 1982. This manual was significantly different from its predecessor, but it was, in fact, built upon what Starry had learned and what he had heard, read, and thought in the intervening period. General DePuy took part in the debate over the new manual, commenting on the criticism of the 1976 doctrine in an *Army* article published in 1980.

Naturally, the TRADOC commander addressed himself to officer education. As DePuy neared the end of his career, he wrote a letter to General Rogers in May 1977 that began: "This may be the most important letter I have written to you. It has to do with training the officer corps." In this letter, he laid a foundation for a progressive and sequential officer training program focused primarily on mastery of the skills necessary to succeed at the next operational level to which an officer could expect to be assigned. This view of officer education is one that had guided his tenure at TRADOC, and though the view did not survive his period of command, it is one worth considering.

The balance between training and education is always tenuous in Army schools. General DePuy believed that broad-based programs training an officer to assume positions two levels up might be appropriate for a mobilization-based Army. "But," he said later, "we don't have a Mobilization Army; we have an 800,000 man Army! That's what we are going to war with. Why should we go to war with untrained platoon leaders, untrained company commanders, and untrained battalion commanders, when they have to win the first battle?"[5] Once more, the combined influence of the Israelis and his own World War II experiences are evident. In the decade that followed, the various training initiatives that General DePuy and General Gorman

began, particularly the National Training Center, would permit a return to broader-based and higher-level school curriculum, at least in the Command and General Staff College. But by the 1980s, many things were different. The sense of crisis that marked the Army in the 1970s had subsided. Military funding was restored. The volunteer Army began to work, and both discipline and confidence returned to the Army that, in turn, was returning to the field for tough, demanding training in operational units.

Following his retirement from the Army in 1977, General DePuy remained an active participant in the Army's intellectual life. He continued to take an interest in the Army's doctrinal development, publicly, as in the pages of *Army* magazine, and informally, as a "gray beard," consulted often by his successors. He took an active and very paternal interest in the School of Advanced Military Studies at the Command and General Staff College. He visited it often and advised both students and faculty as they attempted to address changing requirements of doctrine and military theory.

General DePuy testified before Congress, notably on joint service, a subject about which he had expressed an interest as early as 1961 ("Unification: How Much More?") and, as noted, before the Gulf War. At the time of his final illness, he was beginning to think about the requirements for the post-Gulf War military and the requirements for joint doctrine.

In retirement, General DePuy reflected on his experience in Vietnam. He had served both as General Westmoreland's operations officer (J3) during the period of large-scale U.S. commitment of forces and as commander of the 1st Infantry Division. It is instructive to compare the views he put forward in a 1967 presentation to a War College audience and the lessons he later extracted after having reflected on the period in light of the war's outcome. In neither case was his analysis facile or vindictive. General DePuy continued to serve the Army and nation as a distinguished elder statesman whose contribution to the service began on the eve of World War II and continued until his death in 1992.

In the seventeen years between General DePuy's creation of TRADOC and the beginning of the Gulf War, the Army never stood still. Many of the decisions taken by General DePuy were later modified as conditions changed and opinions shifted. Doctrine became more comprehensive and sophisticated. Military education broadened. Training methodologies grew, and the "Big Five" were fielded and improved. The Army DePuy built did not fight the Soviet Army in Europe but, before being demobilized, proved its capability on another battlefield in the Gulf War.

The DePuy legacy remains as an attitude toward hard training and readiness for battle. It remains in a consciousness, now institutionalized, that doctrine must remain a living codification of coherent beliefs about warfighting, a body of beliefs that evolve as conditions change. General DePuy is also survived by a legacy of hard, robust thinking and precise, disciplined writing that can serve as a model for his successors who will deal with different challenges, though ones no less in need of sound analysis and decision.

General DePuy was a long-time contributor to *Army* magazine. The Association of the United States Army has granted its permission to reprint General DePuy's many articles in this collection. The *Marine Corps Gazette* has permitted the reprinting of his review of John P. Rose's *The Evolution of U.S. Army Nuclear Doctrine* (Boulder, Colorado, 1980). Colonel Robert C. Hughes, USAF, of the National War College, provided assistance in obtaining clearance of a Vietnam-era transcript, thus permitting it to be included in this collection.

There are two large collections of the general's official papers. One is at the TRADOC History Office at Fort Monroe, Virginia. The other is located at the Military History Institute, Carlisle Barracks, Pennsylvania. The author enjoyed the unqualified support of Dr. H. O. Malone, the TRADOC command historian, and Dr. John Romjue of the TRADOC History Office, in examining the TRADOC records. Dr. Richard Sommers, the director of the archives at MHI (Carlisle Barracks), and his staff were equally forthcoming with advice and support. It is unlikely that there is a more congenial archive in which a researcher can work than that at MHI. I am also indebted to Robin H. Inojos and Edward J. Carr, visual information specialists, and Alfred T. Dulin, Graphics supervisor, Training Support Center, for their layout and coordination of the manuscript.

Most of all, I wish to thank Mr. William E. DePuy, Jr., to whom I raised the possibility of assembling such a collection at the time of General DePuy's induction into the Fort Leavenworth Hall of Fame. Bill, Jr., has been extraordinarily supportive of my efforts, providing counsel, encouragement, and in many cases papers from his own collection. The DePuy mind and sense of humor are obviously hereditary, and the opportunity to work with Bill has been the greatest reward of this effort.

General William E. DePuy deserves a full biography. Such a book would be the best chronicle of the U.S. Army's journey from Saigon to Safwan. That task, however, awaits more skilled hands than mine. Until such a book is forthcoming, it is hoped that this collection of papers, together with the Military History Institute's oral history, will preserve for the future the memory of this most remarkable soldier.

NOTES

1. Lieutenant Colonel Romie L. Brownlee and Lieutenant Colonel William J. Mullen III, *Changing an Army: An Oral History of General William E. DePuy, USA Retired* (Carlisle Barracks, PA: United States Military History Institute, 1979).

2. Ibid., 202.

3. Ibid., 84–87.

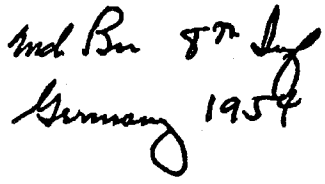
4. Ibid., 148–49.

5. Ibid., 183.

I. PRE-TRADOC YEARS

1

MISSION COMPLETE!
[Platoon Battle Drill, 1954]



Mission Complete!

W. E. DePuy

Provided by William E. DePuy, Jr.

1. The technique of platoon battle drill as outlined in this booklet was developed for the following reasons:

a. It fills the gap between the theories, as published in the field manuals, and the actual battlefield application of those theories.

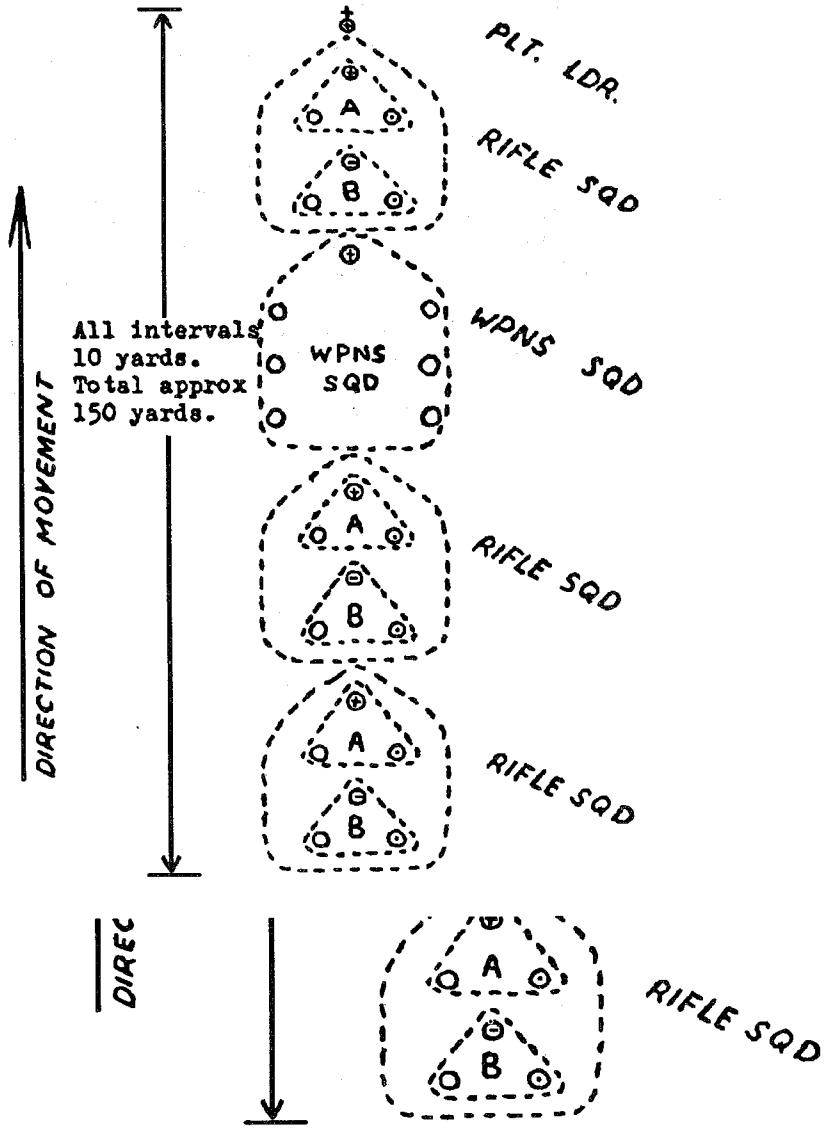
b. The technique lends itself well to extended order drill.

2. This booklet does not change the organization of squads in any manner. The permanent division of squads into two teams remains constant thereby reducing the requirement for battlefield explanation and eliminating the requirement for continual squad reorganization within the platoon.

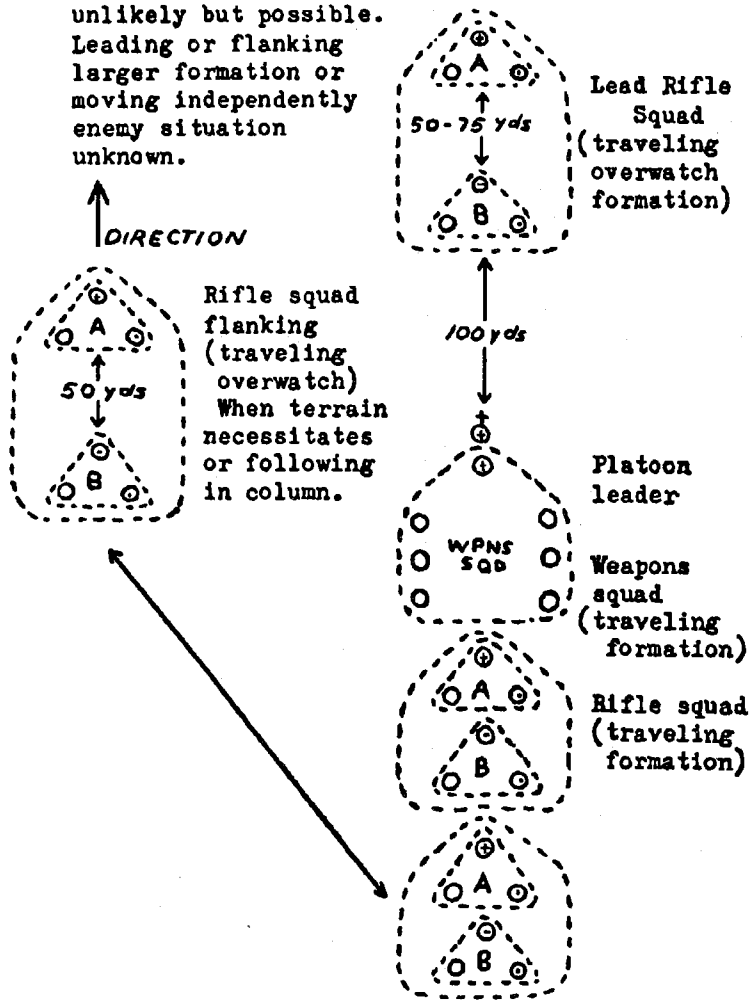
3. The methods of moving the platoon and the formations for this movement under combat and simulated combat conditions will be as outlined in the following pages of this booklet.

A rifle platoon has three techniques of movement.

a. Traveling (contact with enemy not expected. Platoon moving as part of larger formation not leading or flanking.



b. Traveling Overwatch (Contact with enemy unlikely but possible. Leading or flanking larger formation or moving independently enemy situation unknown.



c. Bounding Overwatch (Contact with the enemy momentarily probable. Late stage of approach to known or suspected enemy locations.)

This technique does not lend itself to diagramming owing to the number of movements involved.

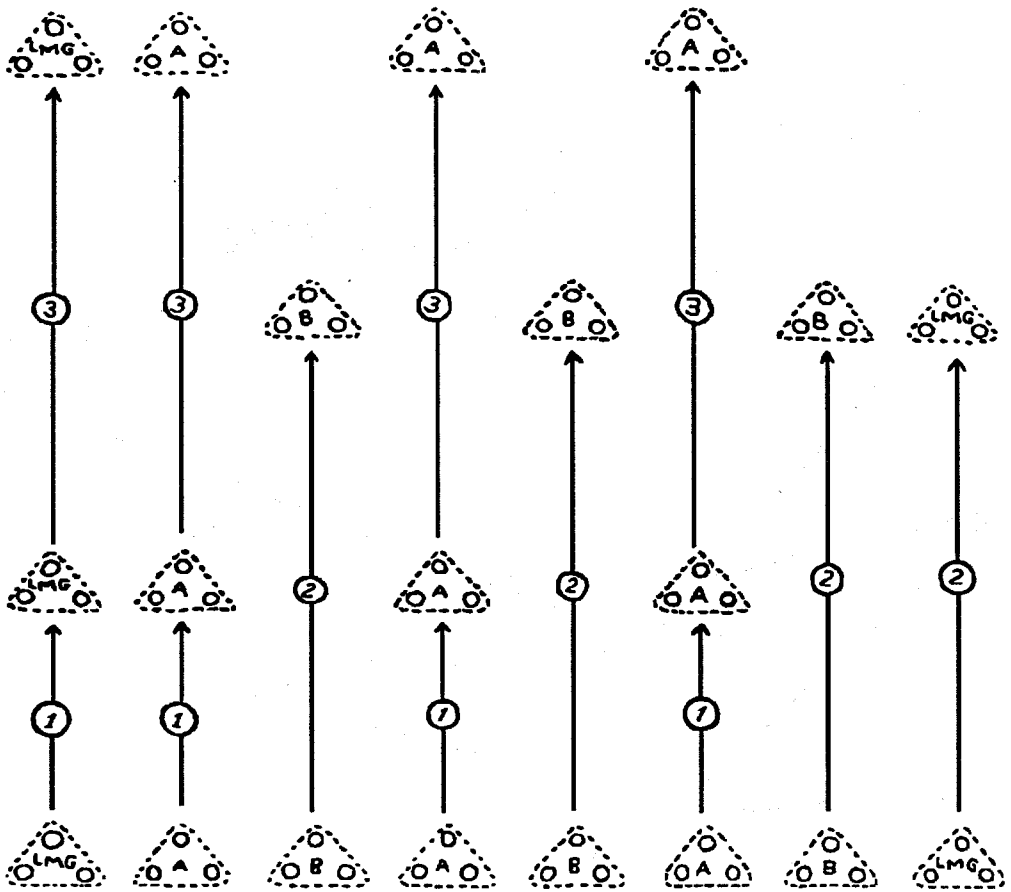
At least one rifle squad and one LMG are in stationary overwatching positions at all times. The foremost advancing rifle squad moves in a traveling overwatch to the next stationary position designated by the platoon leader. Squads rotate smoothly and rapidly through the three roles- advancing-overwatching-and returning to rear of column and following.

Flank protection may ordinarily be provided by proper selection of stationary overwatches. Properly executed this technique provides:
- immediate retaliatory fire of one squad and one LMG
- a ready reserve of one rifle squad
- a minimum force (the foremost advancing squad) engaged on ground selected by, and favorable to, the enemy.

The platoon has three principle techniques for the attack:

a. Fire and Movement (leapfrogging). (in broken terrain)

This technique is similar to the bounding overwatch with the stationary squads delivering covering fire for the advancing squads. Routes forward for advancing squads are selected more carefully for cover and stationary positions are selected more carefully for concealment and cover and access by fire to the then, known enemy positions.

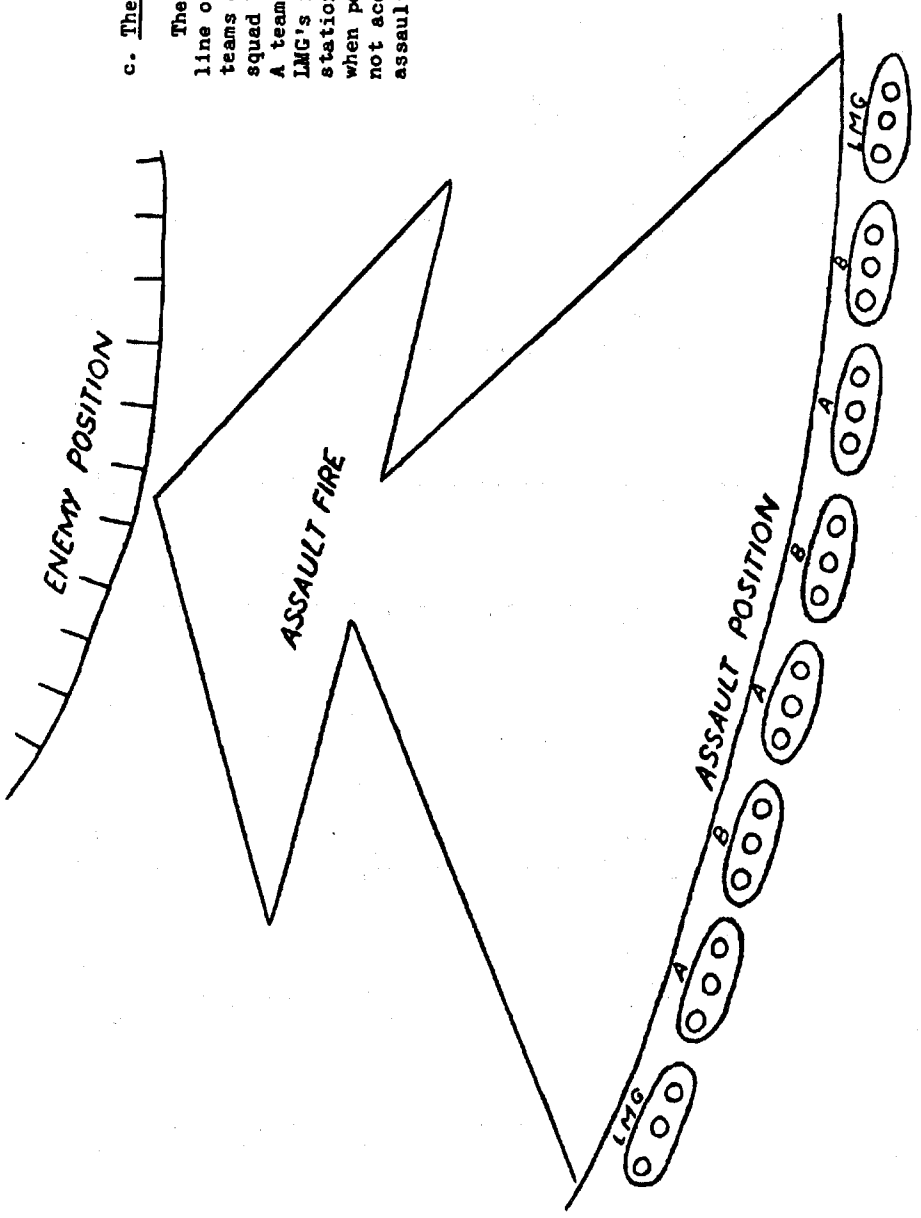


B. Fire and Movement (lawnmower) (in open, coverless terrain).

When a platoon must attack over open terrain without cover and little concealment, it must do so by rapid fire and movement. The most suitable technique is a line of squads with all A teams advancing while B teams fire and vice versa in rapid succession until assaulting distance is reached! One LMG is with the A teams the other with the B teams.

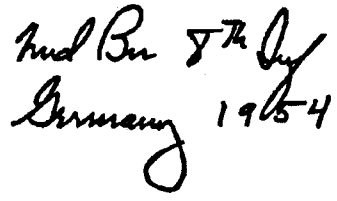
c. The Assault

The assault is a line of squads with teams on line-center squad base squad--A teams base teams. LMG's fire from stationary positions when possible and when not accompany the assault.



2

THE GUIDE TO COMPETENCE
[Rifle Squad Battle Drill, 1954]



The Guide to Competence

W. E. DePuy

Provided by William E. DePuy, Jr.

RIFLE SQUAD BATTLE DRILL

1. The theory and technique of squad battle drill as set forth in this booklet is based on the following facts:

a. When the immediate application of the squad's maximum fire fails to destroy the enemy, the squad advances by fire and maneuver.

b. The squad first MUST establish fire superiority.

c. Fire superiority is gained and maintained by keeping the enemy under heavy and accurate fire so that his fire is ineffective.

d. Until supporting weapons or other units can gain and maintain fire superiority without assistance from the squad, members of the squad must fire. Here the automatic rifle can do much to produce the desired effect.

e. In the execution of separate missions such as point of advance guard, patrols, flank security or independent attack, a rifle squad must organize into at least two elements.

f. The average squad for training or combat numbers 4,5 or 6 men. Organization of the squad into the two required teams is simply a matter of dividing the squad in half.

g. One of these two elements or teams advances while the second overwatches and/or delivers covering fire. By this combination of fire and maneuver the squad advances to the assault

position.

2. A squad leader, two BAR's and an assistant squad leader fall naturally into two teams. The first or A team is commanded by the squad leader and consists of one BAR and one or more riflemen depending on the size of the squad. The second or B team is commanded by the assistant squad leader and consists of a BAR and one or more riflemen again depending on the size of the squad. Teams may function effectively with as few as two men and as many as 4 or 5. The average teams consist of 3 men.

3. The methods of moving the squad and the formations for this movement under combat and simulated combat conditions will be as outlined in the following pages of this booklet.

4. Arm and hand signals to be employed during squad training are as follows:

a. Traveling - the standard FOLLOW ME signal as outlined in FM 21-60.

b. Traveling Overwatch - the standard FOLLOW ME signal followed by a Double Time Signal as outlined in FM 21-60.

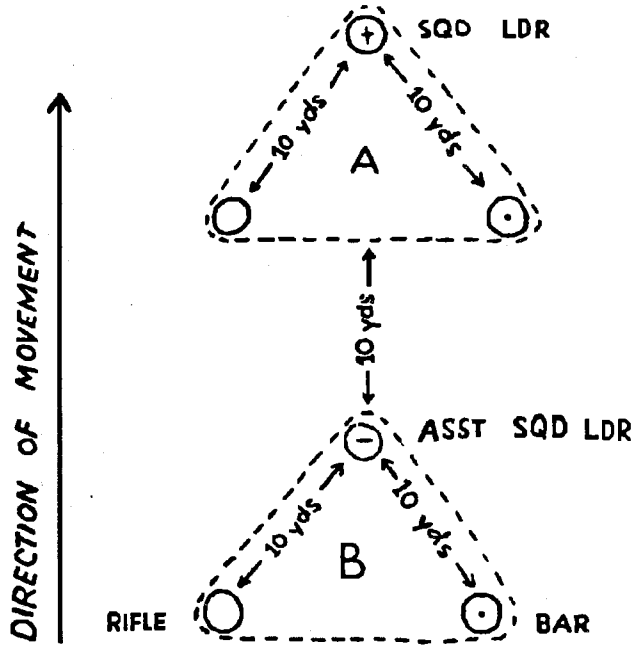
c. Bounding Overwatch - the standard COVER OUR ADVANCE followed by a Double Time Signal as outlined in FM 21-60.

d. Overwatch Fire & Movement - arm extended, moved in a circular manner. Right arm indicates "B" team move to the right, left arm indicates "B" team move to the left.

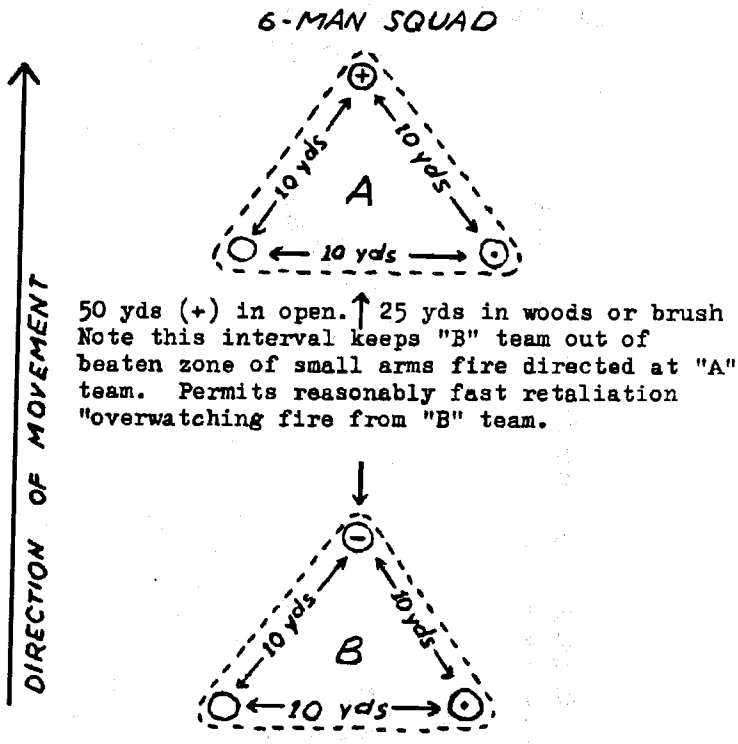
A rifle squad has three principle techniques of movement.

a. Traveling (Contact with enemy not expected - squad moving as part of platoon - not leading or flanking.

6-MAN SQUAD



b. Traveling overwatch (Contact with enemy possible but unlikely. Squad as point, squad as flank protection - early stages of patrol or independent mission - speed essential.

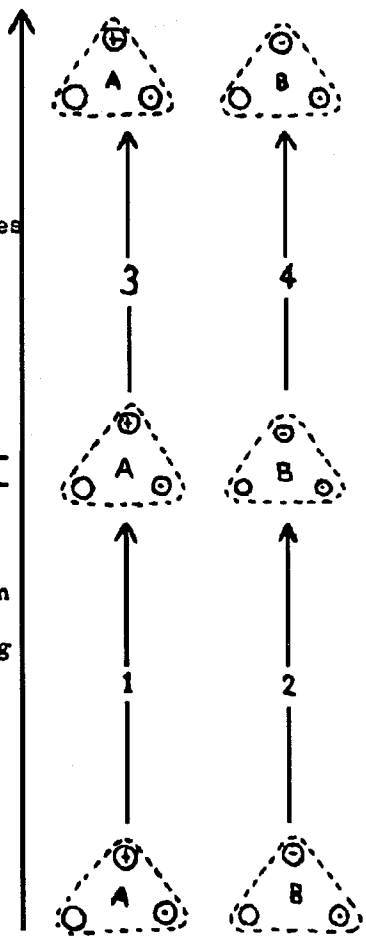


C. Bounding overwatch

(Contact with enemy momentarily likely)
Late stages of patrol - enemy location generally but not specifically known.

Squad leader signals B team forward when he reaches point where overwatch becomes ineffective or 100 yds forward, whichever occurs first.

B team overwatching from stationary firing position selected by squad leader. Squad leader simply points to general position of overwatch and B team leader disposes team to accomplish mission.
While B team is moving up squad leader points rifle in direction most plausible enemy positions overwatching in that direction.



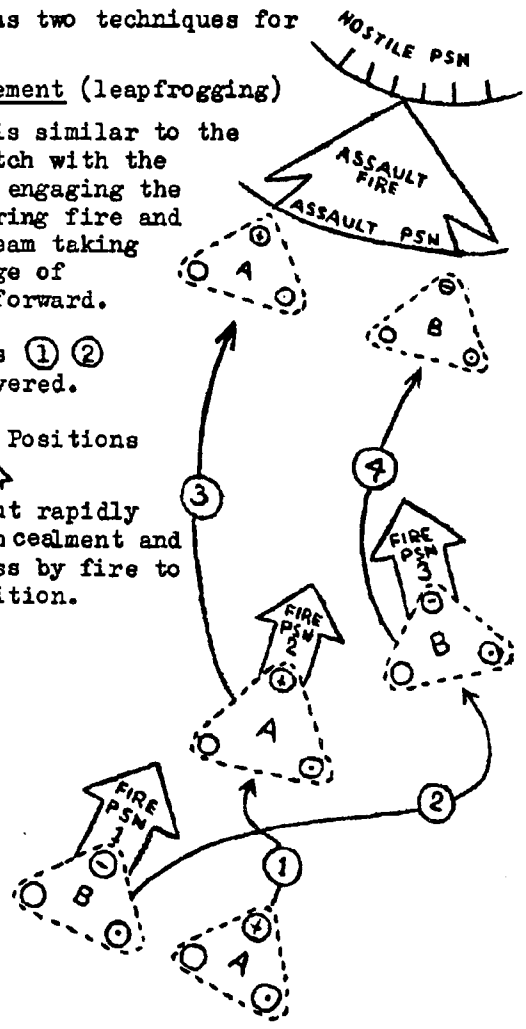
A rifle squad has two techniques for the attack.

a. Fire and Movement (leapfrogging)

This technique is similar to the bounding overwatch with the stationary team engaging the enemy with covering fire and the advancing team taking greater advantage of covered routes forward.

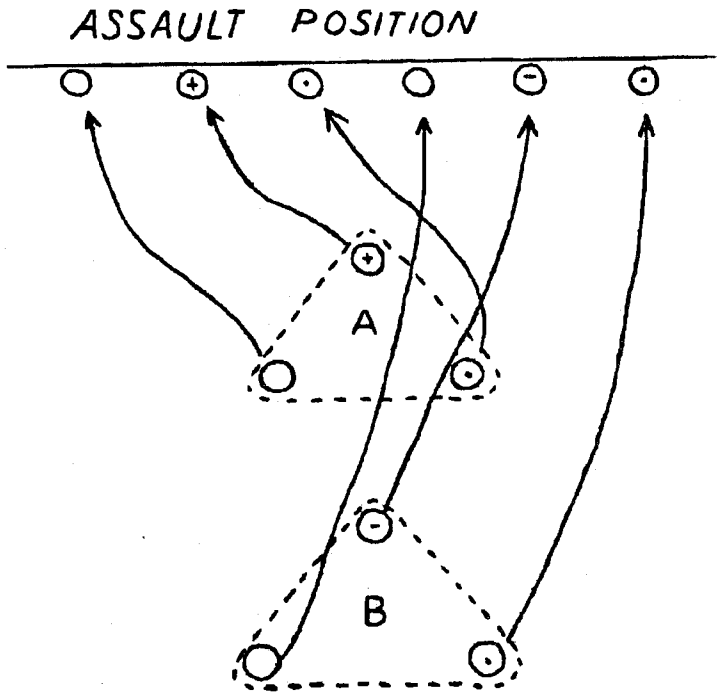
Notes: a. Routes ① ② ③ & ④ are covered.

b. Firing Positions 1 2 3 are carefully but rapidly selected for concealment and cover plus access by fire to the hostile position.



b. The Assault

The B Team comes abreast of and guides on the A Team during the assault.



3

11 MEN 1 MIND

You can't see an infantry squad—it is an idea that exists only when jointly held by its members.

COLONEL WILLIAM E. DePUY

The more startling become the scientific advances of this most startling period of history the more necessary it is to protect the lands wherein the scientists work. The more fantastic become the vehicles of interstellar space, the more precious are the areas from which they are launched and the natural resources from which they are fabricated.

No, Mr. Infantryman, you are not obsolete—you have never been more relevant to your country's need, nor more important to its future. For no one yet has discovered how to acquire or defend land areas without you.

Constant efforts to improve your ground fighting techniques are therefore necessary and you should proceed with this without apology to the missile and atom men for you are not in conflict with their purposes. You are simply at work on another part of the same huge problem of survival.

There is a tendency to misunderstand the fundamentals of war these days. There are people who are apparently convinced that nuclear firepower has replaced manpower and therefore Army forces are obsolete. Now it would be foolish, indeed, to forego the power of the most modern weapons. But the nuclear-weapons-will-do-it-alone theorists are out of contact with reality. Their ideas simply do not engage with the facts of warfare as they exist. Military targets for nuclear weapons will only form when attacking ground forces pile up against the barrier of defending ground forces or when they voluntarily mass to force a breach of those defending forces. Without a defense on the ground, nuclear weapons, whether delivered by aircraft or missiles, will not find targets, and like a hammer without an anvil will strike ineffectively.

This country must always be able to fight on the ground and stand up man to man against its enemies. To the infantry small-unit leader the larger strategic situation is a matter of complete indifference. He lives in a small world of attack and defense which is all his own. The larger aspects of battle are the concern of others. Missiles may fly and nuclear weapons thunder but so long as he lives he must fight on about the same terms as his ancestors—man against man—where the fire of courage and the coolness of competence mark the victor.

Theory and practice of the rifle squad

There is much reason then to concern ourselves with the theory and practice of training and fighting a rifle squad. Oddly enough, very little has ever been written upon this subject. Field

From *Army* 8, no. 8 (March 1958): 22–24, 54–60.

manuals devote a page or two to the fighting of the squad and thousands of pages to the organization and techniques of higher formations, many of which exist only to get the squad into contact and support it there. Perhaps this is because the squad is thought to be a small and simple command about which there is just not much to say. Nothing could be farther from the truth. The squad is perhaps the most challenging of all combat commands because it is the only military organization which is comprised of *men*, not *units*. All commanders above the squad learn how to employ units. The commander of a squad must learn how to employ men.

Soldiers who work with cannons and tanks, or aircraft or ships, sometimes find it difficult to appreciate the vast difference in the problem which faces the soldier who works with men—not equipment. Sometimes, like the air we breathe, we overlook that which lies too near at hand. That which is a part of us is not so easy to see and seldom noted. The command and motivations of men in peace or war within the military service and outside are a problem in mental imagery—a problem in abstractions. The leader has a scheme which he must transmit by word of mouth, to create a facsimile of his scheme in the *minds* of his subordinates. We do this every day. This is the stuff of which all human intercourse is made. What raises this commonplace process to a critical consideration in infantry combat is the absence of an orthodox function and the general lack of mechanical substitutes for purely human organization.

For contrast let us consider for a moment the howitzer and crew. The howitzer itself is the concrete expression and permanent embodiment of a common purpose. Rain or shine, day or night, the howitzer stands unchanged. It is served in battle by men who relate their activities to it, and mobilize their energies around it. The howitzer is functional, constant, central and immutable. So is a destroyer and so is a bomber. The physical presence of a machine of war provides continuity of purpose and ties the energies and activities of the human crew into the performance of a military function.

Figment of the mind

On the other hand, what do we find in a rifle squad? A squad is an organizational idea jointly held by its members. It does not exist physically—you can't see a squad—you can only see the individuals who man it. To illustrate this point, it is impossible to distinguish a trained squad from a random collection of individuals if both groups are equal in number, similarly equipped and standing idle alongside a road. The difference is lying quietly hidden in their minds. Furthermore, even a trained squad ceases to exist whenever its members revert to the normal human state of egocentricity.

Only when the members of the squad are thinking jointly on one problem may they properly be called a squad. Here, then, is the great overwhelming feature which distinguishes the rifle squad from the gun, tank, plane, or ship's crew. A squad is an idea shared by a group of men. Unlike the steel of a tank an idea is ephemeral—fragile—fleeting. Thus it is that the hardest fighting known to man—the personal face-to-face grubbing and killing of the infantryman—is prosecuted with the most sophisticated, least standardized, most unpredictable and least understood of all of the tools of war—the human mind.

The sergeant wonders why his squad seems to be wandering aimlessly around the hillside instead of attacking according to his plan. The reason—the sergeant's plan is in *his* head, not in theirs. His squad is proceeding on many divergent assumptions in the absence of simple complete

instructions on the basis of which they could act in concert. The sergeant issues an order to move across a field. The ten men hear—obey—become a squad momentarily. Halfway across the open field they are fired upon. The sergeant's orders provide no basis for a response to this new situation so the squad disintegrates and becomes ten separate frightened men thinking about themselves. A squad is here this moment, gone the next. It congeals around a common purpose, fully understood, and it melts away in the presence of uncertainty, confusion, or the absence of direction. Unfortunately, the battlefield produces a great number of egocentric reactions which are destructive of mental images. Fear, hunger, pain, and fatigue all cause a man to think of himself. While he is thinking of himself he becomes wholly an individual and is not mentally, for that time at least, a member of the squad. Thus, the environment of the battlefield is conducive to the disintegration of the squad, not its cohesion.

The commander of a squad is constantly faced with two supremely important tasks:

First, he must decide on a course of squad action which will achieve his objectives, and

Second, he must organize his squad around a jointly held image of this course of action in sufficient detail to provide adequate instructions for each squad member.

As if this requirement were not challenging enough, the average squad leader suffers under a number of additional handicaps. He usually commands men who are not the most imaginative members of the military establishment—in other words, men who are not as fast with an abstraction as their former colleagues who have been promoted or assigned technical or administrative jobs. Also, the squad leader must practice his art only after his mind is numbed with fatigue and fright, his body weakened by hunger and exposure, and the receptiveness of his squad partially dulled by casualties. Add to this the fact that battlefields are noisy and otherwise distracting and you have set up a requirement to try the mettle of any man.

For all of these reasons, both theoretical and practical, most squads are poorly commanded, if at all. Only too often in training, inept squad leaders exhort their men during an attack with such pseudo-commands as "*fire and movement*" or "*keep it moving, men.*" No soldier has ever heard the command "*fire and movement*" on the field of battle and no man alive gets a very useful picture in his mind from such a command.

In fact, on the field of battle this kind of squad leaderusually does—nothing. A soldier who risks his life deserves as a minimum to know generally what it is that he is expected to do.

The organizational solution

One would seem to be justified in guessing that the recent organization of the rifle squad into two teams was prompted by an urge to substitute the simplicity of organization for the uncertainty of human behavior. The Army is at home and at ease with the relations between units and commanders and so another echelon has been added to regularize and simplify the working of the rifle squad. If the team is to be treated as an independent command and sent out to perform separate functions, then the new organization would serve only to push the basic problem one more notch down the stick but would do nothing toward solving it. As seems more likely, however, the squad itself will be the smallest unit expected to perform an independent mission, and the teams will always be in close functional relationship with each other. This is good, and

if fully understood and properly used, should increase the effectiveness of the U. S. infantry by a factor of several hundred per cent.

The new squad organization only makes sense in relation to the battle drill which it makes possible. It is well to reflect for a moment upon the fundamental virtues of this battle drill. It is not because the battle drill as such is necessarily the best way to fight in any one situation but rather because a battle drill based on a squad organized into two mutually supporting teams serves to articulate organizationally the basic mental framework with which the squad leader must work. It automatically provides the fundamentals of the squad's organization for any particular task. *Battle drill reduces by a large factor the necessity for battlefield explanation.*

Mechanical function that takes much heart

It is no longer necessary for the squad leader to organize his squad into functional elements (fire-maneuver) each time he issues an order. The battle drill is an operational SOP. Like any SOP it takes the place of certain orders which otherwise must be issued again and again. In the case of a squad it constitutes an "understanding" which tends to congeal the squad into an organization. It does not tell the squad leader how to fight but it gives him the basic organization with which to fight. Considering the difficulties under which he must operate we must instinctively favor any device which will cut down his task to manageable proportions.

By rehearsals and drills the soldier comes to know and expect that his team fires when the other team moves, and vice versa. However, he must be told *where* to move and *when to fire*, for battle drill cannot do this.

Let us go deeply into the application of the battle drill to the squad leader's actual problems of command. Infantry fighting is a mechanical function even though much heart is involved. It has two chief requirements—to kill and to advance. A technique or a maneuver which does not contribute to one or the other of those functions is superfluous. A squad spends more than ninety per cent of its time moving and less than ten per cent fighting. On this basis alone it is important to develop the best techniques for moving.

The squad moves under three general situations:

- It simply travels from point A to B *without concern* for the enemy (as part of a larger unit, etc.).
- It travels toward the enemy with the *chances of contact remote* but barely possible (some precautionary measures are justified but speed is desirable).
- It travels toward contact, *expecting to encounter enemy resistance at any moment.*

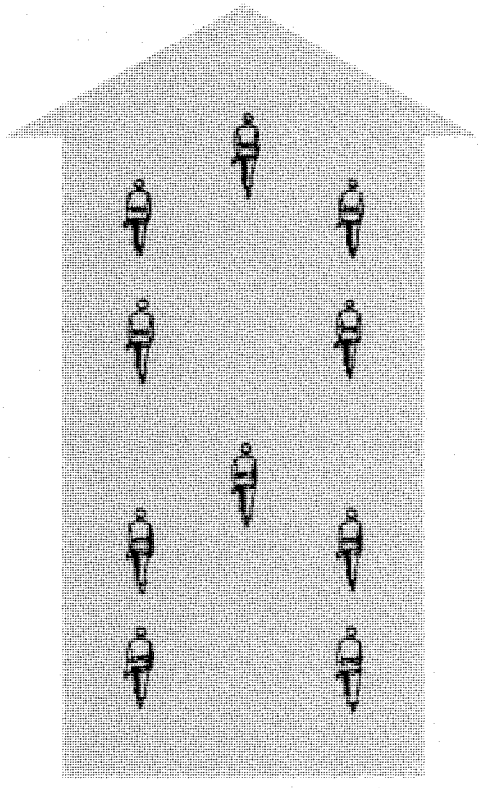
If a rifle squad can do these three things well it can do the vast majority of its offensive chores well. In case the function to be performed is to move, the simplest way to move is to have team Bravo follow team Alfa without interval. This could be called the TRAVELING FORMATION and—all other things being equal and in the absence of instructions to the contrary—this should be the normal formation for the squad.

If the squad has been sent on flanking duty or on patrol to investigate a farm, a village, a copse of trees, or a ridge line, and if contact does not seem imminent but possible, then the function to

be performed is to move in a formation which will not decrease speed but which will provide an opportunity to react and give the squad some protection if it unexpectedly runs into enemy fire. The easiest standard solution to this problem is to drop Bravo team back fifty yards (just outside the beaten zone of fire directed at Alfa team) with a mission of following Alfa prepared to deliver retaliatory fire at any enemy force which engages Alfa. Stealing a word from armor, this role could be best described as a TRAVELING OVERWATCH.

The last situation in which contact is expected momentarily calls for Bravo team to conduct its "overwatch" from successive, carefully selected positions with team members prone in firing position from which they could engage the most likely enemy positions. This technique would logically be termed a BOUNDING OVERWATCH.

The squad must also be prepared to fire and move in the attack. This function may be performed by the alternative FORWARD MOVEMENT and delivery of OVERWATCH FIRE by the two teams in a consecutive fashion. This may sound like an oversimplification of the attack but without bringing in the enemy and the terrain it covers all the relevant principles both organizational and operational. Everything else the squad does is less complicated and need not be discussed.

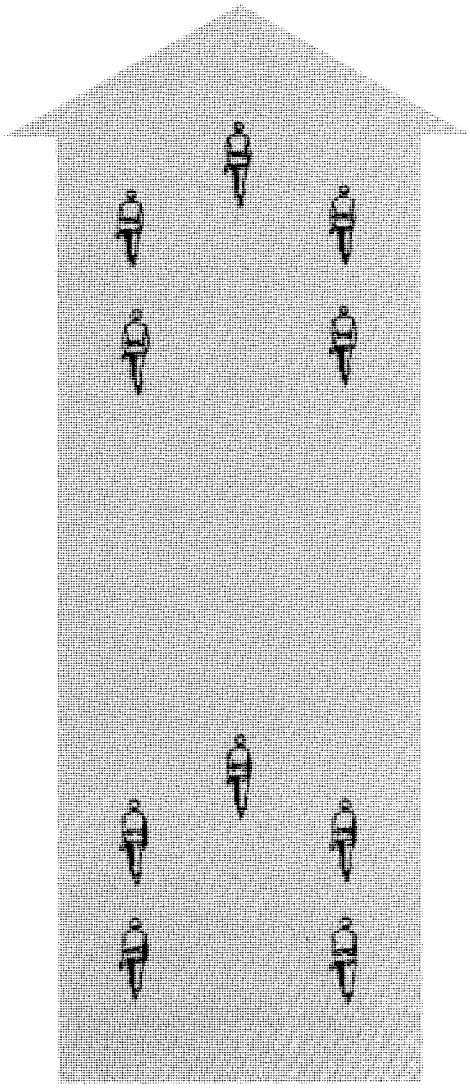


TRAVELING FORMATION

Team BRAVO follows Team ALFA without interval. There are ten yards between men.

These techniques are functional. Any technique which further complicates the performance of these functions is unnecessary and of doubtful merit. For example, there is no apparent functional purpose of any real moment for the diamond formation or the squad wedge.

The introduction of the two teams in a squad passes some of the harder problems on down to the team leader. However, his task is greatly simplified by the fact that the main decisions are made for him and the function of his team is usually clear and unambiguous. He either fires or he moves or he is preparing to fire. In a sense he inherits the command problem in miniature because now he is the only man in the whole chain of command who in the strictest sense commands men instead of units.



TRAVELING OVERWATCH

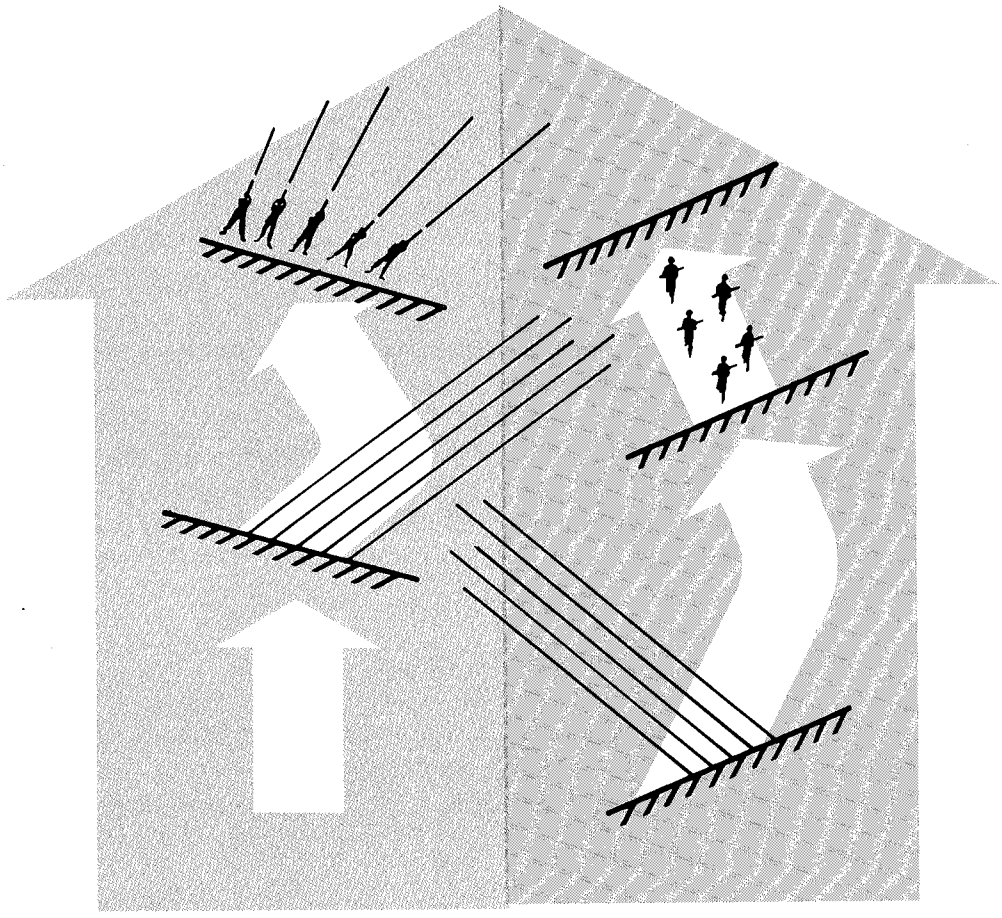
Team BRAVO follows Team ALFA at an interval of fifty to seventy-five yards in open terrain and twenty-five to thirty yards in woods or bush.

The quality of leadership at this level may be expected to be of such a nature that physical demonstration must inevitably be a main technique. "Follow me and do as I do" may often be the extent of instructions offered. This is not ideal but it is a comprehensive and durable instruction. The most effective team leaders will do more and John Doe will be told where to move and where to fire. Under heavy fire when reluctance to follow general instructions will increase, the team leaders must be specific or their teams will fail to function.

It is extremely doubtful that very many American soldiers have ever given their lives for their country in response to hand or arm signals. The use of such signals should be reexamined. The distant wave of the hand is too cryptic, too vague, too impersonal, and probably too passive to produce a movement forward.

Notwithstanding some American mythology to the contrary, there is very little initiative demonstrated on a battlefield. When the bullets start to fly the average man lies low. He stays that way until he is ordered to do otherwise. For example, the main difference between green and veteran units is that in green units it is customary for everyone to lie low waiting for the others to get up and do spontaneously what they have been trained to do for so long, and what our folklore tells us they will surely do—and this is often a long wait. In the veteran unit some man, who has learned the hard way that nothing happens unless someone takes measures of some sort, looks a few soldiers straight in the eye and orders them personally and individually to do some very specific task like "Move up to that hedgerow"—"Throw a grenade in that window"—"Cross that field"—"Fire at that house." Lacking such orders the soldier does what comes naturally—nothing.

There is an interesting thought buried in this subject. This waiting for the soldier's



BOUNDING OVERWATCH

When contact with the enemy is expected the squad's teams make alternate movements. Team ALFA moves forward under cover of the fire of Team BRAVO which is in an overwatching position. At the end of its advance,Team ALFA takes an overwatching position and covers the forward movement of Team BRAVO to its next overwatching position. Thus the squad moves forward in short, protected rushes.

initiative to display itself on the battlefield is consistent with the legends of Lexington and Concord but not with the basic premise on which the system of military discipline is founded. The system of Army discipline is presumably built upon the rationale that instinctive automatic obedience is required on the field of battle. This principle should be applied right down to the last man. But the concomitant requirement is that the superior of this last man must issue the orders which the last man is expected to obey instinctively. Here is the traditional weakness. Of

course the system is justified and essential in spite of this tendency to discard it at the cutting edge. A process of natural selection partially offsets this tendency in combat.

It is a source of amazement to some training specialists that veteran divisions can fight so well with little or no formal training in infantry combat. The single characteristic which differentiates veteran infantry units from green ones is the predominance throughout the ranks of *dominant* leaders. These men are not always polite—they are usually impatient and always self-assured. They are seldom impressed with the amount of initiative they find lying around loose. They know what they want—they issue orders to that effect and see that they are carried out. Whereas most men will not accept risks voluntarily, very few men have the courage to refuse to obey a commander who looks them in the eye and says "Take Smith and Jones and go in that house and clean it out," or "Peterson, fire a clip at the corner of those woods."

In good and battle-tested units, just as in good baseball teams, there is always a lot of chatter. This chatter is the process of continually revising, adding to and strengthening the mental picture of the developing operations. The Germans, who are competent infantrymen, to say the least, are noisy fighters. Hans and Fritz get lots of instruction from Wolfgang the Feldwebel during the attack—where to move or where to shoot.

The bulk of the fighting is always done by a handful of men who view fighting as a practical matter. They use no signals or magic words. They talk it over—decide who will do what and get on with it.

Finding the leaders

In these days of perpetual readiness we are faced with the problem of training leaders who are ready to go now. We do not have the natural selection of combat at our disposal. We must look for dominant personalities and put them in command. We must tell our squad and team leaders that they must become articulate—build word pictures—issue specific unmistakable instructions. Nothing is to be left to chance or doubt.

Few squad leaders are Doctors of Philosophy—some are more articulate than others, but prudence suggests that we simplify their tasks as much as possible and this is where the battle drill and the team system relieve the squad leader of at least half of his requirement for battlefield explanation. Those who claim that this deprives him of his prerogatives underestimate the size of the problem which remains to confront him. To decide—under fire—where the enemy is—how to approach him—how to use the terrain—how to control his teams—inspire his men—and how to keep the squad's mental picture alive is challenge enough for any man.

4

THE CASE FOR A DUAL CAPABILITY

"If you jump towards Bradley you are haunted by Collins, and if you side with Collins who is to explain away Bradley?"—A thoughtful and penetrating analysis of an important debate appearing in two recent issues of this magazine

Colonel WILLIAM E. DePUY

In two recent issues of ARMY, two distinguished soldiers have argued opposite sides of a critical and vexing problem—should the Army emphasize *nuclear* or *conventional* weapons? In the October issue, Colonel Francis X. Bradley argued essentially that "We must go nuclear." Colonel Arthur S. Collins in the November issue stated: "I don't believe that anything worthwhile or meaningful can result from the employment of nuclear weapons in war."

Of course, neither of the authors would pretend that the matter is as black and white as each painted it. There are many complications, reservations, and qualifications in both articles which bring them closer together than the titles or these quotations would suggest. Additionally, it seems likely that Colonel Bradley is thinking in terms of bigger weapons and bigger wars while Colonel Collins is presumably thinking chiefly in terms of smaller wars and issues and less direct involvement of the two main centers of power. Nonetheless the net effect of the two articles is to throw doubt upon the validity of the so-called dual concept which the Army now embraces. Colonel Bradley is explicit on this point: ". . . I cannot understand why we continue to talk about the need for a dual capability, and why we try to plan for two separate types of war." Colonel Collins is hardly less direct: "If one studies the host of problems that the atomic weapon brings to the battlefield—the blowdown, craters, contamination, flash blindness—then one can ask, is it really worth it?"

This puts the concept of dual-capability squarely on the spot. It is my purpose here to suggest that the Army has acted wisely and that on balance it is following the only sensible course, a course which, where it suffers at all, suffers from too thin a diet of resources. Additionally I will say a word about the practical problem of achieving a proper balance between nuclear and conventional capabilities within a reasonable organizational framework.

But let us take these up one at a time.

Both authors seem to be urging us toward a choice—a clear decisive move—one way or the other. This is understandable. There is probably not one of us who has not wanted to make such a choice on a number of occasions, especially when our minds are exhausted and our spirit weakened from struggling too long with these matters which don't resolve into simple or even

From *Army* 10, no. 6 (January 1960): 32—40.

single answers. But the trouble with this choice is that if you jump toward Bradley you are haunted by Collins, and if you side with Collins, who is to explain away Bradley?

Lining up courses of action and then picking the one which seems to have the edge in advantages and the fewest disadvantages is an old military technique, but it presupposes the existence of genuine alternatives. However, in the case of nuclear and conventional capabilities no choice exists because we are not dealing with mutually exclusive alternatives but rather with separate necessities.

A man might carefully analyze his fire and theft insurance and decide, on balance, that theft insurance is the better buy. He can, by this method, choose his means of defense but sadly enough he has no control over the threat to his property which in this case remains both fire and theft no matter what decision he makes. Nations, like householders, if they have their wits about them, don't operate that way.

We are faced with an atomic threat and a conventional threat. It is grossly wrong to suggest that we have a choice between them, and by so doing suggest that we turn our backs upon certain aspects of the Soviet threat which may, in fact, do us in.

There is a long standing tendency in this country to view the problem of a proper defense very much from an egocentric point of view—that is, to favor those actions which are congenial to the national view and compatible with the national temperament. For example, we might be expected to lean more heavily upon our technology than upon our manpower. Well and good, as far as it goes, but as in the case of our choice between fire and theft insurance there is another side of the coin. We are faced, quite clearly, with a threat from the Communists over which we have no control and which combines the most advanced military technology with a very large commitment of manpower. How do we choose to respond?

The simple but difficult fact is that the U. S. and its allies *must maintain at least a rough symmetry of strength with the Sino-Soviet bloc. This need not be always a matching of numbers but certainly it must be a matching of capabilities.* As the Soviet Union raises the level of its technology to a qualitative par with ours we are faced with the obvious necessity of raising the level of our effort to liquidate a long standing quantitative inferiority. Lest this point be lost amongst all the words, it means that U. S. and allied forces—specifically including land forces—must be greatly increased in both conventional and nuclear capabilities, increased in NATO, in the Far East and in strategic reserve. Unless we force ourselves to look this problem squarely in the eye we are accepting second place voluntarily. Surely nations may, like men who stop trying, put their foot on a forlorn road—all downhill.

We must have strategic forces as a deterrent to the enemy

However, we hear it argued that it is unnecessary to maintain forces large enough to cope with the Soviet Union on the ground for, it is said, we will never accept battle on those terms. But just here, a crucial error is made. *It is not necessary to believe* that a certain scale or type of war is likely to occur in order to find a rationale for maintaining forces with the capability to fight it. In fact, the whole logic of deterrence is quite the opposite. We maintain strategic nuclear strike forces for the very purpose of assuring ourselves to the maximum extent possible that it will not be necessary to use them. They deter effectively only insofar and as long as their capability is so visible and credible that the enemy can *calculate* the outcome of a war at any point in time and

see clearly that it would be unprofitable for him to initiate hostilities at that level. Precisely the same function is, or should be, served by other kinds of military force. Even if the 175 Soviet Army divisions are never used they may well serve their ultimate purpose. For example, in every crisis, and in every negotiation such as those over Berlin or Quemoy the planners, the negotiators, and the decision makers on both sides act very much in light of their respective calculations regarding the outcome of military action should it ensue. If, in each such calculation, the other side would appear to win we would soon be paralyzed politically—blackmailed into a series of critical concessions—and should war occur we would probably be defeated militarily. Thus at the heart of each crisis, each threat, lie the cold hard facts of military power.

We are just leaving the time when a capability to win a general nuclear war with strategic bombers carrying nuclear weapons permitted us to economize in forces for all other levels of conflict. This didn't stop all the lesser wars during the past 14 years but it did effectively neutralize the Red Army. They knew, and we knew, that in any major action we could have raised the ante—and won. We now enter a period where neither side would be wise to go all the way and because of certain basic advantages on the Soviet side, such as the option of first strike and the fact that they are aware of the location of most of our strategic air and missile bases, we would be least likely to pursue such a course. This means that we and our allies must maintain a rough symmetry of capabilities with the Communist bloc in each category of force, or at some point we simply will be faced with a bet we cannot cover. To stretch this analogy further, if neither side can afford to play with the blue chips the man with the largest stack of the red chips can buy out the game. If all the players have equal stacks of non-playable red chips, those with the larger pile of whites can still buy the pot.

A hypothetical situation illustrates the problem

To be even more specific—let us imagine the situation which might exist someday in country X just after country Y has threatened to seize a small but symbolic piece of territory which X is committed to defend. The Chief of State of country X calls in his Senior Military Advisor and asks for an estimate of the military situation. Let us suppose the general (or admiral) reports as follows:

GENERAL (solemnly). If this crisis were to expand into an unrestricted general nuclear war we estimate that casualties here at home would probably range between one-third and one-half of our population, and our major cities and nearly all of our heavy industry would be destroyed.

Thus general nuclear war is not a desirable development from our standpoint even though the casualties in country Y might be comparable.

If hostilities were to be confined to the tactical use of nuclear weapons I am sorry to report that we would probably lose, because we have significantly smaller forces at our disposal even though they are about on a par with the forces of country Y on a qualitative basis. I do not recommend that we initiate, or allow ourselves to be drawn into, a tactical nuclear war.

If the action is restricted to conventional weapons I am also sorry to report that we would probably not win because country Y has large conventional forces at its disposal which neither we nor our allies can match. In summary, in the opinion of your military advisors it would be a mistake to be drawn into hostilities of any kind at this time.

CHIEF OF STATE (plaintively). Yes, but what can we do in the face of an open threat by country Y which may initiate hostilities at any time on a basis favorable to them?

GENERAL (firmly). Negotiate, your excellency—and give up as little as possible.

If a national strategy concedes superiority to the Communist world in terms of total military strength or in any major category of force then it has a fatal weakness. Somehow, some place, and some time the Communists will find ways and means of making that superiority felt.

Psychological aura of power will vanish if we lag behind

Surely, also, we must take account of the fact that there is such a thing as an aura of power—a mystique which surrounds those nations which are strong and respected. It is helpful to be considered 10 feet tall. Such an aura has been accumulated by the U. S. over many years but it is a psychological thing which will vanish if we accept second place, no matter how we might rationalize that fact.

The Russians understand the role of strength. In the first sentence of *The Soviet Image of Future War*, Dr. Raymond Garthoff quotes from the Soviet professional journal, *Military Thought* as follows: "The object of military strategy is the creation by military means of those conditions under which politics is in a position to achieve the aims it sets for itself."

Khrushchev understands the role of strength:

". . . The Soviet Union will not stand still while they [the U. S., 1958] catch up with us. . . . We shall be seeing to it that they don't catch up with us. . . ."

It has been necessary to discuss the role of strength in order to place the problem of dual capabilities in a proper perspective. The most fiendishly clever balance between nuclear and conventional capabilities won't amount to a hill of beans if submerged in a net inferiority of strength.

As to whether a war, if it occurs, actually will be conventional or nuclear no one can possibly know with certainty beforehand. There are many pressures at work to make the next war—even a small war—nuclear. For example, most air and missile weapons systems are designed around the nuclear weapon. Many contend that the modern multimillion-dollar aircraft is not an economical carrier of the iron bomb. And others are convinced that it is no longer logical to risk a modern jet aircraft unless it is carrying a nuclear weapon. Then too, there is a lingering public distaste for Korean type wars which seems to fortify the theory which says: "let us use our most effective weapons." Additionally there is a great myth, which has nearly become an article of national faith, which contends that the Western nations cannot meet the Communists on a man-to-man basis. This is not true statistically, either from the standpoint of manpower or of economic resources. If it is true spiritually, the war is already lost.

But, working in the other direction—that is, against the use of nuclear weapons—are many other forces perhaps less tangible but conceivably as powerful. First, no one has come forth with a very convincing or comforting argument as to how limited nuclear war would remain limited. Although the ghastly penalties, if the war should expand, certainly would have a powerful braking effect, the "Kiloton Creep" which might occur would be a steady force for expansion.

Whether these opposing tendencies or pressures would, or could, reach a stable equilibrium, no one knows, nor can he know in advance of actual experience. Therefore, if a great reluctance develops toward taking the first step of firing in anger of the first nuclear weapon, no one should be much surprised.

Certainly to the extent that fear of general nuclear war inhibits nations from taking any action which might lead to such a war, to that same extent could it tend to make limited war less likely. On the other hand, to the extent that a general nuclear war with its attendant risk of terminating civilized life on this globe is regarded as unacceptable, to that extent might the level of provocation increase without recourse to general war and such a level could conceivably include limited nuclear war. To choose one of these likelihoods to the exclusion of the other requires an insight beyond the ken of this writer.

Even though the idea persists that nuclear weapons should be used whenever it is to our military advantage to do so, there is a growing recognition that this is far too narrow a basis on which to judge. It is entirely conceivable that a careful evaluation of the net military, political and psychological effects associated with the introduction of nuclear weapons into a particular area might well override the purely military consideration. For example, a war might conceivably be won in some one area using nuclear weapons in such a devastating manner that no other country would ever agree to accept our help no matter how dire their circumstances or imminent their surrender.

If, some years ago, the U. S. had decided to organize its land forces exclusively for nuclear warfare we would have been unable to influence the long sequence of conventional actions which have actually occurred. In each of these actions there were overriding reasons—often political, sometimes military—for not using nuclear weapons.

Past military triumphs don't win future conflicts

If, on the other hand, we had set out on the opposite course by renouncing all nuclear weapons we would cut a strange and quixotic figure as the leader of the free world military alliance. The prospect of Seventh Army devoid of nuclear weapons facing the Soviet Army, equipped as it is with a startling array of nuclear missiles and rockets, is simply unthinkable. Unthinkable, too, is an army which turns its back upon the future and faces resolutely to the rear seeking to re-create its earlier triumphs.

We are approaching that point at which we can regard tactical nuclear forces as a deterrent to the initiation of tactical nuclear warfare much as we now consider long-range bomber-missile forces principally as a deterrent to general nuclear war.

If, during a so-called limited conventional war such as that in Korea, the Communist side believed that a surprise attack with tactical nuclear weapons would destroy our forces and produce for them a sudden victory, they might be tempted to make such an attack. This would confront us with a situation which could only be rectified by our resort to a much higher level of nuclear use. In this case they would be in a position to remind us, quite logically and convincingly, that an expansion of nuclear warfare would probably lead directly and quickly to the general nuclear war which neither side could want or afford.

If, on the other hand, our forces were armed with instantly available and relatively invulnerable tactical nuclear weapons which could strike back at the enemy and rob him of his victory, then

he would be less likely to attack. But if he were to attack under these circumstances and then find victory beyond his grasp, he in turn would be faced with the hard choice of discontinuing his offensive or taking upon himself all the risks of general war involved in expanding the scope or pace of his nuclear weapons employment. At this stage of the game it would be difficult to predict or visualize the outcome of a tactical nuclear war between roughly evenly matched adversaries. Monumental problems of vulnerability—logistical as well as tactical—would plague both sides. It is enough to say that neither side could look upon such an engagement with assurance or equanimity. Unless and until the level of tactical mobility is raised on a par with tactical nuclear firepower it is not unreasonable to believe that neither side could maneuver effectively with significant forces and a smoldering stalemate would ensue. This prospect could easily extend the strategic stalemate down into the realm of tactical nuclear warfare as well. This would be deterrence at a new and lower level—deterrence based upon a rough match in tactical nuclear capabilities effectively integrated with conventional forces in a system of dual capabilities.

The Army has no alternative: it must be ready for any type of war

For all of these reasons—the dual nature of the threat, the requirement for strength and symmetry, the towering political problems involved, the impossibility of judging beforehand the form hostilities are most apt to take—the Army has no choice, but must continue to develop and deploy forces capable of fighting either a conventional war or a nuclear war.

The most pressing practical problems which face the Army and challenge its professional competence are those involved in squeezing the most effective dual capability out of available resources.

Fortunately the difference between the nuclear force and the non-nuclear force is not so great as some seem to imagine. The reason for this is that almost all of the characteristics which are required for the nuclear force with the single exception of the nuclear weapons themselves would also benefit and increase the effectiveness of the conventional force. This pertains with equal logic to the means of air or ground mobility, to protection, to communication and to the logistic support forces and their equipment.

This is a happy coincidence and it provides an approach to organizational flexibility. Heavier armored forces are more effective in the very temperate zones where nuclear warfare between modern forces is the most likely. Armored forces also are least vulnerable to the nuclear weapon.

In those areas where distance and terrain discourage or prevent the use of heavily armored forces it is necessary and desirable to employ light combat forces which not only can move strategically and be partially supplied by air, but which also would seek to reduce their vulnerability to nuclear weapons through increasing use of tactical aerial mobility.

Tactical nuclear weapons must be integrated into both heavy and light forces so that their conventional capabilities are not impaired while at the same time their nuclear capabilities are not vulnerable to destruction by a surprise attack.

The current organization provides forces which are somewhat of this nature but they are rigidly fixed in division structures so that when a division is deployed the theater commander gets some of the elements he needs but also others which he might not need. For example, the light Pentomic division must be heavily augmented by the addition of armored personnel carriers to adapt it to the environment of Europe and Seventh Army.

There would seem to be merit in the idea of organizing heavy, perhaps medium and light, combat forces in separate TOE building blocks which could then be assembled in various combinations within non-TOE divisions heavily supported with organic and supporting mobile nuclear weapons systems in order to fit more precisely any set of variants in the enemy or the mission, mode of movement, terrain and climate, and nuclear or conventional operations.

From a national standpoint three categories of force are required. *First*, forces to deter a nuclear attack against the U. S. This involves a combination of offensive and defensive weapons systems together with the necessary warning and communications so that unacceptable damage could be inflicted upon any enemy who might consider attacking the U. S., even if he had the advantage of striking a first surprise blow. *Second*, conventional land, sea and air forces which, together with our allies, *can match Communist conventional capabilities*. This need not be a man-for-man match with every second string Communist Army if we take advantage of Western productivity and press on with modernization of our own and allied forces. *Third*, integrated with conventional forces a tactical nuclear capability strong enough to deny an enemy the chance of victory through tactical nuclear warfare. Once attained, such a posture would give the U. S. the most effective safeguard against the destruction inherent in the nuclear weapon without defaulting upon its responsibilities to its allies, to the free world, and to itself.

5

UNIFICATION: HOW MUCH MORE?

Col. WILLIAM E. DePUY

There have been only two modes of life in the Pentagon: preparation for the next reorganization, and recovery from the last. As a practical matter these periods overlap and become one. Therefore, the views which follow are based on the assumption that the subject is very much alive. They spring from the further assumption that professional soldiers should set forth their views on these matters which recently have been largely monopolized by laymen. Only one aspect is examined here: the role of the services.

Some area of underbrush needs clearing before the basic issue can be approached. The last 15 years have seen a somewhat uneven progress toward what is loosely called "unification." There has been a steady accumulation of power around the person and the office of the Secretary of Defense. Recently, the strength and scope of the Joint Staff were also increased. There has been, consequently, a diminution in the autonomy and authority of the several services. It is clear, however, from reading the debates in the Congress, and the testimony of Government witnesses, that no one has a very clear idea of where this process is leading, or indeed should lead. The public debates have been mostly distinguished by their tendency to wander off in pursuit of catch-phrases of doubtful value or significance. For example, anything that even vaguely suggests the desirability of increasing the power of the Chairman of the Joint Chiefs of Staff—or worse, suggests the possibility of a "single Chief of Staff"—is immediately attacked by allusions to dangers of creating "a man on horseback." Oddly enough, this charge seems to carry some weight even though no one ever seriously suggests that such a plan would produce a Napoleon, or a Genghis Khan or a Charles XII.

Even the President, with his enormous and open-ended powers including that of Commander-in-Chief of all the armed forces, finds it impossible to mount his horse and ride roughshod over the Congress, the press or even the services. In fact, the checks and balances within the U. S. Government seem to be working better than the Founding Fathers ever imagined.

Another specter which appears whenever the size or powers of the Joint Staff are discussed is the fear of creating a "great General Staff." Those who brandish this forensic weapon never get down to cases or bother to distinguish between the great General Staff of Moltke, or Oberkommando der Wehrmacht (OKW) of World War II. Without spending too much time on this detour, we might recall that Moltke's system was a unique and still controversial relationship between commanders and their principal staff officers who (the staff officers, that is) maintained a special relationship with their brother general staff officers at higher and lower headquarters. It was certainly not this system which led to World War I, but rather, and typically in the case of Germany, the political overlords who misused the undoubted military talents of the German people. During World War II, OKW was crippled to some extent from the beginning by the

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personal interference of Hitler who appointed and relieved its chiefs on the basis of their compliance with his wishes and the degree to which they shared his delusions. Even crippled as it was, OKW and Army High Command (Oberkommando des Heeres, or OKH) prosecuted a long, bitter and nearly successful war on meager national resources against the overwhelming strength of the Allies and the Russians. Whatever else may be said about the German General Staff, it can hardly be charged with inefficiency. If it was wicked as well, it was the wickedness of Hitler and the failure of the German generals to restrain him. Ironically, it was the reluctance of the German General Staff to become involved in politics rather than the reverse which is the usual basis of their indictment.

More recently, discussions of "unification" have wrestled with a maxim which is said to have developed from the experience of World War II, to the effect that "separate land, sea and air warfare is a thing of the past." Obviously, the phrase has some substance. If, for example, it means that the infantryman cannot win wars alone—that is, without airplanes and so on—then who can quarrel? On the other hand, if it means that armies, navies, and air forces are outmoded, then there are people who would disagree—myself included. In any event, it is not so definitive a statement as to be very useful as a guide to future action.

In addition to the clichés which tend to sidetrack us, we should note some permanently operating factors. The Congress, charged as it is with the Constitutional responsibility of raising and maintaining armies and navies (some people amuse themselves by imagining that the USAF is unconstitutional), finds it difficult to keep up with the Executive branch. With its vast powers and resources, the Executive branch tends to overwhelm the Congress. As a consequence, the Congress finds it helpful to be able to call witnesses directly from the individual services as a means of keeping tabs on the Department of Defense and on the Administration's military plans and policies. For this reason, among others, the Congress tends to view further unification with suspicion and fear. Suspicion that too much power is being accumulated by the Executive as opposed to the Legislative branch, and fear that a curtain of silence would fall around a too highly centralized defense establishment and make it impossible for the Congress to be informed on those defense matters for which it is responsible under the Constitution.

The Administration (meaning the White House, the Bureau of the Budget, and the Department of Defense) has consistently favored a greater concentration of power in the Office of the Secretary of Defense. Part of this is institutional and reflects the growth of the already extensive office of the Secretary of Defense with its array of assistant secretaries, special offices and agencies. Surely much of it arises out of the painful process which the Administration must endure each year as it forces reluctant services to accept smaller budgets than they individually feel they can accept.

Because the services traditionally feel a responsibility toward the nation, the Congress and their own institutional consciences, and because the services have political constituencies in and out of the Congress, industrial supporters and publicity outlets, there is an outburst of so-called "interservice rivalry" each year at budget-cutting time, or whenever a service feels its vital interests are threatened. Quite naturally this phenomenon, which has an unruly look about it, is distasteful and painful to the Secretary of Defense. He tends to favor measures which reduce the autonomy of the services and their ability to outflank him through the press and the Congress.

In their individual attitudes toward "unification" the services themselves have followed a somewhat erratic course. At the end of World War II, the Army was the chief proponent of

unification. The Air Force was concentrating upon its goal of "independence." After some initial hesitation, the Navy came out strongly for service autonomy and loose central direction by a weakly empowered Secretary of Defense.

The Navy remains largely opposed to any further increase in the power of the Secretary of Defense at the expense of the services. The Army has moved a long way toward the Navy view. Recently the Air Force has been favoring a merger of the services—something which sounds like complete unification. However, there is a suspicion that the view of the Air Force may be based more upon a desire to see the adoption of a single strategy than upon carefully thought out organizational premises. Within the past year or two, the strategy which the Air Force favors has been challenged in a number of quarters and might very well not be the strategy adopted by a single or merged service. Whether this possibility will work to reduce Air Force enthusiasm for unification, only time will tell.

How much more?

Now, what are the real issues? How much more "unification"do we want? The analysis which follows concentrates on only one aspect, but an important aspect, of this problem: the role of the services. My own experience in the Pentagon during the past 14 years together with that in certain foreign military establishments, seems to support four general propositions:

- The Army, Navy and Air Force continue to perform essential functional roles and are not mere relics of a dead past.
- Service functions are the basis of service doctrine, which is the mainspring behind the development of effective fighting forces.
- The complex process involved in the organization, training and equipping of fighting forces should take place within the service which has been assigned the basic function those forces are designed to discharge.
- Basic functions should not be split between two services. This requires some adjustment of currently assigned roles and missions.

If these propositions can be substantiated, they would constitute extremely useful guidance for the further efforts at reorganization which are so sure to be forthcoming. Let us look at them more closely, one at a time.

The Services Continue to Perform Essential Functional Roles

If suddenly the services were to be merged into one, the single secretary and his single chief of staff would face an interesting organizational problem. They would surely be forced to divide their gargantuan establishment into manageable functional elements. They could, if they wished, re-create at once a land, a sea, and an air force. They might, however, consider other combinations such as a force for general war and a force for limited war; or they might think in terms of a strategic force and a tactical force. But whatever scheme they might finally adopt, it would work better or worse depending upon the logic and clarity with which the functions were divided. Therefore—and this is embarrassingly obvious—the real question is not whether there should be one service or three services or five; but rather how should the major functions be logically divided and assigned?

Historically—that is, up to World War I—there were two broad combatant functions: to fight on land and to fight at sea. When the airplane came along, it was used at first to assist the fighting on land and sea. This was logical and proper. There were still just two combatant functions. But in due course the airplane developed the new capability of overleaping the land and sea battle and striking at the heart of the enemy's country. Thus, a new combatant function evolved. For a long time, this new function was confused with the means of performing it—the airplane. But that is another story which must await its turn.

At the present time, with a few notable variations, the three services are centered upon these three basic combatant functions. We know intellectually that the Army, Navy and Air Force only organize, train and equip forces which they then turn over to unified commanders who employ them under the strategic direction of the Secretary of Defense assisted by the Joint Chiefs of Staff. But there are some things we accept intellectually which we have not yet digested emotionally. So we continue to think instinctively in the old traditional patterns in terms of the Army, the Navy and the Air Force as the fighting services. This new relationship is subtle and is still evolving. Its essence seems to be that the services are not so much retailers from whose shelves the unified commanders pick and choose the combat elements they think they need, but rather that the services are more like the architect-builder or the designer-engineer who, as the acknowledged expert, advises the customer as to what he needs to do his job and then proceeds to produce it for him. This relationship is much like that between the Chief of Staff of the Army and his Chief Signal Officer who advises on the number and kind of signal troops required and then organizes, trains and equips them.

Service functions are the basis of service doctrine and service doctrine is the mainspring behind the development of effective fighting forces.

Service doctrine is the whole process by which a fighting service is built up around a combatant function. Thus doctrine, in its broadest sense, is everything the services have been, are today, and plan to be. The development and evolution of doctrine and its inculcation, mostly in the minds and hearts of the officer corps, are the life thread and the pulse of the fighting services. By definition and natural law, doctrine is institutional in character. Doctrine and the institution which it nourishes, and in turn, upon which it feeds, are exactly coextensive. There is no doctrine outside the institutional walls—nor can the institution creep outside the doctrine which is its rationale. The practical effect of this phenomenon is that the functions, which are split between two services, result in crippled and stunted military organizations and incomplete doctrine. On the other hand, doctrine, which flows freely from functions properly and clearly assigned, is the mainspring behind the development of effective fighting forces.

There is another aspect of doctrine which bears remembering and preserving. Because the services are solemn and venerable institutions they have acquired a wide range of traditions and values, and a long history of legendary exploits, victories and successes. These too are part of doctrine although they are seldom seen or fully understood until in some epic moment they become incandescent in action as at Carentan, in the battle of Midway, on Iwo Jima, or in MIG Alley.

The complex process which leads to the development of fighting forces should take place wholly within the service which has been assigned the function those forces are designed to discharge.

The development of effective fighting forces has traditionally followed an easily discernible pattern. Although officially we use the phrase "organize, train and equip," the process is slightly more complicated and somewhat wider than these three terms imply.

Starting with doctrine, the sequence includes research and development of weapons plus the evolution of organizations that are to employ those weapons. These two, together, lead to the development of tactics and techniques in which the forces are trained. The sequence is brought to life with men, money and material through a system of programming and budgeting. Now this sequence could be expressed in any of a hundred ways; but the important fact to grasp is that all are interconnected. Traditionally, and today, the services have performed this function. The question is simply whether or not this sequence, this process, should be performed by the services, by the OSD, or by a combination of both. The several steps require closer scrutiny.

- The first step is doctrine. Men come and go, weapons change, but doctrine is constant. In this sense, doctrine is the blueprint, the general specification for the force. Although doctrine is clearly the essential first step in producing fighting forces, neither OSD nor JCS has been able to make any doctrinal contributions on this level. Divorced by one echelon as they are, and must be, from the function of producing fighting forces, they have no basis for generating doctrine.

- The second step is research and development. The development of military characteristics for certain weapons and equipment is an outgrowth of doctrine playing, as it were, among the technical possibilities. The Army calls this process "combat development," and includes as well within the process the evolution of organization. In recent years, OSD has been active in the R&D field but chiefly in the role of referee. The function which seems to be performed by the various officials and offices in the R&D business at Defense level is one of evaluation and regulation of the R&D activities of the services when they seem to overlap or collide. OSD is not really in the creative end of R&D which draws its inspiration and thrust from the doctrinal machinery and institutional vigor of the services as they seek continuously to extend, improve, or augment their respective capabilities to perform their basic functions.

  Generally speaking, agencies which lie outside a functional field have an inadequate basis for evaluation and judgment. For example, within recent years, a number of operations research agencies have appeared within, and on the fringes, of the services and OSD. Notwithstanding the high value placed by these agencies on detached scientific objectivity, the record seems to show that their most effective work has been done during periods when they have deeply involved with one of the services as proponents or designers of weapons systems rather than as mere analysts and evaluators. In other words, the "kept" scientist is the best scientist because he enters the doctrinal environment of one of the services and works more effectively and more relevantly from within it.

- The third step is organization and training. The interaction of doctrine, weapons and organization leads to the development of tactics and techniques which are rehearsed and standardized through the process of training. Part of this function involves test and evaluation of tactics, weapons and organizations through field training exercises which in time of peace are the closest thing to combat experience. The lessons learned through these exercises are then fed back into the doctrinal process, into the R&D programs and emerge in the form of organizational modifications. Obviously, this cycling and recycling must be

a closed circuit if it is to function properly. An entire field army, in a sense, is a vast, integrated weapons system. The interdependence of the working parts of the field army—that is, the integration of infantry, artillery, armor, engineers, signal and other supporting elements, is the ultimate expression of Army doctrine. The Navy and Air Force have similar talent in their functional and doctrinal fields. It has never been suggested that this group of functions could be performed outside the services. Obviously, too, it could not be divided between the services and OSD.

There are two aspects to programming which should be noted. First, that programming has become so complex and interwoven, that one change in one program usually sets off a chain reaction throughout the entire service structure. For example, a decision to stretch out the procurement of some weapon automatically affects personnel programs, training programs, deployments, maintenance and operations, and a whole network of ancillary programs relating to supporting tactical and administrative units and installations. The second important aspect to recognize about programming, is that it can be done only within a single administrative and budgetary authority, and that authority must be the one charged with the basic combatant function. This is so because changes in programs affect capabilities and usually require some re-balancing of forces. Any rejuggling of forces requires doctrinal judgment taken in the light of the mission—that is, the function.

Theoretically, the budget simply enables the programs to take effect.

In practice, programming and budgeting are a combined operation of give-and-take. Although the programs are forced to conform to a budget ceiling, from the standpoint of our discussion the actual distribution of the budget between the various programs is the decisive process. Unless the programs and budgets are synchronized with the earlier steps involved in the production of fighting forces, then, of course, everything would be an exercise in futility.

We have seen how each step involved in the development of fighting forces flows out of a preceding step, and how the entire process is an integrated whole which draws its energy and direction from the basic doctrine of the services. We see clearly that this process belongs within a single functional element. This is why, for example, it has never been possible to centralize successfully all R&D in one defense-wide agency.

Basic functions should not be split between two services.

Just after World War I, the Royal Air Force was assigned the responsibility for providing aircraft and pilots for the Royal Navy. This split the basic function of providing weapons essential to the prosecution of the battle at sea between the Royal Air Force and the Royal Navy. During the period leading up to World War II, naval warfare was being revolutionized by the development of the aircraft carrier. The split responsibility, and the difficulties arising from it, put the Royal Navy so far behind that it never quite caught up by war's end, even though in 1937 the responsibility for carrier aircraft had been passed back to it. Even the redoubtable sailors of the British Navy found it impossible to make up for those lost years during which they did not control the development of what proved to be the primary naval weapon of World War II—the carrier aircraft. On the other hand, the U. S. Navy had full control of naval aviation and led the world in developing and using carrier aircraft.

The Italian Air Force also gathered under its wings the aircraft of the navy. At the battle of Matapan, in 1942, the reconnaissance aircraft of the Italian Air Force were elsewhere when the British Mediterranean fleet surprised and destroyed a large element of the Italian fleet. Clearly, the hapless Italian admiral did not control all the weapons systems he needed to do his job.

During World War II the Soviet Air Force, in a doctrinal and organizational sense, was dominated by the Red Army. As a consequence, that segment of the Soviet Air Force which was involved in the land battle functioned remarkably well. That portion which should have been involved in the bombardment of the German homeland remained feeble and underdeveloped to the very end of the war. The function and the doctrine of strategic bombardment was never properly developed in the Soviet system because it was submerged in an organization devoted almost exclusively to land warfare.

During 1939–40, the Luftwaffe looked like a perfect example of the feasibility of doctrinal and organizational cooperation between a separate air force and an army. We all remember the Stuka-Panzer teams which were so effective in Poland and France. But as the years went by, the German air force was drawn steadily away from the army into its own functional field. First, the bombing of Britain; then, gradually, the air defense of the German homeland. At Stalingrad and in Normandy, the army found itself without effective air support. Of course, part of this was due to the Allied victory in the battle for air superiority; but surely part was due to the fact that the German air force was drawn off into that domain which attracts the interest, the energy and the funds of both the U. S. Air Force and the Royal Air Force—the strategic bombing mission, or in the case of Germany, the defense against it.

Splits today in U. S. forces

Since 1947, there has been a steady stream of evidence that the functions of the U.S. Army and Air Force are split and confused. Unfortunately, in the very beginning, the function of strategic bombardment was confused with the means of performing it—the airplane. Only recently has this misconception begun to subside because obviously the missile has begun to perform many of the same functions. As a result of this confusion between ends and means, the Royal Air Force, and later the U.S. Air Force, set out to acquire anything and everything that flew. From a doctrinal and logical standpoint, they were quite right in acquiring the strategic bombers and those fighters required for the air defense of the continental United States and Britain. But they were quite wrong in going after naval air (the aircraft involved in the prosecution of the battle at sea) or tactical air (the aircraft involved in the battle on land). As we have seen, the Royal Air Force succeeded in getting both for a time, while the U.S. Air Force acquired only the tactical air forces designed to support the Army.

When the Army supported the creation of an independent Air Force, soldiers assumed that it would be one part of a package, the remainder of which would feature one department, one civilian secretary and a single chief of staff. Presumably, the Army believed that such a strong authority at the center would see that the new Air Force provided all the tactical air support the Army required, more or less as it had during the war. As it turned out, the Army was naive both doctrinally and politically. The Air Force became independent, all right, but no strong central authority was created. Ever since that time, the Army has been in varying degree a "dissatisfied customer" of the Air Force.

The Army depends increasingly upon aerial mobility on the battlefield to overcome terrain obstacles and to begin to redress the balance between fire and maneuver which has been thrown badly out of kilter by the nuclear weapon. Because the Air Force has been assigned the function of providing forces for close combat support, reconnaissance, interdiction and tactical airlift, the Army has been unable to control the number, the type, the deployment or the operational doctrine of many of the aircraft on which Army forces depend for success. It is worth mentioning here that in this regard the plight of the British Army is wholly pathetic. The Royal Air Force underestimates the importance of aerial mobility to the British Army, while British Army aviation is restricted to a few of the smallest artillery spotting and reconnaissance aircraft.

Within the past ten years, U.S. Army aviation has enjoyed a phenomenal growth. By recognizing the airplane as a commonplace means of getting about somewhat faster than on the ground, the Army decentralized its aircraft into all the arms and services. Every branch now uses large and increasing numbers of aircraft in the pursuit of traditional tasks. This growth cannot be explained as an attempt by the Army to invade the special province of the Air Force. Rather, it is the consequence of Army doctrine following the natural lines of the Army's basic function; and in this case, seeking to extend and improve battlefield mobility through the use of flying machines and to improve the effectiveness of its firepower by mounting it on aerial platforms.

By designing aircraft which can compete at 60,000 feet with the best the Russians can fly, the Air Force has literally and figuratively flown away from the Army. The multimillion dollar supersonic jet is not an economical weapons system for attacking enemy tanks or infantry strong points. Yet more than ever before the Army needs airborne weapons systems for this purpose. Even if one could agree with those who claim that the latest fighters are as effective in ground support as their propeller-driven predecessors, certainly it is not arguable that we can afford enough of them for this task.

No one should blame the Air Force for this state of affairs. It is drawn instinctively, powerfully and understandably to the function it considers most important: its own. It would be against all experience and logic if it were to act in any other way.

Because the Army and Air Force functions have been loosely set forth, both services have been drawn into the business of continental air defense. The Air Force entered the field initially because it believed its function was to fly airplanes for whatever purpose. It is easy to see why Army antiaircraft artillery was deployed in the air defense of the U.S. But as the Air Force begins to move away from the aircraft as its rationale and into the more stable functions of strategic bombardment and continental air defense, it becomes more and more painfully obvious that the Army is in the middle of that function with its surface-to-air missiles deployed in the continental U.S. air defense. The conduct of this defense is becoming an increasingly technical and complicated affair, as is the electronic environment in which it operates. The Air Force has long held that this complex of warning, communications, identifications systems and control of both offensive and defensive weapons systems must be completely integrated; and therefore, that the whole system must be planned, designed and operated by one agency, with one doctrine—the Air Force. The problems with Nike and Bomarc, the integration of Missile Master with SAGE, the tizzy over the Army's alleged doctrine of shoot-em-down-first-and-sort-em-out-later—these are fully predictable results of symptoms of the basic trouble which arises when functions are not carefully defined and assigned.

If the three basic functions we have described were to be aligned precisely with the three services, their charters would look something like this:

Charters for the services

The Army would be responsible for providing those forces and weapons systems required for the successful prosecution of war in the land environment which is defined as the surface of the earth, the boundary layers of air and the contiguous waters of the sea which touch the land and in which the forces and weapons systems involved are deployed and fight directly in the land battle.

The Navy would be responsible (as indeed it is now) for providing those forces and weapons systems required for the successful prosecution of war in the maritime environment. The maritime environment is defined as that area of the ocean's surface and depths and the air above them, and land on the shores of the sea, in which forces and weapons systems directly involved are deployed and fight in the maritime battle.

The Air Force would be responsible for providing those forces and weapons systems required for the offensive and defensive aspects of strategic intercontinental air and missile warfare. Specifically, the Air Force would be responsible for providing forces for bombarding the enemy's homeland, and for defending our own against enemy bombardment.

This assignment of functions is very nearly complete and logical, but some bugs remain. Duplication is not automatically an evil. For example, all the services use trucks, small arms, food, medicine, telephones, and so on; but in the more expensive fields, such as aircraft and missiles, duplication is certainly not a virtue. It would be appalling to contemplate the cost if the Army were to duplicate the entire technical, research and base structure behind the tactical air command. It would be absurd to imagine the Polaris submarine manned by airmen. No matter how we may yearn to force everything into our handy mold, we must observe some common sense and fiscal limitations. So, one is tempted to tinker a bit with the formula in order to eliminate what would be some obvious nonsense.

A distinguishing characteristic of the field army is the mobility of all its elements. From the infantryman on foot or in his armored personnel carrier, to the hospital on wheels, every element can pack up and move into the next field or the next county and go into combat without outside help or delay. Army aircraft can take off from unimproved airstrips and Army machine shops and gasoline supplies roll on wheels. It would be a mistake to encumber this kind of an organization—the only kind that could hope to survive in an atomic war on the ground—with weapons which are tied to concrete installations, runways or pits. Furthermore, it is too early to tell whether we are nearing the end of the era in which it is necessary for supersonic aircraft to fight a local battle for air superiority; or whether missiles have changed or eliminated that function. In any event, the kind of aircraft which take off from concrete runways are still very much involved and necessary in today's battle. VTOL and STOL aircraft, which can live and operate in the environment of the field army simply are not yet (and may never be) developed enough to fight a battle for air superiority. But some day, perhaps within this decade, two things may happen which will help solve this problem. First, it may become commonly agreed that fixed airfields are too vulnerable for use in the area of the field army. Second, the VTOL and STOL aircraft may develop the necessary capabilities and characteristics to perform all or nearly all of

the tactical missions now performed by the Air Force. The jet VTOL recently built and flown by Messrs. Harlan and Wolff in Britain, would seem to be a big step in this direction.

So it would seem that the best solution from all standpoints, is to give the Army the green light on developing and using any aircraft so long as the flying machines could survive and operate in the combat environment of the field army. This means they would be STOL or VTOL, and could take off from and be maintained at mobile bases and unimproved fields. Within the limits of this stipulation, the Army's charter would include aircraft to perform the full range of missions now performed by USAF's Tactical Air Command, including close combat support, reconnaissance, interdiction, and tactical airlift. If, eventually, the Army could discharge the full tactical aviation role now being performed by the Air Force, then the Air Force would withdraw. The policing of the phase-over would be a challenging task for OSD and JCS.

The transfer of air defense could also be done in one great crashing blow, but here another possibility also exists. The current Nike Hercules battalions could be manned by Army troops for as long as those weapons remain operational. As, inevitably, they are replaced by some improved system, the Army could redeploy its personnel and funds into mobile missile systems for the air and missile defense of the field army. This purely Army need has gone begging for years, even though in the opinion of some it is a fatal weakness in army field forces.

The fighting elements of the Navy also are characterized by mobility. The Polaris submarine is designed to operate within the combat environment of the fleets at sea from which it draws its support and protection. Therefore, with regard to the Polaris problem and the problem of TAC and air defense, the most simple solution would be this one: Assign to the Army and Navy, respectively, responsibility for developing and manning all weapons systems which are deployed in a mobile configuration in the environment of the field army or the fleets at sea, and which depend upon the armies and fleets for support and protection. This addition to our basic formula leaves Polaris in the Navy. It gives Army aviation a green light. It opens the door to Army control of land mobile strategic missiles, if they are to be deployed in the area of the field army; and it leaves in Army hands the rocket weapons for air and missile defense of the field army. It gives air defense of CONUS to the Air Force and leaves the Navy with its happily balanced four-dimensional force. This kind of solution would seem to meet and establish at least one basic requirement for a sound defense organization: *that the basic functions of organizing, training and equipping land, sea and air forces should not be split between two services or between any service and OSD.*

Finally, we return to the question with which we started: How much more unification do we want? Having centered this discussion almost exclusively on the role of the services and having left unsaid the large and increasing scope of OSD and JCS, we can give only a partial answer. With certain specific modifications, we want to preserve the Army, the Navy and the Air Force as functional entities within the Department of Defense. Necessary and inevitable improvements in defense organization and in the operations of OSD and JCS should not be permitted to destroy the organizational or doctrinal environment which the services require in order to produce fighting forces of traditional quality.

6

LECTURE OF OPPORTUNITY – "VIETNAM"

By

Major General William E. DePuy, USA

20 March 1967

The transcript of this speech was provided by the librarian of the National War College, Washington, D.C., and is identified there as NWC-S-2977-67. The transcript is also located in General DePuy's papers at the TRADOC History Office, Fort Monroe, VA.

LECTURE OF OPPORTUNITY - "VIETNAM"
By
Major General William E. DePuy, USA

(20 March 1967)

GENERAL DePUY: General:

This is a very difficult group to talk to. I happen to be aware of the fact that in your number here there are people who are real experts on various aspects of what went on in Vietnam because they participated in it. I have in mind, for example, such people as Ed Simmons, who was the G-3 of the III MAF and then commanded the 9th Marines, if I am not mistaken. In any event, he knows a lot more about that than I do. There are many others here in exactly that same situation.

I would hope that the question period which follows my very brief remarks would then focus on what you are interested in. I thought what I would try to do in 30 minutes—and do not be alarmed if I have a bad memory—is tick off chronologically the development of the situation over there as I saw it and lived through it. Then you will have some idea about what I know; then you will not ask me questions about things of which I know nothing.

I might say that generally the first two years as the 3, I had the Saigon view. I wandered around the countryside and visited advisers and units and so on. For the last year, when I was with the division, I did not return to Saigon ever. For one year what went on in Saigon is a complete mystery to me, I just do not know what went on in Saigon, and I would steer you away from questions on the last year in Saigon to save all of us a great deal of time.

I would like to tick along, starting in 1963 and ending up when I left, the war as I saw it, the major events, some ideas I have and some observations which I would like to make. In 1963, which was the year before I got there, but I spent a lot of time out there in 1962 and 1963, primarily with the Special Forces, the war was going very, very well. It was controversial government, but it was an effective one. The police were working pretty well. Diem had almost everybody organized into something, whether the girls or the Republican youth. The ARVN was building up, and things were moving along. The VC were not making any progress; in fact, I think they were slipping backwards.

In about June and July the trouble started. It culminated in the coup and assassination of Diem. Then there was a year of real problems, when everything came to a grinding halt. Immediately after the first coup the government lasted only a few months under Big Minh. All the province

chiefs were changed. The talent in South Vietnam has always been pretty thin; the French did not leave them in very good shape in the first place. These coups were very expensive in terms of talent because when you get rid of the province chiefs, you have to find 42 more; that is not easy to do. When you got rid of four or five of the top generals, you had to find four or five more. That was not easy. I think over the past four years you have seen a kind of general strengthening in the overall leadership available throughout the country.

About the fall of 1964, in fact, November of 1964, a very important development took place. By that time, even though there were still a series of political sort of tragicomedy taking place, they were all tragic, but some of them were fairly humorous, these coups. The Vietnamese, urged by General Westmoreland and others, had in fact attempted seriously to take all of the Vietnamese army units and regional and popular forces and scatter them out into the provinces and districts and patrol with small units and saturate the area. It was beginning to work. As a matter of fact, in the 2d Division area, up in Quang Tin, it worked very well.

It was beginning to work in Binh Dinh Province, but it was in November 1964 that the Viet Cong moved two regiments into Binh Dinh Province. They knocked off almost all of—I know all of you are aware of where these places are, but this happened to be just north of Quinhon, right up here in the Bong Son area, where the 1st Cav has had so many fights. They knocked off most of the independent patrolling companies. They killed or caused to disperse most of the regional and popular forces. Those they did not kill fled into the little triangular forts and became relatively inactive.

The following month in Phuoc Tuy Province there was a Catholic village of some 5,000 people—Binh Gia. In Binh Gia two regiments of Viet Cong under division command for the first time, to my knowledge—I am not sure there was never one before that, but I did not know of one—attacked and sustained operations for about five days. In the course of their operations there, they destroyed the 4th Vietnamese Marine Battalion and the 33d Ranger Battalion. They had a general who was riding around on a horse commanding this thing. They stayed on the battlefield. This had the most tremendous impact on the Vietnamese army and on the overall morale and psychology of the Vietnamese authorities. I might say it also had a tremendous impact on MACV and on Washington because this was an obvious and almost first example of what looked like the so-called phase three or open warfare on a sustained basis such as they had conducted against the French.

This had General Westmoreland worried. I am sure it had people back here worried. It was at that time there was the first serious consideration of major ground force deployments. They were not made immediately, but they were being seriously considered. Recommendations did come back at that time that it would not be long.

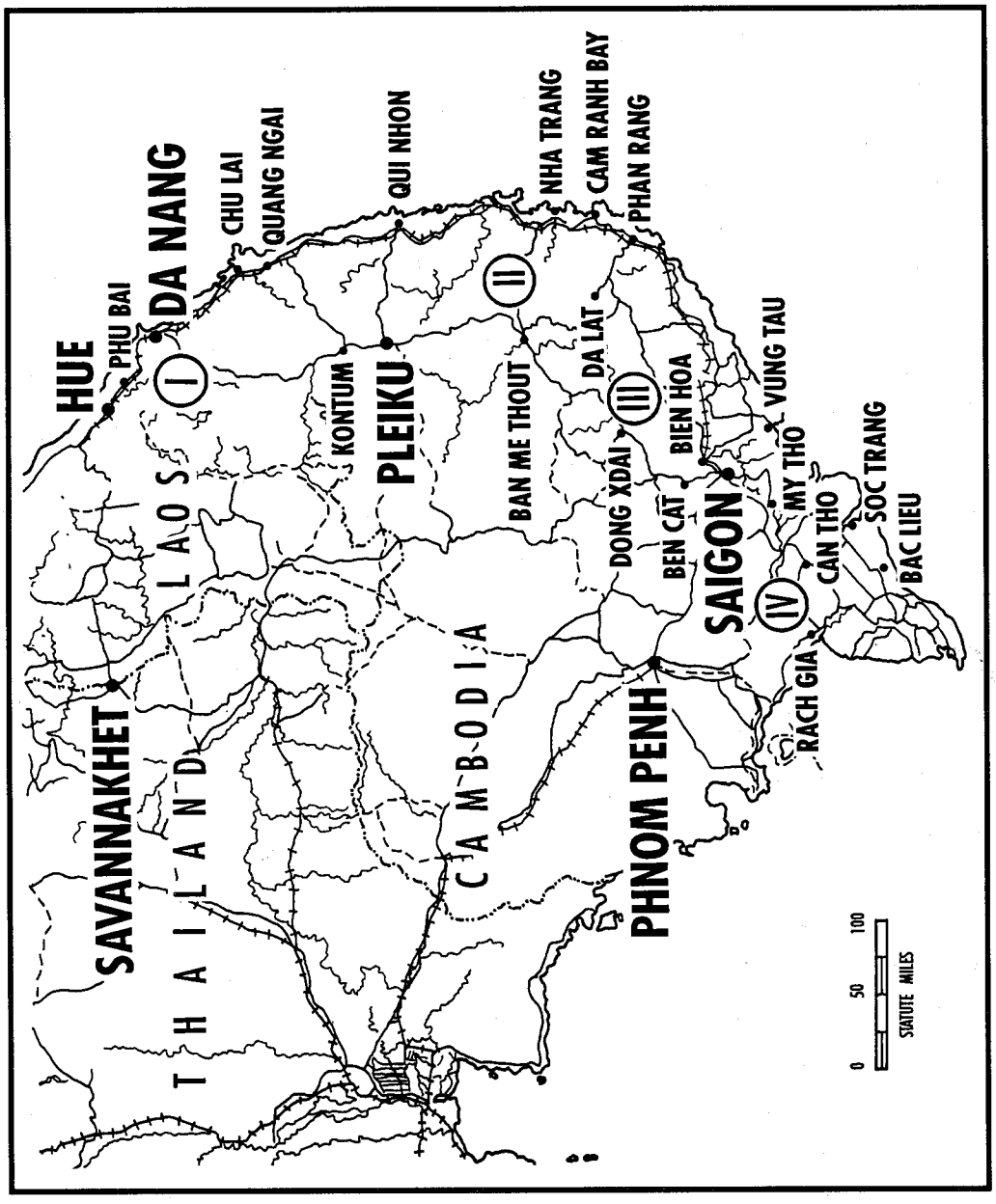
Then about February, when the bombing of the North started, this was triggered, although I would not say "caused" by the successive shelling of Holloway Army Airfield at Pleiku and the following day the blowing up of the hotel at Quinhon (see map). These two episodes, although not in themselves sufficient to start an air war against North Vietnam, were the events which in fact pulled the trigger.

In the following month, March or thereabouts, step by step jet fighters were thrown in. You may recall the jets were striking the North and were not being used in the South at one time. One policy decision after another was made; first the jets were turned loose in country, then the B-52s. Gradually it went on up. If I am not mistaken, the Marines landed in March. I believe the 173d Airborne Brigade landed in May. The most critical time of the war was, clearly, May, June and July of 1965. This was the bottom.

At that time there were about three or four major actions. One of those actions took place near Quang Ngai City at a town which has almost the same name as this one. This is Bien Hoa, and that is Vinh Ba. At Vinh Ba a couple of Viet Cong regiments attacked an outpost and then overwhelmed the ARVN, the Vietnamese and Marine action force. The 38th Ranger Battalion was completely destroyed. Again the VC stayed in the field for a little while, longer than anybody wanted them to.

At about the same time that happened, the 9th Viet Cong Division had fought this battle in December with two regiments, attacked Dong Xoai, again under division control. In the course of that battle it destroyed the First Battalion of the 7th ARVN Regiment and the 6th ARVN Airborne Battalion completely. During that period of time, as I recall, we were losing about one to two Vietnamese battalions a week, countrywide, and one to two district towns a week. District towns down here were given up; district towns over in here were given up; district towns out here—Dak Sut, north of Kontum; Thuan Mong, and so on—simply because the VC were attacking them, overrunning them, and the government did not reestablish them.

It was General Westmoreland's opinion at that time that the war had about six months to run maximum, were we not to come in in strength and fast; and I certainly agree with that. I am not


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even sure that we would have had the full six months. This was even with one Marine brigade and one Army brigade in country. The problem was simply this: Something had to be done to get the main force Viet Cong off the backs of the Vietnamese army and the regional and popular forces, and it had to be done very, very rapidly.

I would like to say a word about what I think has been the VC concept of the relationship between their main forces and their local forces. I will come back to this and try to make another point. As you know, every little hamlet tries to have a squad; every little village tries to have a platoon, every district a company, every province a battalion. Then behind that you have regiments and divisions, whether they come from the north or the south; they have the same general purpose in life. The VC system, which came to full flower in the last half of 1964 and first half of 1965 insofar as success was concerned was that if the little hamlets got in trouble, the squad, they called on the village platoon. If the village platoon could not handle it, they called on the district company, and so on up the line. What we were seeing happen in late 1964 and early 1965 was that the main force regiments had been called upon by the local VC organization, provincial or district, to come in, to just clobber the Vietnamese army, and by so doing, making it possible for the local VC to recruit more guerrillas and to extend their organization throughout the villages, hamlets and districts. They made a lot of progress; they were clearly succeeding. I personally do not think there was any choice at that time; you either came in and met that particular threat or you lost. I do not think it was a complicated decision to be made; it may have been an agonizing one in terms of what has happened since, but I think it was a black-and-white choice at that time; you either moved in or lost. That is my fixed opinion.

In the fall of 1965 and all of 1966 have been more or less characterized by a pretty massive deployment with many, many logistic difficulties. As always, the people out there wanted the forces faster than they could be provided. The limiting factor was not really the availability of combat forces, but was really of building a big enough structure to take care of it. I think when the history of the buildup is finally written and analyzed, it was a miracle, and that the logistic chances taken in order to get the forces there were considerable, but all apparently worked out okay.

When the United States forces began to deploy against this threat, the Viet Cong tested them very heavily, and I do not think any unit went into Vietnam without having a lot of very stiff battles right off the bat. I know that the Marines had a very stiff one just out of Chu Lai, not long

after they arrived there. I know that the 1st Cavalry Division had a heck of a fight up in the Ia Drang Valley when they started moving out. The 25th U.S. Infantry Division had to fight for its base camp at Cu Cui, and I know that the 3d Brigade of the 1st Division had to fight for its base camp at Lao Cai and is fighting for Highway 13 to this day. So, there was a period there in the fall of 1965 and the first half of 1966 where there was really a lot of testing going on.

Then enough people got in, and a rather sustained offensive has taken place ever since. I think it has had a very major impact in that what it has done is turn the coin over completely. I say that for this reason: If you look at and read your newspaper, you will get as much from that as anything else about where the battles are taking place today. I think you will find the bulk of them are not taking place in the populated areas. If they are, they are along the edge. In other words, up here, along the DMZ, along the foothills, up along the Cambodian border in this area, along the Cambodian border here and here; this is not true, however, in the Delta; but this is where the battles are taking place. The Delta is a different kettle of fish. What does this mean? It means to me that the dependence of the local VC forces on the main forces has been somewhat broken, not finally and not absolutely, but the area about which I know the most is just north of Saigon, this entire area here. It has been well over a year since any main force VC unit or North Vietnamese has fought a battle in a populated area. To me it means that they have not been able to come down to support the provincial battalions and the district companies. This may not be true throughout all of Vietnam. I think it probably is not. Looking at the picture broadly I think it is safe to say that the bulk of the main force VC are on the borders or pretty deeply back into the jungle and that they have had a minimum impact on the populated area and the problem which exists in the populated area.

This sets the stage, if that can be maintained; in other words, if the big boys can be held off with your left hand and you go out to fight them only when the opportunity is good and the prospects of success are high, and in the meantime operate in the populated areas, the chances in the long run are that this is about as far as the military side can go in solving the problem. I think this is what we see all over the place; at least, that is what I saw, and it is what made me leave, feeling rather well about the situation in the area in which for the last year I worked.

This brings me to the "other war," as it has now been dubbed. I would like to talk about the "other war," but I would like to say I think there are some oversimplifications and some generalizations being used with respect to it that really do not fit the facts on ground. In the first

place, it is not another war, if by the other war we mean that is the civilian war and that the Marines and the Army and the Koreans are going to fight just the main forces. There is this misconception; that does not mean that at all. I would venture to say that in the 1st Infantry Division we spent more than half our time on the other war. I know the Marines do the same thing. The 1st Cav does not because it operated to some extent often in areas with no population. So, (a) it is not a civilian war, the "other war." What it is, it is the war against the local forces. By that I include provincial, district, village, and hamlet. It is a very, very big war. There are a lot of provincial battalions, district companies and village and hamlet guerrillas.

(b) It is a very difficult war. I had some statistics pulled together for me before I left, and I found that we were killing about 5.8 VC per battalion day when we fought the big boys, but we were killing about 1.8 per battalion day when we were fighting the little ones. It is harder work. You get fewer, and your casualty ratios are not as satisfying because it is a boobytrap claim or war. But how is this war being fought? I cannot tell you how the Marines are fighting the war. A year ago I was reasonably close to it and much impressed. I would not try to say how they are doing now because I have not seen it. We have General Pott here and Ed Simmons, also others who can tell you.

In our area, and, I think, in the Korean area the "other war" was being fought in various ways. There has been a feeling, and I think it has been engendered in the last year that the "other war" is no business of the United States military forces, but, rather, is a war to be fought by the Vietnamese. This is not true, and it is not feasible to think about it in those terms yet because the problem of the "other war," the local war, is still too big a problem for the Vietnamese to handle alone. Once that problem is squeezed down to a smaller problem, the time will come when, I think, they can handle it. We are nowhere near that right now.

We tried two different approaches to the "other war" in the area in which I worked, and we worked with two divisions, the 1st Infantry Division and the 5th ARVN Division. Generally speaking, we tried to do the things they could not do. At one time we tried together to completely clean up one set of villages. Then having done that, we hoped to sort of expand the perimeter. This did not work very well. It is a kind of a waste of time because you are sort of trying to redecorate the kitchen while the living room is on fire. It is not a productive way to go about your business.

We changed, to take a bigger area, so that we could put pressure on the whole VC provincial system at one time. In other words, we would go after the provincial battalion and the local companies and the village and hamlet guerrillas on a sustained basis with large forces over a long period of time. It was a real war; it is beyond the capability of the Vietnamese to do it alone; it is a lot harder than going out fighting the big battles. And this is the point I would like to make.

For some reason or another some people feel it would be easier for the Vietnamese to do that kind of fighting, but I can assure you that it takes a better battalion of infantry to patrol seven days a week, 24 hours a day, 365 days a year with squads and platoons and companies than it does to go out every three months and have a big hoedown with the Viet Cong because you have to have a lot of good sergeants and lieutenants to patrol all the time with squads and platoons, and the leadership potential in the Vietnamese army is not up to it. They can do some of it, but they cannot do enough of it. If we can get the problem down to where there are fewer guerrillas around and the problem is less, the danger is less, there will come a time when they can do it. They want to do it; they are trying to do it; in some places they do it reasonably well; in most cases they do not do it quite well enough. So, it really boils down to the fact that the United States forces go out after the big boys when it appears profitable to do so or it is necessary to drive them back into the jungle and immediately go right back into the populated area and go to work. That is the pattern, and I do not see how that pattern can be changed or abandoned by some kind of a decision that we will do one thing and they will do another. I do not think it is happening out there, and I do not think it is practical to expect that it will.

In going about the business of depressing the general level of Viet Cong effectiveness and strength in a regional area like a province you have to do all sorts of things. Many, many of these things you cannot do yourself. I would think that out in Vietnam today the Marines and the Army, particularly, and a lot of Air Force support with various kinds of flying machines are really learning how to do psychological operations. I used to be in this business before, and we used to discuss it endlessly, but when you get right down to it, you have to do it on the ground. I think people are getting rather good at it. They understand it. It works, but it does not work in a vacuum, so I would like to make this point, that you cannot talk people into stopping what they are doing or surrendering with a clever argument alone.

You can sit and write extremely clever leaflets, broadcasts and appeals, and nothing will happen unless you combine it with a tremendous amount of military pressure. You can put a lot

of military pressure on and not get any "Chieu Hoi's" if you do not also do the other. I think everybody has learned that lesson, that it is a combination of the two; it takes a lot of artillery shells, a lot of bombing, a lot of patrolling, a lot of attacking, and a lot of broadcasting, leaflets and talks. It pays off, and people are learning how to do it. There is nothing mysterious about it at all except that most people out there now use the VC to write their leaflets. At least, we did in our area because they write better leaflets than Americans. They write them quite a different way than we would. They do not appeal much to me; they are rather flowery and long, but apparently they are better than the kind, the curt type we would become involved in.

How do you get the guerrillas out of an area? It is a fact of life that the guerrillas cannot get away because they are wedded to their village or their hamlet or their district, and the district company will not leave the district because if it leaves the district, it is by definition no longer the district company, so you kind of have them in the round-house there; they may be hard to catch, but you know they are going to stay in the district; you know the village guerrillas are going to be near the village. Usually they are as close as they can get. In other words, if they can dig a little tunnel or base camp only 10 meters outside the village, that is exactly where they will do it. They will have 5, 6, or up to 10 of these little hiding places for 10 to 20 people. You must get rid of those. You can do it in various ways. You can go in and blow them up.

Toward the end out there we got onto the bulldozer idea. We bulldozed down the jungle around the villages. I think this more than anything else led to a tremendous influx of guerrillas who could not figure out how to operate after that had happened. You also combine that with a lot of patrolling, raids, ambushes, artillery fire, and air strikes against the whole system.

Then you have the problem that the guerrilla may go inside the village while you are out mowing down the jungle. I think almost everybody in Vietnam has tried to solve that or has solved by repeated cordon and search operations at various times of the day and night. I can think of four or five villages that were cordoned and searched up to 15 times in a period of 7 months; every time the minimum take was 3 guerrillas. How was this done? It does not matter whether the United States or Vietnamese forces do this job; it is best to have both, but then the people who go inside the village and screen have to be the police, or at least have to be somebody who can go in and get all the people out and take them down to the police. I know there is a considerable interest in that aspect of it; it is getting better and better, but frankly, until very, very recently the system simply was not up to snuff. In other words, the police station at Vinh Son

City, up until December did not have a card with the man's picture and fingerprints on it, so we might pick him up 10 times and have him interrogated and send him back again, with no record of it. But this is coming along, and until it does come along and is a system which works throughout the country, it is very hard to clean up the place. The most productive operation you can have is to descend on the village, send the people to the police. The police identify the VC, and you have not fired a shot; nobody has been killed, civilian, military, or otherwise.

The iron triangle and Headquarters MR4, used to be the Saigon-Cholon-Djiring special sector. A document was captured in which the MR4 had ordered all VC cadre and all VC units to stay out of towns and villages unless they had the written permission of the military region headquarters because they were being picked up too rapidly by this type operation. It meant they had to go out into the jungle, into the base areas; then when you go into the base areas and eliminate them, you are beginning to present problems they cannot handle. In one very short period of time we had, in 2-1/2 weeks, 510 walk in and give up. That is the largest I know of in any short period of time. It was a combination of those tactics that did it, together with a great deal of firepower.

I see that my first 30 minutes are up, and I would like to close this one by saying that the worm has turned. What they were doing to us in 1964 and 1965 we are now doing to them. I would not want to speculate how long it will take. It is moving in the right direction, and the main forces are generally back in the jungle. The general organization, morale and effectiveness of the local forces are steadily—not fast enough, mind you—going downhill. I just cannot help but see success at the end of that road. There will be setbacks, and it will take a long time, but I do not see how you can lose once that is set up.

We had better keep the force ratios that are required to continue to do what we are doing, and, gentlemen, I think that will solve the problem.

Sir, I will break off at this point, and the questions will probably be more to the taste of the audience.

7

Army Leadership Moves Upward on Performance

by

Major General William E. DePuy

Gen DePuy, Special Asst for Counterinsurgency and Special Actions, Office of the Joint Chiefs of Staff, is former commander of the 1st Inf Div in Vietnam. This article is excerpted from an address given to representatives from ROTC at 147 universities and colleges who attended the Annual Meeting of the Association of the US Army in October. He was commissioned through ROTC at South Dakota State College (now University) and has served in the Army 28 years.

When I came in the Army in 1941, I was very much aware of my status as a Reserve officer and as a graduate from the ROTC in distinction from those Regular Army officers who came from the Military Academy or who had been commissioned in the Regular Army—in those days mostly from the Thomason Act. As the years have gone by, however, that feeling has disappeared until it never occurs to me either in respect to myself or in respect to any of my colleagues.

There may be those who continue to attach great significance to the source of a person's commission, but I rather think that they are few and far between, after a few years of service. I can assure you that while commanding the 1st Inf Div in Vietnam, I would have been unable to tell you which officers came from OCS, from ROTC or from West Point. Whereas I think I could have talked in some depth about the accomplishments and the caliber of all the brigade, battalion and most of the company commanders.

There are good reasons for this and statistics may tell the tale. For example, right now 27 percent of the colonels in the Army are ROTC graduates, 45 percent of the majors, and 47 percent of the captains. This year, 1,500 ROTC cadets will be commissioned as Distinguished Graduates in the Regular Army. There was a time when most of the general officers in the Army were graduates of the Military Academy. Although I suppose this is still the case, there are now 146 general officers who were commissioned from ROTC, constituting 28 percent of all the generals in the Army. Of the 146, there are three lieutenant generals, 59 major generals and 84 brigadier generals. Three Chiefs of Staff were educated at civilian colleges—General Leonard Wood at

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Harvard, General Marshall at Virginia Military Institute, and General Decker at Lafayette College.

Now all these statistics are meaningful in a way, but they miss perhaps the most important point of all, and that is that our Army, more than ever before in its history, now reflects and represents the people of our country in all of their diversity—geographic, economic, social and ethnic. This is good. It really means that the people and their Army are one. There are Armies in the world unlike ours in which the officers corps for one reason or another represents only a small social, economic or ethnic group. In most cases, these unrepresentative Armies evidence weakness of one kind or another and in almost every instance the remedy which is sought to correct the weakness has to do with bringing up, from amongst the people, the natural leaders.

It is not only fitting and proper that our Army should be so organized but it is almost automatic when viewed in the context of what this country really is. I notice that the sociologists increasingly use the word meritocratic, meaning very simply that those with merit are afforded an opportunity to rise through the social structure to the limit of their ability with few other qualifications or inhibitions. In many ways, this is an advanced sociological concept simply because all the students of advanced or successful societies recognize the necessity for upward mobility. The fact that our three Presidential candidates this year were all of humble social and economic origins is a perfect example.

You may know that the Communists place great stock in the necessity for merit and upward mobility. There was a time in the Soviet Union when only the sons of workers or peasants had a sufficiently clean background to aspire to positions of responsibility in the Communist hierarchy or in the Army. To a very large extent, this is true of the Viet Cong. Until very recently the South Vietnamese Army has been criticized for its unwillingness to promote on merit regardless of social, economic or academic backgrounds. Lest I go too far and be misunderstood, what I really am saying is that the United States Army, as much as any Army in the world today, reaches out into all walks of American life to find its leadership from amongst those who demonstrate the intellectual, moral and physical characteristics required to lead men in combat. I find this to be an inspiring situation and one which gives me confidence in the future of our country and our Armed Services.

There is a strange phenomenon associated with the command of men in war with which young and prospective leaders should be acquainted. The military hierarchy is characterized by some very stringent rules and regulations insofar as obedience to orders is concerned. It must be thus in war or in any well ordered organization. When the division commander orders the brigade commander to mount a particular operation, those orders must be followed—intelligently, of course, after an exchange of views between them—but in the last analysis, carried out without fail, and so it is between the colonel of the brigade, the lieutenant colonel of the battalion, the captain of the company and his lieutenant platoon leaders.

But, in all frankness, the system is a little different within the platoon. Within a rifle platoon, particularly, the lieutenant finds himself within a body of fighting men some 30–40 strong, of varying skills and backgrounds, involved in a hazardous, often unpleasant task. The lieutenant is in charge because presumably he is a natural leader as well as a trained officer. But at that level, the Uniform Code of Military Justice on which he must stand legally, is rarely the instrument through which he exercises command. He is concerned about the lives and fears and

hopes of his men and he feels very much a part of that small body. To the extent that he understands them and yet does not surrender to them, to that extent, he will become a great leader.

To lead, he must share their fears, their hopes, their aches and pains and still give to them strength and inspiration. Young America understands this. No matter what the generals may think, there is an equalitarian aspect to the rifle platoon. I reiterate that young America understands this. So, why is it not better to pick our lieutenants from the main stream of American life? Why is it not better to retain in them all of the insights of American youth and only add the skill, the determination and the pride of a military officer?

There is nothing complicated about the command of men in combat and, no matter how sophisticated leadership courses may become, there are only three steps to be performed, easy to state and not difficult to accomplish.

First, a leader of troops in war must decide in each tactical situation, or, for that matter, each administrative situation, exactly what it is he wants to do with his unit; military training of a tactical or technical nature should equip him to do this.

Second, he must tell his men precisely what it is he wants them to do and in most cases it is best to tell them in the language of the street, not the language of the field manual. If the officer knows with certainty and confidence what he wants to do, he will have no trouble telling his soldiers what he has in mind.

And then, lastly, he must insist that they do exactly what he has told them to do. This is the prescription for a great military leader. It is probably also the prescription for a banker, a baker or a candlestick maker. The only difference is that the stakes are higher, and in war mistakes can not be undone. I hope that each of you will remember those three steps and that you will not get lost in too many other considerations.

Good leaders come in all sizes, all shapes and from all backgrounds. Some are tall and handsome; most are not. Some are brilliant; most are not. But all are serious, straight-forward, diligent in learning their trade and insistent on performance. This is all there is to it and as you go back to your schools and thenceforth graduate into the real world of war or peace, I wish you luck, success, and happiness, and I want you to remember that you are walking with that great host of college graduates who are also officers, who have carried at least half of the burden of our country's defense in terms of leadership for as along back as I can remember.

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BRIEFING BY LTG DePUY
7 June 1973
[At Fort Polk, Louisiana]

I am going to ramble on for a little while. It seems to me that we all have to be aware of the fact that we are probably going to be members of an entirely different kind of an Army than we have belonged to for the last few years. Some of us have not been in the Army for 30 years, but some of us have, and longer than that. The American Army even today, and never anywhere more closely than here at Fort Polk, is the product of World War II. In fact, some of the training devices, etc., that we see in basic training were started in World War II and have not changed very much except for the worse. Anyway, what kind of an Army was that for World War II, Korea and Vietnam—a very big Army filled with draftees, expanded enormously in time of war and in the last war without calling the Reserves, which meant we had to set up a factory to produce privates and lieutenants and we did that and got away with it because Americans are good men on the average. World War II was the biggest example in which we took an Army of 200,000 and expanded it to eight million. And they were not very good. As a matter of fact they were awful. They were just above the level of disgrace and some of them were not that high. Men were just barely good enough for us to dare politically to put them in the war and we threw them all in the water and most of them learned to swim. Now, we still have some of that philosophy but that is really not what the future holds. The future is becoming clear. I could be wrong but maybe not, but at least for the foreseeable future, we are not looking for World War III. We are not buying ammunition or weapons for World War III. We couldn't fight one if we wanted to. We are not spending the time and money to maintain facilities or plants. More likely, the employment of our Army will be of a small force with two or three divisions. My guess is no matter how hard we guess, we don't know where they will be employed. We have always been wrong as to where the next war will spring up except that it will probably be small—could be in the Middle East and have something to do with oil but that is too obvious. We don't have any great enthusiasm in the US right now for a war. We don't have a lot of oil but would they conduct a war just for one point? Wars will tend to be like the Suez attack of the British and French and are very likely to be turned off by the world politicians as quickly as possible. And it means, therefore, that the most likely thing that any of you guys will be involved in will be something short, violent and important and we will not be able to get men, then run our two divisions in it before somebody turns it off by saying we are spoiling the environment. Something like this can happen. One or two or even three tank battalions might find themselves confronting the Syrian and enemy type battalions. We have to have one American tank battalion at least equal to five Arab tank battalions. One American infantry battalion has to be worth five of theirs and I really mean that. We have to be that much better. What I am trying to say is that this is a different kettle of fish than what we have been involved in in our careers up to now. Back in the 50's and 60's, Seventh Army was probably the most professional Army we have had in peace time ever,

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Manuscript provided by Major General William ("Bill") Carter, formerly General DePuy's executive officer.

and theirs was not good enough. They didn't even meet standards I am discussing now. We have got to be better than that by quite a large margin. We will have the advantage of having an all volunteer Army with longer tenure, so we have some disadvantages and some advantages. We don't have the high quality as we had coming in through the draft. We should take it as our mission to produce that level of professionalism which is about 500% higher than what we are used to. I say that conservatively—five times that what we are used to. I want what is done here to be five times what you are doing today and I will point out areas in which you can do that. I don't mean to be a smart aleck in saying that—I am quite sincere. Now, we are going to have only one infantry training center, and this is it, and that is good. We have only one place for infantry OCS, infantry basic and advanced and we want the NCOES cranked up at General Tarpley's place and we want to make squad leaders and platoon sergeants and that leaves a lot of doing. Now, I want to talk about the infantry and I am going to talk about a lot of aspects of it and end up with how it relates to this. Incidentally, we are going to have a 15-week training program, not 14. That is a decision. We are going to see that this, plus the Reception Station, plus what they get in fill week, the time waiting to get shipped out, their being pumped up with what they need, the discipline while under military control, and this complies with the law which says four months and that means 16 weeks. We are not going to ask for the law to be changed and we are not going to argue that the 14 weeks be changed to 15, but we are just going to do it. Fortunately, you now have another week to play with because it requires more time and you must rejuggle this a little. Let's talk about an infantry battalion—that is your business. I am not going to apologize for standing up here talking about the infantry. I'll tell you one thing, I have thought about it as hard as you have, maybe even a little harder. I think I have been in it a little longer. What I am going to talk to you about is not a fly-by-night thing that I thought of yesterday. My thoughts were developed over a long, long time—33 years in this business. And I am not telling you, and I told General Spragins last night and General Tarpley a month ago, that I am not telling you to do what I say, but you must, however, decide because collectively we are going to tell the lieutenants in the US Army what to do. We are not going to give them options. We are going to tell them what to do. There is plenty of challenge left to them. I am not going to give specifics. We are going to tell the privates who are being trained in infantry what to do and how to do it because we at our age and with our experience and positions—if we as commanders don't do it, nobody will.

Soon I will be the Commander of TRADOC so the time has come to grasp this and move out. Now I am going to talk to you about what I developed over a long period of time—a concept of commanding and controlling infantry squads and platoons. I have applied these concepts in three different units of the US Army with varying degrees of success and completion. I originally got the concept in World War II and to just give you one indication of what led me in these directions as we were an ill-trained rabble compared to what we have in the US Army today and compared with what we ought to be but we did develop a little bit of skill just by doing it. I learned, back in those days, about fire and maneuver on a very gross scale. In my three rifle companies of the 90th Division which I commanded, I converted C Company to a basic fire company and used A & B companies for maneuver and poured 50 caliber machine guns, light machine guns, etc., into C Company until you couldn't believe it and then we went about our business. We lined C Company up on a hill and they opened fire, and A & B companies and the rest of us went to wherever they were. It worked pretty well. I applied this concept in the 2d Bn of the 8th Infantry, 4th Division, in Germany and in the 30th Infantry of the 3d Division and to the extent that I could in Vietnam with the 1st Division, but with the turnover it had to be modified and we had very

little success. I finally even modified it further and I will explain later how I did that. It is hard with the turnover you have to get things done and get it to stick with the turnover. Some battalions did much better than others. They did well enough that I am convinced that both defensive and offensive techniques are correct and have been proved in battle and in training. Let's talk about the infantry and what do we have in the rifle squads. What have we got in rifle squads? First, we have a varying number of guys who have not been around long—anywhere from 11 to 2. Neither of the two or all of the 11 have been there more than a couple of months. This is a profile of a rifle squad in peace or war. Two are about to leave, two just got there, two you are just not sure about, and two more are out mowing the grass. One thing a rifle squad is and that is a constant turmoil. They are always talking about turbulence. The rifle squad is the epitome of turbulence. That is where it all comes together. The second thing is that our system does not put the smartest people in the Army in rifle squads in the best of wars. In fact, it does the opposite. It doesn't do it on purpose. Out of 1,000 they take one guy to be the General's driver, one for a company clerk, one for signal clerk, somebody else to run this or that and what is left goes into the rifle squad. But the people who have not had the advantage and privileges of education and perhaps a family and culture, etc., they are the ones who end up in the rifle squad. They are great guys, but not very articulate. They find it very difficult to express themselves and cannot write articulate. Furthermore, they are not intellectuals. Their span of attention is not too great. The point is they are not going to sit there and concentrate on being a member of a rifle squad all day long. They are thinking about everything but that. Now, in war times it gets worse because they are scared or hungry; they are surely tired. They are always sleepy and exhausted, particularly if it is cold then they are almost in a state of exhaustion all the time. It all boils up to the point that rifle squads don't last very long. The half life of a rifle squad is a couple of months even if they haven't been in a big battle. I have been painting a picture of the raw material—of what we are working with. These are facts. We had better not have a very complicated system for that. We had better not have a sophisticated system for that. Now that is unfortunate in a way because the rifle squad is the most sophisticated military organization in the world, in anybody's Army. Why is that? It is because unlike a bomber crew, they don't have a bomber; unlike a tank crew, they don't have a tank; unlike a howitzer crew, they don't have a cannon; and unlike the radio section, they haven't got the VH radio vans. What have they got? Well, they have got an idea and so a rifle squad consists of a kind of an agreement, a common understanding by a bunch of limited guys about how they are going to go about their business. So what we have is an intellectual exercise being performed by nonintellectuals. So we have got to help them. We have got to make it a simple, clear system that doesn't require each member of the squad or the fire team leaders to be eloquent because they are not. So, yesterday we watched a squad, a couple of them, getting ready to go through an exercise and they lined up the fire teams abreast in two columns and the fire team leader was the third man back. The only reason they got where they were going was because the committee sergeant led them to where they were going. The team leader would not have had to explain to the men where to go. Well in all that, and that is all very difficult, and in combat leads to casualties. It just doesn't work. You don't do it that way. What we have to do is we have to help these kind of people. There are some very smart people that also gets into this racket and they become immediate natural leaders. But I am talking about the average. We have to help them, simplify it for them, give them concepts they understand and turn these concepts into techniques. Then it becomes a challenge for them to apply to different terrain against the enemy, at different times of day, and there is ample room for challenge. More than enough as we all know. Now, having settled with the concept, I am going to show you how

I solved the problem in the units which I mentioned and in the 8th Infantry and 30th Infantry so that they performed in training better than any other comparable unit in Europe in 1953-54 and in 1960-61 and how we did that. I am not asking you to adopt this—just to do this or something better, but be able to explain it to me, to the soldiers, to yourself. Give it the cerebral time it deserves. First let's talk about the smallest unit—the fire team, on the premise that at some point in time leaders have to lead. The leader is the first guy. The guy on the statue at the Infantry School is a fire team leader. The leader physically leads at this level. He doesn't explain things, he leads by example, etc. So the guys who are involved in his team and they may vary all the way to five to four to three to just himself and one other. It doesn't matter how many there are. The chances are you won't have five in a fire team and in combat and training you are more likely to have two, and you would be very lucky if you have three. There is an echelon to the right rear and an echelon to the left rear with five meters in between. How many more you have doesn't matter. Get them lined up with one guy on the right and one on the left. It doesn't matter who is where. It is a matter of absolute, complete indifference where the grenadier is. One on the right, one on the left, etc., but it doesn't matter. Now this fellow up here is the follow-me man, and then we put " Do as I do." Now he never has to say a word. Not a word. All he has to do is go where the squad leader tells him to go. If he goes to the right, they go to the right. If he goes to the left, then they go to the left; if he crawls, they crawl. If he shoots to the right, they shoot, if he runs in behind the barn, they all get behind the barn. He selects the route.

Fundamentally, you can teach this in AIT here. Once you start teaching this and the rest of the schedule, then the soldiers begin to understand why we have rifles, grenade launchers, and why we have radios—why we want to talk to one another and what it is all about. The infantry produces squads and platoons. Nothing else. We want to produce better ones.

If you had two of these now, you have a squad. One of the problems that you have in training is bunching up. Sergeants go kind of batty about that. Spread out. If these things are always like that, you don't have that problem. If one team follows another, that takes care of the formation unless they are told to do something else. What else do you have to know about rifle squads? The problem as to whether the squad leader is one of these fellows or just fills a notch in between, it doesn't matter. In combat he will be one of these because you never have enough. General Tarpley is going to study this and rewrite all the manuals.

You have two people talking to one another—not three and that is a great advantage. There is a fantastic advantage of having two people talking rather than three. How do these people talk to one another? Kind of in the language of the streets. Those are the orders of a squad leader in war or in training—very specific. Not what we heard yesterday—move out. Moving out doesn't mean anything. Move out where, why, how far, for what purpose, to do what next, etc. While you are moving out, what am I doing? Nobody says move out on a field of battle unless they are in an assault. Move out is not a command they would obey on the field of battle. Soldiers won't accept that in the time of war. So now we have got the problem of a few more techniques. These all take the place of orders. It is shorthand for orders. It is techniques when you are practicing and the performance is the tactics. You have to understand that they are different. (Comparison with the game of football—Washington Senators versus Dolphins.) The worse thing is that you go out and run a problem without practicing—playing your game without any practice sessions in between. These things I am talking about is the plays.

The terms I have used came from General Ham Howze. He used these terms with tank platoons. Where I first picked those terms was when he was ADC of 2d Armored back in the early 50's. He used three different terms to explain the formations. The formations of a rifle squad with two teams are precisely the same as a tank platoon with two sections. The point is that a rifle squad and a tank platoon are identical. They all have identical problems of command, controlling, understanding plays—everything. When we are a second platoon in a tank company and we are all on the ranges going from point A to point B, there is an "A" team and a "B" team and the distance is closed up so there is only five meters between them; and this is called a traveling formation. Everybody can tell by looking at a unit what is going on, how much ground it has, and where everybody is. They disperse automatically and everyone follows the leader and it is simple. We agree that the next situation is one in which you might run into the enemy but you don't know where he is and you are out in front—a lead squad platoon leader sent you off to the flank to check out a farm house, a crest of the hill, a village, etc. You don't know where the enemy is. You are moving fast. You pull the unit about so if you run into enemy fire, the enemy doesn't pin the whole rifle squad down. The distance depends on the open country or bushes. You've got to move "A" team out and ahead far enough so that the fire directed at it doesn't hit the "B" team or if it does it is scattered and inaccurate and still you can do something. You have to know how to do this. This is called a traveling overwatch. Always the rear unit is overwatching the first one and can deliver fire to help it move against the enemy, move and fire at the enemy, or move to a point to fire at the enemy. Tankers use overwatch tanks very frequently. It is a self-contained operation. It explains itself. The last formation that he used is where the lead team goes into a fire position because they know where the enemy is and they know that contact is imminent or where it has already taken place, and they go by bounds. This is called a bounding overwatch. It is clear and simple and the soldiers understand it. It uses the terrain. The traveling and the bounding overwatch take care of a lot of problems because they don't take care of a set piece of assault or a known enemy position from a line of departure that is within assaulting distance or say within 100 yards. They are perfect for patrols where you don't know where the enemy is, perfect for the actions of a squad as a part of a platoon in what you could call advance to contact, meeting engagement, movement over a long distance toward an objective, but enemy unknown. It sort of takes care of all of those. Here at Polk at the Infantry Training Center and in the 1st Infantry Training Brigade and 2d Infantry Training Brigade, you should essentially be able to produce the individuals in that team and the smart young men—the SLPP—should be qualified and understand team leadership. You should understand that thing at Fort Benning that says "Follow Me." These men should operate within a squad. The squad leader could be an instructor here. When they go through close combat lanes, it is probably better to go through in team formation with the team leader going from one to two by rushing, three to four by crawling, five to six by rushing, and seven to eight by crawling, so that everything you do will be related to all of that and kind of reenforce it. The danger of this whole thing is that you end up with a lovely collection of spare parts. You have taught them a whole lot of skills but maybe it is in relevant to what? So that somehow what I want you to figure out is to try to put a thrust through this by demonstration at the beginning and performance in the end of the squad and the platoon, and sort of see the squad and platoon because everything relates. First of all, the infantry produces infantry squads and platoons to do the mission of the Army, to fight. That organization, which is the doer of the mission, has to be clear to the soldier at that lower level so that he knows why he must help the squad—so that he knows about LAW, M16 firing, accurately navigating across country, being in good physical condition, everything on here and even race

relations relates to the team work of the squad. Everything on here is done because it contributes to the effectiveness of the squad and the platoon. If there is anything on here that doesn't, it should be taken off and eliminated on that chart. If you can't relate it to the accomplishment of the mission of the team of the squad and platoon, there is something wrong with it. It doesn't belong here at the Infantry Training Center. It belongs at the National War College or downtown high school. That is the criteria which you should use to be be [sic] able to answer that question. Now I explained last night and I won't go into great detail and for those of you who are professional infantrymen, once the squads and teams are trained like this, then the platoon leader can command his platoon knowing exactly how it is going to perform. Let's say that the platoon leader is here and it is a mile or so down to a railroad station and the platoon leader has been told to go down there because there is a report that it is occupied by an enemy. We don't know anything about the enemy except that it might be occupied. He is supposed to kill them and then come back. If that platoon leader has trained his squads, he has a very easy job on his hands. He has a rule that says that always right behind him will be a squad in the traveling formation waiting for orders—always there will be one there. In order to get this thing started, say that he has taken one of these and sent them to check out a building, check it out for anything there. He says I want you to go in traveling overwatch. If there is nothing there, I want you to rejoin me on this hill. At the same time he starts another squad—traveling overwatch—and says I will join you later and we will go on. He walks along back out of the firing line with another squad following him. The first team finds nothing. The other squad finds nothing. They go on down. (Demonstrates on drawing board.)

Once you have squads always operating in the same way, the platoon leader's job is easy. He makes the commands with no problems at all. We are not going to teach platoon leaders at Fort Polk, but the problems that you set up and the reasons for all this have to fit into the product of the infantry which is the rifle platoon. The infantryman is 100% vulnerable to the rifle. A tank is not vulnerable to all tank weapons. Almost all rifles and machine guns will defeat soldiers out to almost their maximum range if they can hit them. So then the single shot kill probability for a rifle fired at anyone in this room is high at say 100 or even 200 yards. The single shot disabling probability is higher than that. Why has the infantry not been driven from the battlefield inasmuch as it is the most vulnerable weapon we have? It is also the smartest weapon system that we have. One can survive if he is not exposed. He may be killed if he can be seen. So the infantry is still on the battlefield because it endeavors to operate without being seen—using cover and concealment. We talked a lot about that, but we are not doing enough about it. I would venture to say that men in this room have fought against Germans, Japanese, Chinese, North Koreans, Hungarians, some French—right in this room. Now how many people in this room on an average attacked an enemy or even saw the enemy—if he saw the people they were attacking. I am not going to ask you for a hand answer. But the answer is hardly ever. The enemy were not to be seen, you couldn't see them but you knew generally where they were but unhappily you didn't know specifically where they were. Yet your infantry was taking casualties, receiving fire, hearing the enemy's fire, you were putting down a base of fire and still he was firing back at you and the lead squad has taken casualties. This is tactical. That means he ran up against a garden variety-type logical defense. But that defensive position has to have two characteristics—cover and concealment. The defensive positions I saw yesterday had neither. They had overhead cover but that is not what I mean by cover. I am talking about cover from direct fire weapons—rifles, machine gun weapons, cannons, RPG's, recoilless rifles. Obviously, we don't really believe that in the US Army. We have not come to grasps with that. We are building bunkers out there with

the mouth facing the enemy. If you were facing an enemy with tanks, you would never allow one of your soldiers in one of those bunkers. A tank could sit over there at 3,000 meters and put an HE round into every one of those bunkers with the first round and kill everybody inside. Furthermore, he could see them, so they are wrong—they are 100% wrong. They will not be tolerated any more. I don't want to see any more of those. That is not right. That is the Vietnam fire base syndrome, the Special Forces syndrome, the Korean War syndrome where we had all the fire power. We can't expect to have all the fire power. Everyone has RPG's. Even the Arabs now have Russian tanks. This would make it easy for them. So, I want positions that have number one priority of natural cover and concealment. You can't always find this. You can't find it if you line everybody up on a straight line. But if you recognize a defensive position, it should look like this (Drew diagram).

Maybe if you take full advantage of every roll in the ground, trees, bushes, dig in behind a bush so that you don't destroy the bush, then most of the time you can find material for cover and concealment. If a unit continuously is unable to find material for cover and concealment, you get a new man in. Occasionally you will find that you can't, you have to cover an area and you must provide your own cover and concealment. That is what camouflage is but building a great big house with a great big mouth and putting grass on top of it is a waste of time. If you dig a hole for a couple of men, you may have to pile dirt from the hole in a berm and put the individuals' heads behind the berm. But that is not the best—that is an admission of failure. Philosophically, psychologically, and mentally, you have to say to yourself that it is wrong to make a soldier dig a hole and put his head up over the top and simply butt heads with the enemy. That is not right. They'll do it sometimes. They have to do it in the kind of bunkers I saw here. Their heads are set up there and they are like a coconut at a fair. You are just requiring them to display more bravery—save that for some other time. Give the guy a chance, give him something to put his head behind. That isn't the way our enemy fights—they don't just line up and butt heads at you. We will make enough mistakes so that our soldiers have to show that kind of bravery so let's give them a better break. Use the terrain, line up defensive positions, take trainees, have a perfect course, walk up to a point with them and tell them they are now being fired at and see what they do. Why don't we do to the enemy what they do to us. Grasp that and do what it says in the field manual. Get it out and read it. It says use cover and concealment. We construct the opposite and teach people to use it. This is an engineered murder. Now when the soldiers in the fire team, like in the attack on the fortified position I saw yesterday when the soldiers in the fire team come up on line to take up a firing position, they also, although they are not able to dig holes, are expected to take advantage of cover and concealment, to get behind trees, to get behind furrows in the ground, fire through the middle of a bush and to keep their heads down. In that exercise I saw yesterday not only did they not do it but the cadre were worse. The cadre were in combat uniform and acting as umpires instead of showing the trainees what to do. Nobody was enforcing the basic training objectives of cover and concealment.

At the close combat course there was no attempt to explain to the soldiers that the whole purpose of running from one log to the next was to minimize exposure time. You have got some safety problems. There was no effort to move from one piece of cover in any number of seconds that would give you a chance of survival. It wasn't even explained so they ran in the wrong way, held the weapon in the wrong way, squatted down behind logs, and they didn't get behind things representing trees.

In 1941, or 42 or 43, somebody in the US Army designed a course like that and it has been at the training centers ever since. The purpose of the exercise was to show a man how to move on the battlefield with minimum exposure to take advantage of cover and still deliver fire to the enemy. The purpose of that particular facility or training aid is to teach that. Now 30 years later we have the form but we lost the substance. We still have the logs, still have the weapons, still have the soldiers and still have the sergeants but we have forgotten what we are supposed to be doing. We have looked at it so often we don't see it. So many people have crawled up to the logs in the wrong way that the sand is up beyond the log so they couldn't hide behind the log if they wanted to. We are just going through the motions. Our standards of BCT are coming down to the point where we feel we must just get them through this. That isn't what we are here for. This is not what it is all about. We want to get up to that 500%.

I have been very blunt to you. I really don't mean to be rude or a smart aleck, or anything else. Everything I have said I think is important. I may not be right but I think it is so important to improve the quality of what we are doing by a magnum jump that I am asking you now to do that. I don't want you to, when I leave, to suddenly scurry around and do what I say and have a big flap. First, I would prefer that nothing happens for a while, while you think about this. I don't want any great big stirring around or panic or feeling that activity is required right now and we are going to go change everything. I want to really leave in your mind a mission of doing it better, doing it a lot better, of establishing standards and enforcing them, of making people do it again if they do it wrong, and revising that training schedule so that we have time to correct, that we insist here at the only Infantry Training Center that they do it right. Here they are going to do it right. A lot of things may have to give for you to find time to do things. Don't do things which you think are wrong. I want all of you to think it out, decide what it is you really want down in your guts, agree what is correct and then discuss it with me and then we will do it and we will contribute and save lives and have a better Army and it will take years for this to percolate all the way. There is no time to start better than now and no place better than here. Believe what you are doing, don't believe what I say. Think it out yourself. If you can improve on this thought, then act and do it yourself so that it is logical, explainable, workable with the kind of soldiers that I described.

General Tarpley and I have talked about this a lot and we think this is the direction that we should go. There is a big cross fire between the home of the infantry and the place where infantry training is taking place. Until it is done at the same place, these two elements—the infantry training school and the training center—have to work together. You have got to support them.

II. TRADOC YEARS

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

ATCG 14 January 1974

Dear General Abrams,

You asked TRADOC to analyze the Arab-Israeli War from the standpoint of the interests of the United States Army. There are three major areas of interest. The first, and the one on which we are well embarked, has to do with lessons learned as they affect tactics, techniques, organization, training and equipment performance. The second has to do with information which may affect our decisions on weapons systems acquisition because of new data regarding our own or Soviet weapons systems effectiveness or vulnerability. Some of this information suggests modification of U.S. Army systems now under development. Third, there are lessons to be learned by the engineers and scientists regarding systems technology or production by examination of captured Soviet equipment. As you would expect, TRADOC is concentrating on the first of these areas while AMC is primarily interested in the third. We are working jointly with AMC in the second area which may cause us to modify some of our cost effectiveness analyses and thus impact on some of our weapons acquisition decisions.

As you know, COL Prillaman of the Armor School has returned from his trip and we also have the report of the USMOST team to which several members of TRADOC were attached. Additionally, we spent parts of two days with General Marshall and we have received a Marine Corps briefing as well as substantial input from the U.S. Air Force. The stories we have received from these various sources do not track completely in all respects. None the less, the technical and tactical story comes through clearly as it was derived mostly at a lower level during a time when the military aspects of the situation were uppermost in everyone's mind.

You suggested that General Marshall had a different slant on certain aspects of the war. We found that there was no disagreement between General Marshall, COL Prillaman and the USMOST team in respect to tactics, techniques and weapons performance. General Marshall, on the other hand, had some exclusive information derived from a higher level regarding morale, political complications and personalities. His visit was most useful and enjoyable.

We have widely disseminated COL Prillaman's initial report. Last week we submitted our initial list of lessons learned in response to a request from your staff. There will be a final report available in June which we hope will contain the detailed tactical and technical information required by the schools and combat developers, the materiel developers and the various

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The Orwin C. Talbott Papers. Box: Deputy CG TRADOC, Arab-Israeli War, 1973. Folder: Letter from General DePuy to General Abrams which analyzes the Arab-Israeli War. . . . U.S. Army Military History Institute, Carlisle Barracks, PA.

evaluation agencies. This letter attempts to highlight some of the more obvious and major lessons learned.

OVERVIEW

After the Arab-Israeli War of 1967 the two sides set off in opposite directions in preparation for the next war. The Israeli success clearly stemmed first from their domination of the air and the disproportionate Arab-Israeli aircraft losses and the disproportionate effectiveness of Arab-Israeli close air support. Secondly, Israeli tank forces constituted the ground gaining punch and in conditions of total air superiority they moved at will against the Arabs. After the war, the Israelis understandably placed the highest priority on the Israeli Air Force and tank forces. They reinforced success. Because of overall resource constraints this resulted in degrading their infantry, artillery, other antitank weapons, night vision equipment and short range mobile air defense forces. On the other hand, the entire Soviet-Arab concept stemmed from their massive effort to neutralize Israeli fighters and tanks. Thus, it was not the surprise attack and the ragged Israeli mobilization which differentiated the 1973 from the 1967 war although both were important, but rather, the concept and weaponry employed by the Arabs. In order to counteract the Israeli Air Force, the Soviet-Arab concept employed a total air defense system which moved with the attacking force and, at least in the early stages of the war, succeeded in denying the battle area to the Israeli Air Force — inflicted heavy losses on the IAF — and minimized the effectiveness of IAF close air support. In respect to Israeli tanks, the Soviet-Arab concept involved the deployment and use of thousands of antitank weapons by regular infantry and specially organized SAGGER units. Initially these weapons also enjoyed resounding success and repulsed early Israeli tank attacks with unacceptably high losses. As the battle continued the qualitative difference in Arab-Israeli training and leadership began to have its effect. Furthermore the Israelis found exploitable weaknesses in the Arab air defense system and developed countermeasures for the SAGGERS. By the end of the war, the Israelis dominated the battlefield and held the initiative. There is some doubt, however, as to whether or not they could have sustained an offensive long enough to destroy the Arab forces as they were destroyed in the 1967 war.

MAJOR LESSONS LEARNED

Close Air Support-Air Superiority. Among the many fascinating aspects of the war, the relationship of air defenses and close air support (CAS) stands out — and deserves a great deal of careful thought. The IAF wanted to launch an air superiority campaign at the outset. This meant a campaign against Arab airfields, aircraft and SAM's. For reasons of politics, timing, and exigency the IAF was forced into close air support of their hard pressed troops instead. Aircraft losses were high — 40 in three and a half days on the Golan front. But more importantly the quality of air support was very low — loft bombing. On the Suez front the IAF was only effective in CAS when the Egyptians sallied out from under the SAM envelope.

The U.S. Army and the U.S. Air Force must pay attention to the implications of this experience.

First, the Army must recognize that the air superiority campaign must precede and be successful if it is to enjoy effective CAS.

Second, Army intelligence, weapons and maneuver can and should play a role in the air superiority campaign in the zone forward of the line of contact.

Third, close operational coordination and integrated air/ground operational planning are required.

Fourth, Army forces cannot count on Close Air Support to substitute for artillery or antitank weapons at all times and places. This is important to remember also because we are likely to be outgunned by Soviet or Soviet supplied artillery.

Fifth, target acquisition (including AD intelligence) must be derived from an integrated air-ground system — integrated throughout planning, deployment and operation.

Sixth, EW/ECM planning deployment and operation must be increasingly integrated.

Air Defense. The obverse of all this is the requirement for an integrated total U.S. air defense system for the field Army and the tactical Air Force. If any element of the air defense system is missing or weak, the enemy will exploit the weakness and outflank or neutralize the system.

The Arabs were weak in air-to-air combat — the Israelis in mobile forward area gun and short range missile systems although the latter caused little difficulty owing to the paucity of Arab CAS.

The U.S. Army is correspondingly weak in the mobile SHORAD (short range air defense) area. Unlike the Israelis who bagged 36% of their AD kills with automatic weapons we have denuded our tactical vehicles of the World War II and Korean War AA machine guns. We should rethink this one.

Quality of Israeli Tank Crews. The most impressive performance during the war was that of the Israeli tank crews. These crews were able to achieve kill ratios varying from one to three in the midst of a night melee — one to six during offensive operations in the day time — and much higher during certain defensive operations. Although the Israelis prefer the Centurion and M-60 tanks to Soviet armor, these differences do not account for the difference in performance on the battlefield. For example, in one action Israeli forces equipped with Soviet tanks, although out numbered at least two to one, reportedly killed 56 Arab tanks without losing one. Israeli tank crews opened fire at ranges out to 4,000 meters and obtained kills at that range. They closed with the enemy and obtained kills at under 200 meters. Their tank crews are generally stabilized and in an extreme case had been together for 14 years. Although there was some scrambling caused by erratic mobilization, the quality of the crews made the main difference. Apparently, the T-62 tank and the M-60 tank are a fair match. Therefore, during the next 10 years battlefield outcome will depend upon the quality of the troops rather than the quality of the tanks. The Israelis are reputed to fire four times as much training ammunition as we do. If there is one paramount lesson to be learned from this, it is that the U.S. Army must make a major effort to upgrade its tank crews and tank commanders. Less than half of our tank commanders can qualify for the NCO basic course which in the case of armor is a tank commander's course. Our best junior NCO's in the Armor corps do not seek assignment as tank commanders. TRADOC will propose to you a comprehensive program for upgrading our

tank commanders, including ammunition allocations, assignment policies, education programs, pro pay and other measures.

Night Operations. The observers found that the Egyptian forces had been equipped with large numbers of night vision devices both active and passive. We have the impression, however, that this capability did not exert a decisive influence on the battlefield even though the Israelis were not similarly equipped. However, it is clear that the Soviets are investing heavily in night vision and it may be that the Arabs simply failed to execute Soviet plans this time. The Israelis are desperately anxious to acquire every bit of night vision equipment available. They seem to understand the threat. We think it is fair to say that the U.S. Army has not begun to exploit with its tactics and techniques the growing capability for night operations inherent in our own excellent equipment.

CBR. Arab forces were equipped for defensive CBR operations whereas Israeli forces were not. Whether the Arabs are also equipped for offensive CBR operations is not as clear, but remembering their operations in Yemen we can only assume the Soviets have equipped them with the same thoroughness they apply to their own forces. The very fact of this disparity is both dangerous and potentially destabilizing, particularly if in the heat of battle the Arabs were forced into desperate straits. Also, we cannot be sure that the use of CBR would not be initiated by the Arabs at the outset of another war.

Electronic Warfare. The Arabs employed broad band barrage-type jamming rather than concentrating with high power on the high priority segments of Israeli communication nets. The Israeli Army had been trained to communicate through this kind of interference and apparently were able to do so by operator techniques and sheer persistence. This tells us something about how to use our own jamming and indicates the high priority for operators trained against prolonged barrage jamming.

Weapons Systems Implications. There are two aspects of our analysis which touch upon weapons systems acquisition decisions:

The Israelis rank the M-60 tank above the T-62 in performance but they find three problems with it which they intend to correct in their own tank. The first is that the ammunition storage in the turret of the M-60 causes a much higher percentage of catastrophic losses. More often than not the entire turret was entirely blown off the tank with a turret hit. Secondly, they found the hydraulic fluid to be inflammable causing crew injuries and tank losses by fire. Thirdly, they did not like the mounting or the functioning of the 50 cal machine gun in the cupola. We should review all of these aspects in respect to the XM1 development program and the M60A3 product improvement program.

The Israelis liked the M-113 and want as many as they can get for their infantry. They are mounting additional 7.62 machine guns on the M-113's on pintle mounts. This action, together with the 7.62 machine guns which they are mounting on their tanks, reflects the Israeli desire for more anti-personnel weapons on their armored vehicles — presumably to defend against infantry with RPG-7's and SAGGERS. All of this seems compatible with the Army's current emphasis on anti-personnel weapons on the MICV and our doctrine of accompanying tanks with mech infantry combat vehicles so that the tanks can concentrate on their main gun mission while the MICV supports against infantry — either while moving or, when necessary, dismounted. It does, however, raise a serious question

as to whether we need the BUSHMASTER on the XM1. The BUSHMASTER is expensive — crowds the turret with both gun and ammunition — limits the amount of ammunition which can be carried and to some extent drives the size and configuration of the turret. We should consider eliminating the BUSHMASTER and adding a pintle-mounted 7.62 machine gun on the tank turret without a cupola.

Although it wasn't present on the battlefield, it seems logical to assume that the BUSHMASTER mounted on a MICV would have been an extremely effective weapon in some of the engagements where Arab and Israeli forces became intermingled both in the day and at night.

The Chief of the Israeli Air Force has assigned a very low value to helicopters. Unfortunately, there is too little data or experience on which to base an opinion one way or another. Our feeling is that the usefulness of helicopters was neither proved nor disproved although we note that Israeli officers have expressed a desire for the TOW COBRA. Some of them told COL Prillaman that they would be happy to conduct the operational tests of TOW COBRA against the Arabs.

The Israelis used a variety of countermeasures against the SAGGER including the suppressive fire and evasive action. We should endeavor to examine these countermeasures in terms of our own doctrine of employment. The SAGGER is a much more difficult bird to fly than the TOW. We should expect that the Soviets will put a more effective antitank missile into the field in the near future at least comparable to the TOW. Correspondingly, we should probably proceed with the hardening of the TOW against electro-optical countermeasures. We also should be absolutely certain that the extended range TOW has sufficient maneuverability beyond 3,000 meters to make it cost effective. There is considerable doubt that this is the case.

There were also some lessons learned which bear upon our own effectiveness analysis of weapons systems now under consideration for development.

At Aberdeen the Soviet BMP infantry combat vehicle apparently has thicker armor of a harder variety than that against which we designed the BUSHMASTER armor-piercing round. It is not yet clear whether this change will affect our conclusions on BUSHMASTER size, cost and effectiveness — but it may. AMC is attempting to run some ballistic test against BMP armor and then we can put the new data through the current cost effectiveness analysis and determine whether we do or do not have a problem, and if so what options are open to us.

Perhaps the most startling aspect of weapons systems performances during the Arab-Israeli War had to do with the impact of training on battlefield results. For example, if we had run the Arab-Israeli tank battles through our models and simulators using M-60, Centurion, T-55 and T-62 tanks, the Israelis would have lost every battle. This is because of the effectiveness measures used in the models and because most simulators contain rules of non-effectiveness after losses reach 30 or 40 percent of the forces committed. This illustrates two points — one, models and simulators cannot measure or reflect the quality of the training and leadership involved and second, it shows that training and leadership weighed more heavily than weapons systems capabilities on the actual battlefield.

In this brief summary of our major findings we have surfaced a number of problems and have not pretended to offer plans, programs and courses of action to meet or offset them. This will come later. You may be assured, however, that we are already bringing these matters to the attention of the students, to our Combat Development elements and to AMC and the commodity commands involved in weapons systems development. When the final report is submitted there will be a carefully thought out, practical recommendation for action programs addressing each lesson or problem area.

signed
W.E. DePUY
General, United States Army
Commanding

General Creighton W. Abrams
Chief of Staff
United States Army
Washington, D.C. 20310

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IMPLICATIONS OF THE MIDDLE EAST WAR
ON
U. S. ARMY TACTICS, DOCTRINE AND SYSTEMS

A Presentation by

General William E. DePuy

Commander

U. S. Army Training and Doctrine Command

The William E. DePuy Papers. Command History Office. U.S. Army Training and Doctrine Command, Fort Monroe, VA.

There have been a number of studies, analyses, and reports about the military implications of the October 1973 Arab/Israeli War. As a matter of fact, there have been so many reports that the important lessons of the war tend to be lost in details. As a consequence, Department of the Army asked the US Army Training and Doctrine Command (TRADOC) to summarize the major lessons learned from that war and to examine the impact of these lessons on the tactics, doctrine, training and materiel development of the US Army. In order not to lose the important lessons in a mass of detail, we emphasized that there is a very important relationship between the lessons learned and the way the US Army intends to fight. In this respect, the format of the briefing will generally follow this chart.

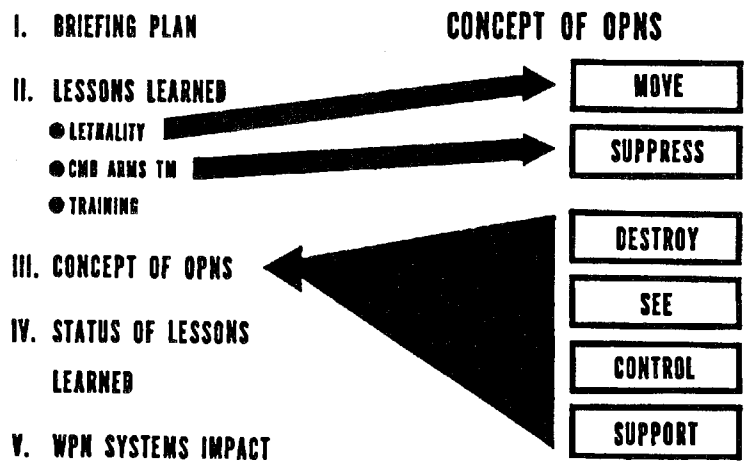


CHART 1

The three major lessons in the war are:

First, that modern weapons are vastly more lethal than any weapons we have encountered on the battlefield before. Second, in order to cope with these weapons it is essential we have a highly trained and highly skilled combined arms team of armor, infantry, artillery and air defense backed by the support required to sustain combat operations. Third, the training of the individual as well as the team will make the difference between success and failure on the battlefield. Well trained Israeli tank crews made the difference in 1973. Their performance in battle has helped us to

understand the requirements of battle, the concepts of operations, if you will. Whether defending or attacking, you must move on the battlefield. You can't be static, that is, go into a Maginot or Siegfried Line and win. In order to move on the battlefield in the face of weapons with high lethality, enemy weapons must be suppressed. You suppress by a combined arms team. If you do that properly, you can move, but you still must have the weapons to destroy the enemy when the objective is reached. To win when fighting outnumbered, it is necessary to concentrate forces at the critical point and at the critical time on the battlefield, in other words, in order to move to the right place, you've got to see the battlefield better than the enemy sees it so you know where to go and when to go. In order to move rapidly to that critical point, you must have total control over your combat elements; so that when you order a battalion to move, it will move immediately. In order to do all this successfully, we need to have support of all kinds. We need the wherewithal of battle, that is, the ammunition, the POL, and the maintenance of equipment. This relationship between our concept of operations and the lessons learned in the Arab/Israeli War will run through this entire briefing. Additionally, I will cover the status of lessons learned, and there have been many. Finally, we will apply the lessons learned and our concept of operations to the development of requirements for specific weapons and materiel systems.

Now we will talk more about lethality.

> ". . . . . THE ARAB - ISRAELI WAR DRAMATIZED THE LETHALITY OF MODERN ANTI - TANK WEAPONS, INCLUDING MOST PARTICULARLY THE HIGH VELOCITY TANK CANNON AND THE LONG RANGE ANTI - TANK GUIDED MISSILE. WITH ONE EXCEPTION (THE BATTLE OF KURSK IN 1943), THERE HAS NEVER BEEN A COMPARABLE LOSS OF TANKS IN SUCH A SHORT PERIOD OF TIME. . . . "
>
> ". . . . IF THE RATE OF LOSS WHICH OCCURRED IN THE ARAB - ISRAELI WAR DURING THE SHORT PERIOD OF 18 TO 20 DAYS WERE EXTRAPOLATED TO THE BATTLEFIELDS OF EUROPE OVER A PERIOD OF 60 TO 90 DAYS, THE RESULTING LOSSES WOULD REACH LEVELS FOR WHICH THE UNITED STATES ARMY IS NOT PREPARED IN ANY WAY."

CHART 2

What we said was that the lethality of modern weapons is so much greater than that of the weapons we have used, or against which we have fought in the past, that we are in a new ball game. Our analysis also pointed out that there are more of these lethal weapons on the battlefield than at any other time in history. Therefore, if we wanted to sum it up in one paragraph, we would have to say that the problem now confronting the US Army is: how to operate on a battlefield which is populated with those very lethal weapons in very large numbers and still get the job done without catastrophic losses; losses for which we are really not prepared.

PROLIFERATION

(ALL FIGURES APPROXIMATE)

	TANKS	APC'S	ARTY TUBES	AD BTRY DEPLOYED
ARAB	4000	3000	3000	150
ISRAELI	2000	4500*	800	10-15

*INCLUDES HALF TRACKS

CHART 3

Let me explain a bit more about the mechanized battlefield and the numbers of weapons we may encounter. This chart simply summarizes the fact that in the 1973 war, Arab forces had some 4,000 tanks. These were first line tanks; T54, T55 and T62. To put it in perspective, the American Army has approximately 1,700 tanks in Europe, which includes those in the hands of troops. We credited the Syrian and Egyptian armies with a starting inventory of three thousand artillery tubes. We have less than 500 US Army artillery tubes and missile launchers in Europe.

INTENSE 18-DAY BATTLE

(ALL FIGURES APPROXIMATE)

● LOSSES	TANKS	APC'S	ARTY TUBES
ARAB	1500-2000	1000	500
ISRAELI	700-1000	1500-2000*	50-75

*INCLUDES HALF TRACKS

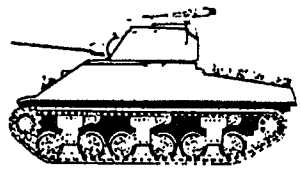
CHART 4

During the very intense 18 day battle, in fact, during the first 12 days, the losses in comparison with anything we have experienced were phenomenal, enormous. Egypt and Syria lost approximately 1,500 to 2,000 tanks. That would equate to all the tanks we have in Europe. Five hundred artillery tubes were lost; almost equal the amount of artillery the American Army has in Europe.

Let me now expand a bit about the lethality of these weapons. Remember, they are in the hands of many countries all over the world.

TODAY'S TANKS ARE ABOUT TEN TIMES MORE EFFECTIVE THAN WORLD WAR II TANKS

SHERMAN M-4



M60A1

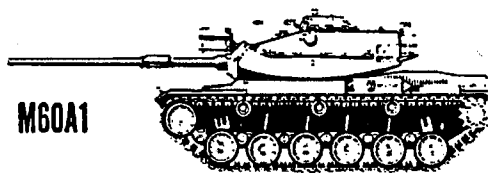
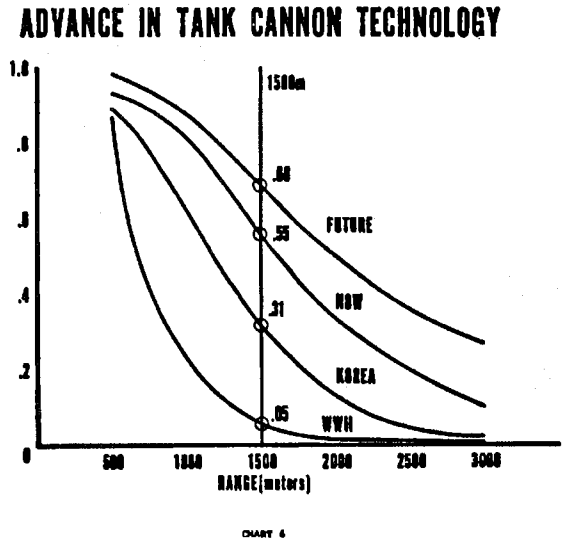


CHART 5

In World War II the American Army was equipped with the Sherman tank. We are now equipped with the M60 tank. We are looking forward to fielding an improved M60 tank. Development of this tank is moving nicely and we hope to put it on the battlefield soon. But, by way of comparison, the basic M60 tank is 10 times better than the Sherman tank of World War II in terms of effectiveness. In fact, that is an understatement.



This chart shows the probability of hit from zero probability to a hit every time you fire. Along the bottom, range is shown from zero to 3,000 meters. At 1,500 meters, which is about a mile, if we were to use the World War II tank, we would have only one chance in 20 of hitting an enemy tank at one mile. By the Korean War, we had installed a 90mm gun on our tanks and the chances of a hit were one in three. With our current M60 tank, the chances are now a little bit better than one in two. We believe the new tank should be able to hit an enemy tank at one mile about seven times out of every 10 shots fired. So far I haven't said anything about lethality given a hit. The fact is the modern tank cannon is enormously more effective than the World War II cannon. So if you multiply the probability of kill, times the probability of hit, my estimate of current tanks being ten times as effective is really quite conservative.

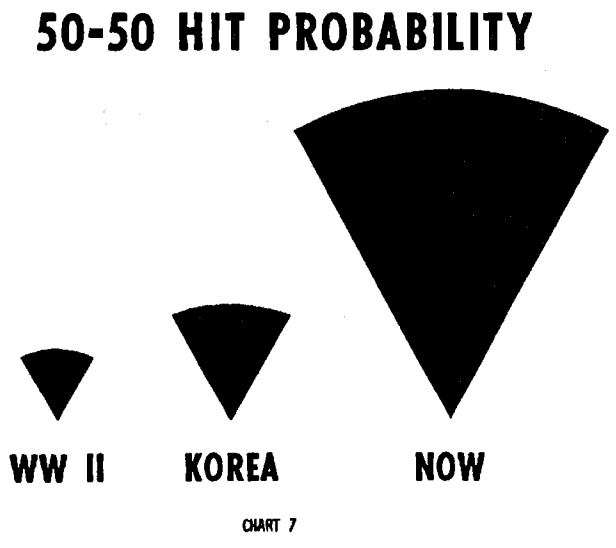


CHART 7

This has many consequences. Back in World War II, a captain commanding a tank company was interested in the terrain his weapons controlled and in the enemy up to as far as he could see. Nonetheless, he was not endangered by very many weapons except those within about 500 meters of him. In those days 500 meters was the distance in which he had a 50 - 50 chance of getting a first round hit. In Korea that distance had increased to 1,000 meters. Now it has increased to 3,000 meters and you can see whats happening to the Lieutenant, the Captain, and the Sergeant in our tank units. They must worry about a lot more hill tops out there from which enemy weapons can fire at him. The current anit-tank guided missiles, the SAGGER, the SNAPPER, and our TOW reach to 3,000 meters and are extremely effective given a hit. You can then see, the enormously more difficult problem for the battlefield commander. It's a much more dangerous environment in which to fight. He must worry about a much greater area. A mistake on this bigger battlefield will penalize the commander by greater casualties.

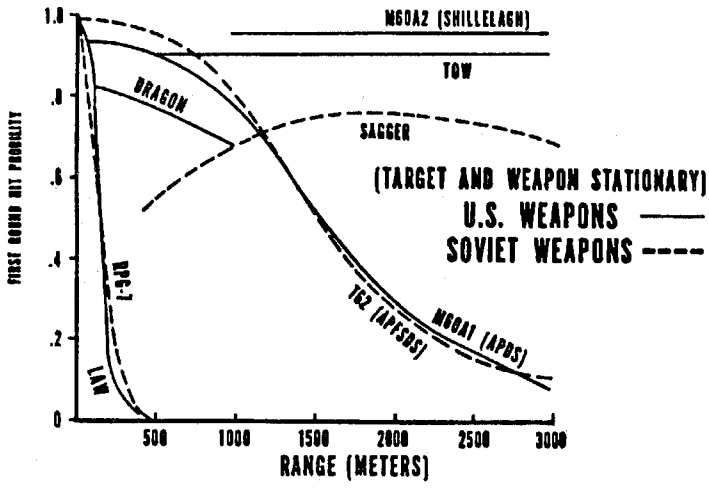


CHART 8

The fact of the matter is that our weapons and the weapons manufactured by the Soviet Union are in many respects very similar. For example, in the middle of this particular chart, and here again we're talking about the probability of hit over range, you can see that the Russians' T62 tank, their new best tank, and our M60A1 tank have similar characteristics. Their tank is a little bit better in close, because it has a higher muzzle velocity. Our tank is just a little bit better at the extended ranges because we have better fire control and range estimating equipment. Our new tank, the M60A3, will have even better effectiveness at the extended ranges. But today we have no decisive advantage, nor do they. You could say, therefore, that he who has the most tanks on the battlefield will have an advantage. The anti-tank guided missile, the SAGGER, has to be flown by a gunner with a joy stick, much like an airplane. The gunner must fly the SAGGER to the cross hairs which he holds on a target. On the other hand, our missiles, the TOW and the Shillelagh, are fully automated. If the cross hair is on the target, the missile flies automatically to the target. You will notice that the guided missiles are vastly more effective at the greater ranges than are the tank cannons. The tank is more effective in close. This graph does not show that the tank can fire more rapidly, but it can. It does tell us something about how to fight. Tanks should not engage anti-tank guided missiles at long range. They should sneak up on the missile positions through cover and concealment. Once they do close within 1,000 meters, the tank begins to have the advantage.

THE APFSDS ROUND OF THE T-62 TANK CAN TRAVEL 1 MILE IN ONE SECOND - IT IS THE FASTEST TANK CANNON ROUND IN THE WORLD:

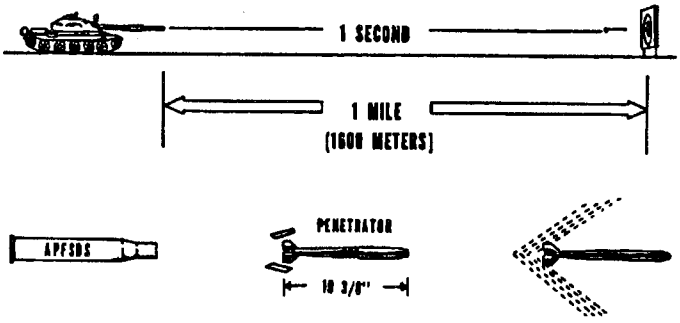


CHART 9

The Russian tank cannon has a higher muzzle velocity than our tank gun. As a matter of fact, the Soviet tank cannon has the highest muzzle velocity of any tank cannon in the world today. The Soviet penetrator, which is a solid steel plug, weighing about eight pounds, travels toward the target tank at the rate of one mile in one second. It drops very little in that one mile, it's going so fast. This means that the Soviet tank can fire battle sights up to a mile. It means there is no time to duck. The penetrator will go through our tank's armor.

PROBABILITY OF FIRST ROUND KILL

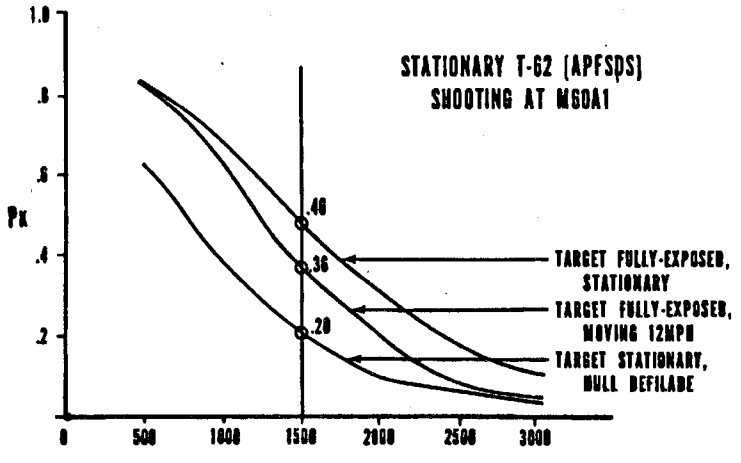


CHART 10

If the Russian tank, firing that kind of ammunition, shoots at one of our tanks which is just sitting in the open, at a distance of one mile, the Soviet tanker has a 50 - 50 chance of a first round kill. Note the change from hit probability to probability of kill. It is interesting to note that whereas the hit probability was 50 - 50, the kill probability is just below that percentage. In other words, if you're hit, the chances are that you will be killed. On the other hand, if our tank is moving 12 miles an hour, he has a somewhat better chance of surviving. Even more importantly, if he happens to be hull down and uses the terrain for protection while only exposing his turret and his gun, he has more than doubled his chances of survival. That of course, is an important teaching point for our tank commanders, our tank platoon leaders, and our tank company commanders.

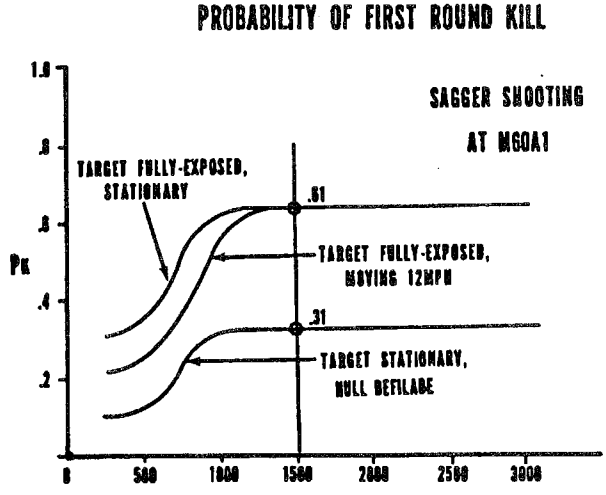
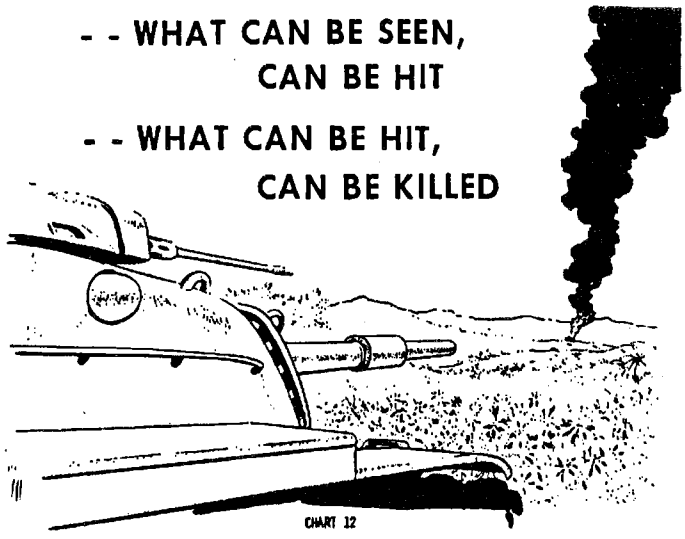


CHART 11

If the Soviet SAGGER is shooting at the M60A1 tank, and again the emphasis is the probability of kill; note that in the early ranges, while the gunner and the machinery is capturing control of the missile, it's not very effective. But, after it gets out to about 1,000 meters and beyond, it's extremely effective. Interestingly enough the missile doesn't care at the extended ranges whether the tank is moving or whether it's stationary, because at that range movement is relatively unimportant. On the other hand, if the defending tank is hull down and uses the terrain and remains camouflaged, then he doubles his chances of survival.



Therefore, we are telling the Sergeants, the Lieutenants, and the Captains at Fort Knox and Fort Benning that if they can be seen on the battlefield, then they will be hit. If they can be hit, the chances of the tank being knocked out of action are very, very high, unless certain actions are taken and those actions are the subject of this talk.

"....TANKS AND OTHER COMBAT ELEMENTS WHICH EXPOSE THEM - SELVES DURING OFFENSIVE ACTION WILL SUFFER UNACCEPTABLE LOSSES UNLESS THEIR VULNERABILITY CAN BE DECREASED THROUGH IMPROVED TACTICS AND TECHNIQUES OF MOVEMENT WHICH BETTER USE THE TERRAIN, AND THE APPLICATION OF SUPPRESSIVE FIRE OF ENEMY ANTI - TANK WEAPONS. I BELIEVE THAT IS THE SINGLE MOST IMPORTANT LESSON ON THE ARAB - ISRAELI WAR."

CHART 13

This leads us to the conclusion that if you expose yourself on the battlefield, you will, in fact, incur unacceptable losses. Unless, that is, somehow you can use the terrain to reduce vulnerability and suppression or obscuration to impair enemy weapons effectiveness; so that the gunner on the other side is either shaken up, driven to the ground, his eyeball is moved off the sight, or smoke obscures his vision. All of this is, of course, the major lesson of the war. It tells us that in order to move properly we need training. In order to fire properly we need training. And, in order to suppress properly we need the training of a combined arms team.

FOREIGN VIEWS ON THE TANK

BRITISH

"THE TANK TODAY IS STILL DOMINANT, BUT IT MUST BE SUPPORTED BY OTHER ARMS".

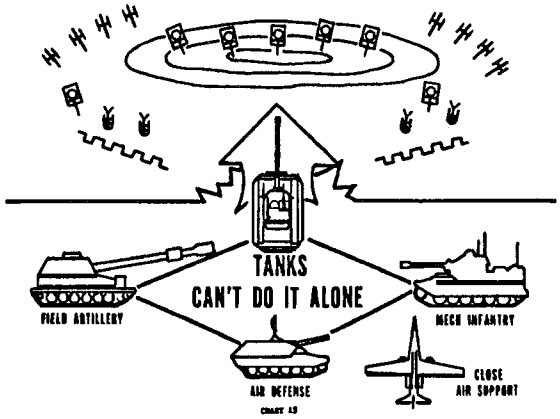
"THE SAGGER DID NOT MAKE THE TANK OBSOLETE. SHARON AND OTHER ARMOR DIVISION COMMANDERS WHO FOLLOWED IN HIS FOOTSTEPS PLASTERED THE EGYPTIANS USING, ESSENTIALLY, TANKS IN THE LIDDEL HART MANNER".

SOVIET

"IN TODAY'S CONDITIONS OF RAPID DEVELOPMENT OF MILITARY EQUIPMENT AND WEAPONRY THE IMPORTANCE OF THE TANK FORCES NOT ONLY HAS NOT DIMINISHED, BUT IS INCREASING. AS BEFORE, SOVIET MILITARY SCIENCE ACCORDS THEM THE ROLE OF THE MAIN STRIKING AND MANEUVERING FORCE OF THE LAND FORCES. TANK UNITS . . . CAN EFFECTIVELY TAKE ADVANTAGE OF THE RESULTS OF NUCLEAR ROCKET STRIKES AND ENSURE THE SUCCESS OF THE OPERATION".

CHART 14

Recurrently there are discussions about the value of the tank. The fact of the matter is, the tank today is the single most important weapon on the mechanized battlefield. There is no doubt about it. The Russians think so, the Germans think so, the British think so, we think so. However, the tank can't do it alone. To win the battle you must move. You can't sit and wait and expect to win. You cannot succeed and perform a useful mission on the battlefield in the long run without moving. The tank is designed to move. It is a heavily armored vehicle carrying the punch of a big gun. The tank carries the battle to the enemy.



Tanks are designed to break through the enemy's defenses and get into his rear, where they can attack his communications, his reserves, his artillery, his maintenance units, and his supply stocks. Tanks can go around the flank too, particularly, if there's an open flank. The tank is heavily armored and heavily armed. Its designed to be particularly effective in the enemy's rear. But one of the major lessons of the war was, that in the face of the lethality of modern weapons, the tank cannot move alone.

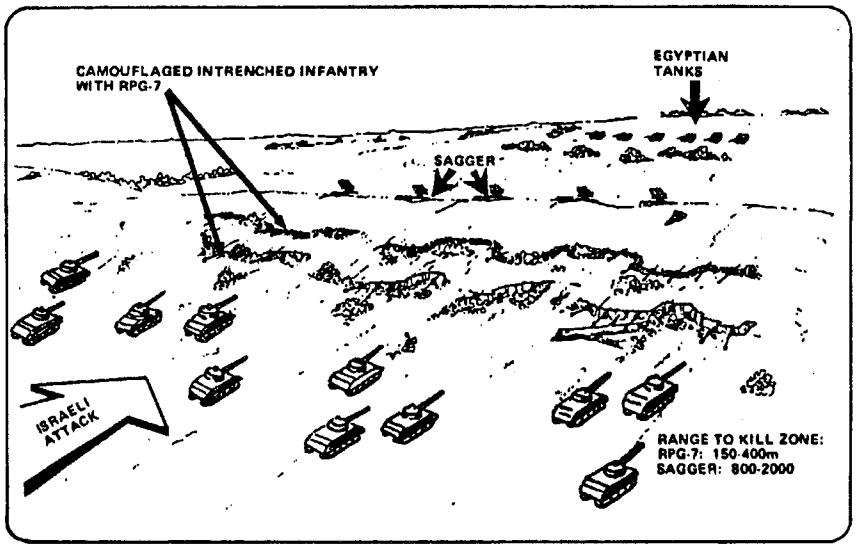


CHART 16

At an early point in the Arab/Israeli War after the Egyptian Army had crossed the Suez, the Israeli Army counterattacked, in the northern sector of the Sinai. They attacked primarily with tanks, not supported with infantry, and lightly supported with artillery. As a matter of fact, the Israelis because of their success in the 1967 six day war, relied almost exclusively on tanks and fighter aircraft.

In this case, they attacked into a defense which included Egyptian infantry. Infantry that was entrenched and armed with RPG7 anti-tank rocket launchers, backed up by literally hundreds, maybe even thousands of SAGGER anti-tank missiles. Behind the SAGGER missile positions were Egyptian tanks, Soviet T55 and T62. What happened was the Israeli force was largely destroyed. The tanks tried to go alone. These tanks could not get through, alone, because the enemy with the RPG7, the SAGGERS, and the T62 destroyed them. We have learned that these anti-tank systems must be suppressed. And so along with the tanks, we must have infantry, and along with the tanks we must have artillery, either to fire on and destroy targets or to fire smoke for obscuration. We need air defense weapons along so that our tank attack will not be destroyed by enemy air.

Now at this point, I'd like to branch off for a moment and talk about the problem of air defense, the problem of fighting against very heavy concentrations of Soviet built air defense weapons. The use of air defense is a major lesson of the war.

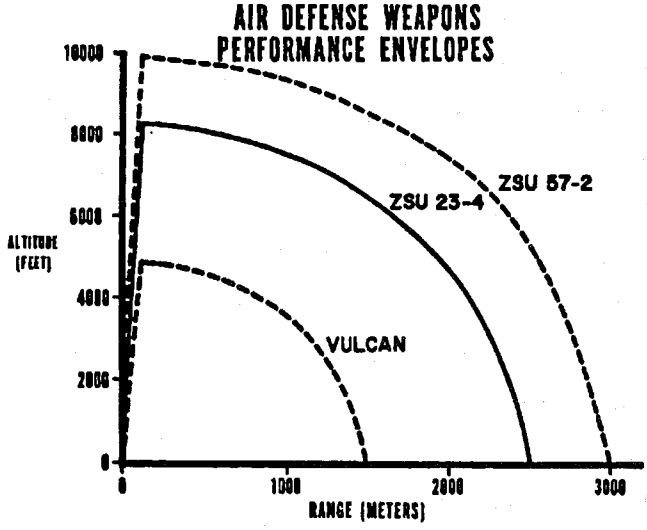
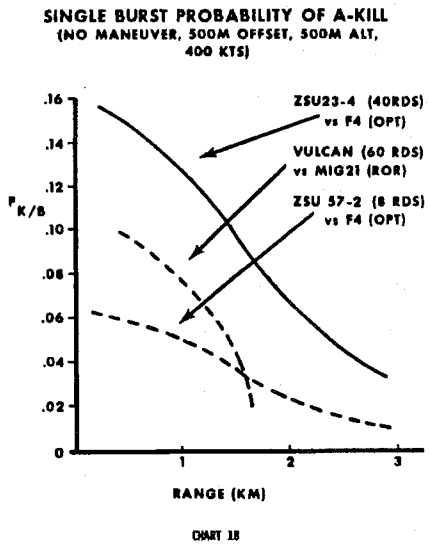


CHART 17

This chart shows the altitude effectiveness and range of our self-propelled automatic gun system, the Vulcan, a 20mm mini-gun system. Also shown is the Soviet Quad-23mm gun system, the ZSU 23-4. The Soviet Twin 57mm gun is shown by a dotted line. We are not satisfied with the Vulcan gun performance and are trying to replace it. The Israelis found the ZSU 23-4 to be a very effective gun system.



This chart depicts the lethality of those same air defense weapons. It shows the probability of an "A-kill" given a burst, meaning the aircraft will be a loss within five minutes. The small caliber weapons obviously have more rounds per burst than the larger caliber weapons. In this chart the aircraft are flying straight and level and do not maneuver. What it shows is that the Quad-23 fires a 40 round burst from its four automatic cannons, and if it fired at an F4 and the gunner is using his optical sights, at a one kilometer range, the ZSU 23-4 has a probability of kill per burst of .12, the Soviet Twin 57 firing an eight round burst has a .05 probability. If the Vulcan is firing at a MIG21, with a 60 round burst and using its range only radar, the probability of kill per burst at one kilometer range is .08. The Egyptian and Syrian forces both deployed the SAM 6, a very effective surface to air missile system, backed up by SAM 2 and SAM 4. On the front line they had a hand-held weapon, the STRELLA, not as good as our RED EYE, but they deployed the weapon in large numbers.

". . . . OUR AIR FORCE WILL BE ABLE TO OPERATE ON A SUSTAINED BASIS OVER THE BATTLE AREA IN OUR SUPPORT ONLY WHEN AIR DEFENSES HAVE BEEN DESTROYED OR SUPPRESSED. CASUAL OR MARGINAL USE OF FIGHTERS WILL NO LONGER BE POSSIBLE. RATHER, WE WILL NEED TO PLAN AND EXECUTE OPERATIONS WITH THE AIR FORCE AS AN INTEGRAL PART OF THE COMBINED ARMS TEAM . . . ."

CHART 19

As a consequence, we concluded that the day of casual air support, where a battalion of American Infantry or tanks can have a long discussion with a fighter pilot to point out targets to be engaged, is a thing of the past. As a matter of fact, the tank and the aircraft have now joined the infantry in their vulnerability, but this does not mean they cannot be used. It just means they must be used judiciously. The infantryman has been vulnerable to the rifle and machine gun for many years. He cannot be employed on the battlefield unless the weapons that could kill him are suppressed. We've learned to live with that. The tank cannot now maneuver on the battlefield unless the enemy weapons that can kill the tank are successfully suppressed. So it is with the fighter, the fighter cannot fly through the air over the battlefield unless the enemy weapons that can destroy him have been suppressed. At the beginning of the Arab/Israeli War that lesson was forcefully brought home to the Israeli Air Force.

It wasn't air-to-air combat that caused the problem with the Israeli Air Force. They ran against a new problem, in which 73% of their air losses were attributable to ground systems. But this is really not the important message to be derived from the chart. The important message is that the Israeli Army didn't get the close air support they wanted, particularly at the beginning of the war. In fact, 90% of the Israeli air sorties were flown more than 5km behind the area of intensive air defense. That means not more than 10% of the air sorties could have been, in what we would term, close air support of ground elements in contact with the enemy.

ISRAELI AIR LOSSES

GROUND SYSTEMS

SURFACE TO AIR MISSILES	41%	
GROUND GUN SYSTEMS	26%	
UNDETERMINED	6%	
		73%

AIR TO AIR COMBAT 3%

OTHER (TECHNICAL, UNKNOWN) 24%

CHART 20

MAVERICK

- 35 TANKS
- 15 BUNKERS

50

42 DIRECT HITS

CHART 21

There is another side to this point. It's not just that the air defenses are thick and lethal, which they are; it's also the fact that air to ground weapons are getting extremely lethal. If friendly air defense is not available to cover the tank force those tanks can be destroyed by fighters. For example, our Air Force has some magnificent precision munitions. Out of 50 targets attacked by Maverick, in the Israeli War, 42 were direct hits. I don't know what the statistics would have been with unguided weapons, but my guess is that in order to get 42 direct hits, there would have been some thousands of missions flown.

MK 84-2,000lb
"SMART" BOMB

- 16 BUILDINGS

- 16 BUNKERS

32

25 DIRECT HITS

CHART 22

The same is true for the bombs. In North Vietnam the Air Force tried for years to knock out one bridge at Thanh Hoa. As soon as the Air Force developed precision munitions, they hit the Thanh Hoa Bridge on their first time out. The fact is, out of 32 targets struck in the Israeli War with smart bombs, 25 were direct hits. Those same results might well have taken 1,000 or more sorties with conventional bombs. Therefore, we are in a new ball game in the air too. Air weapons are enormously more lethal. We must find ways to keep them off our back. Our adversaries know this and that they must keep our Mavericks and precision munitions off their back. In order to do this, they have simply proliferated a tremendous number of highly lethal air defense systems. The environment of the modern battlefield is becoming more complex, more lethal and more interactive than ever before.

In our analysis of the lessons of the war, the first lesson clearly is the increasing lethality of the battlefield, which I have explained. Lethality is a problem because our concept of operations requires us to move. And you cannot move on the battlefield in the face of that lethality unless you have suppressed the enemy's weapon systems. In order to suppress you must use the elements of the combined arms team. Tanks need infantry. Tanks need artillery. And tanks need air defense.

Now let me go a little further into the concept of operations, and I want to talk first about the defense. Since the anti-tank guided missiles have appeared on the battlefield, there has been a very lively discussion about the proper way to conduct a defense. In addition, there are those who feel that the anti-tank guided missile may have driven the tank from the battlefield. We don't think that's true.

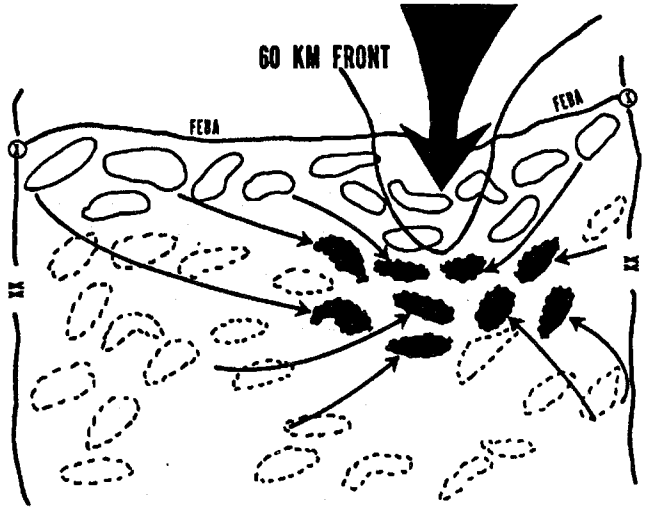


CHART 23

Let me illustrate. In Europe, the 1st Armored Division is deployed on a front which is about 60 kilometers in width, a very wide front for that size force. In that 60 kilometer zone there are several hundred hill tops and other geographic locations on which companies or platoons could be deployed, in hull down attitude; taking full advantage of a defender's ability to diminish his own vulnerability. However, the 1st Armored Division has only some 30 to 40 company size units, which equates to some 100 platoons. There is no possible way 100 platoons can occupy

all positions in sufficient strength to stop an attack. They must know where the attack is coming from and concentrate forces at that point. If the 1st Armored Division commander distributes his force equally, including its anti-tank guided missiles, there is no doubt that it could defeat a small attack. But the enemy will change that equation by concentrating. The enemy will come in great strength and in great depth at one particular point.

The defender who is outnumbered to start with will lose. The position will be penetrated. The enemy will win unless at the critical time and at that critical place, units from the flanks of the 1st Armored Division which are not engaged are moved into the most important blocking position. In other words, the outnumbered force has got to see the battlefield better than the enemy and see it in sufficient time, so that he can move his combat elements to the critical place, at the critical time to insure that a suitable force ratio is achieved. During the battle these positions will be lost, fought over, regained, occupied, abandoned, and re-occupied. What that means is that the defending force must possess the ability to move. It must engage in an active defense of the sector. There is no such thing as digging in and waiting for the enemy to come to you; because it would be a foregone failure.

Now the anti-tank guided missile is a very important addition to the battlefield. In the first place, infantry elements with anti-tank guided missiles can defend themselves against tanks, better than ever before.

Therefore, tanks can be concentrated for the primary and crucial battles, but cannot be squandered in romantic cavalry charges. Furthermore, we are in the process of putting our anti-tank guided missiles on armored vehicles. In the future, we plan to put them under armor, so that the anti-tank guided missiles can also move with the tanks.

On the modern battlefield you need the heavy combat power of the tank. Guided missiles on armored carriers can only be fired when the carrier stops. They are not heavily armed. In addition to the anti-tank guided missile on an armored personnel carrier or dismounted on the ground, we are on the verge of deploying the TOW on the COBRA Attack Helicopter. We are convinced that the high mobility of the attack helicopter equipped with an anti-tank guided missile system may prove to be critical to the execution of that kind of an active and mobile defense I have just described. It may well be that the ability of the TOW COBRA to move across the battlefield at 150 knots, will prove decisive in concentrating heavy combat power at the critical place and at the critical time.

But in any event, the tank is just as important in the defense as it is in the attack, because that defense is active and forces that are outnumbered must move on the battlefield to succeed. You cannot move on the battlefield without tanks.

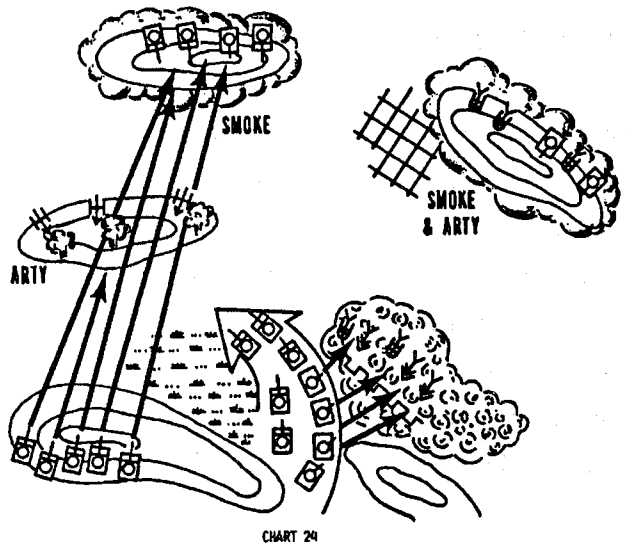


CHART 24

Turning to the offense, let's concentrate on one tiny corner of a big battle. By doing so, we can illustrate completely the interaction of the combined arms team. Let us assume that we are talking about a tank company. Tank companies normally have three tank platoons. We are going to take one of those out and substitute a mechanized rifle platoon, a normal battlefield procedure, because we need infantry. The company commander is given a mission of taking a blocking position, the hill at the left top of the chart. In order to move across the terrain, he decides to put one of his tank platoons in a hull down position on the hill (lower left) to overwatch the terrain and to destroy any enemy tanks that may try to interfere with his attack. Directly in front of him is a hill (left center) with a number of enemy 73mm recoiless rifles, the kind the Soviets build. These weapons are protected by infantry. Farther out is a bigger hill, the objective, which is partly wooded. On top of this hill there are some T62 tanks. On the right of this small battle area is another big hill where the enemy has some SAGGERS. Along the bottom right is a wood line with some RPG7 and perhaps other SAGGERS. Center right is a little town and some roads that go through the area, as indeed the terrain often looks in Europe.

The company commander decides he will take the other tank platoon and move up and occupy a second overwatching position, the hill immediately to his front, by destroying this particular defense. To get there he's got several problems. If he moves his other tank platoon out into the open any of those enemy weapons could destroy his tanks, so he must suppress all of the weapons. The company commander decides to put artillery on the SAGGERS. He also knows that the T62 are hard to suppress. He wants to sprinkle a little high explosive on them, so they button-up and then smoke them so they can't see his maneuver. He will put artillery or mortars on the recoilless rifles to keep the gunners from their weapons.

We have now done what we said was important within our concept of operations. To win you have got to move. We are going to move. But if you move in the face of that lethality you will lose unless you suppress.

If the commander does all of that right and if the air defenses are up close enough, so that his force is not hit by enemy fighters, he has a very good chance of succeeding. This is never a completely successful operation. You can't avoid some casualties on the battlefield. You can't suppress all the weapons.

The wood line in the lower right offers some interesting variations. For example, the commander might want the mechanized infantry to accompany the advancing tank platoon. In which case, they would suppress the enemy in that wood line while moving. If so, he must have a weapons system capable of doing that, such as the Mechanized Infantry Combat Vehicle (MICV) with a stabilized turret. On the other hand, that might not always work and he loses a couple of tanks anyway.

The mechanized combat vehicles dismount their infantry, take up hull down positions, suppress the enemy with a high volume of fire, and the infantry goes in with its M16 rifles and hand grenades. That is the hardest way to do it.

This game of suppression only tilts things your way, you don't win it completely. It is a continous running gun fight and the other fellow plays it too. For example, he knows the chances are that we will smoke his T62 with our artillery. As a countermove, he would like to suppress our artillery by firing at it with his 130mm cannons. It is important to our success that he not suppress our artillery because we must place smoke on the T62, so we in turn suppress his 130s, either with our artillery or our air attacks with fighters. Close air support of the maneuver force is essential. However, in order to launch fighters through a dense air environment, we must

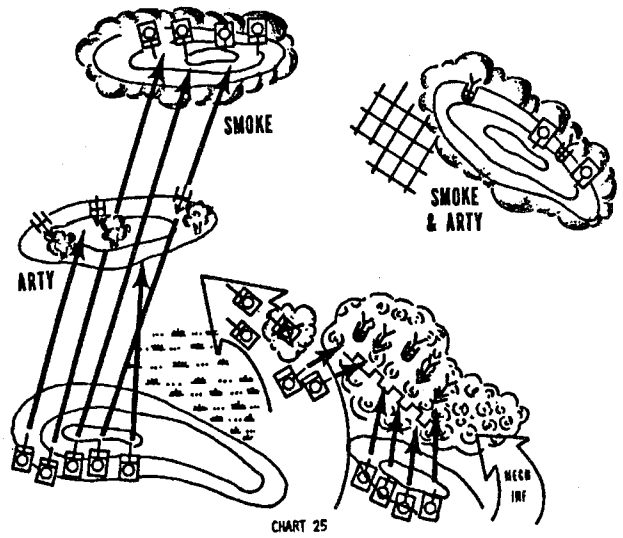


CHART 25

suppress his air defense weapons, either with electronic warfare, electronic countermeasures, or with our artillery, and coupled with many Air Force capabilities to do the same.

This is a portrayal of the heart of the fighting army. Operating in accordance with our concept and our concept is that you have to move. To move against the kind of lethality that we have explained, you need to suppress. The things you move have got to be very strong and powerful combat weapons, because there is no point in breaking through if, when you get there, you can't do anything.

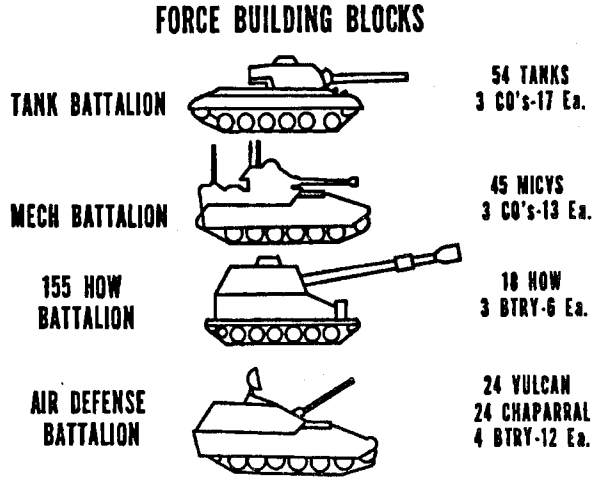


CHART 26

In order to fight while outnumbered you must have your forces at the right place, at the right time, and hope the enemy will have his forces at the wrong place at the right time. Therefore, we need to see the battlefield. We need to see it early and, when we get into a fight, we need to see it in detail. We need total control over our combat forces. And we must continuously maintain them, supply them, transport them, and give them medical support on that battlefield.

When you look at the Army, in the light of that particular picture, you find that there are four combat elements, four basic building blocks in our Army force structure. These four elements deliver ordnance against the enemy. They consist of tank battalions (54 tanks each) of three companies each; mechanized infantry battalions, self-propelled artillery battalions; and air defense battalions.

These types of organizations are analogous to the Navy's destroyers, frigates, and cruisers and the Air Force's fighters and bombers. They carry the battle to the enemy and inflict casualties. Another way to look at these important units is against the background of our deployed forces in Europe.

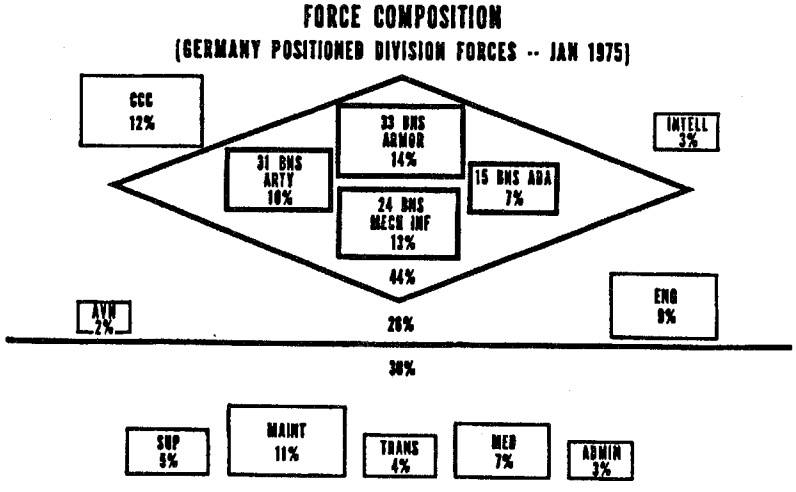


CHART 27

This chart depicts the current organization in Europe. Inside the lazy diamond we have grouped those four ordnance delivering elements of the Army. We have 33 battalions of armor and that includes the cavalry squadrons which are armed with the M551 SHERIDAN. The SHERIDANS are, in fact, mobile anit-tank weapons. To complement the tank battalions, we

have integrated 24 mechanized infantry battalions. That team is supported by 31 battalions of field artillery and 15 battalions of air defense. That is the heart of the combat power of our forces in Europe. However, in order to follow our concept of moving at the critical time to the right place and still be properly supported, there are other units involved. To see the battlefield better than the enemy, and to see it in time, three percent of that force, a very modest number, is involved in intelligence. That percentage may grow in the future. In order to have positive control, so that when we want a battalion to move it can respond immediately, we have 12% of the force involved in command and control, coordination and communication. All of our signal and higher headquarters are included in these totals. In order to support movement on the battlefield nine percent of the force is combat engineer. In the left center of the chart we have two percent aviation. Aviation contributes to intelligence and, increasingly, it will contribute to the delivery of ordnance, particularly as the TOW is put on the COBRA. Below the line, 30% of the force in Europe is classified as combat service support. This category involves supply in general, that is the supply of ammunition, food, clothing, and fuel. It also includes maintenance of vehicles, all combat materiel of the operating units; their transportation and finally medical support and administration. Let me return and go into a little more detail on those battalions inside the lazy diamond, the ordnance delivering part of the Army in Europe.

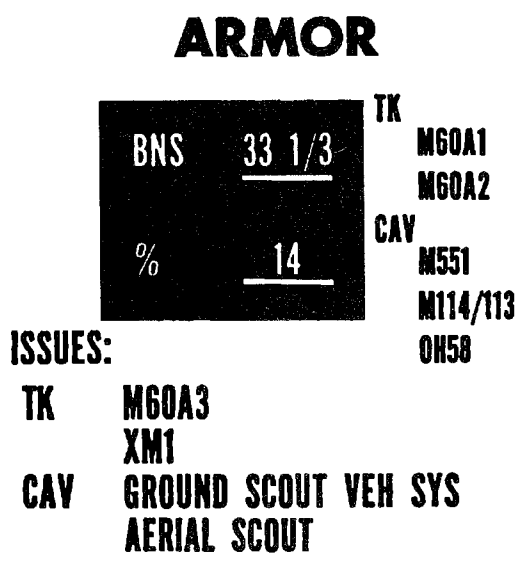
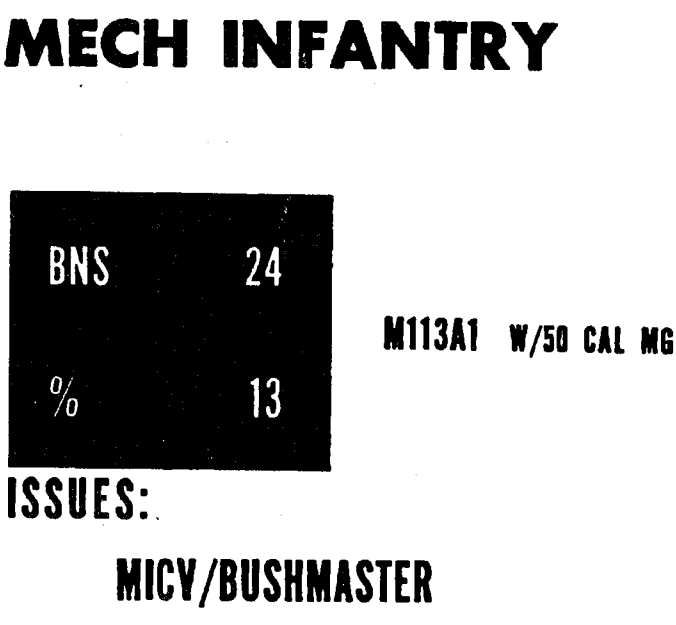


CHART 28

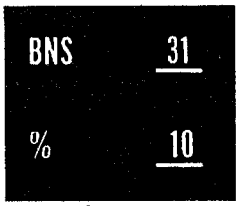
Thirty-three battalions, representing fourteen percent of the force, are armed with the M60A1 and M60A2 tanks and the cavalry with the M551 Sheridans. From a combat developments standpoint we are trying to improve that combat building block. The question as to how many building blocks we place in the force has to do with the strategy, the dollars available to procure equipment and train personnel and the success of recruiting.

At the moment the Army is upgrading the performance of the tank inventory through cost effective improvements. We are considering the M60A3 tank with the laser range finder and full solution computer. We are looking at the XM1 tank with its improved armor as a step toward an effective anti-tank guided missile defense. We are also considering a number of gun candidates. With the cavalry we are looking at ground and air scout vehicles.



Mechanized infantry with 24 battalions comprising 13% of the force is now equipped with the M113A1 and a 50 caliber machine gun. We need a true fighting vehicle, a mechanized infantry fighting vehicle. One that is armed with a much improved automatic cannon for suppression, and capable of outranging the 73mm gun on the Soviet mechanized combat vehicle (BMP) and defeating it with an armor piercing round.

ARTILLERY



155mm SP
8" SP
175mm SP

ISSUES:
- CLGP
- TPQ 36/37 RADAR
- TACFIRE

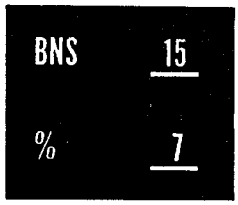
CHART 30

We have 31 battalions of field artillery, mostly 155 self-propelled howitzers, but some 8 inch and 175mm for a total of ten percent of the force. I talked a bit ago about the difference between bombing targets without precise weapons and bombing them with precise weapons. The Cannon Launched Guided Projectile (CLGP) with its laser seeker, is designed to hit the target the first time. The Army would be extremely happy to obtain the Air Force's Maverick effectiveness where out of 50 tries they very nearly achieved 45 hits. In addition to CLGP we will also have, and are now testing for the first time, a radar which can find enemy artillery and mortars. With these radars we will be able to find the enemy's artillery and then suppress it before he can suppress ours. We want our artillery to be able to put smoke on the T62, so our tank attack can succeed. Because we are going to fight outnumbered, we must get more out of the artillery we have now. The Tactical Fire Direction System (TACFIRE) will help by improving the efficiency of our artillery.

In air defense, we are behind, except that the improved HAWK is probably better than any surface to air system on the battlefield.

The CHAPARRAL and VULCAN systems are not satisfactory. We are now considering the facts and analyzing the need for a new division air defense gun system to replace the VULCAN to give our Army a system better than the Soviet ZSU-23-4. We also have under development an improved man-portable air defense missile, the STINGER, and the SAM D for high and

AIR DEFENSE



HAWK
I HAWK
CHAPARRAL
VULCAN

ISSUES:

- DIVAD GUN & MSL
- STINGER
- SAM-D

CHART 31

medium altitude coverage. We have just given a contract for a short range air defense missile system.

I am not going to talk more about this just now except to make a very important point which I have not yet emphasized from chart one. If lethality is the problem and the combined arms team is the solution, training will make the difference. There were times in the Arab/Israeli War when T55 tanks fought T55 tanks and the quality of the crews, the courage, imagination, and training of the commanders made the difference.

PERFORMANCE GAP

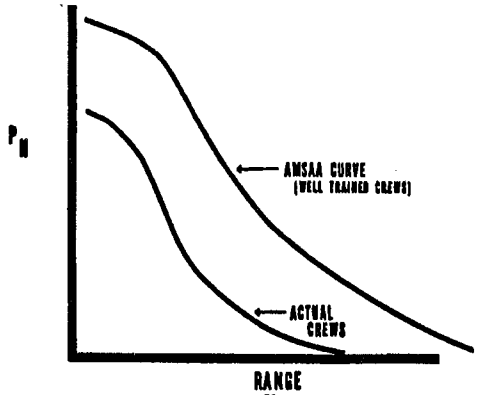
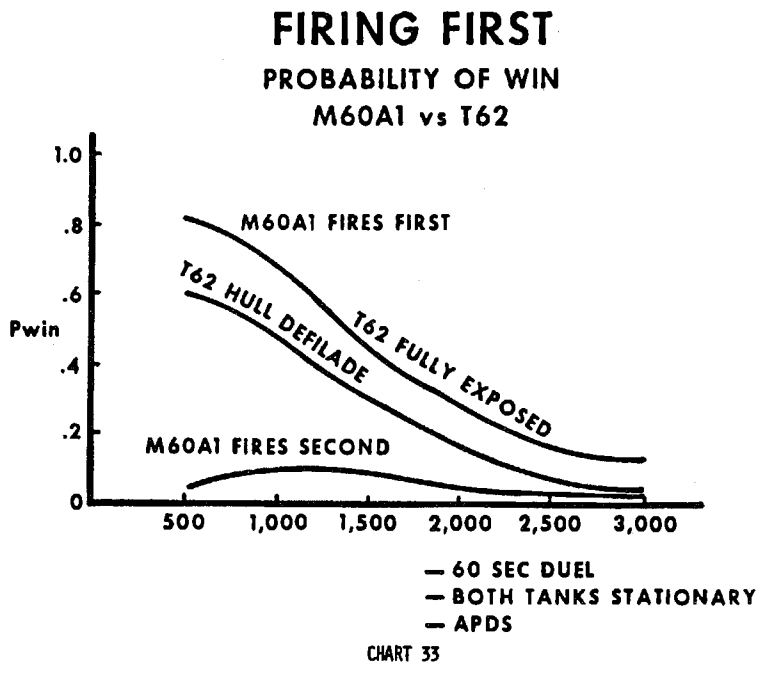


CHART 32

We buy weapons that have a high probability of hit over particular ranges and we have spent millions of dollars in acquiring that capability; but many times when we put those new weapons in the hands of Army crews, they did not achieve the capability we built into the weapon. The difference between actual crew performance and where we ought to be can only be closed through training. I will give you just one example — this is a subject unto itself.



Earlier I indicated that the T62 tank and the M60 tank were essentially equal in combat capability. This chart shows that the tank that fires first, up to about 1,000 meters or maybe even 1,500 meters, has a 50% probability of winning that engagement over the tank that fires second. I think it is even more telling to think about what happens each time to the tank that fires second. In order to close that gap, and in order to exploit our weapons systems potential, we are changing our gunnery procedures in order to fire in five to seven seconds, instead of 13 to 15 seconds. We need to do this in order to achieve a high probability of winning future tank battles. The Israelis proved to be masters at this art. Although I don't intend to talk about the importance of training in any depth, I would conclude that the combined arms team may be the answer to lethality but the combined arms team requires training to be effective.

Lest I give you the impression that we are only dealing with the Arab/Israeli War in terms of generalities, let me say that there are literally dozens of important but detailed lessons learned. These lessons vary all the way from the logistical problems to small technical problems within particular weapons systems and all have been addressed.

1973 MIDEAST WAR ANALYSIS

162 RECOMMENDATIONS

- **ACTION UNDERWAY 142**
- **COMPLETED 20**

CHART 34

As I said at the beginning you can sometimes get lost in 162 recommendations and not quite derive from them the real meat. But they are all important in one way or another. We are currently working on 142 and 20 have been completed. I want to give you an example or two of these detailed lessons.

The Israelis pointed out to us that the hydraulic fluid in our tanks was flammable. Army Materiel Command is now contracting for non-flammable hydraulic fluid.

They pointed out that the number of catastrophic losses of tanks, such as the T62, came from the fact that too much ammunition was stored in the turret. The Israelis want to store as much of it below the turret ring as possible, but yet not decrease the number of stored rounds in the tank. Reason — when you are in hull defilade only the turret is exposed. If the ammunition is not up in the turret it won't explode if the turret is hit. You won't then have a catastrophic fire or explosion, which could destroy the whole tank. We are rearranging main gun round storage.

FOR INSTANCE

- FLAMMABLE HYDRAULIC FLUID
- MAIN AMMO BENEATH TURRET RING
- USE SUPPRESSION (HIGH VOLUME FIRE)
- CBR DEFENSE
- BATTLEFIELD CANNIBALIZATION

CHART 35

The use of suppression. The Israelis understand and want an improved suppression capability. They would like to have an automatic cannon. As a matter of fact, they would like to suppress at a distance up to 3,000 meters. We frankly haven't found how to suppress with an automatic cannon at 3,000 meters and still keep it cost effective. We do agree with the desirability of such a weapon system. However, the BUSHMASTER system in development is effective at a mile.

CBR Defense. We now know, and are shocked in fact, by the extent the Soviets have built CBR defense into all of their systems. We have a long way to go and a lot of money may be required to catch up.

Battlefield Cannibalization. The Israelis put hundreds of damaged tanks back into operation, 2,700 in 10 days, or more than they had in their inventory. Many tanks were repaired over and over again. They sent highly skilled teams out on the battlefield to take the turret from this tank, the track from that tank, the engine from that tank, and the fire control equipment from a fourth tank. They then put it all together and obtained one operating tank. We have run an experiment on battlefield cannibalization at Anniston, Alabama and found that our mechanics are well trained, the equipment they have is about right, but we don't have those trained experts who can say that it is better to take that turret, take that track, take that power train and put it all together on this tank. We are addressing that and may have to provide specialized training to achieve a similar capability.

Let me finish with a series of charts which draw this together in terms of our weapons systems acquisition effort. Our purpose is to depict how the lessons learned coupled and interacting with our concept of operation determine the characteristics required in our new systems. These charts are designed to show the impact of these factors on the weapon systems acquisition process, on the determination of the requirements, and on the capabilities and characteristics that we want to build into our weapons systems, provided we can demonstrate they are cost-effective.

SYNOPSIS

TANKS

SINGLE MOST DECISIVE WEAPON ON BATTLEFIELD. 66 BATTALIONS. 12% OF DIVISION FORCES.

CONCEPT	TECHNOLOGY/COST EFFECTIVENESS	LESSON LEARNED
TANK IS BASIC ELEMENT OF COMBINED ARMS TEAM	M60A3 XM1	TANK STILL DECISIVE WPN ON MECH BATTLEFIELD M60A1 - T62 EQUAL
SHOOT FIRST	LASER RANGEFINDER SOLID STATE COMPUTER	FIRST RD HITS WIN BATTLE
SHOOT ON MOVE	M60A1(AOS), M60A3, XM1 STABILIZED	SOVIET TANKS & BMP STOP TO SHOOT EFFECTIVELY > 1000M
INCREASED PROTECTION	IMPROVED ARMOR XM1	SOVIET APDS RD PENETRATES UNIMPROVED ARMOR
ON BOARD SUPPRESSION	REPLACE M219 - PROB WITH M60	COMMONALITY SMALL CALIBER (LARGE NO RDS) M219 UNSAT
SUSTAINED COMBAT	INCREASED AMMO STORAGE M60, XM1 IMPROVE RAM: M60A3, XM1	WANT MAX NUMBER MAIN GUN RDS BELOW TURRET RING. US TANKS EASIER TO MAINTAIN
FIGHT AT NIGHT	TANK THERMAL NIGHT SIGHT	SOVIETS HAVE GOOD NIGHT FIGHTING CAPABILITY
OBSCURATION OF AT WPNS	SELF-GENERATING SMOKE, XM1	OBSCURATION DEFEATS AT MISSILES

CHART 36

Let's start with tanks. Down the left side is our concept of operations: shoot first, shoot on the move, on-board suppression and so on. On the right side are the lessons learned from the Arab/Israeli War which correlate with our concept of operations. Down the middle we have the characteristics which should be incorporated in our new tanks or should be incorporated in the product improvement of the tanks we already have. For example, in the Arab/Israeli War, it was clear that he who fires the first round is likely to win. Our concept now says shoot first. To do that at longer ranges we are evaluating the laser range finder and full resolution computer, we need on-board suppression. The Israelis don't like our co-axial machine gun. It is not reliable. We agree. We are going to replace the M219 machine gun, probably with a M60 machine gun.

SYNOPSIS

MECH INFANTRY COMBAT VEHICLE

COMBAT VEHICLE, TRANSPORTS INFANTRY, SUPPRESSES ENEMY, DEFEAT BMP.
43 BATTALIONS 9% OF DIVISION FORCES

CONCEPT	TECHNOLOGY/COST EFFECTIVENESS	LESSON LEARNED
COMBINED ARMS TEAM REQUIRED FOR MECH BATTLEFIELD	MECHANIZED INFANTRY FIGHTING VEHICLE (MICV)	TANKS CAN'T SURVIVE ALONE.
SUPPRESSION	BUSHMASTER -- HE AMMO	SUPPRESS ATGM AND RPG
FIGHT (AND SUPPRESS) WHILE MOVING	STABILIZED TURRET FIRING PORT WEAPONS	MECH INF SHOULD BE ABLE TO FIGHT FROM CARRIER - COULDN'T FIGHT FROM M113
MOBILITY COMPATIBLE WITH MBT	MICV: IMPROVED SUSPENSION/ CROSS COUNTRY SPEED (25 MPH)	INFANTRY MUST BE ABLE TO ACCOMPANY TANKS
DEFEAT BMP	BUSHMASTER: - RANGE TO DEFEAT 73MM - AP AMMO - DUAL FEED	
FIGHT AT NIGHT	NIGHT SIGHT ON BUSHMASTER W/1000M RN	LARGE BATTLES WERE FOUGHT AT NIGHT

CHART 37

As indicated in the earlier discussion on tactics at the company level, the Army must have the capability to fight while moving. The Israelis agree. They don't like the M113 because you can't fight from that carrier. Therefore, we are pressing for a mechanized infantry combat vehicle that can move with the tank and can fire while on the move. It must have a stabilized turret to do so. Although the Israelis did not address the problem, we are convinced that we must not put our MICV on the battlefield and have it out gunned by the Soviet BMP. Therefore, we are putting a BUSHMASTER automatic cannon capability with armor piercing ammunition on the MICV to defeat the BMP beyond the range of its 73mm gun.

SYNOPSIS

FIELD ARTILLERY

CLOSE, CONTINUOUS, TIMELY FIRE SUPPORT TO MANEUVER UNIT.
INTERDICT, SUPPRESS, OBSCURE, ADD DEPTH TO THE BATTLEFIELD
75 BATTALIONS, 9% OF DIVISION FORCES

CONCEPT	TECHNOLOGY/COST EFFECTIVENESS	LESSONS LEARNED
MAKE UP FOR INFERIOR NUMBERS BY MASSING FIRES - INCREASE EFFECTIVENESS OF FIRES	TACFIRE BETTER METRO VELOCIMETER PADS (SURVEY)	SOVIET TYPE FORCE HEAVY IN ARTILLERY.
IMPROVE RANGE	SOFT RECOIL ROCKET ASSIST PROJECTILE SABOT GENERAL SUPPORT ROCKET SYSTEM	SOVIET 130MM GUN HAS COUNTERBATTERY RANGE ADVANTAGE.
IMPROVE LETHALITY, SUPPRESSION AND OBSCURATION	ICM RANDOM DELAY PROJECTILE IMPROVED SMOKE ROUND FOR 155	ARTY REQUIRED FOR SUPPRESSION OF ATGM/TANKS
ANTI-ARMOR CAPABILITY FOR ARTY	CLGP FASCAM AT ROUND FOR 105MM	CAN EXPECT MASSIVE TANK ATTACKS
ARTY CONTRIBUTES TO AIR DEFENSE SUPPRESSION	NONNUCLEAR LANCE EXTENDED RANGE AMMO	FA MUST ASSIT IN AD SUPPRESSION

CHART 38

With respect to field artillery, we are almost totally dependent on field artillery for the obscuration or suppression of anti-tank weapons that are out beyond the effective range of our tanks. One new innovation to aid us in providing suppression is a random delay projectile, a projectile which goes off over a period of time with small munitions, forcing the enemy to stay covered over a long period. We are urgently pursuing an improved smoke capability for our artillery. The Israelis learned the need for artillery to support their tanks and that those artillery pieces must move with the tanks. We already have that kind of artillery piece but its mobility needs improvement.

SYNOPSIS

AIR DEFENSE

PROTECTIVE UMBRELLA OF MANEUVER FORCE
31 BATTALIONS 5% OF DIVISION FORCES

CONCEPTS	TECHNOLOGY/COST EFFECTIVENESS	LESSON LEARNED
EFFECTIVE BATTLEFIELD AIR DEFENSE REQUIRES MASS & MIX OF COMPLEMENTARY WPNS	STINGER DIVAD GUN SHORAD MISSILE I-HAWK SAM-D	ARABS CREEPING AD ENVELOPE FRUSTRATED IAF CAS UNTIL SUPPRESSED. INTEGRATED FAMILY OF WPNS SYSTEMS REQUIRED.
ALL ARMS SELF DEFENSE AD	STINGER/IMPROVED IR IMPROVE SMALL ARMS AD TRAINING	36% OF ARAB A/C KILLED BY SMALL ARMS
AIR DEFENSE MUST OPERATE EFFECTIVELY IN ECM ENVIRONMENT	DUAL OPTICS/RADAR TRACK ON SHORAD, DIVAD GUN & I-HAWK	ARABS USED INTERMITTENT RADAR (RANGE) OPERATION WITH OPTICAL TRACK
AD MOBILITY AND SURVIVABILITY EQUAL TO SUPPORTED FORCE	DIVAD GUN ON MICV IMPROVE HAWK MOBILITY (REDUCE MARCH ORDER/ EMPLACE TIME)	ARABS' AD MOBILITY PROVIDED HIGH AND FORWARD COVERAGE SYSTEM SURVIVABILITY
RELIABLE, MOBILE, AUTOMATED COMMAND AND CONTROL	AN/TSQ-73 W/IFF	CONTROL OF AD FIRES INADEQUATE-ARABS SHOT DOWN OWN PLANES.

CHART 39

In respect to air defense the Israelis were most impressed with the envelope of Arab air defense that moved with the advancing Syrian and Egyptian forces. Our concept is to provide a complete mix of air defense guns and missiles. This force must be mobile and it must be forward. The Army is buying an improved man-portable air defense missile, the STINGER. Although the issue of a divisional air defense gun is still controversial within our family we are convinced we need it. We have already decided to purchase a new short range air defense missile. The Improved HAWK is probably the best surface to air missile in the world. Efforts are in progress to make it more mobile. The HAWK depends on cables to connect the radars with the command and control and the missile. These are being replaced in the Improved HAWK program with radios to increase its mobility. The SAM D is being developed to provide an essential area defense to the battlefield and rear areas.

SYNOPSIS

ANTI-TANK

OFFSET ENEMY'S NUMERICAL SUPERIORITY IN TANKS.
131 DRAGON TRACKERS 545 TOW LAUNCHERS

CONCEPT	TECHNOLOGY/COST EFFECTIVENESS	LESSON LEARNED
OFFSET SOVIET ARMOR PREPONDERANCE PROVIDE INF CAPABILITY TO DEFEND AGAINST TANK HEAVY FORCES	1-LAW; DRAGON DRAGON MOUNTED ON M113 TOW, XR TOW COBRA/TOW HELLFIRE?	ATGM FORCE TANKS TO OPERATE MORE CAREFULLY AS PART OF COMBINED ARMS TEAM
PROTECT AT WPNS AND CREW	TOW UNDER ARMOR ON M113 AT VERSION OF MICV FIRE TOW/DRAGON FROM BUILDINGS INTEGRATED ARMORED TOW/ BUSHMASTER TURRET ON ARSV.	AT MSLS AND CREWS SUSCEPTIBLE TO SUPPRESSION BY FIRE
SUPPRESS ATGM OBSCURATION	NEW SMOKE ROUNDS FOR ARTY AND MORTARS	EFFECTIVENESS OF ATGM CAN BE DEGRADED SEVERLY BY SMOKE.
MUST BE ABLE TO FIGHT AT NIGHT	THERMAL SIGHT FOR TANKS AN/TAS 5/4 (TOW DRAGON)	EXTENSIVE OPERATIONS OF TANKS AT NIGHT
OPERATE IN ECM ENVIRONMENT	HARDEN TOW ELECTRONICALLY	SOVIET-TYPE FORCE HAS ADVANCED EW CAPABILITY

CHART 40

The anti-tank guided missile has now put the tank in the same position as the infantry and fighter aircraft. That is, in a position in which employment must be thoroughly supported and carefully planned. But the anti-tank guided missile is also vulnerable which leads us to placing them under armor.

First, the TOW has been fitted to the M113. We hope later to integrate the TOW with the BUSHMASTER in a single integrated turret for a ground scout vehicle. We plan to use the MICV for this purpose. We are also looking at a version of the MICV optimized for TOW, under armor. The DRAGON ATGM is also being fitted to the M113 as an interim fix, and later we'll try it on the MICV.

The Arab/Israeli War did not reveal much about Army aviation. Neither side used Army aviation except for logistics and a raid or two. It is safe to say that our concept of operations is far in advance of that of the Israelis. The Army is well aware of the need to provide suppression in emergencies from our own aircraft and we are developing an improved rocket system for the suppression of air defense.

The Syrians and Egyptians on the first day of attack were able to concentrate their armor on the Golan Heights and along the Suez, in vastly superior numbers to the defending Israelis. The Israelis reacted and moved their armor, but they had difficulty; because they could not see the battlefield well enough to determine where the main attacks were concentrated.

Our concept of operations stressed the need to see the battlefield better than the enemy. As a consequence, we are examining a new advanced scout helicopter. One that can see in the daytime and can also see at night.

There is also a demonstrated need for an anti-tank missile that can be carried over the battlefield at high speeds. We have the TOW COBRA and are deploying it to Europe. We will also equip the Air Cavalry Combat Brigade (ACCB) at Fort Hood with it. For the future, we are developing the advanced attack helicopter.

Our interest in the Arab/Israeli War, all the analyses, and all the discussions are not just an intellectual exercise. True, it is fascinating for soldiers, but there is a purpose to this study and the purpose is that we want our schools, our combat developers and those involved in training, to remember these lessons and to relate them to our concepts. All that we do must relate to these very important lessons, crosswalked to our concepts, and result in the best weapons, the best tactics and the best techniques for the US Army to enable it to win the first battle of the next war while fighting outnumbered.

3

TRADOC LEADERSHIP CONFERENCE
22 May 1974
[At Fort Benning, Georgia]

KEYNOTE ADDRESS
By
General William DePuy

I very nearly refused to accept this invitation, not because I am particularly afraid to get up and talk to you, but because I thought I might do more damage than good. I say that quite sincerely. I explained that to General Tarpley and I suspect that some of my older friends here are worried that I might do just that. The reason is, that if I had attended one or two leadership seminars, I probably would be able to talk to you about the kinds of things that you are mostly talking about here. But I have not, I have been preoccupied with other things. I still am and I am going to talk about those things instead, but I think they have something to do with leadership.

I am starting out this way to tell you that I am going to give you one man's narrow view of the problem, from one aspect. I am not suggesting to you that there are not a lot of other angles to leadership other than the one I am going to talk about—there are. The proposition to you is that you have to start with my angle on leadership, and then you can work your way on through the rest of them afterwards. In other words, I am going to talk about the cake and not the frosting on the cake. I am not going to talk about the fine tuning. I am going to talk about the gross adjustment of the leadership problem. I am going to get at it by talking about the thing that is worrying me the most about the US Army when I think about the next war. All of those fellows in the first row, Generals Starry, Cushman, Tarpley, Forrester, McAllister, also Richardson and Long over there, have heard this speech about a hundred times. So fellows, it is going to happen again.

The Arab-Israeli war is kind of a sobering thing. There are a lot of aspects of it which ought to worry a lot of Americans, including soldiers. The obvious and apparent thing about it is the

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Manuscript provided by Major General William ("Bill") Carter, formerly General DePuy's executive officer.

amount of equipment that the Russians have given to the Syrians and Egyptians. For example, the Syrians and Egyptians lost (destroyed) as many tanks as we have in Europe in Seventh Army plus all the prepositioned equipment there. Seventeen hundred tanks were lost or destroyed. They had more air defense batteries in the Egyptian and Syrian Army than we have in the active and reserve forces of the United States. On one very narrow little part of the front, where the Israelis broke through to the Suez Canal between two armies, the Israelis captured 300 Egyptian artillery pieces. We only have 437 artillery pieces in Seventh Army in Europe.

The first thing that gets to you about this, is that you are going to be fighting a lot of equipment. In the old days of WWI and WWII, the American way was to just provide more of everything than the other guy had. If one Division was not enough we would use two, if two was not enough we would use four. Our tanks were not as good as the German tanks but we had three times as many. Now it is kind of un-American, is it not, to find out that the other guys have more equipment than we have? Then my next point is that their equipment is just as good. For example, their tanks—there are certain aspects of their tanks which are better than ours and certain aspects of our tanks that are better than theirs, but it is sort of a general opinion that they come out about even. They have a mechanized combat vehicle which is highly sophisticated. It is better than the M113. It has weapons which can kill tanks, and it is in all respects, an admirable vehicle. Actually, they are optimizing theirs as a tank killer and we want ours to be optimized for suppressive fire. We have a different concept of MICV on the battlefield. The quality of their MICV is better than the one we have now and about as good as the one we are going to have.

We are now faced with a situation like that which faced the Israelis when they fought the Egyptian tank brigade that tried to break out from the Sinai. The Israelis who fought that brigade were equipped with T55 Russian tanks which the Israelis had captured earlier, in the 1967 six-day war. The Israelis were equipped with T55 and the Egyptians with T55, so the real battle was a battle between the people who manned the tanks. The Israelis, for a variety of reasons, came out way ahead, 150 to 1. The fact of the matter is, the equipment was the same. The difference was in the training, the leadership, the motivation, the courage, and the flexibility—the skill, tactical and technical skill on the battlefield.

In addition to Americans being used to having more of everything than the other guy, and until recently even having better, there are a lot of associated problems. One is that we now have a volunteer Army. You fellows in the units know that we are not getting the college graduates

in the Volunteer Army. That does not mean we are not getting good men; we are getting some good men and we are getting some marginal men. From that raw material we are trying to make fighting units with a qualitative difference in performance, but using equal equipment. That is a sobering thing to think about. When you take the average of the Israeli Army—that is sort of a mobilization Army, and they take everybody they can get their hands on, the higher the quality the better, and throw them into combat—it is different quality of person than on the average we are recruiting in the United States Army.

Another aspect of that Arab-Israeli war that we do not think about enough, is why they lost all those tanks. The losses for twenty days were phenomenal on both sides. If we lost tanks at that rate in a war we might fight in Europe with Seventh Army, we would run out of tanks almost immediately. We do not have the kind of war reserves which would support a war with losses that high. You have to ask yourself, "Why are the losses so high?" The losses are high because the modern day tank cannon—theirs and ours—is the most vicious weapon on the battlefield. With reference to the other wars we have fought, there is no comparison. The modern tank of today with its very high velocity gun, with its very effective ammunition and its very sophisticated and accurate fire control equipment has made it almost certain that anything which is seen on the battlefield will be hit, unless the tank doing the shooting is under fire or moving, or is driven back. Almost anything on the battlefield that is seen will be hit. The single shot hit probability of a Soviet 115MM smooth bore cannon, up to about 2000 meters when it is standing still, is about .6 or .7. About 70% of the time it will hit the target with the first round. Muzzle velocity is 5000 ft per second or more. Back in WWII, I can remember when 2800 ft per second was regarded as good, and that was an 88MM gun. They finally got it to 3200 ft per second and we called them a whiz-bang, because by the time you heard the whiz, the bang was already there. Now it is twice that fast. They do not even have to use complicated computers and whatnot for targets out to 1500 to 2000 meters. The trajectory is flat.

In TRADOC, those of us who think a lot about that are worried, and I am sure the FORSCOM commanders are equally worried about it. This tells us that we have got to use the terrain to protect ourselves. We know that the American Army is lousy at that. Yes, the unit you are in is good, but the rest of them are no good. The reason is that in Vietnam we did not get much practice. You could not see very far for the leaves were two or three feet in front of your face. If you were a commander, you flew in a helicopter and everything looked like a shag rug. There was not any

terrain from a helicopter, it all just seemed sort of flat. So we have a whole generation of our people who have not fought on terrain. We did not use terrain, we used fire power. We had defensive positions that were conspicuous by their visibility because they were manufactured to be that way. None of those would survive for two seconds on the modern battlefield. A tank could sit off there at 2000 to 2500 meters and knock every bunker off at one round per bunker. We have got to use the terrain and we are not very good at it.

The Israelis understand terrain, and they are building a new tank so big that you can walk in it through a rear door. The engine is in front and it is high. The gun is almost the highest thing on the tank. They say that their tank has the lowest silhouette of any tank in the world, above the gun tube. What they plan to do is have nothing stick over the hill but that gun. The Germans have a big mechanized combat vehicle, but they put the gun on top of a funny looking thing that looks like a stalk, and on top of the stalk is a pod and out of the pod comes the gun. What the Germans have in mind is that there will be nothing but the pod visible to the enemy.

We have to recognize that it is a new ball game, and I do not know whether we recognize this or not. This tells you a lot of things which you ought to do in training combat units. We are trying to develop and teach tactics and techniques in the TRADOC Schools, which optimize the use of terrain to minimize the vulnerability of our forces to the Soviet tank cannons and artillery and to direct line of sight weapons.

What we are trying to do is change a preoccupation with formations; geometric formations, the Y formation, the V formation, the echelon right, the echelon left, and the alternate and successive bounds, which on the battlefield sort of plow across the terrain as some of us say, irregardless, and exposes the force half the time on forward slopes. You can not do that. Once you get one of those outfits out on a forward slope by mistake because you were in a Y formation, and there happens to be a T62 tank over there in the woods, and you cannot see it but he can see you, then that is all she wrote. That is the end.

Monday and Tuesday up at Fort Monroe, we hosted a meeting of the Army Scientific Advisory Panel, a lot of smart chaps who advise us on one thing or another. They are smart, interested and high priced. They argue a lot about whether we are developing just the right weapons systems. For example, do we want a Bushmaster or do we want a 20MM on the MICV? What is the relationship between the silhouette of our tank, how much of it is above the gun trunnion, to its vulnerability to a Soviet tank? You can figure that out mathematically, assuming that one tank

is sitting at one end of the football field and the other tank is at the other end. What I am saying to you is that I can take two tank companies or platoons, sit out here and pretend that I am a T62 tank, and take pictures of your tank company approaching me over a mile of broken ground. If you are a poorly trained tank company, the number of square meters of target per minute presented to me will be high. If you are a well trained tank company, trained in the techniques that permit you to use the terrain, both for your overwatching position and your routes of advance, then the number of square meters of target per minute presented to me will be 1/100th of that. That is training, technique, and skill on the battlefield, and it overwhelms the difference in the design of the tank. The fact that there are two or three inches more or less above the gun trunnion is insignificant, compared to the quality of your training, how you move that tank company forward and how much of it you expose to the enemy.

What does this have to do with leadership? My first impression of leadership is that it is only important in terms of the job performed. Leadership is not exempt from all other kinds of training, it has to be performance oriented. The end results of the training is whether we are going to put a tank company on the battlefield that moves that mile or so toward the enemy, exposing itself only 1/100th as much as that untrained tank company, and that the tanks run, and the guy who is running the tank, and the tank company commander know what they are doing and they have enough courage to fight. That is leadership.

I can tell you by looking at a tank company whether the leader of the tank company is any good or not. I do not even have to see the men in there, they can all be funny looking little guys like I am or they can be handsome like Major General Tarpley. You do not even have to see them. You do not even have to know if they have their hands in their pockets, or wear glasses, or have one short leg. You just have to see the tank company moving around out there on the terrain in training or combat, and you will know whether or not the company commander, the platoon leaders and the tank commanders are good leaders. That is the ultimate test of leadership.

All the rest of it is sort of small potatoes compared to moving a little better across the terrain. You are not going to be moving across the terrain pretty well if the tank commanders are not motivated to care, or if you have race relations problems in the company, and everybody is on drugs, you can tell that too. They are not going to work very well out there. They will look pretty lousy and everybody will know it. On the other hand, if that company commander is burning with desire to train his tank company and he can hardly wait to get his hands on it; if he resents

anything that interferes with his training or prevents him from being on the gunnery range or out there on the tactical fields, then he is not going to have as many of those other problems. In fact, the people are going to be embarrassed to talk to him about other problems because they know he is preoccupied with mission readiness—that is leadership.

We have a lot of sergeants, platoon sergeants, infantry squad leaders, tank commanders, rifle platoon leaders, company commanders and battalion commanders who will be assigned to a command position, and who will sit back and wait for the training schedule to arrive and who will wait to be told what to do. That even affects lieutenant colonels. That kind of guy is no leader, because leadership is job oriented, performance oriented, and it can all be summed up that way.

All of us in this room have worked for leaders who were really obnoxious. We did not like them at all, because they did not have the first drop of the milk of human kindness in them, they did not look good and they did not act right as far as externals were concerned. Some of those fellows were dedicated, humorless professionals, as far as their job was concerned. I would rather have a guy like that, than someone who is a smoothie, who does not care or know much about his job. I have often used the example, "You cannot be a leader in a chemical laboratory unless first you are a chemist." It is perfectly possible to be a chemist and be a bad leader of a chemical laboratory, but you have to be a chemist first and then you have to learn to handle other chemists.

The best leaders in the Army have always been those individuals, all the way from a buck sergeant to a general, who were really sort of obsessed with accomplishing what they regarded was an important objective which was directly related to the Army's mission—meaning how to fight better. All of our best leaders have always been those kinds of people, impatient with anything that interfered with that. General Ham Howze—some of you young people do not know him—but he was a man obsessed with training. He knew more about all the details than anyone else. Single minded and humorless, but by God, he was devoted and focused. You have seen it, some sergeant out there in the rifle squad, tank company, or maintenance section, who is so sincere, who knows his job so well that sometimes he is even oblivious to the human conditions around him. Now you are all going to learn here that such behavior is bad. I am going to tell you that kind of a guy, once in a while, turns out to be just a great commander. People are afraid to bother him with personal problems, because he is so anxious to get the job done. He does not

have time for it and they go out and talk to someone else about it. I am not saying that is best, but I am saying that it is the cake, and that the frosting on the cake is to be civilized and perceptive.

I suspect that if you agree with me, you have to start with what I am talking about, which is the sense of urgency for mission readiness. I am going to agree with you, that you can add another 10 or 20 percent on top of that, if you think hard about how to deal with your people, the people who have to deal with mission readiness. I will not reverse it however, and say that dealing well with people will take care of the first 80 percent. You have to have both, but job knowledge, self-confidence, determination, faith and an inner burning desire to take that small unit or battalion, and mould it the way you want it moulded must come first. The unit's troop leading procedures are the way you want them, its techniques are your techniques. Take the Infantry School techniques, they have to be yours, they cannot be somebody else's.

Try to get a starting line-up and get just the right squad leaders, just the right tank commanders, just the right company commanders, and you will evaluate them against just one standard, and that is performance. With an Army filled with people like that who can hardly wait to get their hands on the next unit, to make it the way they want to make it—they resent being interfered with, even visited by brigade commanders and battalion commanders—they just want to get out and get this job done. That is leadership.

I do not propose to talk about that other important 20 percent. I am not inferring that I am the only person here smart enough to see all this. You all know this better than I do. I am just not going to talk about that other 20 percent, or about the techniques involved in it, and the perceptions required, the great body of knowledge being collected on how to do it better, the lessons learned, and the importance of it when we are dealing, on the average, with the lower mental qualifications. The importance of the other 20 percent is clear at a time when the social standards in the United States have changed, the physical appearance has changed, the black members of the United States Army are more conscious of themselves and all blacks in relation to the Army than ever before. I am not going to talk about it in detail because I know all those things, and I know you are faced with them from day to day, and I know you cannot be out there obsessed with training every minute. We do not have enough money, not enough time, not enough troops, and we have to do a lot of other things. You have to spend a lot of time keeping troops happy, and you are not able to train as much as you want to.

There is no way to be a leader of a rifle platoon unless you understand how to train the squads within it, and run them yourself while showing the squad leaders how to train those squads. There is no way that you can be a platoon leader of infantry unless you know exactly how to site that platoon on the terrain. It is a work of art to do that, and it is a joy to professionals to do it. You have to be that way and get that kind of satisfaction. If you do not have the 80 percent, then that other 20 percent is like frosting without the cake, sort of gooey in the bottom of the pan. It is pretty good when on a nice piece of cake, but unless you have that, then the other 20 percent has no place to go, it has no basis for operating.

You can have all sorts of marvelous human communications and relations with privates in your platoon or your company or battalion, but unless it all takes place within the framework of trying to get the job done, it is irrelevant, a waste of time, and you can fold up and go home. The only way you can judge what is good and what is bad, what works and what does not work, is to judge it in the light of whether it advances you toward your objective or not. If it does not, it is a waste of time. We are not in this business to be good guys.

Nice warm human relationships are satisfying and fun, but they are not the purpose of an Army. Establishing the most marvelous, friendly, warm, sympathetic, and informed relationships is unimportant, except in the context of making the team work better. In that context it is all important. In any other context it does not have anything to do with the Army. All of this is only important to you as you select those techniques which improve your team training, the team training that you the team leader, the commander, have devised, and in which you have confidence. You have practiced that training and you know that it is relevant, that it is essential to fighting on the battlefield against all that equipment that I have mentioned. And if those techniques do not have anything to do with improving mission readiness—they may make you more friendly with your wife, your children, or your neighbors—they do not have anything to do with the Army. I hope I have made a simple, direct point. Thank you.

4

23 July 1974

Dear Dave, Tom [Tarpley], Don [Starry], CJ [LeVan], Bill [Maddox], Jack [Cushman] and Hal [Parfitt],

In France in the house of a peasant there is always a pot of soup boiling in the fireplace. From time to time someone throws in a potato, leek, some chicken stock or beef gravy, an occasional carrot or whatever. Over time the soup gets better and better. Everyone can add to it and anyone may partake. I view the attached paper somewhat the same way.

I do not intend to publish this paper as a TRADOC Headquarters publication. I would like to have you discuss it with me or send comments, recommendations or amendments and particularly additions to it. From time to time we will gather to discuss it or aspects of it.

Those parts of it which seem relevant and useful to your business should find their way into your doctrinal manuals and your instruction in both officer and NCO schools and should provide a conceptual basis for the determination of weapons systems requirements. Operational tests, force development tests evaluations and experiments should be conducted in a manner consistent with the tactical concepts on which I hope we can agree through the medium of this paper.

I do not expect or wish to whip up a lot of additional paperwork. I do want the Air Defense School to contribute some obviously missing parts. Treatment of the Engineer aspects are much too thin and I expect some input from that quarter. In short, I want this paper to stay alive and improve, but I want to keep it as an informal TRADOC document which will not see the light of day as a separate official publication. I don't care who sees it or how many copies are made. I just want to keep it like that pot of French soup.

Sincerely,

Incl
As stated

W. E. DePUY
General, United States Army
Commanding

Major General David E. Ott
Commander, US Army Field Artillery Center &
Commandant, US Army Field Artillery School
Fort Sill, OK 73503

The William E. DePuy Papers. Box: Personal Files 1974–1975. Folder: O. U.S. Army Military History Institute, Carlisle Barracks, PA.

TRADOC

DRAFT CONCEPT PAPER

COMBAT OPERATIONS

(For coordination and comment
with School Commandants.)

I. GENERAL BACKGROUND

1. It is in the nature of our democracy and its geographic location that Army Forces sent overseas at the beginning of any war will almost certainly be outnumbered in men and outweighed in materiel and weapons. Furthermore, the quality of the weapons we can expect to face will be roughly equal to the quality of our own. This means that success in those early critical engagements will depend mostly upon the courage of our soldiers, the quality of our leaders and the excellence of our techniques and tactics. It will depend also on whether or not we are convinced - utterly convinced - that we will win. This confidence can only come from training - training supported by a full understanding of the dynamics of the battlefield. Our soldiers must not only understand what to do - they must also understand why it must be done. With this understanding imbedded in the officer and noncommissioned officer corps, the application of the proper techniques and tactics to each unique situation on the battlefield can draw upon the marvelous ingenuity and endless imagination of the American soldier.

2. Warfare has changed - not abruptly but steadily and rapidly. The range, accuracy and lethality of the modern tank cannon makes it at least 5 times as effective as the tank gun of World War II. The antitank guided missile has just appeared on the battlefield and is a deadly weapon out to 3000 meters. Even against rapidly moving crossing targets it can achieve 90% first round hits. The Air Force has introduced smart bombs and the Army will soon have smart artillery shells and helicopter launched precision missiles. But even now the attack helicopter is being armed with the TOW missile and the lethality of artillery ammunition is 4 to 10 times that of World War II. Weapons are equipped with increasingly effective night sights and a variety of sensor

The William E. DePuy Papers. Box: Transcripts and Diplomas. Folder: Field Manuals 100-5, 1974–1977. U.S. Army Military History Institute, Carlisle Barracks, PA.

devices are employed to detect forces and equipment on the battlefield. All this means that individuals and weapons systems which are not employed properly will surely be destroyed. In any event losses are apt to be high. The loss of tanks and other combat vehicles in the 1973 Arab-Israeli war is conclusive evidence of the mutual destructive power of modern Army forces when locked in violent combat and fighting for high stakes.

II. BATTLEFIELD DYNAMICS

3. Modern weaponry has already reached a point where any element which exposes itself on the battlefield can be destroyed unless one of three conditions has been met.

a. Enemy weapons which could engage the exposed element have been destroyed

b. Or effectively suppressed

c. Or the view of the enemy gunners has been obscured by smoke, night, fog or bad weather.

Correspondingly, enemy weaponeers cannot destroy Army combat elements which move or station themselves on the battlefield under the protection of terrain cover or natural concealment.

4. Inherent in this capsulized description of the dynamics of the modern battlefield is the basis for all combat operations. The commander who minimizes his own vulnerability by covering and concealing his own forces while at the same time suppressing or destroying the weapons of the enemy can dominate any battlefield even against much larger forces. This dynamic applies with equal force and logic to units as small as a rifle squad or a tank platoon and to forces as large as divisions and corps. If the rifle squad advances against the enemy with one team delivering suppressive fire from concealed positions while the other team advances by a covered or concealed route, the squad leader has demonstrated his understanding of the basic dynamic of combat operations. If the battalion commander fires artillery on a distant woodline from which enemy antitank guided missiles could destroy his advancing tanks, he too has demonstrated an understanding of combat operations.

If the brigade commander fires his artillery to suppress enemy air defense weapons so the US Air Force can deliver precision munitions on enemy tanks which are holding up his attack, he shows an appreciation of the measures and countermeasures which can tilt the battle his way.

When the division commander directs the division artillery to suppress that enemy artillery which has been firing at our TOW antitank missile teams in order to minimize losses among attacking enemy tanks, we have followed the action/counteraction as far as words can convey the principles involved.

In short we seek to preserve our combat power by reducing its vulnerability by both active and passive measures —

- active measures involving the suppression or destruction of enemy weapons.

- passive measures involving the use of cover and concealment during all phases of combat operations.

III. OFFENSIVE OPERATIONS

5. Although defensive operations are both required and preferred under certain circumstances, the general outcome of battle derives from the success or failure of offensive operations by one side or the other. Thus we discuss the attack first.

6. Attacking against forces equipped with modern weapons is a difficult and expensive operation. The defender has many advantages and one serious disadvantage. His chief advantages stem from the fact that he can, and usually does, organize the ground to his own advantage by maximizing the use of cover and concealment by his forces and by choosing ground which requires the attacker to expose himself in areas where the defenders' weapons can be brought to bear most effectively. For example, the defenders' tanks will be in hull defilade and also concealed or camouflaged while the attacker's tanks will be required to cross at least some terrain fully exposed. The defender can mine or create obstacles on the approaches which are most dangerous to him and which the attacker is most likely to use. He can preplan and register his defensive fires. He can know the terrain completely and select weapons positions which are mutually supporting with interlocking fields of fire while still utilizing cover from frontal fire. Lastly he can position each weapon so that its engagement ranges are optimized and its vulnerability minimized. For example, he can open fire with his missiles against enemy tanks before the tank guns have closed to their most effective ranges. But he has one great disadvantage; he does not have the initiative. The attacker can concentrate his combat power at one or two selected points while the defenders' forces are spread more thinly. Thus by surprise, concentration of force and concentration of suppressive fires, a bold and aggressive attack can succeed.

7. Although some attacks are deliberate from the outset, most involve a movement to contact by most of the combat elements of battalion size or lower. The division may consider the operation to be an attack but to the company it starts with a meeting engagement. The meeting can take place soon or only after prolonged movement. The chief characteristic of the movement to

contact is that the advancing small unit does not know exactly where the enemy is located. If he does he is ready for a deliberate attack. If he doesn't he must find the enemy with the minimum losses in the initial collision. The defender has most of the advantages in a meeting engagement at the time of initial contact. He has chosen the ground where the attacker is at maximum disadvantage. Normally the latter is exposed in an area from which withdrawal or maneuver are difficult. At this time the defender has surprise and tactical superiority. Thus the cardinal rule for the meeting engagement is to find the enemy with the smallest possible force. This rule tells us that as we approach the suspected enemy positions or defended areas, we should select covered and concealed routes whenever possible and we should always have a substantial part of our force in selected and successive positions from which suppressive fire can be delivered against the most likely enemy positions when the battle starts. In Infantry platoons one squad and one or more heavy weapons would normally be overwatching the forward movement of the remainder of the platoon. Only one squad would be expected to come under direct enemy fire at the outset and hopefully only one team of that leading squad would be caught out in the area selected by the enemy for his opening fire.

In tank platoons one section would habitually overwatch the forward movement of the other section or in a tank company or mixed company task force, one platoon of tanks would overwatch the movement of the forward advancing element. In the case of companies and larger units suppressive artillery fire would be planned or even registered on the most likely positions from which tank or antitank missile fire could originate.

In any event the movement of the attacking force to initial contact should be controlled and directed so that the most favorable overwatch positions are selected personally by the combat unit leader and routes forward are selected for cover and concealment. Only on terrain as flat as a table is it permissible to plow forward in geometric formations. Even then trailing elements must be ready to open fire in support of forward elements and must be far enough back so as not to be in the beaten zone of fire directed at the forward elements.

If the terrain has the slightest roll or pitch the movement forward must be under positive control of the unit commander as he tailors his movement and selection of overwatch positions strictly to the terrain. A good commander at any echelon will find the enemy with a small part of his force—be able to deliver suppressive fire instantly—and have a maneuver element on hand covered and concealed from the enemy.

8. If the meeting engagement is with light or covering forces, they must be driven back by leading elements of the attacker. If the attacker has come up hard against a deliberate defense he will need more combat power and more time to apply it correctly. Only well trained or seasoned commanders can determine quickly which of these two situations exists.

It is important to find out quickly but in a manner which will not lead to unnecessary losses. There is a proper technique to do this. There is no way, of course, to do so without some losses and no way to do it with super caution. If the defender is thin on the ground or is merely an outpost or covering force he can be maneuvered out of position and forced back or destroyed with minimum friendly losses.

The fundamental technique of offensive combat against light forces is a continuation of the technique used in the final stages of the meeting engagement with one important exception. That exception is that the elements which have been placed in the overwatch positions actually deliver their supporting suppressive fire and additional fire support is brought to bear. Artillery is fired on all known and suspected enemy positions which could directly affect the battle and air strikes or attack helicopters are employed if appropriate targets are presented. Small combat units aggressively more forward under the 1/3 rule - 1/3 overwatch and suppressing - 1/3 moving forward by covered and concealed routes to the next overwatch position and 1/3 recovering from the overwatch and preparing for the next move forward. If a company cannot move forward in this manner and each of its forward moving elements is stopped, the commander is faced with the probability of a deliberate defense by significant forces. He may be able to arrive at the same conclusion because of the volume of defensive artillery fire used by the enemy or the general nature of the terrain. But if a battalion cannot outflank or punch through quickly, the brigade or division commander may legitimately assume that a deliberate attack will be required. This will be discussed later.

Nevertheless combat between light forces—that is a light defending force and the advance elements of an attacking force—is not unusual and calls for the highest quality of training and leadership.

9. During mobile offensive operations against enemy covering forces or during meeting engagements, the team work between the tanks/mechanized infantry/artillery and other fire support is critical. In mobile warfare the tank is the decisive weapon. The infantry and the artillery are used to assist the movement of the tanks. If friendly tanks can be moved successfully

to properly selected objectives in the enemy rear or onto critical terrain features, the enemy's system of defense can be defeated. In this kind of warfare, the infantry and artillery are used to suppress or destroy those enemy weapons which are a threat to our tanks. Because the enemy antitank guided missiles can outrange our tank cannon and our suppressive automatic weapons, it will be necessary and normal to employ artillery high explosive and smoke against known and suspected enemy ATGM positions beyond 1500 meters and sometimes closer. On the other hand, the enemy's shorter range antitank weapons—the RPG series and the recoilless weapons will ordinarily be suppressed by automatic weapons. The 50 caliber machine guns or the 20mm cannons on our armored personnel carriers are designed for this purpose as are the machine guns of the infantry platoons. In particularly stubborn cases where suppressive fire does not eliminate the active threat to our tanks, the infantry must dismount and under the overwatching suppressive fire of the armored vehicles assault the enemy positions on foot with grenades and small arms.

10. The deliberate attack against an organized defense is the most costly and difficult offensive operation. Nonetheless, by minimizing one's own vulnerability while maximizing the effective employment of one's own weapons at the decisive point a position of relative superiority can be achieved. It is easier to do this on the defense because vulnerability usually increases and weapons effectiveness usually decreases while moving. Nonetheless it is necessary to move to win—to move without losing superiority. There are also psychological aspects to offensive operations which sometimes equal or even exceed the effects of the actual combat power developed by the attacker. The side which thinks it will win usually does. The opposite is also true. But at the point of decision the side usually wins which is able to bring to bear overwhelming - terrifying - force and violence. When, in addition, the violence is applied in such a manner that the "system" of defense is broken, then victory is assured. All defensive deployments depend on a mixture of weapons selected and sited to provide mutual support and to exploit their primary capabilities. All weapons also have vulnerabilities. For example, most defensive positions rely upon mortars and artillery to cover terrain which is unsuitable for direct fire flat trajectory weapons—like dense woods or thickets, ravines or choppy and rough terrain. If the defender's mortars and artillery can be suppressed with counter battery fire even in part at the critical point in time, then the attacker can slip through or charge through. If the defender's antitank guided missiles can be suppressed or their vision obscured, then the attacker can move his armor in closer and use it to destroy or overrun selected portions of the defense. If certain key weapons positions

can be destroyed or obscured, then the mutual support system begins to collapse and the enemies' defense will unravel. The attacker should plan carefully to defeat the defensive system in any deliberate attack.

11. Close air support of offensive operations has been greatly complicated by the existence of highly effective forward area enemy air defense weapons. Nonetheless, the ordnance load of the modern air force fighter is so lethal in its wide variety of special and general purpose weapons that it continues to be the most effective method of destroying hard targets available to the ground commander under conditions of intense combat against enemy forces with modern air defenses. The employment of close air support requires a coordinated plan of air defense suppression including extensive use of electronic countermeasures. Fighters are better at destruction than at suppression because of their intermittent delivery of fires. However, in a less lethal enemy air defense environment, the fighters can deliver short duration suppressive fire from automatic cannon.

12. Friendly Air Defense.

13A. Forward area air defense weapons play an increasingly important role in the combat operations of both sides because of their greatly increased lethality and numbers and the practice of moving them with the foremost elements. The Arab-Israeli War of 1973 was the first case in which one side sought completely to deny the airspace over the battlefield to the other side.

The combination of SA-6's, 7's, SA-9's, twin 57's and quad 23's - all radar directed and produced and distributed in large quantity throughout the world presents a formidable problem to the attacker. This is particularly true in the case of U.S. Forces which rely heavily upon close air support and increasingly upon attack helicopters. Thus it is that air defense suppression in concert and collaboration with the U.S. Air Force is now one of the most important operational problems facing the ground commander. Conversely, the U.S. Army does not now have a comparable array of air defense weapons. Nonetheless, considering the counter air capability of the USAF and the high effectiveness of the Redeye and the HAWK and the complementary value of Chapparal/Vulcan, a formidable defense may be thrown up against enemy air. It is absolutely essential to do this so the enemy air cannot destroy or suppress our maneuver elements and fire support echelons. Although new and improved air defense weapons are under development, we must improvise to exploit the very maximum effectiveness from what we've got now.

(Air Defense School fill in, please.)

13. Sometimes enemy defenses will be so formidable that the only way to degrade them sufficiently for successful offensive action will be to attack at night. Even this option is becoming much less attractive as night observation devices proliferate in all modern armies. Nonetheless, all defense weapons are less effective at night than in the day and this is particularly true of the longer range direct fire weapons such as the ATGM or the tank gun itself. For example the TOW is effective to 3000m in the day but has no effective night sight at this time.

The first generation or two of night vision devices were limited in capability to an extent that they only provided some assistance to movement at night as in the case of Infrared driving devices and some assistance to riflemen and gunners as in the case of the metascope and the starlight scopes. We are now beginning to receive night vision devices with longer range and greater resolution. The tank sight, the dragon sight, the night vision goggles and some early versions of thermal imagery devices are opening up a whole new range of possibilities. The force which can operate at night exactly as it does in daytime - that is full use of cover and concealment and effective use of suppressive fire - will easily defeat a force which cannot. The U.S. Army is on the edge of this capability now. Small highly trained infantry elements using night vision goggles could exploit this capability now in patrolling and raiding.

There are two categories of night attacks. One of these is much more common - easier - and less costly. This is an attack which seeks to by-pass enemy positions and thus place a friendly force on favorable terrain behind or on the flank of the enemy defense. The movement at night degrades enemy weapons effectiveness and reduces losses. The achievement of success and the seizure of the objective disrupts or defeats the enemy's defensive "system." The other mode of night attack is an assault against a key enemy position - a position so strong that daylight attack would be too costly. This is the most difficult and sophisticated of all offensive operations. It should never be undertaken without detailed reconnaissance - sufficient knowledge of the terrain and enemy so that each squad/tank can be given separate and individual orders and objectives. All leaders down to squad must have seen the terrain. The distance from the attack position (the last cover) to the enemy should be no more than can be negotiated in a single rapid rush. Either overwhelming fire support or complete surprise are essential.

(Attack helicopters in the attack and counterattack)

(Airmobile offensive opns - exploitation
pursuit
special operations)

21. Pursuit to exploit a successful attack *or* a successful defense is the counterpart to the tactics of delay. The pursuer is by definition stronger in the aggregate. The defender seeks to be stronger at the point and time of each collision between the delaying and pursuing forces. The tactics of pursuit are much the same as the tactics of a meeting engagement except the pursuer takes higher risks and longer steps. In order to avoid unnecessary losses, the pursuer advances rapidly by covered routes with a part of his force ready to support any engagement with suppressive fire. But he also seeks to cut through and get behind the delaying forces. He continues his attacks at night. He sends his infantry aggressively through difficult and untrafficable terrain deep behind the delaying forces. He pushes his reconnaissance elements forward day and night. If he has air cavalry he moves it around flanks and into the rear looking for soft spots - bottlenecks - headquarters and support. Airmobile infantry armed with antitank weapons positioned on the enemies' lines of withdrawal could be decisive in destroying and trapping his light forward elements. The pursuit is characterized by boldness - speed - and stamina.

IV. DEFENSIVE OPERATIONS

14. The basic concept of the defense is to optimize the employment of one's own weapons—to exploit every conceivable advantage of the terrain to minimize one's own vulnerability — and to establish a system of mutually supporting weapons positions and actions which anticipate and defeat the attackers' plans and actions. The defender has many advantages. He can select terrain which gives him cover and concealment. His tanks can be in hull defilade thus exposing only 1/8 of their bulk and only the most heavily armored parts. His antitank guided missiles can be placed to cover tank approaches which expose the attacker at long ranges on forward slopes. Approaches to his position which are broken or covered with thick vegetation and thus difficult to cover with direct fire weapons may be mined and heavy concentrations of artillery and mortar fire may be pre-planned and registered.

15. The attacker, however, also has some advantages of which the defender must be aware and against which he must take both active and passive measures. The attacker will concentrate on a narrow sector which he regards as the weakest part of the defense. He will concentrate both assault elements and suppressive firepower. Thus the defender must adopt all possible measures

to reduce the effect of enemy suppressive fires and must be able quickly to reinforce the threatened sector.

16. The first and cardinal rule in minimizing vulnerability to suppressive fire is concealment. Any part of the defense which can be seen by the enemy will be destroyed or suppressed. Every commander from squad to battalion must inspect his defenses from out front—from the terrain from which the enemy direct fire weapons will be brought to bear on his defense. If any can be seen they must be moved or improved.

17. Even perfect concealment will not provide adequate protection against direct fire suppression. The enemy will fire suppressive fires at areas where he suspects the defender is located or from which the defender could inflict losses on him if they were occupied. Thus, the defender must use every wrinkle in the terrain to provide cover from frontal suppressive fire by direct fire weapons. This means that defending direct fire weapons will normally fire at an angle across the front of the defended locale from behind natural cover. If natural cover cannot be found then cover may be constructed but the use of natural cover is vastly preferred as it is instantly ready and needs no artificial camouflage from the outset. In addition to the obvious advantage of using natural cover against the suppressive fires of enemy elements directly to the front, there is another equally important advantage to be gained by firing at angles across the front from behind cover. Enemy elements, armored vehicles or individuals moving forward against the defense must move into the field of view and the field of fire of the defensive weapon before they can see him or return fire. Although sometimes measured in split seconds, this advantage lies always with the defender who "gets the drop" on the attacker as he literally "comes around the corner." Thus it is that a high degree of cunning should go into the selection of each defending position—each should be the equivalent of at least a mini-ambush.

18. If the enemy forces are heavily armed with tanks, the defense should be built around the anti-armor antitank weapons system. The first of these in terms of range and accuracy is the antitank guided missile. TOW, the ground launched antitank guided missile (ATGM), is soft compared with a tank and is susceptible to suppression by artillery or when the tank closes to 1500 meters or less by direct tank fire. Additionally, the heavy ATGM can be suppressed (that is the gunner driven off the sight) by automatic cannon or machine gun fire at various ranges of 2000 meters or less. Furthermore, the single shot hit capability of the ATGM does not vary significantly between short and longer ranges whereas the accuracy of the tank guns, the

automatic cannons and machine guns fall off very sharply at increased ranges. Therefore, the heavy ATGM has a great relative advantage at ranges beyond 2000 meters—its effectiveness is high, its vulnerability is low except to accurate artillery fire. For all of these reasons, the heavy ATGM should be emplaced wherever possible so that targets will appear between 2000 or 3000 meters from the launcher. The use of antitank mines to canalize the enemy or stop him in exposed and preselected target areas should be synchronized with the employment of the ATGM. Additionally, some of these weapons should be placed to cover likely enemy tank overwatch positions from which some enemy tanks will be delivering suppressive fires or from which they plan to engage defending tanks or other weapons positions. Our own tanks will always constitute a prime element in our antitank defensive system particularly when the enemy begins to close to within 2000 meters of the defenses and when he uses very heavy volume of artillery or direct suppressive fire against our ATGM's. The defending tank remains vulnerable to the enemy's overwatching ATGM's and tanks and it must take full advantage of cover. Like the infantry position, the tank can be especially deadly when firing diagonally across the front from behind cover. The tank which fires first has a ___ % advantage over the tank which fires second. Positions behind frontal cover afford this advantage to the defender. If the enemy tank force manages to penetrate the forward defenses, the defender must react in such a manner that he retains as many of his automatic advantages as possible. Counterattacks which expose the defending force to the attackers overwatching positions — which surrender the advantages of cover — and which cause weapons effectiveness to fall off because of movement may well fail. On the other hand, carefully selected blocking positions which retain the innate advantages of the defense may be much more effective. Limited counterattacks conducted on reverse slopes fully covered from the attackers' overwatching weapons may also be more effective.

19. Counter suppression by artillery fire or obscuration of the enemies' overwatch positions with smoke must play a central role in the defensive action. The effectiveness of attacking tanks is reduced by at least 33% when buttoned up. Thus a certain amount of artillery should be devoted to keeping all enemy tanks buttoned up at least during the critical phases of the action.

Artillery suppression of enemy forward air defense may well be a necessary pre-condition for the effective use of close air support by the defender. Cooperative ECM operations involving both USAF and Army elements may also be required.

20. In modern industrialized countries such as those in Europe, the landscape is rapidly being transfigured by the spread of cities and the growth of villages. Much fighting in any future war would perforce take place in built-up areas. By and large, man-made structures favor the defense. Tank forces can be ambushed or stopped in cities or towns and house-to-house fighting is slow and expensive. Built-up areas infested with well trained infantry equipped with ATGM and hand held antitank rockets must be by-passed or cleaned out by the attacker. While field positions may often be suppressed by automatic weapons or artillery, it is much more difficult to suppress defending forces in around buildings which provide "instant" cover and concealment. In any event defending forces should take full advantage of built-up areas. Attacking forces must either by-pass those it can isolate and afford to leave behind or reduce those it cannot by-pass or afford to leave behind. House-to-house fighting by infantry supported tanks, artillery and engineers is slow, costly and difficult. However, the defender has substantial difficulties in that extensive built-up areas require very large numbers of infantry to cover every house or avenue of penetration. In order to exploit this weakness, there are two modes of attack which avoid costly and demoralizing house-to-house fighting. The first is a demolition attack. By using heavy assault firepower each enemy defended building in a selected narrow sector can be turned into a trap for the defender. This is not always possible with public buildings or other structures with very thick walls but is possible with medium or light family or commercial structures. The most effective direct fire demolition weapon is the gun on the Combat Engineer Vehicle (CEV). It fires a charge of 30 lbs of plastic explosive with enough accuracy to fire at or through windows, corners and structural weak points. It is a concussion weapon as well which stuns as well as kills.

Self-propelled artillery and tanks may be added to the CEV's and employed in mass at a selected time and place to punch through enemy defenses. Following infantry assigned to specific buildings can keep the hole open and reserves can be moved through to deeper targets thus disintegrating the defense.

The second alternative to the house-to-house attack is a sudden surprise assault at night. In such an attack each assault infantry team is targeted against a single building or part of a building. Many of the targets are deep in the third or fourth row of buildings. The concept of attack is that the capture of 1/2 or more of the targets in the initial assault will collapse the defense and make reconstitution impossible. This discussion of the attack of built up areas is included at this point to round out the picture of measures and countermeasures involved.

Add

Delay

Reconnaissance & Surveillance

Attack helicopter in offense and defense and delay.

Raids and offensive airmobile

Airmobile in pursuit as nearly impossible for enemy to handle -

22. The tank killing helicopter—the TOW/COBRA—adds a new capability for attack, counterattack, defense and delay. It will be a long time before the full range of capabilities and limitations of the attack helicopter are fully understood and a part of the consciousness of the Army. However, we do know enough from operations in Vietnam and from extensive testing and experimentation to describe the considerations which should govern its initial commitment to combat. The attack helicopter with the TOW has a range advantage over the T-62 tank, (BMP's, BTR's), the Infantry Combat vehicles, and the ZSU 23-4 radar controlled air defense weapon. This advantage is retained at ranges beyond 2000 meters and is rapidly reversed at lesser ranges. The attack helicopter is outranged by the Twin 57, the SA-7's and SA-6 surface to air missile.

Because of the forward employment of the ZSU 23-4, the Twin 57, the SA-7's and SA-6's, the attack helicopter will not survive on the battlefield if he exposes himself more than momentarily to weapons which are range effective which have not been destroyed, suppressed or obscured.

Thus there is no essential difference between the problems faced by the attack helicopter and any other combat element. Operating as a part of the combined arms team — engaging at ranges which minimize its own vulnerability — taking maximum advantage of terrain cover and concealment — and coordinating suppression with its movements — the attack helicopter can contribute to the favorable outcome of the battle.

If the enemy comes out from under his SAM envelope or outdistances these air defense elements and his ZSU-23-4's can be suppressed (by ECM or artillery fire), the attack helicopter should have the clear advantage.

Because the attack helicopter is an expensive and valuable weapon, it should not be employed haphazardly and exposed under disadvantageous circumstances through carelessness or poor techniques. The Army is providing one scout helicopter for every two attack helicopters in attack companies and battalions for just this reason. The scouts are expected to take greater risks and losses than the attack helicopters by preceding and aiding them in the selection of routes into and out of engagement and the selection of firing positions and the provision of target information. Both the scouts and the attack helicopter pilots will be expected to practice terrain flying and precision navigation with minimum mechanical aids. Nap-of-the-earth flying is only one technique of minimizing vulnerability. NOE flying down forward slopes will not necessarily afford protection against radars sensitive to moving targets or whirling rotors as in the case of the ZSU-23-4 radar. Terrain flying, route selection and position fixing are essential and require skills far beyond those required for simple NOE flying.

Helicopters should be employed in large numbers at critical points. This means they will normally be committed by platoons in series and recycled back into action as rapidly as they can be rearmed and refueled as long as the battle lasts.

Attack helicopter unit commanders must be experts on the scope and nature of air defense suppression operations.

Battalion, brigade and division commanders must plan and coordinate air defense suppression operations using all available assets or they will not receive effective support either from attack helicopters or USAF fighters.

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Aug 17, 1974
Highfield

MODERN BATTLE TACTICS

CHAPTER I

Strategy versus Tactics.

When the Egyptian Army crossed the Suez canal on Saturday 6 October 1973 it was the expression and outcome of Arab strategy long in the making. When the Egyptian Army repulsed and destroyed the Israeli 190th Armored Brigade with a fire storm of anti-tank missiles on Tuesday 9 October 1973 and even captured its commander Roland Assaf Yagouri it was the work of Arab tactics. The Arab strategy will be enshrined in the books of common history.

The Arab tactics will be studied by a more narrow cult.

When Field Marshal von Rundstedt was launched into the Ardennes in December of 1944 it was the last strategic blow struck by the mad leader of the Third Reich. When the U.S. 7th Armored Div held the road and rail hub of St Vith for 4 days against the attacks by Field Marshal Hasso Von Manteuffel 7th Panzer Army - it was the tactical demise of the German strategy.

The strategy that succeeds or fails changes the history of mankind. Tactics can only support or deny the strategy and is by its inherent military nature a second order of things. Thus it is that books are written about wars and campaigns mostly at the strategic level. Or, at the other end of things at the personal level. Most classic works have centered upon Generals or Generalship - upon the principles of war - upon the marshalling of great forces and their application to more or less successful campaigns. This was less true in the age of Marlborough and especially Napoleon but even then it was the sweeping deployment of corps and divisions rather than the work of battalions which has survived the retelling.

There are other reasons - other than their arcane nature - for the modest exposure of battle tactics to public view. The United States has ordinarily won its wars through the weight it could throw rather than the skill it could apply.

World War I and World War II were wars of courage - yes - but more than that they were wars of mass and bulk. Strategy and Generalship had more to do with the concentration of force in critical theatres of war than in the professional honing of the fighting machine. The Army of the United States expanded from a 130,000 man standing Army to a mammoth of 8,000,000 men and machines. Whole regiments went to war with one, two or no regular officers.

Handwritten. The William E. DePuy Papers. Box: Trascripts and Diplomas. Folder: Field Manuals 100-5, 1974–1977. U.S. Army Military History Institute, Carlisle Barracks, PA.

There was no other choice - no other way. Some units became superb fighting organizations - most were just fair - many downright poor. The miracle was that it could have been done at all - an instant Army. The heroes of the war were strategic planners and mobilization managers (Marshall, Arnold, King) and Theatre or Army commanders Eisenhower, Bradley, Patton, MacArthur, Stilwell, Krueger.

Tactics had to be assumed. In the Army it was the staff college at Fort Leavenworth not the Infantry School at Fort Benning that was universally regarded as the cradle of victory.

For well over half a century America has been regarded as the arsenal of democracy. The last but certain recourse for the Free World - for democracy.

As a last resort the giant could be awakened - given time to gird his loins - and steered massively into the fray. The outcome was foregone. If one division proved to be inadequate - then two could be employed. If the German tanks were in most respects superior they could simply be outnumbered. If the Japanese fought stubbornly from their caves then the whole island could be pulverized.

Oh yes there was more to it than that. There was courage aplenty - and some cowardice as well. There were natural leaders who surfaced in the midst of the brutal process, as they have always surfaced from amongst our people. There was sacrifice and a common will growing out of a common purpose but it was mass and time more than skill and precision that carried the day.

Now the scene has changed. Modern forces can be moved so fast - modern weapons take so long to build - soldiers take so long to train - and modern weapons are so lethal that the outcome of the next war will be largely settled in weeks with the forces and weapons on hand at the outset.

So this book is about the tactics of that modern battle. It is about the quality of our performance in those initial (perhaps also final) engagements. It is about modern weapons and their employment - about how to exploit them, and defeat them. It is in short about Modern Battle Tactics.

ADD - test of strength
fight outnumbered
NATO pause

Inflation Energy Ecology - Diplomacy
Short duration conflict
Turkish graben Cyprus
Fait accompli -

I Strategy vs tactics
Israeli Arab vignette & get
Generalship
Principles of War
The U.S. Experience
WWI First Div
WWII 90th Div
WWII Eisenhower Leavenworth

II Tactics vs strategy
The reverse Israeli & hist
examples were tactical
proficiency made the diff.

III Weapons & lethality growth -
bring up to 1974 & project
use tank/TOW fighter/AD

IV Tactics and weapons

V How to fight on the modern battlefield
a. tanks anti tank
b. Tank Inf Arty AD
c. air/anti air
c[1] close air support
d. night
e. air mobility
f. recon surveillance
g. combat in built up areas

VI The future -
leaders
soldiers
weapons
tactics

6

ACTIVE DEFENSE

The method or system of defense on the modern mechanized battlefield can best be described as "active". The "active defense" is designed to fight successfully against greatly superior numbers of attacking armored vehicles with mounted or dismounted infantry, heavy supported by artillery, protected by mobile air defense weapons and also supported in varying degrees by armored helicopters and fighter aircraft. The concept of active defense is to wear down the attacker by confronting him successively and continuously with strong combined arms teams and task forces fighting from mutually supported battle positions in depth throughout the battle area. Defending platoons companies and battalions maximize the effectiveness of their weapons by the selection of advantageous positions and minimize their vulnerability by use of the terrain by concealment and otherwise exploiting all of the advantages of the defender. Antitank Guided Missiles (ATGM) are sited to exploit their long range and pin point accuracy, tanks are sited to exploit their armor protection high rate of fire and lethal main armament. Infantry are employed as necessary to protect the battle positions and suppress or destroy enemy infantry and antitank weapons.

Company teams are the basic element for the conduct of the active defense. Ordinarily battle positions are occupied by Co teams. On extended frontages it may be necessary to employ independent platoons but this should be rare. The adjacent positions with which mutual support should be exchanged and some idea of what the next move might be. For example "be prepared to move on my order to Battle Position 56 or 57. I am going to try to trap the enemy force between Battle positions 58 and 60". In order to conduct such a defense successfully the company team must be able to move rapidly—protect itself as it moves—occupy new positions. On the other hand it may be necessary to use entire battalions on single battle positions in the zone of main attack. These decisions will be made normally by Brigade and Battalion commanders.

Normally company teams will be given mission type orders to "occupy and defend battle position number 55". Sometimes the orders would be more elaborate and specify the avenue of approach to be covered quickly and exploit every opportunity to engage the enemy effectively.

When the enemy has been weakened and his forward elements are exposed they should be destroyed by fire or if necessary by counterattack. Company teams may be ordered to counterattack exposed enemy forces or shift to more advantageous Battle Positions from which the enemy can be destroyed by fire. Counterattacks should be conducted so that the advantages of the defender are not needlessly surrendered. Whenever possible counterattack should move so that they are covered from the overwatching fires of the attacker. Counterattacking forces may not need to close with the enemy to destroy him. Company teams may be ordered to counterattack to seize or recapture a Battle Position.

Handwritten. Provided by Dr. John Romjue, Office of the Command Historian, U.S. Army Training and Doctrine Command, Fort Monroe, VA.

In any event as the enemy attack moves into the defended area it should meet ever increasing fires from the front and especially the flanks. It should encounter constantly shifting defense forces taking maximum advantage of the terrain. It should encounter obstacles which cause it to stop or slow its attack in areas covered by defensive weapons.

The problem of the defender will be to destroy a very large number of enemy vehicles and personnel in a short time.

In order to slow the attack so that there is more time to engage the large number of targets the defender may find it necessary to hold certain terrain features for extended periods of time with a reinforced company or even a battalion while the remainder of his force moves actively to and from the most advantageous nearby battle positions.

In these cases it is permissible to establish a fully developed strong point. There are both advantages and disadvantages to the use of strong points. The advantage is to hold key terrain around which the active battle can pivot. The disadvantages are that strong points will be subjected to massive artillery suppression—will be assaulted by enemy infantry and thus will be difficult to extract and casualties may be high. In the active defense the strong point should be the exception and not the rule. However when a piece of terrain must be held to accomplish the mission or create a trap for many forces the battalion or Brigade commander should not hesitate to order the development of a strong point by one of his teams or task forces on the appropriate Battle Position. Thus company teams must be trained to occupy develop and operate in strong points.

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(8 Jan 75)

DRAFT

MEMORANDUM FOR THE CHIEF OF STAFF

SUBJECT: How to Determine Requirements for the Army's Weapons

1. As you know, better than I do, the Army has always had a difficult time explaining just why it needs a particular weapons system and even more difficulty in explaining how that particular weapons system fits in with all of the other Army systems and organizations and finally difficulty in answering the inevitable question as to whether some other combination or alternatives might not be better or more effective. All of this stems from the fact that ground combat is, without any doubt, the most complex set of interactions in any kind of military operations by any service or any country. Unfortunately, just asserting this does not help much. Our civilian masters find it most difficult to follow our logic and understand our case for a particular system. The most recent example of this problem is the reaction of Under Secretary Staudt to the series of briefings he has received on the lessons of the Arab-Israeli War. I have the impression that he has been choked with details but that no cohesive, understandable picture has emerged in his mind. We professional soldiers have not been able to articulate in simple, understandable terms the major features, characteristics and elements of a fighting Army on the modern battlefield. In the absence of this comprehensive but simple and clear picture, we have been unable to explain how any one weapons system increases or decreases our battlefield effectiveness so that reasonable decision makers feel comfortable with the decisions they none the less make.

2. I have been asked to brief Secretary Staudt sometime within the next month regarding the "real" lessons of the Arab-Israeli War. He has already had four detailed briefings and I do not intend to compound the difficulty by adding a fifth increment of detailed analysis and discussion. However, I do hope to give him that comprehensive, hopefully simple and clear picture of how an Army fights in the desert against the kinds of forces that have been organized and trained by the Arabs and equipped by the Russians. To do this, it will probably be necessary to oversimplify

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The William E. DePuy Papers. Box: Transcripts and Diplomas. Folder: Field Manuals 100-5, 1974–1977. U.S. Army Military History Institute, Carlisle Barracks, PA.

to some extent. The purpose of this letter is to give you a summary of my thoughts and my approach beforehand so that we can discuss this methodology of presentation and, more importantly, the tactical concepts which lie beneath them if you so desire. Mr. Augustine strongly believes we need to make a super effort at articulating our tactical concepts as expressed in our organization and weapons systems. From our brief discussion with the Secretary of Defense, I feel certain that he would appreciate some simplification and improved articulation of our concepts and requirements.

3. The concepts of the United States Army for fighting against large, modern mechanized forces such as those we face in Central Europe and would probably face in the Middle East is based upon the following facts, convictions, assumptions and discussions:

a. At the present time, and for the foreseeable future, the tank is and will be the primary weapons system on the battlefield. The tank, which is a highly mobile, cross-country, heavily-armored vehicle transporting both machine guns and a high-powered antitank gun which can double as an assault gun, is the primary offensive weapon in all armies designed to fight where the terrain permits the use of mechanization. This includes all of the Middle East and most of Central Europe. The best way therefore, to visualize the operation of a modern army is to start with the tank and consider not only the quality and characteristics of the tank itself but the quality and characteristics of all other systems which work with, support and sustain the tank as it performs its role on the battlefield.

b. Theoretically, it is possible to conduct defensive operations without tanks in certain kinds of terrain and in particular circumstances. However, for the purpose of this discussion, defensive operations in Central Europe and the Middle East cannot be conducted without tanks simply because the frontages involved are so great and the size of enemy forces so large that the defender must be able to move around the battlefield actively in order to concentrate or interpose his defending forces at the times and places where the enemy attacks. To move about the modern battlefield requires an offensive capability down at the fighting echelon, even if the larger force considers itself to be in a defensive posture. More will be said later about the use of the tank in the defense but suffice it to say that the United States Army is convinced that the tank plays as central a role in the defense as it does in the offense and that no active defense can succeed without large and effective tank elements and that the active defense is the only defense relative to modern mechanized warfare. If the reader wishes to go further into these concepts he could make

reference to the German Army Panzer and Panzergrenadier concepts as explained in latest German doctrine (HDv 100/100).

c. In the attack the objective must be to move tank formations through weak points in the enemy forces or around his flank to seize critical terrain in his rear and to disorganize and destroy his forces piecemeal. In short — to disintegrate his defense and destroy him. The armored firepower of the tank is the principal Army weapons system for this purpose. Once friendly tanks have penetrated or outflanked an organized enemy position, their mobile firepower, both machine gun and main gun, can destroy his artillery, air defense units, supply and maintenance echelons, command and control and, if necessary, attack his reserve positions from unexpected directions with suddenness and surprise. Although other elements such as properly equipped mechanized infantry and cavalry can wreak havoc in the enemy's rear, they do not have the devastating effect of the more heavily armored and heavily armed tanks.

d. The tank cannot fight effectively or even survive on the battlefield alone. Historically, those armies which attempt to win with tanks alone, that is tanks operating without infantry, artillery, air defense and air support, were routinely defeated and in some cases annihilated. For example, Soviet tank formations in the early stages of World War II were employed without infantry against the combined arms formations of the German Panzer/Panzergrenadier Divisions. The Germans won every battle. In the early days of the war in North Africa, the British armored divisions were organized without infantry and again were routinely defeated by the combined arms organization of the Afrika Corps. In the Arab-Israeli War, after the successes of the Six-Day War, the Israelis unbalanced their forces by emphasizing tanks and deemphasizing mechanized infantry. Consequently, Israeli tank attacks along the Suez were destroyed totally and utterly by the Egyptians. This should be no surprise to any student of military tactics and techniques.

e. A US Army tank which exposes itself on the battlefield to a Soviet T62 tank at ranges of 1500 meters and less will be hit and destroyed six times out of ten by the first round fired by the Soviet gunner unless his vision has been obscured by smoke or his tank has been destroyed by an American tank or antitank missile. If an American tank ventures into the open within 300 meters of an enemy infantry position, it will probably be hit by one or more hand-held Soviet antitank rockets fired from the RPG-7 or the new RPG-15. The Soviet gunner has one chance out of two of hitting a stationary American tank at 300 meters unless he has been killed by the suppressive fire of our infantry weapons, or our artillery or forced to take cover by the suppressive

fire of our infantry, our tank machine gun, our artillery or mortars. American tanks moving in the open will be destroyed by enemy antitank guided missiles from ranges out to 3000 meters unless the antitank guided missile gunner has been destroyed by our artillery fire or his vision has been obscured somewhat or he has been forced to take cover from our high explosive fire. Lastly, our tanks will be destroyed by enemy fighter aircraft if they are permitted freedom of operation over the battlefield and are not destroyed or driven off by our forward air defense units. The overwhelming and central lesson of the Arab-Israeli War was that tanks cannot operate alone on the battlefield but must be supported by the teamwork of these four elements of the combat arms under the skilled command and control of well-trained, aggressive leaders.

f. Although there are many weapons in the United States Army, the armor and mechanized battle will be won or lost by seven basic systems. The Army organized its mechanized combat around six of those systems, whereas the seventh is represented by the fighters of the US Air Force which provide close air support to mechanized forces whether they are attacking, defending or delaying. The building blocks for organizing, equipping, training and operating United States Army forces on the modern battlefield include a tank battalion, a mechanized infantry battalion, the 155mm SP artillery battalion, the Chapparal-Vulcan air defense battalion and the supporting squadrons and wings of the USAF. The tank battalion consists of 54 main battle tanks in three companies of 17 tanks each and three tanks in the battalion headquarters with nine mechanized reconnaissance vehicles and four 4.2 inch mortar carriers. The mechanized infantry battalion consists of 53 mechanized infantry combat vehicles, 18 mechanized carriers for the TOW missile, nine mechanized reconnaissance vehicles, nine 81mm mortar carriers and four 4.2 inch mortar carriers. These are divided into three rifle companies of 21 mechanized vehicles each and a combat support company containing the remainder. In addition to 18 heavy antitank guided missiles (TOW), the battalion carries 27 medium antitank missiles (DRAGON) and as many light antitank missiles (LAW) as the situation seems to warrant. The 155mm artillery battalion, SP, consists of 18 SP 155 howitzers divided into three batteries of six howitzers. The Chapparal-Vulcan battalion consists of 24 SP Chapparal air defense missile fire units, and 24 SP Vulcan air defense fire units. These weapons systems, organized, trained and operated within the framework of four battalions appropriately mixed in accordance with the requirements of each situation, tied together by signal communications and supported with----------ammunition, food, maintenance and medical support

represent the combat power of the United States Army on the battlefield. To the extent that these weapons are competitive or superior to the enemy's comparable weapons, to the extent that American tactics, techniques and leadership exploit the maximum potential of these weapons, to that same extent will our forces win on the battlefield if deployed in reasonable numbers vis-a-vis the strength of the enemy at any one time.

g. Because tanks cannot operate alone, experience and logic has led the Army to organize for combat by cross-attaching or cross-reinforcing its tank and mechanized infantry elements. For example, a tank battalion will often drop one of its tank companies and pick up instead one company of mechanized infantry. A mechanized infantry battalion, having surrendered one of its companies to a neighboring tank battalion, will pick up the tank company and thus acquire a mix appropriate to its particular task on the battlefield. A tank battalion thus cross-reinforced would have 37 tanks, 17 MICV's, 2 TOW's and 9 DRAGON's. Fighting, however, often takes place at the next echelon below the battalion; that is, the company task force. Thus the basic combined arms fighting element is the company task force; a tank company minus one of its platoons, plus mechanized infantry platoon, which would have 12 tanks, 4 MICV's, 3 DRAGON's, TOW (possibly 2 TOW's from combat support company), and 81mm mortars or a mechanized infantry company minus one mechanized platoon having gained one tank platoon and would have 5 tanks, 13 MICV, 2 TOW,* 6 DRAGON and 3 81mm mortars. A platoon of 4 Vulcan air defense fire units, would accompany the company task force or the task forces parent battalion in order to deny or destroy enemy fighters which could interfere with the accomplishment of the mission.

h. The employment of a tank company task force in the attack would normally involve the employment of one tank platoon in an overwatch position prepared to deliver antitank fires against enemy tanks, infantry or antitank guided missiles which might interfere with the forward movement of the other tank platoon. The mechanized infantry platoon, either mounted or dismounted depending on the situation, would provide suppressive fire against enemy infantry and enemy hand-held antitank weapons to protect the forward moving tank platoon. The 155mm artillery would smoke distant hilltops from which long-range antitank guided missiles could be

*organic to mechanized company plus number from combat support company depending on mission, terrain, etc.

brought to bear on the forward moving tank platoon, and artillery or mortars would suppress or smoke other areas from which antitank guided missiles, tanks or infantry could deliver fire against the advancing tank force. The timing, the sequence, volume and mix of these suppressive and obscurative fires and the routes, overwatch positions and scheme of maneuver would be determined by the captain commanding the task force, depending on his judgment, the enemy and the terrain. The attack is, in microcosm, a picture of the entire battlefield with all the principal movement, concealment, overwatch and suppression displayed and manifested.

i. There are of course several sets of problems involved in organizing, equipping and training Army forces. Among them, the question of mix is ever present. The easiest way to visualize the proper mix is to think in terms of a single mission at a single place at a certain time against a known enemy force. In this case, if the enemy is tank heavy, our force would have more tank battalions than mechanized battalions. If the enemy had a balanced force, our mix would be the same. On the other hand, if he consists of more mechanized infantry, and if the enemy is tank heavy, then we would be forced to match his heavy, mobile firepower unless the terrain or the mission would permit some other mix. On the other hand, if his force is evenly balanced or primarily infantry, we should then seek an optimum force indicated by the terrain and mission, trying always to assemble a force more powerful, more mobile and more versatile than his, which would also consist of a workable mix of the four elements of the combat arms plus adequate air support. The terrain, on the other hand, will tell us much about the proper mix between tanks and mechanized infantry forces. If the terrain is open, we will weight the force with more tanks. If the terrain is mixed and broken, we will then go to a balanced force. On the other hand, if it is thickly covered with woods and forests we will require more infantry than tanks. Thirdly, if the mission is to attack and the terrain permits, we would weight our forces more heavily with tanks. If the mission is to defend and the terrain is rough, we would be forced toward more infantry. If the mission is delay and the enemy force is clearly superior, then the mix again will depend particularly on the terrain but will then, too, favor a rich mixture of tanks. In Germany today, in the open plains of northern Europe, the German Army has concentrated its Panzer Division and Panzer/Grenadier Division. In mixed and broken terrain it has deployed Panzergrenadier divisions, and in the thickly forested and steep hills of Spessart and Odenwald it has deployed a Yeager Division which is primarily dismounted infantry.

j. In order to conclude this very basic discussion, the lowest level broken down is the individual system and weapons themselves. It seems obvious that our tank battalions, companies and platoons will be more effective if our tanks taken individually are more effective than Soviet tanks taken individually. This is true also of our mechanized combat infantry, our self-propelled howitzers and associated ammunition, our mortars, our rifles, machine guns and fighter aircraft. The Army believes that we can safely proceed with the acquisition of a new tank, a new MICV, a new antitank guided missile, a new forward air defense weapon or a new fighter or any of the supporting equipment and communications to take its place within this simple framework of tank mechanized, tank infantry, air defense and close support if the employment and effectiveness of each weapon compares with the effectiveness of the weapon which it replaces and offsets proportionately the increased cost.

INSERT

3. [sic] There are other weapons which are extremely effective in the defense besides the tank. These include carefully sited antitank guided missiles, obstacles and minefields covered by our entrenched infantry equipped with hand-held antitank weapons as well as heavy concentrations of preplanned and preregistered artillery. Such forces are strengthened by the inclusion of tanks which can withstand enemy artillery and other suppressive fire better than dismounted infantry or light armored forces such as cavalry. However, the principal role of tanks in the defense is not the reinforcement or the thickening of the infantry defensive forces. The tanks contribution to the defense comes from its mobility. In almost any conceivable situation in Central Europe or the Middle East the frontages defended will be wide compared to the number of defending forces available. This means that the defender must concentrate at the points of decision at the time of the enemy attack. In short, the defender must move to blocking positions which will prevent the enemy attack from succeeding. As the battle progresses, he may lose and be forced to move and to regain some of these positions by counterattack. In any event, it is certain that his defense will be active as he occupies, withdraws from and reoccupies those positions from which he can best execute his mission successfully. This kind of movement on the battlefield and in the heat of battle can best be performed by the tank adequately supported by the other elements of the force.

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ATCG 24 March 1975

SUBJECT: Basic Combat Training

Training Center Commanders:
Major General Donn A. Starry, Commander, US Army Armor Center
Major General William B. Caldwell, III, Commander, USATC & Ft Jackson
Major General John G. Waggener, Commander, USATC & Ft Leonard Wood
Major General Marion C. Ross, Commander, USATC & Ft Ord
Major General Thomas U. Greer, Commander, USATC & Ft Dix
Major General Robert Haldane, Commander, USATC & Ft Polk
Brigadier General Joseph P. Kingston, Commander, USA School/Training Center & Ft McClellan

Soon to be Training Center Commanders:
Major General David E. Ott, Commander, US Army Field Artillery Center
Major General CJ LeVan, Commander, USA Air Defense Center
Major General Thomas M. Tarpley, Commander, USA Infantry Center
Major General Charles R. Myer, Commander, USA Signal Center

1. I have received and reviewed the work of the "Committee of Six." I have approved in principle and in general terms the findings of that Committee. TRADOC will publish a definition and description of BCT in the very near future. It will be somewhat in the nature of a mission type order to the Training Center Commanders.

2. As you know, you are each totally responsible for turning civilians into soldiers through the process we call Basic Combat Training or in the case of the Women's Army Corps, Basic Training. Nothing which is published by TRADOC, Ft Benning, or any other agency relieves you in any way of that total responsibility. You will be responsible for success. You must insure that nothing which is silly, ridiculous, illogical, superfluous, or otherwise unproductive takes place during training. This feeling of responsibility must permeate your entire organization down through the chain of command to each drill sergeant. Each member of the chain of command is expected to think and act responsibly, sensibly and productively. Things that don't make sense should be quickly abandoned. Things that make sense should quickly be put in their place.

The William E. DePuy Papers. Folder: Correspondence 1973–1977. Command History Office. U.S. Army Training and Doctrine Command, Fort Monroe, VA.

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3. Although we don't know all we ought to know about the psychology of changing civilians into soldiers, we have enough empirical data and experience to proceed with confidence. I look upon the elements of Basic Combat Training in the following general categories:

a. School of the Soldier, to include discipline, motivation or spirit, and knowledge of the customs, courtesies and procedures of the Army.

b. Training in a few very fundamental skills, such as lifesaving aspects of first-aid, the actions to be taken under a chemical attack, and so on.

c. Basic rifle marksmanship.

d. Individual Tactical Training.

e. Physical conditioning.

Putting this all together into a coherent, integrated, productive and progressive program is your responsibility. Let me say a little bit about each one.

4. With respect to the School of the Soldier and the ways of the Army, including the inculcation of spirit, discipline and team work, I approve the conclusions of the "Committee of Six." This calls for highly structured control during the first two weeks or so of the trainees' life in BCT, gradually tapering off toward the end as the trainees, individually and collectively, respond to the structured requirements of the Army discipline, while displaying increasing willingness and ability to accept personal responsibility for their actions. This endeavor, running throughout all of the weeks of basic training, will succeed or fail depending mostly upon the drill sergeants and the company commanders. Your problem will be to prevent this facet of our responsibility from being overly structured by headquarters above company, particularly in connection with those activities which take place after the formally scheduled work of each day.

5. With respect to those few fundamental skills we wish to teach, I am satisfied that there is a correct consensus against too many performance tests which, in turn, absorb too much of the nonscheduled attention of the drill sergeants—tests which in themselves are too narrow in scope to comprehend the full range of knowledge we wish the trainee to carry away with him when he leaves Basic Combat Training. We are not abandoning performance-oriented training; we are bringing it back to reasonable proportions.

6. We are all in agreement and have already adopted a system of basic rifle marksmanship qualification which deletes the scoring of night firing, and puts that requirement on a go/no-go basis. My only continuing concern about BRM is the amount of time we waste, or the inefficiency of the program when viewed through the eyes of the individual soldier who spends most of his time waiting.

7. Individual tactical training has improved enormously, but we still have a long way to go. Generally speaking, we have not simplified it enough. In too many places we spend too much time on inconsequential or peripheral aspects of the problem. Additionally, the captains, lieutenants and sergeants generally do not explain to the soldier in simple terms what it is we are trying to teach him, and why. Let me itemize what I believe to be the heart of the program and

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the objectives we should seek, together with a word about the techniques which will be most helpful.

a. Individual tactical training in BCT must be the first step in a progressive program which extends onward and upward through Combat arms AIT for those who take that route, and then into team, squad, platoon, company and battalion tactics and techniques. For other soldiers, BCT must embody those rudiments of tactics he might encounter in field service. The principles and the techniques utilized in BCT must be the same in practice and in logic as those which follow in successive steps.

b. We wish to teach each soldier in the Army that he may find himself in combat, even if he is assigned to a headquarters, to a signal communication relay station, a maintenance company, a supply point, a truck unit, a computer center, or any other element of the Army which will find itself deployed in a theater of operations. This is because warfare has become fluid, and enemy military forces can go deep into our rear with armored penetrations, parachute assaults, heliborne raids, or guerrilla attacks.

c. In order to get the job done on the battlefield, whatever that job may be, each soldier must be able to defend himself and his unit and, if necessary, to attack and kill or subdue the enemy. We must teach each soldier that he must master four techniques which will serve him well, make it possible for him to do his job, and survive on the battlefield. They are these;

(1) Cover. He must understand the meaning and use of cover, in both the attack and defense. Very simply, he must understand that even the smallest wrinkle in the ground can protect him from enemy fire. In short, he must understand the principle of cover, be able to identify it, and be able to use it.

(2) Concealment. He must understand the principle of concealment and camouflage in both the attack and defense. In short, he must understand that if the enemy cannot see him, it is unlikely that he will be hit.

(3) Suppression. He must understand that while he or his group are moving in the open—that is without cover or concealment—that someone else or another group must deliver accurate suppressive fire against the enemy in order to prevent the enemy from firing accurately and effectively against him, his buddy or his team.

(4) Teamwork. He must learn in BCT the basic lesson that battles are won by men working together, talking back and forth, planning and acting jointly. Although he will not be expected to practice more than shooting to suppress for a buddy moving, or to protect the front of a buddy's foxhole, we must be sure he understands that team play is the essence of tactics.

d. Individual tactical training starts by teaching the soldier how to crawl, how to run, how to identify and use cover and concealment and how to deliver suppressive fire. We must explain these points to him clearly and simply and allow him to demonstrate that he understands. We must not be drawn off into side issues such as how to get into and out of a trench, how to tip-toe through barbed wire, to slither over a log, or to cope with any other ridiculous digressions. In training the soldier to recognize and take advantage of cover and concealment, we must give him

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an opportunity to learn by differentiating and choosing between good cover and bad cover, good concealment and bad concealment, good routes forward and bad routes forward. We should teach him to look for and use both cover and concealment simultaneously when the terrain affords such combinations. Logs lying in the open are cover, but they are bad cover, and in battle a man would use a log in the open only if there were no other alternatives. The fire and maneuver course should be the graduation exercise (the performance test) during the offensive phase of training, and should afford many choices of good positions, fair positions and bad positions so that the soldier learns to choose and think and may be fairly evaluated.

e. The defensive aspects of individual tactical training should be explained logically as the application of the same principles of cover, concealment, suppression, and teamwork as we have taught during the offensive phase. In short, the parapet foxhole provides the cover of a berm to the front and concealment when that berm has been camouflaged. It is our counter to enemy suppression. We defend by relying on the fire of buddies, just like we do in the attack. The same logic that applies to the offense applies to the defense in that a soldier who exposes himself in the defensive without cover or concealment or suppressive fire will be killed, cannot perform his mission, and cannot support his buddy or his unit.

f. You all know that I have been unhappy with the infiltration or overhead fire course. None that I have seen have resembled a realistic battlefield situation. I have been told in one way or another by each of you that there is a benefit to the trainee growing out of these exercises associated with the fact that overhead fire is a novel, exciting, and, therefore, memorable experience. I accept that, while recognizing that it is an expensive operation. However, the only thing missing in our offensive and defensive training as I have described it in the preceding subparagraphs has to do with the familiarization of the trainee with the sounds of incoming and outgoing fire and his ability to distinguish a crack from a thump and thus determine which way the fire is going. We must incorporate such familiarization in our Basic Combat Training and do it in such a way that it continues to provide that memorable and exciting experience. Tug Greer has put together a very short course which is a supplement to the fire and maneuver course. He runs the men through an exercise where they move out on a mission, are brought under fire—utilize a bank for cover while the enemy fires into the bank—crawl across an open space while the fire is overhead, until they have cover behind a second bank—whereupon they maneuver briefly against the machine gun with simulated fire and movement. Paul Gorman will give you details on that, as well as a laser system which will permit us to exercise the principles and practices of the defense against an enemy attack without the usual safety restrictions which make most such exercises unrealistic.

8. I believe we are all in agreement on the intensified physical fitness program insofar as it relates to the better qualified, more athletic soldier. We seek to challenge trainees of whatever physical capacity, so we probably ought to standardize the test scoring beyond 500. Other than that, what you are already doing seems eminently sensible, and is producing better results across the board.

9. We cannot neglect what we tell the trainee about his training. I find the SMART BOOK is filled with extraneous, irrelevant and peripheral matter, and it will be revised. Some of the performance tests provided by this headquarters and some of the subject schedules are equally

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defective. It will take at least a year to clean up the paper work. In the meanwhile, you may proceed on the basis of this letter and your own good judgment to achieve success in the accomplishment of our collective mission to turn civilians into soldiers. This is a dynamic business and we wish to keep it so. I expect and want innovations, the exchange of information among training centers, and as many suggestions to me as you may see fit to make. All in all, I am very pleased with what I see at all of the Centers.

W. E. DePUY
General, United States Army
Commanding

9

HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

ATCG 24 April 1975

Dear Bob,

I have read your entire report. It's hard to disagree with most of what you say. Unfortunately, as you know better than I do, it is easier to point the finger than it is to bring about the solution. NATO has always been a problem to the United States Government in that it has been hard for anyone to find the controls. In other words, it is hard to find the man in charge. However, I have one or two observations to make on the subject.

First, we must be very careful to recognize the limitations of the anti-tank guided missile. They add, of course, a new important dimension to our capabilities. The Army's recognition of the fact is indisputably witnessed by the 18 TOW and 27 DRAGON we are putting in each mechanized battalion, plus 1500 additional ATGMs scattered throughout the Artillery, Engineers, Cavalry, and so on. On the other hand, the anti-tank guided missile is very susceptible to suppression by the use of smoke. We have to expect the Russians will figure this out, or have long ago done so. By smoking our position or attacking at night or optimizing their use of covered and concealed routes, or more likely all three measures at once, they will endeavor to close with our defending units where their numbers and their tank-heavy forces will have an advantage. Therefore, the Army has been trying desperately to enjoy all the benefits of anti-tank guided missiles without leaping overboard and unbalancing our force and opening up a vulnerability which the Russians would exploit. I might add that every model or simulation which has been used in the past to demonstrate the battlefield effectiveness of the anti-tank guided missile has failed to account for smoke, night or covered approaches in one way or another. In fact, smoke has not been played at all.

I am personally a great supporter of the German concept of forward defense. During the past two years TRADOC, through the Infantry School, the Armor School and Fort Leavenworth has been busy revising the tactical doctrine of the United States Army to conform generally with the German concept (Panzer/Panzergrenadier tactics). The fact is that doctrine is only adopted over time in a big institution and then only after much discussion, argument and sometimes resistance. The German Army is convinced that the American Army does not understand Panzergrenadier tactics and techniques. In this they are to a large extent correct, at least as it is now practiced. Things are changing, but slowly. My chief concern these days is that the German concept depends greatly upon the Infantry fighting vehicle—the MARDER. We have been pushing for the

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The William E. DePuy Papers. Folder: Correspondence 1973–1977. Command History Office. U.S. Army Training and Doctrine Command, Fort Monroe, VA.

development and fielding of the mechanized infantry combat vehicle which is our MARDER. The only difference is that we want a 25mm gun, whereas they remain content with a 20. Our analysis supports the 25. However, the bigger issue is whether we will get the mechanized infantry combat vehicle. There is much resistance to it. Some of the resistance is based on cost which surprises me because the MARDER is more expensive and the BMP is about the same. Even the Food Machinery Armored Infantry fighting vehicle is just as expensive and very much inferior. We are pushing the adoption of Panzergrenadier tactics in the Army, even though the M113 armored personnel carrier is a very inadequate Infantry fighting vehicle. It has such a hard ride that the troops inside are simply scrambled if one tries to keep up with a tank going cross country. Secondly, the 50-caliber machine gun is wholly inadequate for the suppression of the hand-held anti-tank weapons which might destroy our tanks. Additionally, the M113 cannot suppress while moving because of the bumpy ride. (You can't hit anything with the 50-caliber while the M113 is on the move.) Lastly, you can shoot through the sides of an M113 with a 12.5 Soviet machine gun and fragments of the 152 air burst will penetrate the roof.

In short, we want to emulate the Germans but in order to do it well, we need a good tank, an infantry fighting vehicle, self-propelled artillery and effective mobility for the air defense systems. Our greatest defect is the infantry vehicle on which, by the way, we intend to mount an anti-tank guided missile as well as an artillery cannon.

As you see, I am working down further inside the bowels of the problem where, of course, I belong. TRADOC does force analysis for DA from time to time and our product finds its way into the deliberation of European structure, but it is an indirect process on most occasions.

Bob McAlister showed me a note you had written to him which, among other things, suggested that I am too much oriented toward the Arab-Israeli Conflict. Perhaps, but there are almost enough forces pushing us toward an exclusively European orientation, including yours, while there remain some unique and interesting requirements of what we can do in war elsewhere to which I feel obliged to pay some attention.

If you come down to see Bob Dixon, or if you don't, we would be happy to see you. Give my best to Herb McChrystal.

As ever,

W. E. DePUY
General, United States Army
Commanding

Mr. R. W. Komer
The Rand Corporation
2100 M Street, N. W.
Washington, D. C. 20037

10

25 April 1975

Dear Gordon,

I am returning "The Defence of Duffer's Drift." I wish our Army were more focused on such problems.

We have not been successful in communicating with the Secretary of Defense on the MICV and the BUSHMASTER. I had hoped that our meeting would have been of some assistance, but I am told that it was not.

Somebody is giving the Secretary bad advice. Perhaps even malicious advice. Behind the MICV is a much larger issue. As you know, the German Army believes strongly that the United States Army does not know how to fight on a mechanized battlefield against Russian forces. They believe we are too much organized and oriented toward infantry combat. They also believe that our counterattack plans with large forces sweeping across the front are sheer bunk, or at least simply romantic. They believe, and I agree, that the Panzergrenadier/Panzer tactics are the only hope against superior forces.

At TRADOC we have been rewriting the doctrine of the United States Army in general accord with the German concept. US Army Europe is only slowly reacting to this problem. Certain Divisions, like the 3d, have reacted quickly while in other areas, such as V Corps, there has been little or no reaction. Mr. Komer detected this on a recent trip, as did Dr. Payne.

Of course, one of the problems in adopting Panzergrenadier tactics for our mechanized infantry lies in the inadequacy of the M113 as an armored fighting vehicle. The M113 cannot keep up with tanks cross country without scrambling the rifle squad inside. The 50-caliber machine gun is not adequate for the suppression of enemy anti-tank rocket weapons, such as the RPG7. The 50-caliber cannot be fired usefully on the move. Lastly, the 12.5 machine gun will penetrate the M113 and 152mm fragments will penetrate the top armor.

The Secretary of Defense has been told that the MICV is too expensive. Yet, it is less expensive than the MARDER, about the same as the BMP and no more than the much inferior Food Machinery armored infantry fighting vehicle.

Somewhere we have gotten off the track with the Secretary, or somebody has gotten him off the track. There is too much at stake for the Army on the next battlefield to break off our efforts on behalf of the MICV. We have no alternative but to press on. It would, of course, be helpful to us if we could understand the true dimensions of the Secretary's problem as well as its origin. It just can't be cost alone. To accompany a million dollar tank with a quarter million dollar MICV

The William E. DePuy Papers. Box 8: TRADOC Commander's Conference, 1975. Folder: R-S-T. U.S. Army Military History Institute, Carlisle Barracks, PA.

is not too disproportionate. Therefore, if you could give us any insights, perhaps after discussing it with John Wickham or others who are in a position to know, it would be very helpful.

Thanks again for Duffer's Drift.

Sincerely,

1 Incl
As stated

W.E. DePUY
General, United States Army
Commanding

Major General Gordon Sumner, Jr.
Director
Near East and South Asia Region
Office, Assistant Secretary of Defense (ISA)
Washington, D. C. 20301

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

29 Apr 75

Dear Fred,

I understand we are still in difficulty with the Secretary of Defense on MICV—although the BUSHMASTER decision is workable.

I am sorry to hear that because it means we have failed to break through a strong prejudice against MICV which doesn't seem to be susceptible to our tactical, technical or cost arguments. Nonetheless, we must have an Infantry Fighting Vehicle.

Just last week Senator Culver pressed me hard on the differences between German and American tactics on the Central European Front. While in Germany, he was told by all German officers with whom he spoke that the U. S. Army did not understand or practice Panzer/Panzergrenadier tactics. Insofar as the practice in Europe today, they are largely—but not entirely—correct.

As I have briefed you on several occasions, TRADOC, in conjunction with FORSCOM, is now changing our doctrine (tactics and techniques) to conform with the German. Basically, we are involved in moving from a "Dismounted Infantry" oriented doctrine to an "Armored" doctrine, with the Infantry, Artillery and Air Defense in support of tanks in both the offense and defense. This is an overgeneralization, but it contains the essence of the issue.

This same issue is the one I discussed with the German Army last fall and will be central to our discussions with General Hildebrandt.

Wilbur Payne, on his recent trip, observed that USAREUR is not adopting the new doctrine very rapidly—in some cases, not at all.

I recite all this because it is the central issue behind the MICV. There are, of course, other issues on which I will comment later.

If the U. S. Army is to fight effectively on the mechanized battlefield against the increased lethality of modern weapons, while also outnumbered, we need to adopt the most advanced tactics and techniques of combat. We think we understand and are moving in that direction. However, the concept requires a Mechanized Infantry Fighting Vehicle. This vehicle must be able to support tank-led combat teams by:

- long range suppression of enemy anti-tank weapons in the hands of infantry, or

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The William E. DePuy Papers. Box 9: Correspondence 1975–1976. Letters from General Clarke, 1976. Folder: W-X-Y-Z. U.S. Army Military History Institute, Carlisle Barracks, PA.

- suppression of the same enemy capability while the MICV is moving cross country with tanks, and that is the reason for stabilization of the turret, or

- delivery of a high volume of close-in overwatching suppressive fire in support of dismounting infantry who will assault enemy elements which were not successfully suppressed, and

- defeat the BMP beyond the range of the 73mm gun, and

- be able to fire an ATGM from the deck (eventually under armor), and

- protect against automatic weapons fire.

The M113 cannot perform four of these prerequisites:

- The 50-caliber MG is not an effective or reliable suppressive weapon.

- It cannot fire effectively on the move because it is not stabilized.

- The M113 cannot maintain cross country speed to accompany tanks without injuring the infantry occupants because of the hard ride.

- The M113 can be penetrated by the 12.7mm machine gun.

The Tank/Mech Infantry team, supported by SP Artillery and SP Air Defense weapons, is the core element of Army fighting power. It is the Army's equivalent of the Navy's Carrier Task Force. It is the ordnance delivering element of the Army—all else is in support.

On the technical issues, the MICV is properly armored against small arms and artillery fragments—has cross country mobility comparable to tanks with infantry inside—has the proper gun in the 25mm BUSHMASTER which can also defeat BMP armor.

The cost is less than MARDER—about the same as BMP, and is just a little more than Food Machinery's Armored Infantry Fighting Vehicle which is, in all respects, inferior.

I am told that Secretary Schlesinger stated that General Abe said he would not support MICV. If he did, it was a mistake—it must have been somehow out of context. In any event, the Army must have a MICV.

> We need it to fight the way we must fight to survive and win on the mechanized battlefield in conjunction with tanks.
>
> We need it because the M113 is not even in the same league with BMP and MARDER—it will be driven off the battlefield.

This is one of those issues which goes to the heart of the Army's capability. Therefore, we must win this one — the earlier the better.

We must find a way to demonstrate the MICV versus the M113 to the Secretary of Defense. Norm Augustine is working on this with us. We must miss no occasion to impress upon Secretary Schlesinger the direct connection between the MICV and the tactics we must adopt to fight effectively alongside our German allies. Perhaps the visit of General Hildebrandt can be turned to this purpose. Senator Culver's knowledge can certainly be brought to bear.

As you can see, I don't want to see the Army lose this one.

Respectfully,

W. E. DePUY
General, United States Army
Commanding

General Frederick C. Weyand
Chief of Staff
United States Army
Washington, D.C. 20310

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

12 May 1975

Dear Senator Culver,

I appreciated the opportunity to discuss with you the Army's perception of significant lessons learned from the 1973 Mid-East War. This letter responds to your request for a written statement that explains the relationship between the lessons learned from that war and why the tank is important to the US Army. As you know, the Army has conducted an intensive analysis of the Mid-East War. This analysis, in fact, is still continuing. Three overriding lessons have emerged:

- Modern weapons are vastly more lethal than any weapons we have heretofore encountered on the battlefield.

- In order to cope with these weapons it is essential that we employ a combined arms team of armor, infantry, artillery and air defense backed by the support required to sustain combat operations.

- Training of the individual and the team will make the difference between success and failure on the battlefield.

I will focus my discussion on the role of the tank with regard to the first two lessons.

If the Army is to fight effectively on the mechanized battlefield against the increased lethality of modern weapons, while outnumbered, we must understand the dynamics of that battlefield. We must adopt the most advanced tactics and techniques of combat and equip our forces with weapons and materiel possessing the characteristics essential to success. Let me explain.

There are more lethal weapons on today's battlefield than at any other time in history. Comparative statistics from the Mid-East War illustrate this proliferation and lethality. Arab forces had some 4000 tanks; we have approximately 1700 tanks in Europe. We credit Arab armies with a starting inventory of 3000 artillery pieces; we have less than 500 in Europe. Losses were enormous. Egypt and Syria lost between 1500 and 2000 tanks and 500 artillery pieces; about equivalent to all the tanks and artillery we have in Europe. The problem now confronting the US Army is: how to operate outnumbered on a battlefield which is populated with large numbers of very lethal weapons and still get the job done without catastrophic losses, losses for which we are not prepared either in materiel or psychologically. Basically, the US Army is involved in moving to a highly mobile mechanized doctrine in both offense and defense. In this doctrine the tank plays a central and indispensable role. Our Army is in agreement with the Germans and

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The William E. DePuy Papers (Classified Holdings). U.S. Army Military History Institute, Carlisle Barracks, PA.

Israelis on this point. The Israelis demonstrated it is possible to operate successfully in the face of highly lethal weapons by effective use of the combined arms team; that is tanks supported by mechanized infantry, self-propelled artillery, and self-propelled air defense weapons. The combined arms team is the Army's equivalent of the Navy's carrier task force; it is the ordnance delivering element of the Army - all else is in support.

The theory behind the use of a combined arms team is simple. In order to win, whether attacking or defending, you must move. In order to move in the face of modern weapons, those weapons must be suppressed. The infantry must suppress close-in weapons while mortars, artillery, and air strikes suppress or obscure more distant enemy weapons. Forward mobile air defense weapons keep enemy attack aircraft off the moving force. This is the mutual interaction of the combined arms team. Through this kind of action the force can move quickly to the decisive point on the battlefield and obtain the force ratio necessary to win.

Movement, however, is not without hazard against an enemy who outnumbers you. The game of suppression is never won. You only tilt the balance temporarily in your favor. Therefore, our forces must carry the battle quickly and violently to the enemy, inflict casualties, and survive. The tank is ideally suited for this task. It is the only equipment with high cross-country mobility (25 mph); protection from enemy artillery suppressive fires, except a direct hit; and carries the destructive power of a main gun capable of achieving first round kills approximately 50 per cent of the time at ranges of 1 mile against all known Soviet armor.

A description of what tanks do on the battlefield includes the following:

- In the attack.

  - Carry battle to the enemy - and into his rear.

  - Spearhead the combined arms team.

  - Deliver highly lethal fires on enemy infantry positions, tanks, mechanized fighting vehicles, and ATGMs with pin-point accuracy.

  - If necessary, shoot on the move.

  - Employ automatic turret and co-axial weapons to suppress the enemy with high volume fire.

- In the defense.

  - Fight outnumbered.

  - Fire first.

  - Destroy enemy tanks and other combat vehicles from hull defilade positions at all ranges of main gun.

  - Move quickly to critical points.

  - Strike flanks of enemy forces which penetrate defensive positions.

The tank remains the decisive weapon on the mechanized battlefield. Yet, a tank in the open is vulnerable to fire from ATGMs. The SAGGER, when unsuppressed for example, has a 60 per cent chance of achieving a first round kill against our M60 series tank from something less than

1 mile and out to 2 miles. We have learned that this vulnerability can be halved by keeping the tank in hull defilade. In contrast, the Soviet T62 has a 45 per cent chance of achieving a first round kill against the M60 tank at 1 mile, but as range decreases the T62's effectiveness increases. In fact, at ranges of 3/4 of a mile the tank is more effective than the ATGM. The tank with its high rate of fire and crew protection is clearly superior to ATGMs at close range. Terrain studies in Europe indicate line-of-sight will be restricted due to urban development and terrain features. Indications are that visibility will be reduced to slightly more than 1 mile 60 per cent of the time without regard to weather. The smoke and haze of battle coupled with tactics designed to highlight movement under cover of the terrain will enable tanks to close with ATGM gunners to a point where the tank has a decided advantage (3/4 of a mile). Effective combined arms support can further tip this balance in favor of the tank. Smoke obscuration has proved extremely effective in degrading ATGM gunner visibility. Recent tests at the Army Materiel Command Systems Analysis Agency have verified this degradation. Artillery firing a combination of smoke and high explosives can contribute positively to decrease ATGM effectiveness, particularly where gunners and weapons are not protected by armor.

Results from the Mid-East War substantiate the effectiveness of ATGM countermeasures. Weapons Systems Evaluation Group concluded that tank guns were responsible for over 85 per cent of the Arab and Israeli tanks destroyed in the October 1973 war. Analysis of 119 Israeli tanks killed indicated that as few as 7 per cent and not more than 24 per cent had been killed by missiles. In the later stages of the war (after the fourth or fifth day) ATGMs ceased to play a significant role in the outcome of the battle. Once initial surprise wore off and tanks were employed according to established principles (combined arms team, proper use of terrain, and suppressive fires), the situation changed dramatically.

Tanks can survive ATGMs by:

- Proper use of terrain and avoidance of rigid tactical formations.

- Close coordination of combined arms elements of infantry, artillery, air defense and close air support.

- Maximum suppressive fires on identified and suspected ATGM positions.

- Maximum use of smoke to obscure the vision of enemy gunners.

- Intelligent use of the tank's mobility and agility to move from cover to cover before the ATGMs can engage.

Predictions of the demise of the tank have been made each time a new antitank system appeared. The tank has no more been driven from the battlefield by ATGMs than the infantryman was made obsolete by the machine gun, or the fighter made obsolete because of the surface-to-air missile. All these systems are effective when properly and prudently employed. The 1973 Mid-East War has reaffirmed the need for a balanced fighting team; a team driven by the tank.

All of the great armies of the world rest their land combat power upon the tank. The armies of the Warsaw Pact, fashioned on the Soviet model, incorporate masses of tanks, backed by an impressive industrial base which has continued to produce large numbers of quality armored fighting vehicles. Warsaw Pact doctrine anticipates use of nuclear weapons in future war but is prepared to fight without them; it also emphasizes heavy concentrations of armor. Similarly, tank strength is the foundation of NATO defense; the armies of the Federal Republic of Germany, the

United States, Great Britain, and their allies maintain strong tank forces in Central Europe. France, Sweden, Japan, the Chinese Peoples Republic, and nations of the Mid-East and South Asia have all made significant investments in tank design or procurement or both. Few states, even among the poorer nations, are without armored force.

Studies have been completed since the determination of the requirements of the US XM-1 tank which have assessed its technical capabilities in the context of the Soviet threat. The range of study results has been varied, but the single consistent result has been the relative invulnerability of the XM-1. The XM-1's relative effectiveness is emerging as perhaps 3 times that of the M60A1, primarily due to XM-1 survivability. Survivability calculations on the XM-1 have been derived from over 400 computer battle simulations which compare the XM-1 and the M60A1. Survivability is enhanced by a combination of better protection through improved armor, greater agility (mobility) and improved effectiveness of main gun and fire control equipment.

In summary, with its cross-country mobility, its protective armor and its formidable firepower, the tank has been and is likely to remain the single most important weapon for fighting the land battle. Armored or mechanized forces organized for support of tanks by infantry, artillery, air defense and tactical air, have demonstrated the capability to mass and maneuver rapidly even on the lethal modern battlefield, to strike deep into the enemy's rear, or encircle his flank, and to destroy his force.

During our discussion, you asked me about the tests going on in the VII Corps, and specifically, tests in the 3d Mechanized Division in Germany involving the employment of the attack helicopter.

First, let me put that test in context. As you know, the TOW/COBRA is just now becoming available for issue to Army units. The Army has decided to split the deliveries between the Air Cavalry Combat Brigade (ACCB) at Fort Hood and our units in Europe. The reason for dividing them evenly is the Army would be ready for a contingency outside Europe, while at the same time building its capabilities on that most important front.

Our current plans in Europe are to put the TOW/COBRA into the cavalry regiments of the covering force - into attack companies at division - and attack battalions at corps. VII Corps is testing to determine where best to start and how best to employ the first TOW/COBRA to arrive. As with any new system or capability there is a learning curve, both technical and tactical. We encourage our field commanders to experiment and evaluate continuously.

Our tests of the Air Cavalry Combat Brigade at Fort Hood are designed to verify the employment of attack helicopters in battalion and brigade size units as compared to companies in the 3d Mechanized Division tests. The Fort Hood tests complement the USAREUR test and are a further refinement.

To summarize —

- The tank can survive on the modern battlefield, but it must be supported by mechanized infantry, field artillery, air defense and close air support.

- Tanks are still the single most decisive weapon on the mechanized battlefield.

- Every modern army in the world agrees and bases its tactics on tanks.

- The ATGM is useful but it can be defeated or suppressed more easily than tanks.

- The Army needs the XM-1 tank with its much better armor and other improvements.
- We must expect that the Soviet Army will soon field improved armor.

Warmly,

W. E. DePUY
General, United States Army
Commanding

Honorable John C. Culver
United States Senate
Washington, D. C. 20510

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Message, 16 December 1975, Subject: Infantry fighting Positions

JOINT MESSAGEFORM

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TO: AIG 891

AIG 892

AIG 7440

CDR MASSTER FT HOOD TX

CDR USACDEC FT ORD CA

CDR USALOGC FT LEE VA

CDR USACAC FT LEAVENWORTH KS

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DePUY SENDS

SUBJECT: Infantry Fighting Positions

1. Recently, I have been disturbed with certain aspects of our program to design infantry fighting positions for the modern battlefield. Let me review the rationale.

2. On the modern battlefield, what can be seen can be hit and what can be hit can be destroyed. This applies with special force to infantry fighting positions. The high velocity tank cannon and the anti-tank guided missile are both precision instruments for destroying infantry positions. The Israeli Army initiates its attack by

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stringing its tanks out about 1500 meters from the infantry positions and then destroying them one-by-one by direct fire. Our own experience in Europe in World War II was the same. Infantry positions which could be seen by enemy tanks were destroyed. Therefore, the first requirement for the infantry fighting position is to be completely invisible to the enemy. This invisibility must continue even after the closer range small arms battle has been joined.

3. All armies worthy of the name employ the tactic of fire and maneuver. Fire includes both indirect and direct suppressive fire. It is characteristic of close supporting suppressive fires that they be fired in the direction of attack—that is, to the front. The army described this supporting or suppressive fire as "fire superiority" for many years. Whatever it is called, the purpose is the same. The purpose is to cause the defender to take cover and thus to stop the delivery of defensive fires against the attacker. Such suppression can be achieved by overwhelming

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frontally directed suppressive fire against infantry positions so that the defenders will not expose themselves. Thus, the second requirement for an infantry fighting position is to have frontal protection while the defending soldier can still engage the enemy.

4. There are additional advantages to a system in which the infantry positions fire at angles across the front from behind cover. They should be able in each case to get the first shot and the enemy must stop, turn, and return fire while in the sights of the defender.

5. There are disadvantages to this system. The disadvantage is that the criss-crossing fields of fire permit the enemy to move somewhat closer to the defended position before he is engaged. These can be offset to some extent by artillery fires, mortar fire and claymores.

6. The fact that teamwork is required between each set of positions is both an advantage and a disadvantage. The advantage stems from the requirement to coordinate and render mutual support. This

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opportunity provides a feeling to each defending infantryman that he is not alone but that the position on his right and left will both cover and support him. The disadvantage, of course, would arise if this system of mutual support were to break down.

7. In any event, because of vulnerability to direct, pin-point, high velocity cannon or missiles and frontal suppression by small arms and automatic weapons, we have no alternative but to seek both concealment and frontal cover.

8. In order to achieve these goals, the Infantry School has described the parapet fox hole (PARFOX). We are encountering two kinds of difficulties with the PARFOX:

a. The best infantry position is folded into the ground itself behind ridges, rocks, trees or other variations in the earth's surface. Every position need not fire in two directions. I find that PARFOX are being built when natural terrain would be better—better because it is less visible and visibility is deadly.

b. The farther forward the soldier can fire while remaining

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covered is the most desirable. We have become so preoccupied with PARFOX that we have begun to forget the purpose. In the Training Centers, I have seen PARFOX with angles as small as 20 degrees. In this case, the enemy could crawl to within hand grenade range in most terrain.

9. I want the Infantry School to rewrite its literature to correct these difficulties. I want the Training Centers to give examples of fighting positions which utilize terrain instead of PARFOX. Trainees should be instructed that the PARFOX is only to be used in those cases where the terrain affords no natural cover or concealment. As long as the soldier has frontal protection for his head, while in the firing position, firing ports should be constructed to permit as wide a sector of fire as possible. In any case, I want 45 degrees to be the minimum parapet angle, not the maximum. As an example, a soldier may be able to fire 60 degrees or more to his front and still be afforded frontal protection while in a firing position.

10. All TRADOC Commanders must give this their personal attention.

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

ATCD-PG 18 February 1976

Dear Fred,

It has become increasingly apparent to us at TRADOC that we must become involved in the problem of Affordability. I say this because time after time we have appeared before the ASARC on behalf of some weapons system and towards the end of the meeting the Army Staff would brief the ASARC on the general problem of Affordability. Unfortunately, these briefings always show a large bow wave about five, or six or seven years downstream which greatly exceeds the amount of money the Army can expect to receive from either the Administration or the Congress. The effect of these Affordability briefings has been to cast a pall of doubt and uncertainty over each presentation.

The Army Staff, of course, recognizes this problem. At the direction of General Kerwin, Mr. Trainor is now in the process of conducting an Affordability Study. In the last analysis, Affordability resolves itself into a question of priority. In other words, it should work out so that we can afford those systems which make the greatest difference on the battlefield. It is TRADOC's business to know which systems are the most important on the battlefield—at least, I strongly feel it is my responsibility to be able to answer the question of priority and thus make a major contribution to any study on Affordability. Too often, we have seen a kind of gut reaction against a program simply because of its high cost without considering fully its contribution. In any event, TRADOC wishes to be a part of the Affordability analysis and findings.

In TRADOC we started by providing each school commandant a constrained procurement and R&D dollar target. The commandants were then asked to line up in priority their procurement and development programs. Then through a series of meetings culminating in a conference of center and school commandants plus DA and DARCOM representatives, we integrated all candidate systems into prioritized lists for procurement and R&D. In this regard we have produced, for the first time to my knowledge, integrated and prioritized listings in these areas that are based on a common visualization of the threat and tied directly to the concepts, doctrine and tactics necessary to counter that threat. As an example, in the hardware procurement list we went from item 1 (XM1 Tank) to item 383 (Boat Bridging).

The question then remains as to how far down these lists we can afford to go. We have analyzed that part of the five year program (FY 78-82) which, based on historical data and experience, we could expect both the Administration and Congress to support. For procurement in this five year period the POM guidance provides $36.1B. We fully support this as a valid Army objective.

The William E. DePuy Papers. Folder: Notes from the Top. DePuy Miscellaneous 1975—1976. Command History Office. U.S. Army Training and Doctrine Command, Fort Monroe, VA.

Our historical analysis however indicates we can expect to receive during the period only about $21.9B. This total includes tactical hardware and ammunition plus all other Army procurement such as that for Health Services Command, Army Communications Command, production base support and like areas that do not fall within the purview of TRADOC.

We then recognized that the so-called bow wave which has caused such concern at each ASARC is, to some extent, a phantom monster. For example, we have been worried about bow waves for the past ten years in which the Cheyenne Helicopter, the MBT-70, SAM-D, MICV and other development items were prominently featured. In every case, the systems have slipped and when the budget year closed on the bow wave year the problem had disappeared into the future. We have studied this phenomenon during the period 1971 through 1977 and find that, on the average, 18% of the bow wave slithers out into the future, either through developmental problems, budget scrubs or Congressional cuts or other stretch-outs. Therefore, in addition to the $21.9B you can expect to receive based on historical experience, there is another $3.1B which you can logically program and yet not find it necessary to actually fund. Putting it another way, you can afford to overprogram about $3.1B in a five year period contingent on schedule slippage, program cancellations and other stretch-outs beyond your control. This would raise your total to $25B.

Additionally, we believe that the Army cannot afford to set its procurement target at the historical base plus program slippage and let such a low level of funding become an automatic self-fulfilling prophecy. We would never recover from our current position of inadequate procurement funding vis-a-vis, our real combat requirements or vis-a-vis, the Navy and Air Force within the defense totals. Our analysis clearly indicates that we have a need for an additional $3.7B over the five year period in order to raise the Army procurement budget to cover the critical systems we need to fight and win on the modern battlefield. Thus, the total critical procurement listing equals $28.7B, while the remaining $7.4B of procurement is classified essential. These two classifications (critical and essential) equal the POM guidance of $36.1B.

We know that these listings will constantly change based on cost increases, schedule slips, technical problems and management decisions such as those which arise during ASARCs or DSARCs and also through program and budget decisions within the Administration and in the Congress. Therefore, these lists will only be useful if kept up to date. We hope that these priority lists and the analyses behind them will be of assistance to you as you cope with the problems of priority and affordability.

Respectfully,

W. E. DePUY
General, United States Army
Commanding

General Fred C. Weyand
Chief of Staff
United States Army
Washington, D. C. 20310

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

18 February 1976

Dear Fred,

The Army has now developed and articulated its doctrine for combat on the modern battlefield in FM 100-5 which with the comments and concurrence of your staff is on its way to the printer.

The importance of FM 100-5 to the effectiveness of the Army and the security of the United States demands a high level of confidence in its validity. This is because it contains the doctrine which directs the manner in which we intend to fight and from which we derive the requirements for our weapons systems. The process by which this manual has been developed should inspire such confidence. Therefore, I think it important to set forth the major features of that process in this letter.

As you recall, in the summer and fall of 1973 the Army was in the process of recovering from the numerous effects of the Vietnam war and deep into the challenge of the all-volunteer Army. The Army was preoccupied—unavoidably and understandably—with problems of morale, motivation, and the directly related problem of attracting and retaining volunteers. It was an inward looking time.

Then, in October of 1973, the Arabs attacked Israel. In 18 days, about two thousand Arab tanks were destroyed along with 4 or 5 hundred Israeli tanks and all sorts of other fascinating consequences became apparent. This was the first large scale confrontation between two forces equipped with modern weapons representative of those found in the hands of NATO and the Warsaw Pact.

General Abrams directed TRADOC to analyze the war and its meaning and its lessons for the US Army. We have been in the process ever since. Our first reactions are still valid:

Proliferation of modern weapons.
High lethality.
Requirement for suppression.
Importance of balanced teams of combined arms.
Difficulty facing close air support.
Electronic Warfare.
Importance of training.
Many others.

The William E. DePuy Papers. Box: Transcripts and Diplomas. Folder: Field Manuals 100-5, 1974–1977. U.S. Army Military History Institute, Carlisle Barracks, PA.

When we looked at the state of doctrine, tactics, techniques and training in the US Army, measured against the demanding standards of the Middle East battlefield, we found them wanting. We also found an Army with its attention focused elsewhere.

During the winter, spring and summer of 1974, we concentrated on a review of all US weapons system characteristics against the lessons of the Middle East War. We also concentrated on the implication of that war on the tactics, techniques and training of our tank, mechanized infantry and armored cavalry elements and their supporting artillery and air defense. We started at the bottom—squad, platoon, company, battery and troop. Circulars were published and quick-fix pamphlets were produced.

In October of 1974, TRADOC and FORSCOM conducted a joint demonstration and seminar on tactics and techniques for combat on the modern battlefield at company—battery level. (OCTOBERFEST)

All FORSCOM, Corps and Division Commanders attended, along with representatives from Alaska, Panama and Korea. All TRADOC Commandants from the combat arms attended. We reached a consensus on the problem and the solutions at the lower tactical echelons.

It became apparent, however, that the implications of the Middle East War and our review of our status involved problems and challenges at every echelon from Corps to Company. TRADOC therefore embarked on a program to reorient and restructure the whole body of Army doctrine from top to bottom. We perceived that the key would have to be the substantial revision of FM 100-5 - Operations, the basic statement of our solutions to the challenge of modern weapons across the whole integrated battlefield, most certainly including the air-land battle in every aspect. We set out in late 1974 to develop and publish 100-5 by the summer of 1975. It turned out to be a bigger job than that. It has taken nearly an additional year—FM 100-5 will be out by June 1976 in the hands of the Army in the field.

It became apparent early on that we were at an historic turning point in the evolution of Army forces. In the past, the Army has been characterized by large formations of men equipped with the weapons which would facilitate the accomplishment of the unit mission. Now, we are at or very, very close to the point in which we must organize the Army to employ and maintain the modern weapons which can drive the outcome on the battlefield. Thus, we started FM 100-5 with a rather long discussion of weapons—weapons effectiveness trends—and implications. By the way, the German Army is lifting this part of FM 100-5 in its entirety into their basic doctrinal manuals. The Israeli Army is clearly weapons oriented. By weapons orientation, we mean the weapon itself, its tactical employment, the techniques of operation and siting, the selection and training and replacement of crews and the maintenance and supply system behind it all the way back to the CONUS.

In the spring of 1975, it became apparent that certain elements of the Army felt that OCTOBERFEST signaled a retreat from air mobility and too narrow a focus on mounted or mechanized warfare. Consequently, FORSCOM and TRADOC organized the sequel to OCTOBERFEST in the form of OFTCON which you attended. An expanded FORSCOM/TRADOC attendance was also extended to include principal Reserve Component Commanders and USAREUR participation. USAREUR and TRADOC are now deep into the planning for a European-style (NATO/Germany) OFTCON-type demonstration and tactical seminar next fall.

Immediately following OFTCON, at your direction, we met for 3 days with the high command of the German Army on doctrine concepts and weapons systems. USAREUR involvement was complete and important.

You have my report on that meeting which was a very constructive first step toward improved cooperation on weapons and joint development of concepts and doctrine. The first German reaction to FM 100-5 (early draft) was that we placed too much emphasis on company level operations—too much cross-reinforcement—too little involvement of battalion commanders and too little emphasis on fighting forward. Part of this reaction was justified and part interpretation.

Since then, the Vice Chief of Staff of the Bundeswehr, Lieutenant General Von Reichert, has expressed satisfaction with the latest version—a version, by the way, which benefited greatly from our discussions with the Germans. There are some subtle and other organization differences which remain which I will explain later.

Concurrently, with OFTCON and the German meetings the TRADOC schools have been pressing on with the company, battalion, brigade and division manuals which are derivative of the doctrine in FM 100-5. During the past 6 months, the III Corps, with 2d Armored and 1st Cavalry Divisions has been exercising the tactics set forth in the draft manuals and circulars. They found problems—problems of understanding and problems of execution. In the last week of January, we met with all the involved commanders at Fort Hood (including, for example, all battalion commanders and many company commanders) for two solid days of talks, demonstrations and presentations. We came away with agreement, all around, on how to conduct operations at Brigade, Battalion, and Company in accordance with the "How to Fight" concepts in FM 100-5 and derivative manuals.

All the while our work with TAC had been progressing. We established a joint coordination staff at Langley Air Force Base and have made substantial progress on:

Air Space Management.
Air Defense Suppression and Electronic Warfare.
Close Air Support Procedures.
Air Logistics
etc.

The product of this effort is incorporated into FM 100-5.

We have also included a weapons oriented logistic system after extended work with your staff, DARCOM and the commands. Additionally, a tactical nuclear chapter has been added and cleared with and through your staff.

USAREUR has submitted a chapter on operations in NATO. A chapter on Military Operations in Built-up Areas (from USAREUR, ARPA and TRADOC) is in final stages but may not make the first edition.

After repeated postponement, we met in the third week of January with the Israeli delegation at Fort Knox for 3 days of discussions on doctrine, concepts, tactics, techniques and systems.

These discussions with the Chief of Israeli Armored Forces, Artillery, Infantry, Engineer and Training enabled us to measure the Army's new doctrine against their experience and opinion. We are very close on almost all points.

Nothing came out of our discussions and correspondence with the Germans and Israelis which should delay our publication of FM 100-5. Your staff has given us their comments and urges us to proceed.

There are some differences between the Israelis, Germans and our organization and doctrine which deserve careful analysis and very possibly some changes in the future.

Both the Germans and Israelis have three tank platoons instead of five. They believe that a platoon of five is too cumbersome and that only officers can command successfully on the fast moving battlefield. In short, they think we should drop out the two-tank light section in each platoon commanded by the platoon sergeant. They are both fighting in their own backyard and can replace faster. Incidentally, we have one officer for five tanks and they have one for three. This means we could create three tank battalions out of two of our currently larger battalions. This would be costly in officers at a time when we are cutting the number of officers overall. Therefore, we are not recommending a change at this time. We will study the matter carefully and with emphasis on the best arrangement for the XM-1 Tank.

Correspondingly, both German and Israeli Armies consider that we are asking our captains to do more than the average captain can do—particularly wartime captains. They refer to the coordination of tanks with Infantry, Artillery, Mortars, Engineers, Close Air Support and sometimes helicopters. Thus, they feel we cross-reinforce too much at company level whereas we should rely more on battalion commanders to effect this complex coordination. This is a valid concern to which we must give careful thought. In our new company and battalion manuals we will bring the battalion commanders into center stage. This is a direct result of our discussions with the Germans, Israelis and the III Corps. However, there is no need to delay on this score at this time.

So, we have a doctrine in FM 100-5 which reflects the views of the major commands, selected Corps and Divisions and the German and Israeli Armies as well as TRADOC. I thought you would want this record of the development process and I hope it adds to your confidence in the product.

Lastly, you will want to know that the ARTEP are being fine tuned to this doctrine. The first versions of ARTEP need some adjustment.

It will be two more years before all of the hierarchy of manuals and supporting literature will be properly aligned with FM 100-5. The critical manuals for the combat arms have first priority.

It will be several more years before 51% of the commanders in the Army—Generals through Captains—operate instinctively in accordance with the principles of FM 100-5. At that time, it will be genuine doctrine.

Respectfully,

W. E. DePUY
General, United States Army
Commanding

General Fred C. Weyand
Chief of Staff
United States Army
Washington, D. C. 20310

16

Message to Lieutenant General Donn A. Starry from General DePuy, 24 May 1976, Subject: Progress Report and Other Matters

JOINT MESSAGEFORM — CONFIDENTIAL

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BOOK NO — MESSAGE HANDLING INSTRUCTIONS: file

FROM: GEN DePUY, CDR TRADOC, FT MONROE, VA

TO: LTG STARRY, CDR V CORPS, USAREUR

Dispatched 26 May

CONFIDENTIAL MRO 0958 EYES ONLY

SUBJECT: PROGRESS REPORT AND OTHER MATTERS

CITE: YOUR FKT 0592 EYES ONLY

1. MY REACTION TO YOUR MESSAGE IS RELIEF THAT YOU ARE "ON STATION."

2. 3RD DIVISION HAS GONE OVERBOARD ON AMBUSH. GEN BLANCHARD SHOULD BE WORRIED. I TOLD HIM THAT. ALSO TARGET FOLDERS UNDER CREEK BRAILLE ARE GOOD AND BAD. GOOD BECAUSE THEY BRING PILOTS OUT ON THE GROUND. BAD BECAUSE LIKE THE AMBUSH THEY ARE SET-PIECE TERRAIN ORIENTED PROCEDURES WHICH THE ENEMY IS UNLIKELY TO ACCOMMODATE. I HOPE THE AIR FORCE REALIZES THAT.

3. WE WILL SEND YOU THE LEAVENWORTH DATA (ASPR) ON TARGET SERVICING BY SPECIAL AIR MAIL.

4. BENNING IS NOW FULLY ABOARD ON MECHANIZED INFANTRY. THEY HAVE A GOOD ROAD SHOW. I WILL SEND IT TO YOU.

5. 100-5 IS IN PRINTER. 71-2 LOOKS GOOD.

6. KEEP UP GOOD WORK, CHIN UP STIFF UPPER LIP AND ALL THAT. MORE LATER.

WARMLY.

DISTRI

REGRADED UNCLASSIFIED BY ORDER OF SEC ARMY BY USAMHI PER #17 RAKERS - 30JUL93

DRAFTER TYPED NAME, TITLE, OFFICE SYMBOL, PHONE & DATE: W.E. DePUY, GEN, CDR TRADOC, ATCG AVN 680-3514, 24 MAY 76.

SPECIAL INSTRUCTIONS: DELIVER DURING NORMAL DUTY HOURS

RELEASER — TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE: A.G. POKORNY,LTC,XO,ATCG,3514

SIGNATURE

SECURITY CLASSIFICATION: CONFIDENTIAL

DATE TIME GROUP

DD FORM 1 DEC 70 173 — REPLACES DD FORM 173, 1 JUL 66, WHICH WILL BE USED.

The William E. DePuy Papers (Classified Holdings). U.S. Army Military History Institute, Carlisle Barracks, PA.

17

Message to Lieutenant General Donn A. Starry from General DePuy, 15 June 1976, Subject: Concepts and Plans

JOINT MESSAGEFORM

SECURITY CLASSIFICATION [redacted] CF TDO CD T

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BOOK | MESSAGE HANDLING INSTRUCTIONS: file

FROM: GEN DePUY, CDR, TRADOC, FT MONROE VA

TO: LTG STARRY, CDR, V CORPS, USAREUR APO NY 09079

Dispatched 16 June P

CONFIDENTIAL MRO 1107 EYES ONLY

SUBJECT: CONCEPTS AND PLANS

CITE CONFIDENTIAL FRANKFURT 681 EYES ONLY

1. DELIGHTED THAT YOU WERE ABLE TO LIMIT THE DAMAGE ON THE 14 JUNE MEETING WITH THE BUNDESWEHR.

2. I WILL, OF COURSE, TALK TO VON REICHERT ABOUT THE WHOLE PROBLEM. I DON'T BELIEVE WE HAVE ANY MAJOR PROBLEM WITH EITHER HILDEBRANDT OR VON REICHERT AND I SUSPECT THEY ARE AT LEAST MILDLY DISMAYED AT THE EXCESSIVE EMPHASIS ON THE KILL ZONE. ANYHOW, THANKS FOR YOUR GOOD WORK AND KEEP IT UP.

3. I READ A LETTER OF INSTRUCTION ON THE GENERAL DEFENSE PLAN FOR V CORPS AND OF COURSE IT WAS THE BEST NEWS I HAVE HAD FOR THREE YEARS. IT IS THE FIRST APPLICATION IN THE REAL WORLD OF THE CONCEPT WHICH YOU AND I AND A FEW OTHER PEOPLE SHARED AT THE OUTSET. THERE IS ONE POINT IN IT ON WHICH I MIGHT EXPAND A BIT.

4. YOU REFER TO A STRONGPOINT AS A TANK, A HOUSE, ETC. THE STRONGPOINT CONCEPT IN 100-5 IS SOMEWHAT DIFFERENT IN SCOPE. LET ME

DISTR

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SPECIAL INSTRUCTIONS: DECLASSIFIED 101

RELEASER: TYPED NAME, TITLE, OFFICE SYMBOL AND PHONE: A.G. POKORNY, JR., LTC, XO, ATCG, 2816

SIGNATURE: [signature]

SECURITY CLASSIFICATION [redacted] DATE TIME GROUP 161513Z

DD FORM 1 DEC 68 173 REPLACES DD FORM 173, 1 JUL 66, WHICH WILL BE USED.

The William E. DePuy Papers (Classified Holdings). U.S. Army Military History Institute, Carlisle Barracks, PA.

JOINT MESSAGEFORM — DECLASSIFIED — SECURITY CLASSIFICATION [redacted]

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BOOK | MESSAGE HANDLING INSTRUCTIONS

FROM:

TO:

EXPLAIN THIS WAY:

a. A COMPANY OR BATTALION OCCUPYING BATTLE POSITION 1 COULD BE TOLD BY THE BATTALION OR BRIGADE COMMANDER TO INFLICT MAXIMUM LOSSES ON ENEMY ARMORED VEHICLES BUT TO WITHDRAW TO BATTLE POSITION 2 BEFORE THE ENEMY CLOSED ON BATTLE POSITION 1. THIS IS AN ATTRITION TYPE MISSION WITHIN THE CONCEPT.

b. THE COMPANY OR BATTALION COMMANDER COULD BE TOLD TO OCCUPY BATTLE POSITION 1 AND DEFEND, INFLICTING MAXIMUM CASUALTIES ON THE ENEMY AND BE PREPARED TO MOVE TO BATTLE POSITION 2 ON ORDER. THIS LEAVES THE RESPONSIBILITY FOR TIMING TO THE NEXT HIGHER COMMANDER, THAT IS BATTALION OR BRIGADE. IN SUCH A CASE, HE WOULD RELY ON TIMELY REPORTS FROM BATTLE POSITION 1 AS TO THE SITUATION, RATE OF APPROACH AND DISTANCE OF THE ENEMY.

c. IF SOME PIECE OF TERRAIN IS CRITICAL TO THE DEFENSE OF A SECTOR OR MAIN BATTLE AREA OR IF THE CONCEPT REQUIRES A BLOCKING POSITION TO HOLD SO THAT OTHER ELEMENTS COULD MANEUVER TO ITS FLANKS, THEN THE COMMANDER OF BATTLE POSITION 1 COULD BE ORDERED TO ESTABLISH A

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BOOK | MESSAGE HANDLING INSTRUCTIONS

FROM:

TO:

STRONGPOINT. IN THIS CASE, THE NEXT HIGHER COMMANDER WOULD EXPECT THE ENEMY TO PILE INTO BLOCKING POSITION 1 AND TO CLOSE WITH IT WITH HIS INFANTRY AND HE WOULD BE PREPARED FOR THE DIFFICULTY OF EXTRACTING THE FORCE ON BATTLE POSITION 1.

5. THUS, IN 100-5 AS IT IS NOW WRITTEN, THE STRONGPOINT IS A FULLY DEVELOPED, FULLY DUG IN, FULLY PROTECTED BATTLE POSITION WHICH IS EXPECTED TO STAY IN PLACE THROUGHOUT A PROLONGED ENGAGEMENT. THE GERMANS ARE VERY KEEN ABOUT THIS AND WE HAVE ONLY ADMONISHED THAT IT SHOULD NOT BE USED TOO OFTEN BECAUSE THE RISK OF LOSING THE DEFENDING FORCE IN A STRONGPOINT IS VERY HIGH IN THE EARLY STAGES OF A MASS ATTACK.

6. MORE AND MORE IT IS CLEAR TO ME THAT THE TOW MOUNTED ON THE M-113 MUST BE CONCEPTUALLY SEPARATED FROM THE MECHANIZED INFANTRY. BY THIS I MEAN THAT WHERE YOU PUT INFANTRY YOU DO NOT PUT THE TOW AND WHERE YOU PUT THE TOW YOU DO NOT PUT INFANTRY. THIS IS NOT TO SAY THAT TOW SECTIONS OR PLATOONS WILL NOT BE FOUND ON THE SAME BATTLE POSITION WITH INFANTRY, BUT RATHER THAT THE INFANTRY WILL BE OVER TOWARD THE

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BOOK | MESSAGE HANDLING INSTRUCTIONS

FROM:

TO:

WOODED APPROACH WHERE FIELDS OF FIRE ARE SHORT AND THE TERRAIN IS CHOPPED INTO SMALL COMPARTMENTS WHILE THE TOW WILL BE OVER ON THE OTHER SIDE OF THE BATTLE POSITION WHERE FIELDS OF FIRE ARE VERY LONG AND COMPARTMENTS ARE VERY LARGE. IN THE NEW ORGANIZATION OF THE ARMY, I AM TEMPTED TO CREATE A SEPARATE TOW COMPANY SIMPLY TO DRAMATIZE THE DIFFERENCE. BECAUSE THE TOW IS ASSIGNED TO INFANTRY BATTALIONS, IT HAS BEEN REGARDED AS AN INFANTRY WEAPON. THIS CAUSES IT TO BE GIVEN A KIND OF TAG-A-LONG STATUS. THE TYPICAL MECHANIZED BATTALION COMMANDER ATTACHES TOWS TO THE COMPANY TEAM AND THE COMPANY TEAM MAY PLACE THE TOWS WITH RIFLE PLATOONS. IN ALMOST ALL CASES, THIS DOES ONE OF TWO THINGS:

a. IT PUTS THE INFANTRY WHERE THEY SHOULD NOT BE AND WHERE THEY CAN ONLY CONTRIBUTE CASUALTIES, OR;

b. IT PUTS THE TOW WHERE IT SHOULD NOT BE WITH SHORT RANGE FIELDS OF FIRE.

7. THUS, WE NOW HAVE A NEW WEAPON ON THE BATTLEFIELD (WITH THE IMPROVED TOW VEHICLE IT WILL BE EVEN MORE VALUABLE) WHICH REPRESENTS

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BOOK | MESSAGE HANDLING INSTRUCTIONS

FROM:

TO:

THE THIRD MANEUVER ELEMENT, E.G. TANKS—INFANTRY—SELF-PROPELLED ATGM. I URGE YOU TO GIVE THIS CAREFUL THOUGHT AND AM CONFIDENT YOU WILL EMPHASIZE IT AMONGST YOUR MECHANIZED INFANTRYMEN WHO NEED HELP.

8. THANKS FOR YOUR HELP ON 100-5. I AM HOPING WE CAN GET IT OUT ON THE STREET IN THREE WEEKS WITHOUT FURTHER DIFFICULTIES, ADVERSE PUBLICITY, OR POLICY ISSUES. MY FINGERS ARE CROSSED. CHEERS.

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18

HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

8 Jul 1976

Dear Fred,

As I promised, I am sending you ten copies of Field Manual 100-5, by courier. I hope you like them and assume you will be making copies available to Secretary Hoffmann, the Secretary and Deputy Secretary of Defense, and others as you see fit. If you want more copies, ask your executive officer to call us and they will be on the way.

You asked me to provide a short statement on the significance of 100-5—or, in other words, "what is it". I have attached a Talking Paper on 100-5 to assist you in this respect.

Respectfully,

W. E. DePUY
General, United States Army
Commanding

General Fred C. Weyand
Chief of Staff
United States Army
Washington, D.C. 20310

The Wiliam E. DePuy Papers. Box: Transcripts and Diplomas. Folder: Field Manuals 100-5, 1974–1977. U.S. Army Military History Institute, Carlisle Barracks, PA.

TALKING PAPER ON FIELD MANUAL 100-5, OPERATIONS

Field Manual 100-5 is the Capstone of the series of Army field manuals which set forth the tactics and techniques with which the Army plans to fight on the modern, mechanized battlefield. All other "How to Fight" manuals derive their basis from 100-5. This field manual is unique in many respects:

-Its format has been modernized and its text simplified for easy understanding. It is replete with graphics and illustrations. (The change is more clear when it is compared with its predecessor)

-It focuses principally upon the mission of the United States Army in Western Europe as a part of NATO. The manual has this focus because the defense of NATO Europe has been assigned to the Army by the Department of Defense as its principal mission. Furthermore, Army organizations, weapons, and training systems are primarily derived from, or oriented toward Europe problems.

-It explains in substantial detail the growth, lethality, range, and capabilities of the various Army weapon systems in comparison with Soviet counterparts.

-It sets forth the tactics and techniques which are required to fight on the modern, highly lethal battlefield. It derives much of its substance through prolonged study of the Arab/Israeli War and continuing close, professional collaboration with the Israeli Army.

-It takes into account the fact that in Europe two American Corps are under operational command of an army group which also includes two German Corps. For this reason, the manual reflects the results of extensive collaboration with the High Command of the German Army, specifically for consistency and compatibility with the equivalent field manual of the German Army—100/100.

-It is written in recognition of the fact that the entire United States Army, from Private to General needs to focus on a form of combat in which the Army of today has had no battlefield experience. In a sense, this manual takes the Army out of the rice paddies of Vietnam and places it on the Western European battlefield against the Warsaw Pact. The manual is not exclusively directed toward NATO, as it comments on other types of operations and other contingencies. The principles set forth in the manual and associated tactics and techniques are applicable to any battlefield on which modern, mechanized forces are employed.

-It does not explain Soviet organization and tactics in any detail. However, in each derivative "How to Fight" manual, Soviet organization, weapons and tactics are described in exhaustive detail.

-It reflects two and one half years of close collaboration between TAC and TRADOC in developing tactics and techniques for fighting the air-land battle.

-It brings the intelligence process into sharp focus.

-It brings electronic warfare into the mainstream of combat action.

-FM 100-5 has been designed and written over a period of 3 years. All of the Army major commanders and their staffs have been involved. The Army Staff has reviewed and contributed. The bulk of the work has been done by Headquarters, TRADOC, the Combined Arms Center at Fort Leavenworth, and associated TRADOC Centers and Schools. Coordination with the major commands, Israelis, Germans and the Tactical Air Command was accomplished by TRADOC.

FM 100-5 has been designed to cover the period when the next generation of modern weapons will be absorbed into the Army. Unless there are unexpected weapon systems changes or substantial change in the configuration of the Warsaw Pact forces, this manual should provide adequate guidance for the Army for an extended period of time.

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

18 August 1976

Dear Bruce,

Your letter, written after your visit to Carlisle is, as usual, right to the point. The fact is, we do not train brigade, division, and corps commanders in the U. S. Army. We simply take a chance that an intelligent officer who has survived the promotion system must have some built-in intelligence and instincts which will make him an effective commander. This is, of course, mostly nonsense.

I don't prefer to wax philosophic, but I have to say that this disease is deeply rooted in our Army. I have often wondered how it ever got started. I have concluded that it stems from the fact that we achieved victory in World War II, generally speaking, without a high degree of professionalism in the fighting units. There were exceptions to this as, for instance, the 4th Armored Division and part of the 7th Armored Division, the 82nd and 101st, and on certain occasions, the 1st, 9th, etc. However, generally speaking, the national heroes of World War II were high-level staff officers and commanders such as Eisenhower, Bradley, Norstad, Gruenther, etc., down through Goodpaster, Bonesteel and the like. We ended the war feeling that the top people came from Fort Leavenworth, not from Fort Knox, or Fort Benning. The Officer Corps of the Army concluded that the interesting jobs were of a military/political nature and that the ultimate honor was to serve in something like the wartime OPD for General Marshall. As far as the fighting aspects, we would win each war by the weight of our effort and the superiority of our weapons, not by the skill of our leaders or the proficiency of our gunners.

Thus, over the years, we have loaded into our school system a lot of peripheral quasi-military subjects. When I arrived in TRADOC and first visited Fort Benning, I was told that there was no time on the curriculum for the Officer Basic Course to teach the construction of defensive positions for the individual soldier because such subjects as leadership, management, and motivation had taken precedence. In other words, we did not teach platoon leaders, but rather we taught "officers."

I have been working on this for 3 1/2 years and have made some, but only limited, progress. The war colleges are still operating on the political military level and do not produce brigade, division, or corps commanders. This is too bad. Leavenworth has been reoriented, but has not yet achieved the full dedication to division, brigade, and battalion operations which we seek. Many of the political military aspects have been purged from the system. I might add, my dear general, that there are dozens, perhaps hundreds, of middle and senior grade officers who flatly disagree with everything I have said in this letter.

The William E. DePuy Papers. Box 9: Correspondence, 1975–1976. Letters from General Clarke, 1976. Folder: Letters to/from Gen. Clarke (Ret), 1976. U.S. Army Military History Institute, Carlisle Barracks, PA.

During the next year, I hope to make proposals to my superiors which will, in fact, orient the Army War College, at least, more fully toward operational problems. The operation of a modern division or corps given modern weapons, intelligence collecting, technology, etc. is several orders of magnitude tougher than the corps of World War II. And yet, we spent less time teaching our colonels and generals how to run such a corps than did the Army of the 1930s. So again, you are correct in your analysis and I agree with it. I do not overestimate TRADOC's ability to solve the problem in any short period of time, but we are determined to go to work on it and, in fact, have pretty well turned Leavenworth around.

Thanks for your letter.

Respectfully,

W. E. DePUY
General, United States Army
Commanding

General Bruce C. Clarke
Route 2, Box 323
Palmyra, Virginia 22963

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

18 August 1976

Dear Fred,

I have just returned from a ten-day trip to Israel. My visit, in the company of four officers from my headquarters—Col Woodmansee, LTCs Pokorny and Wilder and Maj Reid, was the reciprocal of the Israeli visit to TRADOC last February and our three-day seminar at Fort Knox.

The primary purpose was to observe and discuss training. Inextricably intertwined with training are the techniques and tactics being taught and the weapons and organizations involved. In short, it is total involvement.

Before I highlight our principal findings and impressions, let me say that our hosts could not possibly have been more helpful, more hospitable, or more forthcoming. They laid open their Army to our inspection with no holds barred.

I shall furnish you and your staff a full and detailed report shortly, but let me summarize the scope of our visit. We were under the personal auspices of General Gur, the Chief of Staff. He met us the first and last day, entertained us, visited training while we were there, accompanied us to the Minister of Defense, and saw us off at a final reception. We were given tours of Sinai, Golan, and the West Bank personally conducted by the senior commanders on station. In the case of Golan, Gen Raful Eitan who fought the crucial opening phase of the 73 War as the resident division commander at the outbreak escorted us personally and gave us an incomparable explanation of action, terrain, and results. General Peled, Chief of the Armored Corps, was especially considerate and professionally impressive. He headed the Israeli delegation in February. We saw engineer, armor, infantry, and artillery training and visited the Officers School, the Infantry Sergeants School, the Artillery School, the Engineer School, the Armored Training Center and the Combined Arms Training Center where battalion level, live fire, exercises were conducted—we have nothing like this.

A word is necessary about the character of the Armed Forces in which the Army is central. (This is not to say that the Air Force is not also the pride of Israel). Israel is a country at war. At the moment, the guns are silent. Having been driven from their homes in ancient times (more than once), scattered, dispersed, persecuted, nearly exterminated, the Israeli people look upon their Army as a symbol as well as an instrument of their freedom, dignity, and survival. It is for this reason that there is no other army like it in the world—there probably never has been such an army. I recite this obvious fact because it is not possible to understand the Israeli Army from any other viewpoint.

The William E. DePuy Papers. Folder: Israel Trip. Command History Office. U.S. Army Training and Doctrine Command, Fort Monroe, VA.

The Army exists to defend the 3,000,000 Israelis against a coalition of over 100,000,000 Arabs. Their strategy is the offense. Their psyche is the attack. Their confidence in their qualitative superiority as individual soldiers and leaders is infinite. Their concern about the quantitative side of the problem and relative weapons effectiveness is constant and pervasive.

So much for background.

Leaders: The method by which the Israeli Army selects leaders has a major impact on its style. The sergeants are selected from among the best privates and the officers from among the best sergeants. There is no permanent NCO corps of any size. They depend on officers for almost everything, including the Entebbe raid. In a typical company of tanks, the most experienced and skillful platoon leader, tank commander, gunner, driver, loader, and mechanic would be the company commander. Battalion commanders, almost without exception, are officers who have distinguished themselves on the battlefield. From this base, the system progressively provides brigade, division, and corps commanders who are known throughout the Army and the nation for heroic battlefield exploits. Because of this, among other factors unknown, and perhaps unknowable, the personal relationships in the Army are direct, simple, unaffected, and businesslike.

Salutes are rarely exchanged. Caps are not worn but rather stuffed under shoulder loops by almost all members of the Army. Real authority stems from the general recognition that leaders have earned and demonstrated their right to lead—they are not merely appointed.

Engineers: We were taken to observe Engineer training in the Judaean Desert by Gen Golan, the new Chief of Engineers. Our escort throughout the entire visit was Gen Ben Dov, the outgoing Chief of Engineers. The Israeli Engineers build fortifications, roads, strongpoints, etc., but the main impression they convey is that of battlefield sappers. All engineers, including officers, are trained first as infantry.

The Israelis have no use for our mine plow. To put it bluntly—it doesn't work. They are trying to reproduce the Russian rollers. They have had trouble producing tough enough steel. I will ask DARCOM to conduct reverse engineering of the Russian roller as a matter of urgency. The availability of at least one set of rollers per company is essential if we are to move on the battlefield. Some form of snow-plow or comb will be required to clear scatterable mines on the surface. We will move on this with DARCOM.

Because of the offensive doctrine of the Army, we were shown engineers breaching minefields, bridging gaps, and eliminating obstacles. We know that they also lay mines and create obstacles. Their operations closely accord with the U. S./German emphasis on mobility/countermobility operations.

They have jury-rigged a family of three, rocket launched explosive chains to clear mines (a small backpack version, a wheeled medium design, and one track mounted). They also include a practical set of gap marking lights and devices which combine into a standardized breaching procedure for infantry alone, engineers alone, or a combination. We must build some quick-fix battlefield rocket systems and press on with SLUFAE. The rockets must be employed from close distances—50 to 150 meters. They have a foam rubber mattress to walk over AP mines, but it hasn't been used in combat. We will test it or something like it.

Incidentally, they have been laying our AT mines of Korean War vintage and believe that at least 30% are ineffective at the time of laying and 50% after 6 months in the ground.

Armor: The two elite branches of the Army are the parachute troops and the tank units. They both enjoy priority for top quality personnel. Israeli tankers, tank commanders and armor officers are trained for much longer periods than their counterparts in the U. S. Army:

	BASIC	DRIVER/LOADER/GUNNER	TC	LT	TOTAL	
					NCO	OFF
U. S.	1 1/2	1 1/2	0	3	3	3
Israeli	3	3	4	3	10	13

You will note that the Israeli armor officer (LT) is in training in armor school for 13 months. In addition, he has 3 months in basic officer school, at least 2 months of experience in a unit as a gunner, driver, or loader, and at least 3 months as a tank commander. Our armor officers receive only 3 months at Fort Knox.

It may be appropriate at this point to emphasize that the Israeli Army trains its soldiers, sergeants, and officers. It does not educate them. There are no frills. In the officers course 70% of the instruction is in the field in a unit with weapons and equipment. This is true even though their officers have *not* been to college or a university. They are, on the average, 19 years old. College comes after service as a lieutenant. We will ask that Gen Kalergis address all these problems in the Total Tank Study.

The Israelis have a large set of drills for tank crews ranging from "fire drills" and "wounded crewman evacuation drills" to "platoon gunnery drills." We have few of these and we are not serious about the ones we have—they are! I will send an officer from Fort Knox to observe and develop the drills for us. We will, in time, translate the Hebrew documents.

General Peled showed us field training exercises from individual tank to company level. I am pleased to report that the tactics and techniques used in the company attack—a tank company with a mechanized platoon attached—were identical with our doctrine expressed in 100-5, 71-2 (Bn Task Force) and 71-1 (Tank/Mech Company Team).

General Tal, the Deputy Minister of Defense, showed us the new tank that he had designed. It has 100 or more innovations based upon lessons learned. This tank has been reported on in detail to you, so I will not repeat. The "concept" of the tank, however, may not be understood. The Israelis know, as we know, that an army must be able to move on the battlefield. It must be able to attack and counterattack, or it will lose. General Tal includes protection in the mobility equation on the premise that inadequately protected tanks will lose mobility as they will not be used aggressively on the battlefield. To provide protection, he has put the engine and other accessories in front and the crew in the back. He has also put fuel and ancillary equipment—batteries, filters, etc.—in the spaces of the armor.

The Israelis are not impressed with our decision to go to a 120mm gun. Incidentally, because of smoke, dust, fires, and associated obscuration, most of their tank engagements on the Golan occurred at ranges between 500 and 1500 yards.

They are wedded to their 3 tank platoon, 11 tank company and 33 tank battalion. Their only major objection to our reorganization scheme is the idea of a five battalion brigade. They say that four is the limit and that three is best.

The Israelis put less emphasis than we do on firing fast or firing first. Part of this comes from the use of the Centurion which has no range finder. They use an artillery bracket system rather than burst-on-target which assumes a first round close to target. They assume a target hit in 3 to 5 rounds. With the range finder, they expect to hit on the average with one or two fewer rounds.

Their tank exercises take place in the Sinai and Negev. They move 5 to 20 kilometers (platoon to battalion)—firing all the way. We have no ranges in the U. S. which will permit this. Even Suffield (British) and Shiloh (German) in Canada are not comparable. We will soon be making comprehensive recommendations in this respect. This problem must also be addressed by General Kalergis.

Infantry: General Shomron, Chief of Infantry, escorted us to the Infantry Training Center on the flanks of Mount Carmel. Shomron led the raid to Entebbe. He attributes success to two factors. The first was complete surprise, and the second the fact that his force was composed mostly of officers—personally selected by him.

The infantry places great emphasis on tank killer teams. Each team carries at least one RPG-7 with 8 rounds, 4 to 6 LAW, and 10 or 12 Belgian antitank grenades which can be fired from any rifle. If possible, they also include a Dragon. They vastly prefer the RPG-7 over the LAW. I hope the ILAW lives up to its prognosis.

The most impressive infantry training falls in an area we have largely neglected. At the Infantry Sergeants School we saw training in the attack of built-up areas (villages). The exercise was the most realistic and professional I have ever seen. Later, at the Officers School in the Negev, we saw the attack of fortified positions which was equally meticulous and completely realistic. When I say realistic, I mean full automatic weapons fire in close mutual support (inches to feet), RPGs, LAWs, rifle grenades and hand grenades were used throughout. We have brought back particulars on the techniques which are standard throughout the Israeli Army. I believe the 82nd Airborne and the 101st Air Assault should be given the first opportunity to develop this. We should then give priority to those other units of the Army that might find themselves in a contingency operation. The strongpoints reflect Soviet doctrine. The Infantry School will, of course, begin to teach these techniques.

The proper employment of large mechanized infantry formations (e.g. brigades) is a problem for the Israelis just as it is for us. Their employment of mechanized infantry companies organic to tank battalions is quite properly to support the tank. However, in the desert, it is especially difficult to employ large formations of mechanized infantry because of the exposure of the armored infantry vehicles and the absence of forests and close cover. The parachute brigades are the elite infantry and have been given first priority for the M113. The Israelis have organized the TOW into separate companies as we propose to do in the division restructuring study.

The Israeli strongpoints along the Golan border are impressive. We plan to draw heavily on their concept for our strongpoints within the active defense. They do not contemplate putting ATGM into the strongpoints at this time. This is probably a function of availability as much as concept. In the long run, it is inevitable that they will do so.

Artillery: There are no especially interesting differences between Israeli and U. S. artillery. We are in no way behind them in techniques, while we lead in emphasis on firing fast, using computers, and the number of guns per battery. However, their 4 gun battery leads to our consideration of a two platoon, 8-gun battery—low vulnerability, sustained fire when receiving counter-battery fire, etc.

Aviation: We found some deeply ingrained reservations about the use of helicopters. There was much misunderstanding and understandable confusion about our concepts stemming in large part from our terminology.

1st Cavalry Division = Armored Division
Air Cavalry Combat Brigade = Attack Helicopters and Cavalry
Attack Helicopters = Antitank Helicopters
Air Assault = Air Mobile
Air Cavalry = Reconnaissance

No wonder they didn't understand us. They are warm to the idea of antitank helicopters. They are newly willing to consider air cavalry (reconnaissance). They are wary of air mobile operations near the front as they shot down a number of Egyptian troop carrying helicopters.

Air Support: We talked with General B. Peled (IAF) and his staff. They are convinced that ARM missiles will take care of the radar dependent, surface-to-air missiles. They feel that they can penetrate the forward air defense belt at high speed, low level and then operate in the rear from altitudes of approximately 6,000 feet. Coordination of the air/land battle takes place at JOC's at front headquarters—North, Central and Sinai. My own view is that there is much serious work still to be done in this area—such as joint air defense suppression.

General Peled is not enthusiastic about attack helicopters or air cavalry, but some members of his staff are more interested. He has observed our difficulties in getting a remotely piloted vehicle (RPV) to fly and has begun developing his own. He is complimentary of the HAWK system, but we did not discuss air defense much more than that.

Command and Control: General Gur puts secure, unjammable communications at the top of his list right beside real time information on enemy location, movement, etc. They are beginning to believe—as we are—that the corps headquarters may require too much communications equipment and ADP to be very mobile. Perhaps it should be hardened.

Force Structure: The small size of the standing Army (85,000) is backed up by an extensive reserve system, which extends to the "active" units. For example, in some active tank battalions, the mechanized infantry companies are reserves; the maintenance battalion in each active division is also a reserve unit and shows up when the war starts.

Women enter the army at age 18, but only serve for two years, not three like the men. They are not fighters; their role is to do jobs (secretarial, switchboard, social welfare, etc.) that release men for more military oriented jobs. They have not opened up nearly the number of jobs to women that we have.

US/IDF Closer Cooperation: There is a lot we can learn from the Israeli Army; they are very advanced in their tactical fighting ability—and they should be. There is also a lot we can do for them with our extensive combat developments and testing community. They are eager to pursue closer cooperation with us, and I strongly endorse it. We have been working together in data

exchange agreements and through our ISA/ACSI/DARCOM channels. We must now pursue greater exchange at the user level. The establishment of an Israeli Liaison Officer at TCATA is highly desirable.

High-Impact, Quick-Fix Equipment: In our travels and discussions, we observed many items of equipment we need now and which would increase the combat readiness of our fighting forces at low cost. We will move out as soon as possible with DARCOM on the eleven listed below:

1. Nomex Uniform for Tankers. A one-piece coverall complete with gloves and a handle across the shoulders to aid in extracting injured crewmen. We have a number of similar Nomex uniforms for pilots in warehouses. Fort Knox is checking to see if they are what we want—if not, we will ask for new procurement.

2. Directional Gyro or Compass for Combat Vehicles. We need a simple compass or gyro to give us fairly accurate (±3 degrees) readings to aid principally in night navigation.

3. Tank Mine Roller Breaching System. A roller and small scraper attached to the front of a tank with a Bangalore dispenser, ground markers, and light system to clear and to mark a path through a minefield. Our people have been working with a plow which only works in certain types of soil and terrain.

4. TC Periscope with Zoom. We now have technology to provide our TC or gunner with optics that can zoom (using a foot pedal or button) from one power (for ease of target hand-off within the crew) to 20X (for accuracy and static target acquisition).

5. M113 Exhaust Deflector. Reduces IR signature and cuts down diesel "plume."

6. M113 Equipment Racks. Provides outside space for crew gear, ammo, auxiliary equipment and provides stand-off for enemy HEAT rounds.

7. Improved Load Bearing Equipment. We brought back a harness which offers improvements in load distribution and comfort.

8. Steel Helmet Strap. The Israeli helmet strap is cheap, and keeps the helmet secure on the head despite the most rigorous activity of the soldier. Our Airborne chin strap with the neck strap may be the answer, but we need this for all of our infantrymen and scouts.

9. Leather Wrist Bracelet for Codes. We need to reduce the complexity of the CEOI to a form which can be extracted for use on a wrist bracelet for combat commanders down to the platoon level. This will preclude fumbling through a cumbersome CEOI and other codes. There is no way to be fast and agile on the battlefield while thumbing through an encyclopedia.

10. Line Charge Projection System. A man-packed, rocket propelled, string of explosives to blow a clear path through minefields. This is similar to the Israeli VIPER countermine system.

11. MOBA Training Village. A full scale, simulated village constructed of special concrete for live-fire MOBA training. We will build the first ones at Fort Benning and Grafenwoehr to establish construction specifications and refine our doctrine. Later, we will build others at division posts.

Army Attache Office. Our attache in Israel is the right man in the right job. Before assuming this post, Colonel Bruce Williams was the chief of the WSEG Task Force which did the most useful and perceptive reporting on data and lessons learned of the 73 War. The Israelis show

obvious respect and affection for him. We could not have made a better choice for that job. He did a superb job in coordinating our visit to Israel.

Respectfully,

W. E. DePUY
General, United States Army
Commanding

General Fred C. Weyand
Chief of Staff
United States Army
Washington, D. C. 20310

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

20 October 1976

MEMORANDUM FOR: SMA WILLIAM G. BAINBRIDGE, SERGEANT MAJOR OF THE ARMY
CSM JOHN F. LaVOIE, TRADOC COMMAND SERGEANT MAJOR

SUBJECT: The Noncommissioned Officer Corps—The Soldier's Manual and the SQT

1. For several years, the three of us have been working on the subject of the responsibilities of the senior noncommissioned officers, particularly the command sergeants major. I recently sent a recommendation to the Chief of Staff to publish the revised Army Regulations bearing on those responsibilities.

2. The Sergeants Major Academy has been working for sometime on a package of instruction for the Noncommissioned Officer Education System courses and for the officer basic and advanced courses as well. This package of instruction needs additional work. In particular, we must see to it that NCOES develops leaders committed to training their followers.

3. The introduction of the Soldier's Manuals and the SQT's into the force at this time is fortuitous. Let me explain. The primary role of the NCO is as a first-line supervisor or commander of soldiers. I speak here, of course, of squad leaders, chiefs of firing sections, team leaders, scout section leaders, motor sergeants, etc. Over the years, the NCO corps has expanded to include the platoon sergeant, the first sergeant, and the command sergeant major. Much has been written about the roles and missions of these higher echelons in the NCO corps. Let us take each in turn:

a. The platoon sergeant is, in fact, the deputy commander of the platoon. He must take command in the absence of the platoon leader and should be able to accomplish battle or administrative missions. His skills should be essentially equal to those of the platoon leader. At all times, in peace or in war, the platoon sergeant is responsible for seeing that the first-line supervisors are doing their jobs within the scope of the platoon's mission.

b. The position of the first sergeant has evolved into that of an administrator, yet he remains involved in troop leading. He seems to divide his time between acting as an assistant executive officer and supervising the performance of duty of the NCOs, down to and including the first-line supervisors. For the betterment of the Army, we must insure that the first sergeant concentrates his energies in the second area rather than the first.

The William E. DePuy Papers. Box 9: Correspondence, 1975–1976. Letters from General Clarke, 1976. Folder: B. U.S. Army Military History Institute, Carlisle Barracks, PA.

c. The command sergeant major is, therefore, a first sergeant (+). One of the greatest challenges we face is that of harnessing the experience and competence of the unit's senior soldier by making him less of a tag-along adviser to the commander and more of a principal trainer of NCO supervisors.

4. When we speak about the performance of first-line supervisors, we come to the central role of the NCO, and we enter an arena in which the Soldier's Manual and the SQT will play a large and ever-increasing role. First-line supervisors have two responsibilities. The first is to accomplish assigned group or collective missions as, for instance, those given to squad, tank crew, or artillery section. The second is to supervise the training of the individual soldiers in that squad, section, or crew. This last task should be almost an exclusive responsibility of the first-line supervisors under the direction of and with the support of platoon sergeants, first sergeants, and command sergeants major. As you, SMA Bainbridge, so aptly stated in your recent Army article, "The goal of the corps of NCOs, whose duty is the day-to-day business of running the Army so the officer corps has time to command it, is to continue to improve our Army at every turn."

5. The officers of the Army are oriented toward collective training and the unit's operational mission. Even the job description of the officer points clearly in this direction—e.g., "platoon leader" or "company commander." Some officers assume incorrectly that the soldiers they receive from the training base are thoroughly trained as individuals in every aspect of their duties. This is not true, and would not be so even if we did not have turbulence, MOS mismatches, and sudden changes of assignment. In the Army of 1939 and before, new soldiers joining companies, batteries, or troops went through a period of training under the supervision of the NCOs before they were allowed to join their squads, sections, or crews. As the skills required of a soldier have increased in number and complexity, the Army has relied more upon centralized, institutionalized training for this purpose. Such training is best geared to one year battle zone tours, and can never cope with the differences of experience among individuals, the forgetting curve, the malassignments and changes of unit orders, and the inherent limitations on institutional training.

6. The time has come to put the NCO corps back to work on its vital responsibility for training young soldiers, and to do so clearly and unequivocally. The time is right because we can now define soldier jobs, and tell NCOs what standards to apply to performance, and where to find the wherewithal for training. The tools NCOs need for the successful discharge of this mission are now being distributed in the form of Soldier's Manuals. It should be understood by every command sergeant major, every first sergeant, every platoon sergeant, and every first-line NCO supervisor that he is personally responsible for the individual training of every soldier within his span of responsibility and control, and that he must train each to the standards set forth in the Soldier's Manuals for the skill level in which the soldier now serves. Moreover, he should see to it that the soldier trains toward earning the next higher skill level. It is true that some of this training will require the use of resources which lie beyond the immediate grasp of the first-line supervisor. He will need access to his soldiers, and time for training and evaluation. He may need TEC devices, a training area, equipment, or ammunition. To the extent that these resources are required, to that same extent the company, battery, or troop commander, and sometimes even the battalion commander, must provide support. Nonetheless, the thrust must come from the NCO. The NCO corps must seize this opportunity.

7. It will be argued that there is no longer time for such activities. I have heard it said by senior NCOs that the troops now live off post and there is no barracks time—no time around the

campfire, no Saturday mornings, etc. This may be true, but scheduled time is not relevant to the issue at hand. Every sergeant major, first sergeant, platoon sergeant, and squad leader knows that, while the battalion and company commanders and other troop officers may be busy, there are large gaps, long boring interludes, in the life of the soldier himself. How often have we heard about the problem of training an understrength platoon depleted by leave, school, guard, detail, SD, or TDY. In many cases, the conventional response is to send the remainder to the motor pool for "maintenance." How often have we seen troops in the field or on the range sitting around waiting for the next move in the major business of the day? It is during such interludes that the training of individuals should take place. If NCOs seek it out, there is ample time for individual training.

8. The NCO corps will need to become accustomed to this responsibility, and to find the opportunities, the cracks of time, that add up to the boring interludes which are the lot of most soldiers day in and day out, all year long. The worst thing that could happen would be to cause divisions, brigades or battalions to schedule work with Soldier's Manuals in preparation for SQT, only at certain times each year. Individual training should be a continuous year-round effort. Every first-line supervisor should know exactly which skills his men possess and which they do not. He can find out by testing to Soldier's Manual standards. He should have a plan for overcoming the deficiencies he uncovers. The SQT, when it comes, is the payoff for both the NCO and the soldier. In short, the Soldier's Manual—SQT is a training program for soldiers conducted by the NCOs, and continuing throughout the soldier's service in the thousands of intervals of time which are now informally available, plus the few which can be scheduled when resources or special effort are required. It is a training program tailored for NCOs, whereby the NCO can personally make a direct contribution to readiness, can restore challenge to soldier life, and can develop motivated, fully proficient individuals, capable of performing in squads, teams, crews, or sections as confident, competent professional soldiers.

9. I do not underestimate the difficulty of bringing either officers or NCOs to accept this division of labor. We are speaking about a cultural change in the Army which cannot be solved by issuing preemptory orders from DA, TRADOC or FORSCOM. Acceptance will entail an educational process. You and the Sergeants Major of USAREUR, FORSCOM, and Eighth Army should begin to travel throughout the Army to explain this concept to the NCOs in every corps, division, school, and training center. If several of you would travel together—so much the better. I assure you that a major effort is necessary, and I tell you that no change will occur within the foreseeable future without special efforts. I intend, simultaneously, to work from the senior commanders down. In this respect, you may be sure we are proceeding in accordance with priorities and strong beliefs of the Chief of Staff of the Army.

W. E. DePUY
General, United States Army
Commanding

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

ATCG

18 March 1977

Dear Fritz,

Your note to me in response to my sending you a copy of the letter from Bob Dixon to the Chief of Staff of the Air Force, prompts me to go further into the subject.

I think I understand the sensitivity and the complexity of the issue between the Army and the Air Force regarding command and control, planning and coordination of the air/land battle. It all starts with a long standing (historic) Air Force concern about the central control of air power. Given the cost of Air Force aircraft such as the F-15, there is no substitute for central control. Starting back in World War II and continuing to this day, the Air Force is sensitive about any arrangement which would seem to intrude upon that basic concept.

There are many manifestations of this sensitivity. One of them has to do with the relationship between the Air Force Component Commander and the staff of the Unified or Joint Task Force Commander. In actual operations, the J3 of the Joint Commander deals with the Air Force Component Commander through the Tactical Air Control Center. Historically, this has made the Air Force nervous. The Air Force would prefer to coordinate the air/land battle directly between the Air Force Component Commander and an Army Component Commander below the level of the Joint Commander and certainly below the level of the Joint Staff.

For this reason most REDCOM (STRICOM) exercises provide both an Air Force Component Commander and an Army Component Commander.

From the standpoint of the Army, the Army Component Commander is an awkward and usually unrealistic arrangement. In Vietnam an effort was once made to establish an Army Component Commander between MACV Headquarters and the corps level Field Forces. This was rejected out-of-hand because the Commander of MACV personally wished to control the complicated political military operations of the Field Forces working with the Vietnamese allies and indeed Koreans, Australians, etc. Therefore, the Army Component Commander in Vietnam became an administrative and logistic commander only. In Europe today, the Army Component Commander disappears in an operational context the minute the war starts.

As you pointed out in your letter, it may well be that a US Army Corps Commander will be the Joint Task Force Commander. If this is true, then there would be no problem because the Army operational commander could deal directly with the Air Force deputy (Component Commander) and the TACC which is the instrument and extension of the Air Force Component Commander.

The William E. DePuy Papers. Folder: Miscellaneous Correspondence. Command History Office. U.S. Army Training and Doctrine Command, Fort Monroe, VA.

ATCG

The real problem which has plagued the Army and should plague it even more as days go by, is to provide a place, procedure and mechanism to coordinate the air/land battle at the operational level. In the case of the Army, this is Corps. In the case of the Air Force, it is the Component Commander through the TACC. At the present time we have not refined the organizational procedures or communication mechanisms to do this job well at the Corps/TACC level. This project, however, is well underway, as you know.

The only solution is for the Air Force to put an element of the TACC with each Corps and delegate to it certain planning responsibilities and operational coordination authority. It is for this reason, it seems to me, that the TACE must be the agency of the TACC and "be" one-half of the interface—rather than be the property of the Corps Commander.

One of the worries in the Air Force is that centralized control of air assets is in potential conflict with decentralized planning at corps or multiple corps level. In other words, an allocation of fighter assets to a Fifth Corps operation and integrated into a Corps air/land battle plan could be withdrawn at the last moment to meet an emergency elsewhere. The Army must live with this. If air support was absolutely critical to success then the operation might be postponed or its scope modified.

As Bob Dixon so clearly stated, the Army must learn to live (and I think has learned to live) with the allocation authority usually invested at a command level above Corps most often a Joint Task Force, a combined Army group or a coalition group as in the higher echelons of NATO.

I would think it would be more realistic in REDCOM exercises to eliminate the Army Component Commander in all or almost all exercises except those in which the Corps Commander is also the Joint Task Force Commander and also the Army Component Commander. I see no reason to continue with exercises which do not reflect the realistic arrangements we have seen on battlefields of the past and surely will see on battlefields of the future. If JCS pubs are in the way, they should be changed.

This is a long harangue to tell you what you already know, but it is an effort to further flush out an issue which needs to be addressed certainly in the REDCOM arena and possibly in contingency planning.

Sincerely,

W. E. DePUY
General, United States Army
Commanding

General Frederick J. Kroesen
Commanding General
US Army Forces Command
Fort McPherson, Georgia 30330

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

24 March 1977

Dear Dutch,

At the Commanders' meeting in Washington in November, I expressed some reservations about the necessity for a set of objectives which would represent the policies and priorities of the Chief of Staff. I was wrong. We do need such objectives.

They must do justice to the importance of the Army, the urgency of the times, and the quality of the Army's analysis of the threats and opportunities which face us.

As to the urgency of our times, the next ten years are critical for the Army. We are playing catch-up on modernization, having missed one generation of modernization during the Vietnam War—modernization in weapons and equipment—modernization in tactics and techniques—modernization in training methodology and effectiveness. We simply must not let anything or anybody interfere with the development, procurement and fielding of our proposed new equipment. Then we must organize around it, and train up to its full potential, while finding and developing personnel qualified to employ, operate, maintain and supply that equipment.

Preparing for war is the only justification for a large peacetime army. The US Army has gone to war roughly every twenty years since the beginning of the Twentieth Century—and at least as often in the Nineteenth Century. Today, with our national interests more deeply than ever involved in Europe, in the Middle East, and in North Asia, we are confronted by powers with interests inimical to ours, possessing armed forces of truly unprecedented reach and striking power. There has been a revolution in weaponry measured in terms of range and lethality, coupled with amazing advances in target acquisition and night vision. These modern weapons have found their way into the hands of dozens of sovereign states, both large and small, responsible and irresponsible; many antagonistic to the United States. It is in this context that the Army should set its objectives.

Title 10 of the US Code decrees explicitly that the mission of the US Army is to organize, train, and equip forces for sustained combat on land (and support them throughout). Implicit in this charge is the requirement to fight and win battles, from the first to the last. Hence, we must both develop and sustain current readiness while pressing ahead with total modernization.

We will surely fight outnumbered if the war starts in Europe and we will almost certainly be outnumbered at the beginning of any contingency. Therefore, an EFFECTIVENESS EDGE is an absolute requirement for the USA—that is, an edge over the Warsaw Pact or any combination

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The William E. DePuy Papers. Folder: Correspondence, 1973–1977. Command History Office. U.S. Army Training and Doctrine Command, Fort Monroe, VA.

of lesser states. Another way to describe an EFFECTIVENESS EDGE would be current readiness plus:

Better equipment

Better organization

Better tactics

Better training

Better support

Better morale

Better soldiers

Having said all this, I would break out the objectives of the Chief of Staff in format and content generally as follows—

TOTAL ARMY GOALS

While achieving current readiness goals, the Army will aggressively go after:

Better equipment.

-The Army must acquire the new generation of weapons and equipment which can finish development and enter the force between now and 1985. The Army must organize a vigorous campaign to explain the combat utility and cost effectiveness of those weapons and that equipment vis-a-vis the threat, our own tactics and techniques, and all reasonable alternatives. Those crucial weapons systems include, as a minimum, the following major contributors to combat effectiveness:

XM1	ITV	Roland
MICV (TBAT)	TACFIRE	GSRS
Patriot	TPQ 37	SOTAS
AAH (Hellfire)	CLGP	EW Set
UTTAS	FASCAM	RPV

(Army Staff to refine)

-Product improve the equipment now in the hands of troop units when the pay-off is high.

-Achieve increases in the research and development and procurement budgets which will finish development and introduce these weapons into that part of the force which would fight in Europe in the first 60 days of a war by the end of the FY __ Funded Delivery Period. (DA Staff to fill out year-by-year research and development and procurement program amounts.)

Better organization.

-By the time the influx of new and better equipment finds its way into the operating forces of the Army, the combat and support organizations must be optimized to receive and fully exploit those weapons and that equipment.

-The schedule for design, test, evaluation, and decision-making now associated with the Division Restructuring Study must be adhered to. Any additional alternatives or excursions must be accommodated within the current schedule. (The DA Staff may wish to establish sub-tasks or staff and command action.)

Better tactics.

-Although the doctrine—that is the tactics and techniques set forth in FM 100-5, 71-100, 71-2, and 71-1, and other supporting manuals—are still appropriate in principle, the Army must set as an objective the alignment of its tactical doctrine with any changes made in organization or weapons system capabilities.

-The major tactical commands must participate with TRADOC in the development and refinement of doctrine through tests and experiments.

Better training.

-Individual training techniques, both in institutions and in units, must be made more effective and more efficient considering the increased capability of weapons, and the potential of the human material available and the increased cost of training in terms of money and time. In short, the soldier must be trained up to the weapons or equipment which he mans or operates in a shorter period of time at tolerable costs in time and money.

-Crews must also be trained to achieve the full effectiveness of their systems.

-Units must be trained in the tactical application of their weapons and equipment within the framework of the organizations to which they are assigned. Units must be trained to the high performance standards set forth in ARTEPs and associated operational readiness tasks within the tolerable limits of space, time, and cost. Units must train as they will fight.

-In order to conserve training time and cost and minimize interference with individual training on complex weapons, all tactical exercises from company through division should be preceded by war games, map exercises or other simulations, then by tactical exercises without troops, and finally, field training exercises with troops.

-Live fire exercises will be conducted through maneuver company at posts, camps, and stations in the US and major training areas in Europe and Korea. Maneuver battalion combined arms live fire exercises will be conducted at least bi-annually at national ranges in the US (mounted units in the Fort Irwin area and light infantry units in the Fort Stewart area).

-Economies in training costs vis-a-vis training output will be achieved through greater reliance on one station unit training, self-pacing, and a wide range of training support systems for unit commanders.

Better support.

-Although the new generation of weapons and equipment has inherently greater capabilities and effectiveness, these increases depend directly upon supply and maintenance support within the field army and extending back into the Continental United States.

-Increasing battlefield effectiveness is known to depend upon total systems effectiveness and management, to include, not only the weapon, but also the operators and the methods by which they are trained, the training of the tactical units in which they are embedded, and the maintenance

and supply systems which support them. The maintenance and supply systems include support and test equipment, and the associated training of logistical managers, supervisors, mechanics, repairmen, and supply specialists.

-For those major systems such as the tank, the surface-to-air missile and army aircraft there will be established total systems management within the DA by (date) (fruition of the Kalergis study). Additional systems will be brought under total systems management as necessary.

-As a first step toward synchronizing force structure, readiness targets, deployment schedules, and replacements for combat personnel losses, it will first be necessary to reconstitute and properly position war reserves*:

By end of 197_ FDP - _ days of balanced stocks for European short warning.

By end of 198_ FDP - _ days of balanced stocks for European short warning.

By end of 198_ FDP - _ days of balanced stocks for European short warning.

*155mm artillery ammunition, tank ammunition, tanks, antitank missiles (plus others selected by Army Staff).

Better morale.

-By better leadership through a higher state of training, and through greater attention to the soldier operator, soldier repairman, soldier specialist, a state must be achieved within the Army in which the soldiers not only know what to do and how to do it, but additionally, are motivated so they want to do it.

-That aspect of leadership which involves team building toward the objective of unit effectiveness through the application of organizational effectiveness techniques will be the subject of intensive instruction in service schools and in units and its successful application will be the concern of commanders at every echelon.

-Programs of soldier support, family support, financial security, and pride of service will be initiated, modernized, elaborated, and supported by the DA and all commands.

Better soldiers and leaders.

-The quality of soldiers brought into the Army must keep pace with the qualifications required to operate and employ the oncoming generation of new weapons and the increased demands of modern war.

-(DA Staff set recruiting/retention goals by quality category.)

-Determine percentage of officers and NCOs required to man, supervise and employ the new generation of modern weapons and gain both support and authority from OSD and Congress to procure, train and retain whatever is needed.

-Optimize the use of women who meet job standards.

-Raise ROTC quality even further.

Needless to say, this is a big order. Underneath it all must be a well-managed Army. Much can still be done in extending program management more effectively down into the commands. You may wish to set a goal in that respect.

All of this is Total Force—One Army.

I hope this has some value.

Respectfully and warmly,

W. E. DePUY
General, United States Army
Commanding

General Walter T. Kerwin, Jr.
Vice Chief of Staff
United States Army
Washington, D.C. 20310

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

27 April 1977

Dear Bernie,

At a recent General Officers' Workshop on coordinated offensive employment of divisions in a corps attack, it became clear that we need to concentrate more teaching effort on corps and division staff officers. The problem we were wrestling with at the workshop employed a corps with three divisions attacking through the defensive positions of another division. The planning, control, and coordination requirements are mammoth—and they must be done right, in a very short period of time, if the attack is to succeed.

The corps staff is the focal point for planning and controlling the vast number of vehicles over limited road nets, the claimants for assembly areas, the timing of concentrating forces, initial resupply, movement of engineers, massing of artillery for the initial fires, and a host of other requirements. If we're going to be successful in massing the corps' combat power to rupture an enemy defense quickly, we need well-trained corps G3's and G4's and division G3's and G4's who understand detailed planning for employing major forces.

It is also apparent that the division chief of staff must play a more operational role in the future rather than the administrative role that has evolved over the past several years. He must now be reinserted as the key operator for pulling together the staff planning phases of corps and division operations, and then be able to handle the myriad of hourly decisions on road net priorities, traffic control, assembly area priorities, and combat service support timing. In short, all the things that need a constant, on-the-scene executive for decisions in the corps TOC which should not fall to the lot of the commander himself, devolve on the Chief of Staff.

We are not now teaching our lieutenant colonels and colonels how to become corps staff officers and chiefs of staff. Fort Leavenworth concentrates on brigade and division operations. The senior service colleges focus principally on national and strategic matters. What we need is a coordinated, well-conceived, progressive military education plan that instructs majors and lieutenant colonels in division staff procedures—especially G3 and G4 work in the framework of a corps effort. Leavenworth does some of that now. Then, at the War College we ought to teach corps G3's and G4's how to do their jobs, and prepare the 05's and 06's for duties as chiefs of staff at division and corps level.

I don't think it would require a complete revamping of the curricula at either Leavenworth or Carlisle to do what needs to be accomplished. But there needs to be a coordinated task analysis of duties to be performed, a determination of what should be taught at what levels, and then POI's

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designed to accomplish the training requirements. If you approve of this concept, which I think is a very critical need, I'll have a plan prepared with implementing documents for your approval so that it can be started at Leavenworth and Carlisle. I'm convinced we have a void. It's equally certain that if we don't fill the empty space, our divisions and corps will not be as effective as they'll need to be.

Warmly and respectfully,

W. E. DePUY
General, United States Army
Commanding

General Bernard W. Rogers
Chief of Staff
United States Army
Washington, D. C. 20310

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HEADQUARTERS
UNITED STATES ARMY TRAINING AND DOCTRINE COMMAND
OFFICE OF THE COMMANDING GENERAL
FORT MONROE, VIRGINIA 23651

10 May 1977

Dear Bernie,

This may be the most important letter I have written to you. It has to do with training the officer corps. This is a subject to which, I know, you have given much thought.

When, 4 years ago, I came to TRADOC, the concept of officer training seemed vague and elusive. The relationships between what was taught in ROTC, OCS, and the military academy and that which is taught in officer basic courses were loose to say the least.

Additionally, there is some difference of opinion on whether or not officers should be trained — or whether they should be educated on a higher and broader plane. This thought lies at the heart of the "whole man concept" in vogue in the early sixties and involving larger advanced courses with individual electives.

Over the year the growth of management science, behavioral science, academic electives and the complexities and import of personnel, logistics and ADP management have crowded tactical and technical training into a smaller share of available time.

In the British, German, and Israeli Armies the basic officer is subjected to much more intensive and prolonged tactical and technical training.

	Ratio of Training Time		
	British/US	*German/US	**Israeli/US
Tank gunnery	3/1	9.25/1	4.75/1
Tank driving and automotives	2.5/1	3.25/1	11.25/1
Armor Commo Course	6/1	1/1	***
Tactical exercises	1/1	3/1	7.25/1

* Germans have a Senior NCO course which is equivilent to Armor Basic at Knox.

** Includes enlisted and officer institutional training but does not include unit training.

*** Not identifiable, integrated in other subjects.

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Therefore, to the dismay of some and the enthusiasm of others, we have expanded tactical and technical training in all the TRADOC schools. But we did not until recently rationalize officer training including "leadership."

With publication of FM 100-5 and 39 derivative "How to Fight" manuals, we have a doctrinal base on paper but not in the heads of the officer corps. If we went at it head on there is at least a year's work for every officer in the Army who hasn't been to Leavenworth or who graduated before 1976. This doctrinal and technical dynamism will continue — even accelerate. This is one reason why the War College must get into the net - pick up the gap after Leavenworth and extend the scope to corps and above. The division and corps manuals alone would require 3 to 6 months study.

Leadership courses and departments are found throughout the Army and especially in the schools. Originally leadership courses sought to teach the emulation of successful leaders — hoping, presumably, to recreate successful traits. More recently leadership departments have taken on a heavy flavor of behavioral science. I note with interest that the military academy has moved behavioral science into the academic department.

Last October at Fort Monroe we discussed a concept of officer training based on the following pattern.

Individual	Collective	Personnel, Logistics, Management (Support)	Organizational Effectiveness

Leadership derived from all the above

We have thought further along these lines and now realize that this same format appears at each level of the progressive training of an officer but, of course, with emphasis and proportions changed. More about this later because it applies to colonels and generals too.

Starting with the officers basic courses and particularly in a test at Benning we are applying this construction with preliminary success.

- The individual training of the lieutenant brings him up to skill level 30 in the 11B MOS (that is squad leader). The tasks, conditions and standards are as in the soldiers manual and SQT. The leadership component is simply the premise that an infantry lieutenant must be able to command a squad — train its teams and operate and train on its equipment — otherwise no leadership.
- The collective training is predicated on the requirement that an infantry lieutenant must be able to train and then successfully conduct the platoon through the appropriate ARTEP at platoon level. At Benning we have split IOBC into heavy infantry (mech) and light infantry tracks. A lieutenant goes to one or the other. The leadership component is the derivative of learned tactical skills specified in ARTEPs.
- Support training is not yet based upon the kind of thorough task analysis reflected in SQT and ARTEPs. Conducting such analysis is our next big project. It will take time and it will differ at each grade level. Suffice it to say that an officer cannot be an effective leader

if he is not - at his level - an effective personnel manager, logistics manager, or at higher levels a financial and program manager.

Organizational effectiveness training combines organizational development techniques and skills with interpersonal skills so that leaders can "tune up" their human machinery. We convened a workshop just this week to provide the training developers in all our schools the course materials relevant to the several levels of officer and NCO courses. This is the culmination of long and arduous work at OETC at Fort Benjamin Harrison and here at TRADOC together with your special group. The leadership aspects of this part of officer training is well known to you and in fact is largely the product of your emphasis. Incidentally, it is here that ethical training belongs if we can learn to handle it.

Before dwelling upon senior officer training let me expand upon a most important lesson we have been learning from the application of a disciplined approach to Instructional Systems Design. Paul Gorman explained this formal process to you at some length last October. Central to the process of training is a determination of status before training begins. This diagnostic step discovers how many of the critical tasks can already be performed by the individual or the unit under the specified conditions at the prescribed standards. In a unit this is an internally administered ARTEP designed to form a basis for the unit training program. In BNCOC it is the entrance pre-test to determine individual deficiencies to be corrected before proceeding to group training.

Because of diversity in education, assignment and experience, the only sensible course of action is to expand this concept into officer education. At the precommissioning level certain individual skill requirements are now being established for ROTC and OCS — discussions with the military academy have taken place. When a lieutenant arrives at OBC he will be given a pre-test and will be expected to catch-up in learning centers and on his own with respect to deficiencies uncorrected before he can participate in further instruction at the higher skill level.

At advanced courses, the diversity of experience is so great that lock-step instruction is costly, ineffective and personally insulting. It is clear that the first segment of advanced officer courses must be individualized.

At Leavenworth we must do the same. This also raises the question of Leavenworth entrance examinations. The British and Germans do it. The Army may find it necessary in the context of this letter.

The Battalion and Brigade refresher courses certainly should be individualized based on what the nominee does and does not know. We are moving in this direction.

I wrote to you about tactical training at the War College (corps and above). This aspect of War College training should certainly be synchronized with the concept set forth herein. If the War College does not move smartly in this direction it may be devoured by General Gard's establishment which it too much resembles.

I will not include general officer training under this listing but probably should. Just how formal should be our training of generals, only you can decide. At the moment they are well trained in peacetime management and poorly trained in war time operations. They are of high quality and are trainable. The problem is how?

If it is true that the basic construct applies up through colonel — why not up through generals. A diagnostic test for generals may be too much to bite off but we both know that some are deficient in tactical skills - some in support skills - and many in OE.

The German generals take a week-long tactical trip by bus (Stab Reise) under the auspices of the Chief of Staff. Perhaps a week at the War College and a week on the road (perhaps in Germany on the ground) could follow a diagnostic questionnaire (not a test). The United States Navy conducts a course approximately 4 months' duration for flag officers and senior captains. The course covers the operations, maintenance, and readiness of ships and prepares the students to assume duties as major operational commanders. Students participate in hands-on training and stand watches on the bridge, in the engine room, and in the combat information center. I recommend that you take up the subject of training senior officers at your next commanders conference.

Lastly, by next fall TRADOC should be able to present a comprehensive restructured officer training program. We are working with your staff and MILPERCEN along the following lines.

Providing pre-commissioning student branch and assignment information earlier to permit tailoring — i.e., armor vs air defense.

Tailoring basic courses to first assignment.

Moving advanced officer courses a long way toward individualized preparation for company-level command.

Structuring a substantial segment of C&GSC on the basis of an inventory exam.

Providing professional individualized up-date training for all command selectees to overcome doctrinal and technical obsolescence.

Because of its obvious importance I wanted to bring your attention to the amount of activity and the general azimuth of advance.

Respectfully and warmly,

W. E. DePUY
General, United States Army
Commanding

General Bernard W. Rogers
Chief of Staff, United States Army
Washington, D.C. 20310

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SPEECH OF GENERAL WILLIAM E. DePUY
COMMANDING GENERAL
HEADQUARTERS TRADOC
AFTCON IV 24 MAY 1977

THE ARMY TRAINING SYSTEM OVERVIEW

General Kroesen, Gentlemen:

The first joint FORSCOM/TRADOC meeting, OKTOBERFEST, was held at Ft. Knox in 1974. I guess many of you were there. The subject of that conference was the tactical employment of squads, platoons, and companies. We were concerned about how we planned to employ the combined arms force on the modern battlefield for two reasons. The first was that our army's attention had not been so focused for many years owing to the war in Vietnam. The second was that the Arab-Israeli War of 1973 had impressed us all with the problems involved in preparing an army to fight a modern war. Now that was an interesting meeting. We all got together, talked about it and then rode around in trucks and watched squads and platoons in combat exercises.

The attendance at that conference was not quite as vast as this one, but that was a mistake. It should have been. We should have had everybody there we have here. We were particularly remiss in not having our friends in the Reserve Components, but that mistake has been remedied.

OKTOBERFEST was a refreshing conference because here we had assembled the supposedly high-priced help of the Army and were working on the kinds of problems that are important — the really important problems of the Army.

A year went by and when General Rogers took command of FORSCOM, he wanted to have another conference. This time there was some thought that by concentrating on the armor and mechanized part of the Army we had short-changed air-mobility. LTG Shoemaker*, for one, expressed this feeling quite perceptively.

Our next conference, OFTCON II, was held at Ft. Hood in 1975. The subject was: How would our army, as the leader in air-mobile tactics in Vietnam, keep the advantage internationally? How did the Army plan to reinforce our expertise in air-mobility and apply it to the kind of war that would be fought in Europe?

In preparation for that conference, a lot of excellent work took place which stands to this very day. Tests were conducted and we talked at length to the aviators about stand-off range, exposure

* LTG Robert M. Shoemaker, CG, III Corps

The William E. DePuy Papers. Command History Office. U.S. Army Training and Doctrine Command, Fort Monroe, VA.

time, and the kind of flying techniques and tactics required in order to kill tanks and survive on the battlefield. As a matter of fact, all of that research has given us confidence in the role of air-mobility on the modern battlefield. It stimulated a resurgence of interest in the organization of the 101st Air-mobile Division, which is our only big horse in the race, and the Air Cavalry Combat Brigade (ACCB). I might add, we must not let the Russians steal the air-mobile concept from us; it could happen if we don't guard it carefully.

Then General George Blanchard, CINC USAREUR, felt Europe needed a joint conference too, so we held TRAINCON at Grafenwohr in November 1976. Now TRAINCON was a fascinating meeting that had a two-fold purpose. One was to talk about training techniques, programs, and devices. These bright ideas to aid training in Europe are needed because it is very difficult to train there except in the major training areas. The other, and at least equally important, aspect of TRAINCON was to talk about how we planned to conduct the Active Defense against the Warsaw Pact on-slaught.

Many division and corps commanders from FORSCOM and USAREUR were there. German commanders participated along with other folks from the NATO family —British, Dutch, Danes, and so forth. BG Thomas Lynch, who runs the 7th Army Training Center, with a lot of help from MG Paul Gorman and his guys, put on a hell of a good show together with Brigade '75. At first we had a Soviet-type attack actually portrayed on the ground showing how it would come through the defense. Then the battlefield was cleared and remotely controlled targets which represented that enemy force were displayed and a battalion task force took them under fire. They conducted an Active Defense, maneuvered and counterattacked. When it was over, the German General Von Reichert told me that his last reservations regarding the American understanding of the conduct of the defense had disappeared. In other words, the German Army endorsed our tactical concepts. TRAINCON also performed a great service in explaining training devices, training aids, simulators, staff training exercises, and other innovations.

This, then, is the fourth joint conference in a row; it has a somewhat more important sounding name — the Annual (although I am not sure we are committed to that) FORSCOM/TRADOC Commanders' Conference. And this one is focused on training. I think that this will be a very important conference for several reasons. One is that we must realize that training is going to be our problem whether we like it or not. Of course, those in FORSCOM do more training than we do in TRADOC; they always have and always will. But the good thing about this conference is that TRADOC is, in a way, a development command and FORSCOM is the combat readiness command and it makes a hell of a good mix. Meetings such as this force us to put our feet down onto the ground and focus on important issues; it is healthy both ways.

Our method may be compared to the development of a weapon system. One can develop concepts and programs but then somebody has to use and test them. That is what we are doing today. The conference format begins with TRADOC discussing its ideas and theories. We will also talk about the training products we have developed. Then the field commanders who have tested them will tell us whether they work or not. This feedback tells us when we have to go back and make some adjustments. This process is very much like the development of a weapon system. This partnership is very healthy and absolutely necessary. I am just delighted to have a gathering with this kind of a purpose.

Now most of our conversations here are going to be about the here and now, such as the Skill Qualification Test and its problems, the ARTEP and its problems, and the problems of training

management. Therefore, I would like to take a little time and talk further into the future because I think that what we are doing in AFTCON IV is not only important for today's business but is even more important for what we will do tomorrow.

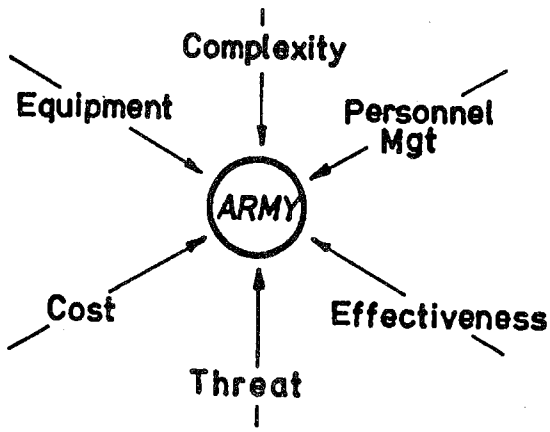
I recently read a speech which General Kroesen gave extemporaneously at the Command and General Staff College. In it he made the statement that we are interested in individual training, collective training, and the spirit of the Army. He said that he thought that if we could emphasize spirit first and the other things second we would capture the essence of the Army. I agree. I agree one thousand percent with that.

Now, you know, spirit is the part that TRADOC cannot do much about. That is the business of FORSCOM, USAREUR, and Eighth Army. History tells us clearly that without spirit no amount of individual training, no amount of collective training will carry the day. I want you all to know that we in TRADOC understand that. Defining and instilling spirit is not an easy thing to do, by the way. Each of us has his own idea as to how well you have done it or are doing it and I won't pass any judgment.

During the Second World War when the 82d Airborne Division participated in Operation Market-Garden, it had to cross the Waal River. When it attacked the other end of the bridge with rifles and hand grenades, that particular battle* was won almost exclusively by spirit. We don't even know whether those troopers shot straight or not, but that was unimportant — their spirit won the battle.

I must say that the big challenge which confronts all of you is to keep the spirit in an increasingly mechanized army. However, you must also admit to yourself that spirit will no longer totally supplant technical skills such as tank gunnery. In today's Army we have got to have both. TRADOC can help with the skills and the field commanders must provide the spirit. I hope that the Army can move into this complex, weapons-intensive future and still keep the spirit. It is not going to be easy! The future will be a real challenge in that most important respect.

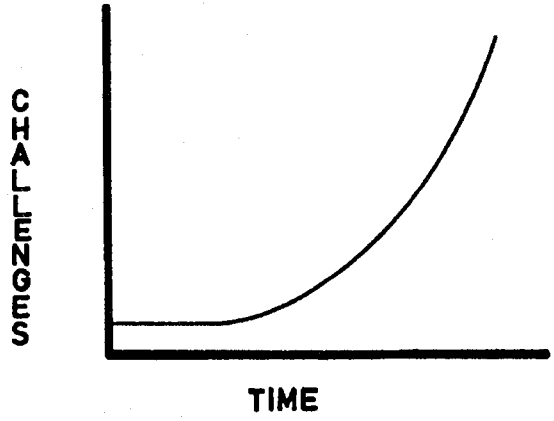
I am only going to draw two pictures. Here is the first:



* Assault of the Nijmegen Railway Bridge by the 3d Bn, 504th Regt, 82d Abn Div during Operation Market-Garden, 20 September 1944.

I want to make two points. One is that all of you in FORSCOM and in USAREUR are about to be the victims of what I would call convergence. Now, by that I mean we are faced with a problem similar to running out of energy with the price going up at the same time. Other problems arise and the atmosphere gets more polluted and so on and so forth, and all these bloody problems settle down on you at one time. I would say that we are already faced with some of these problems, but starting in 1978 and continuing for at least seven years the problems are going to converge. Convergence is going to be the name of the game and you are going to be inundated with new problems. Now, why should I talk to a bunch of guys who are commanding today about what is going to happen in 5 years? My answer is that in the first place, all the major generals that are here will be here 5 years from now, and the brigadier generals will be around a lot longer than that. In other words, these problems will be your problems. You may be in a slightly different incarnation when they hit you but they are coming and there is no escape. Now let me explain the problems which I think are converging on the Army.

The first thing that is converging is all that new equipment. The rate of introduction of new equipment will increase exponentially as I show here:



The first thing that goes like that is the amount of equipment that is going to arrive in the Army between 1978 and 1985. And the Army has to digest it. Traditionally armies have a hard time digesting new things. We all do, especially organizations like armies. Anyway, that's the first area of convergence. You are going to be inundated with new tanks, new MICV's*, new TACFIRE's**, Battery Computer Systems, Patriots, ROLANDs, a whole new set of communications equipment, a whole new set of electronic warfare equipment, and on and on.

The second thing coming at you is cost. Here is a rather interesting example. Parked over at Langley Air Force Base, from which we depart from time to time, are 72 F-15 fighter aircraft. That's a wing. Each F-15 costs 18 million dollars — that is equivalent to 18 XM-1 tanks, at a million dollars a copy. If you multiply 72 times 18 you have the value of 80% of all the tanks the Army has in Europe. Also the MICV is 8 times more expensive than the M113 Armored Personnel Carrier. It is not as expensive as the Marder***, nor is it as expensive as the new

* Mechanized Infantry Combat Vehicle
** Tactical Fire Direction System
*** German Infantry Mechanized Vehicle

British infantry carrier, but it does cost 8 times more than the M113. It is going to revolutionize infantry organization, training and fighting. If you don't believe that, you haven't seen it. Cost is putting us into a very peculiar position in the United States Army. It is not at all clear to me that the Army's budget is going to permit us to modernize the whole force with such increasingly expensive equipment. The fact of the matter is that if you asked me my candid opinion, I would say it will not, so we have to make some very tough decisions about where you are going to put that new equipment and how fast you are going to buy it. Then we must remember that the war may start at any time and you have to decide which units are going to fight first. That's a tough problem from the standpoint of the Reserve Components as well as from that of the Active Army. It is difficult to decide how many divisions you want to peak and when.

You know, the United States goes to war, on the average, every 21 years. If you add 21 years to 1965, our last war, you estimate that we'll be at war again in 1986. But that is just the average, we might go to war earlier than that. Surely we will go to war somewhere we haven't anticipated and, in any event, the cost of preparing for that war will be great.

The problem of spreading that expensive material over 24 divisions, 16 divisions, or 11 divisions is going to require some tough decisions from you. Costs are already presenting you with fantastic training problems like how to train a TOW crew. You can't send a fellow over to a range with about 10 rounds under his arm and see how he does. If he doesn't learn you can't afford to give him 10 more rounds — but you know all about that.

Complexity is another problem converging on the army. Every single new system being fielded is more complex than the one it replaces. This complexity is getting to be more of a problem than just operating and maintaining it. But the complexity of this new set of equipment raises, if you will, integrated complexity.

What in the world does it mean to a division commander who controls all this new equipment with great capabilities, when you dump a little electronic warfare on him? Also, remember that his communications hook him up with the Air Force and hook him up with a corps. Then put a COSCOM* behind him and see how well he handles all of that. We must determine what percentage of the total combat potential built into his equipment that a division commander can, in fact, achieve. So complexity is an interrelated problem as well as a problem associated with each single piece of equipment.

Effectiveness. You know everything I am talking about is increasing exponentially in effectiveness. They are all climbing out of sight. They are increasing at the same time and all are converging upon commanders. They are converging on battalion commanders, converging more on brigade commanders, and converging even more on division commanders. And all of these problems will converge on them from 1978 to 1985. It is a question of how long it will take us to digest all of these areas and exploit them.

Effectiveness! The XM-1 tank, I've been told, can fire while moving at a moving target just as well as an M-41 tank of the Korean War could do standing still, shooting at a stationary tank. That magnitude of increased effectiveness is rather startling.

* Corps Support Command

The MICV, with a 25mm stabilized Bushmaster gun on it, is going to have one soldier in the turret who will control more firepower than the rest of the infantry squad. But, of course, he can't do all of the other things the squad can do.

Now when you take a look at what these artillery fellows have put together, you take a look at 6 different rounds of artillery: The CLGP's*, and the FASCAM's**, and the Dual Purpose rounds, the illumination, and the smoke round along with the old fashioned High Explosive you see more complexity. But we do know, for one thing, that they are going to have more customers than they can satisfy. So we are going to try and provide some more gun tubes in order to meet that demand. They are also going to have a Battery Computer System linked up with a TACFIRE which, in turn, is linked up with counterfire radar. If all of it would work at the same time, to include digital message devices, then we would have an order of magnitude increase in the effectiveness of artillery support. Nobody knows exactly how we'll decide whether to shoot CLGP's, scatter mines, kill the infantry, try to knock out the BMP's*** with the Dual Purpose and all that sort of stuff. That's a real challenge to somebody in a division.

So the effectiveness of everything that we are buying is climbing that same rising curve. And you can plot what we had before, what we have now, what we are going to have in 1985, and you can even see things going up more rapidly. For example, in our meeting with the Germans, they were absolutely fascinated when Dr. Johnson from the Night Vision Laboratory who went over there and explained to them how the Second Generation thermal night sights are ten times more effective than the First Generation. Just think of that — a ten-fold increase. We have now gotten to a point where the night vision equipment can actually see beyond the range of our weapons. Up to now, none of our night vision equipment could see out to the range of our weapons. And how much do we know about how to fight at night with this new equipment? We don't have that quite yet, but we had better know by 1985. The question also arises as to: Do we also want to put our money on a lot of night vision goggles? You see, what happens is the infantry is being left behind. The infantry will be fine as long as it stays in its carrier. The minute the infantry gets out of its carrier then it is back in the dark ages, literally speaking, while the tanks and the TOW's and other weapons systems are shooting. So what are we going to do about that? What does it mean? Do we need a lot of new field manuals? Do we need a lot of tests?

MG John McEnery and his people at the Armor School have run some good night fighting tests. You should know that the results of these tests are being published in a TRADOC bulletin. I don't know whether bulletins are read or not, but in any event, the facts are going to be in a bulletin. What these results tell us is we are leaving the infantry behind. Now the question is: How many night vision goggles are we going to buy? When you get to second or third generation night vision image intensification the goggles do not extend from the head, they are flush with the face, and instead of costing $5,000 each, they only cost $1,000. So you see we are moving. At least, in this case, the cost factor is favorable.

Now along with all of that capability that we get with the added cost which, in turn, accompanies all of that complexity, you get some problems. One of these problems is

* Cannon-Launched Guided projectile

** Family of Scatterable Mines

*** Russian Wheeled Infantry Fighting Vehicle

maintenance. This is not true in every case, not UTTAS*, but just look at the M60A2 tank. Look at the Sheridan. Look at the Improved HAWK missile system. Look at the ROLAND and so on and so forth. So in many of our systems the problems which accompany the increased effectiveness that we buy at such great expense is also going up.

For example, how about the problems of our personnel system: selecting people, training people and getting them into those tank crews, getting them married up with the ROLAND, and getting them married up with the direct support maintenance unit that supports the XM-1 tank? So, you see, we have ever-increasing problems in personnel management, in logistics, and obviously in training and that is why we are here. Now these are the negative aspects, so to speak, of the picture that I am painting for you. All of these convergencies and all of these problems are simply bound to get worse and worse.

Now what are the solutions to some of these problems? Well, I am going to talk about certain other aspects of solutions to these problems. Every solution that I am going to describe really aggravates the challenge to maintain spirit which I described to General Kroesen earlier. How are we going to make all of these adaptations and still keep the fighting spirit of the Army and not turn it into a machine shop? That is the problem.

Well the first solution, of which you are all well aware, is the effort that has been made by the TRADOC first, and then under LTG Kalergis' aegis**, to study our tank force and find out what we can do to raise its effectiveness. This is important because, as we have said so many times, it gives you good leverage. We don't have many people in the turrets of tanks compared to the number of people we have in the Army, but the output of the tank on the battlefield is high. This tells us that we must work on that 2% of the people to obtain increased effectiveness on the European battlefield.

Now what we are really saying is that here is a weapon system which by itself will not get you anywhere without a logistics subsystem. All of these must be coordinated, integrated, managed and driven or the tank force won't pay off. As a matter of fact, the taxpayer could very appropriately say: "We are not going to give you guys million dollar tanks because you haven't got yourself organized to accept them and use them and exploit them." Now, you see, these are facts because when we looked at the tank force it wasn't very healthy. Oh yes, it got healthy when it peaked for gunnery season but, generally speaking, it wasn't very healthy when compared with its potential. So what we are seeing is that because of all of the complexities which accompany this greatly increased capability which we are buying, it is more difficult to reach the potential in the systems.

We see another phenomenon that climbs this rising curve and that is the potential spread or the increasing gap between the potential we have bought and the capability we are able to achieve. To be more specific, let's take the TACFIRE performance gap. If the training of artillery is 90% effective, if the ammunition is 90% reliable, if the forward observers are 90% accurate, if the Ground Locator Laser Designator (GLLD) is 90% accurate, if the digital message device sending bursts over the FM radio gets through 90% of the time, if the maintenance of the Cannon Launched Guided Projectiles (CLGP) and the Battery Computer System (BCS) is 90%, and if

* Utility Tactical Transport Aircraft System

** The DA Tank Force Management Study Group

the maintenance effectiveness of TACFIRE is 90%, and then you multiply them all together you have much less than 50% overall systems capability coming out of the other end. And that's what we are working on now. We are analyzing systems that have many segments, each one of which presents problems in training, maintenance, and employment. When we pay billions of dollars for equipment and facilities with 100% capability, we would like to achieve at least 80% of it. But if we don't examine the entire system, we are going to end up with 10 or 20% effectiveness.

The clearest example which we have is the tank crew. You know some tank crews fire 20% of the capability of their tank while others can fire 80 or 90%. This is one spread we can understand, but some other problems are going to sneak up on us. There is a growth in the divergence between what we achieve and the potential built into the system. If we could achieve a high level of effectiveness with our weapon systems, a very small army could beat the stuffings out of any other army in the world. That is exactly what we must look to because we are going to be the "little army" in most cases. We are going to have to work our way up the curve in achievement and performance to get more from our weapons. This is a problem which is converging on FORSCOM, TRADOC, USAREUR and everybody else.

The Army is at a crossroads on the Total Tank System. There is a great deal of resistance to the idea of intensively managing the Tank Force. Some people are against it because they say it will make the tankers elite. God, I wish the hell they were. Others will say that if we are going to manage everybody by exception, then you are back in the same situation you started with. The answer to this is that we can't manage all systems like this. But we already do it for Aviation. I venture to say we are going to have to do it for the Improved HAWK and ROLAND. This is because we now have only 30% effectiveness; 30% of our HAWKS are operational. They are pretty expensive and pretty vital. So we need a systems approach for them. The question is how much further is the Army going to go, how much further can it go, how is it going to get there, how is it going to think its way through this, who is going to make the decisions, and when? I am just saying to all of you that that problem is approaching you. That is one of the arrows that is coming at you and <u>you</u> are going to have to cope with it collectively.

Now another solution that we have tried is to get at this problem through two principles: one is decentralization of complexity and the other is individualization of training. Now by that I don't mean just individuals, but I also mean units. Let's talk about decentralization of complexity. I want to talk about it in two ways. One way is the Division Restructuring Study which has been resisted in parts by factions both large and small. In other words, you can take any aspect of the Division Restructuring Study and find quite a little claque of opposition without much trouble. There are those who oppose the 3 tank platoon, those against 8 gun artillery batteries, those against forward maintenance, those against any new idea you mention. However, lying at the heart of that bloody exercise is the principle of decentralizing complexity by increasing the quality and quantity of leadership down where the complexity exists.

The one thing you don't want to do with complex problems is to centralize them because then you really constipate the combat system. If you try to centralize all of the complexity in a division headquarters you can forget it — go home! A general can't solve all of that. The general has to decentralize complexity like he has to decentralize responsibility for fighting. The Army is good at decentralization, we are familiar with it but we have got to decentralize authority to solve problems.

One of the things that the new division organization tries to do is increase the officer ratio. For example, right now we have 35 officers and 54 tanks in each tank battalion. Under the restructured division we have 35 officers with 33 tanks. I don't think we have the officers aligned properly with the tanks, but we now have more than one officer per tank in that little battalion. That is interesting, isn't it? And when you get down to where the tanks are we have one officer for every 3 tanks instead of one officer for every 5. Now I'm not going to bore you with all of the data from the early tests which show that you have a difference between 8% ineffectiveness and 34% ineffectiveness based primarily on the number of officers in the unit.

There are people, like myself, who strongly believe that 100 men, good, tough men, can lick any 800 man battalion any day of the week. These men must be selected properly, motivated with the fighting spirit, and provided with enough leaders. You could take a select group of officers and sergeants from the 82d Airborne Division and make them into 100 man battalions of three 30 man companies with 5 officers each or 1 officer for each 5 men. Of these, two would be sergeants and two would be trying to be sergeants. This organization could whip any battalion in the US Army at night and in the fog. That's a fact. They can do it. As a matter of fact, I have found very few people who have ever seen more than 80 men in a battalion ever fight at the same time anyway and that's only 10% of the battalion. So before you get all hung up on the details of the DRS and decide to oppose bits and pieces of it, remember the principle of it is that with all of this complexity, maintenance, training and tactical employment we must decentralize authority and responsibility. The only way you can solve that is to put more and higher quality leadership down where the complex systems must work.

Let's just talk about employment for a moment — tactics. This involves training lieutenants and captains to do their jobs. But you know we have only digested one new weapon system in the Army recently and that is TOW. There is really some question as to how well we have really adapted our employment to its capabilities because when we started, we hung TOW's on the infantry companies. We had a few left over and we put them in battalions. But now in the Division Restructuring Study we have decided (we in TRADOC at least) that the TOW is, in fact, a weapon system in its own right. Where you put infantry is exactly where you should not put TOW's. TOW's should be put where you get long range shots. But they are not tanks, so you don't lead with them in the attack, but you do overwatch with them and you may move them back first. But, in any event, they deserve to be employed carefully in differing tactical situations. You know, as I do, as we have watched the Army struggle with the problem of the TOW that this one system has caused us a considerable amount of mental anguish. And now we are about to be confronted with a lot of problems that are at least as complex as the TOW.

Okay, let me say one more word about decentralizing complexity, particularly at the division level. If you really get into Electronic Warfare, you find that it is a whole complex world of its own. It has come out from behind the green door; but we, old garden variety soldiers, haven't embraced it with our hairy arms yet because we are a little nervous about what it can do. But it is here now and we can use it if we want to. It seems to me that we are only thinking about it. When you take a look at the whole range of intelligence collectors we have, and all the information available from satellites, and the Air Force and so on and so forth, that is quite a complex issue too.

One way to look at a division is to visualize a division commander and his 15,000 men. He moves a few battalions around and fights. He is not going to get too involved in intelligence or

air defense because too many other areas demand his attention. There is no way a division commander can get involved in it all except on a management by exception basis. He can only get involved in those areas when something goes wrong. So what we really have got to do is understand that our Army is no longer composed of divisions that can run off and fight by themselves. As a matter of fact, our divisions are where a lot of very important functional systems terminate. Let me explain.

In the old days all intelligence came up from the bottom; but today, more and more intelligence comes down from the top because the higher echelons can see farther out where the enemy is. The intelligence system is a horribly complex thing that goes all the way back to Fort Meade, Maryland, even if you are in Europe. It receives data from the Air Force and it has direct links with satellites. It has all sorts of gadgetry involved, but it is a system. You can turn to certain people to design, optimize, and operate the system for the commander, but he only owns a part of it and it terminates where he is.

The maintenance system. No division can fight for very long and maintain itself. It must have some element of COSCOM. That maintenance system eventually goes all the way back to DARCOM*.

But the maintenance system terminates in the division. The EW system starts way back in the rear and involves the Air Force and a lot of other people. It terminates in the division. The only thing that is totally within the division is the maneuver system, and, of course, that is where the personality of a division comes from. That's what a division is. But the maneuver system cannot go it alone anymore.

Take the field artillery system, a lot of it is in the division but a lot of it is not. Air defense? The air defense system in Europe is all over the place, but part of it terminates in the division. So we don't want to bring everything into the division headquarters. Let us put all the information into a computer. Keep the big picture before the general's eye and let him decide the important issues, but let all of the functional systems perform by themselves. There is usually a staff officer or somebody whose job it is to get it all linked up with the people behind and make it work without being given any specific orders to follow. The staff watches the tactical play of the battle and makes the obvious adjustments. That is why an army is a very robust organization on the battlefield. Take the case of our artillerymen who will continue to function by themselves. They have a closed-loop system. The division commander doesn't really ever have to say anything to the artillery. They have the target acquisition system out there in the form of forward observers and radar. These send the targeting information back through communications to the Fire Direction Center and then to the guns which fire the mission. The closed-loop keeps going and if the artillerymen are intelligent, which they are, they will put more artillery where the main effort is than where it isn't. This is a good example of the decentralization of complexity that we must understand and use.

The other big solution is to individualize. We must individualize the training of people and we have to individualize the training of units. And training, gentlemen, is what this conference is all about.

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* US Army Materiel Development and Readiness Command

We really don't have enough time to train the Army today. I could get quite a chorus of agreement among division commanders on that statement. But what the hell are we going to do when all of these problems converge on us? If we are in trouble now, where are we going to be in 1985? Well, for one thing, there is no way we can afford to take a man and train him in something he already knows, just because we lumped him in with a lot of people who don't. We have to individualize training; otherwise, we will not have time.

Well, you have all heard us say that we would like the sergeants to help and we would like the Skill Qualification Tests and the Soldier's Manuals to help. It is the same in units. There is no way we can go back and take all of the units and keep cycling them through every mission because there isn't enough ammunition, time, ranges, and so on and so forth. We have got to find out what they know and what they don't know and work on the weaknesses. As we go up all these curves which are all converging, this is going to be the terrible challenge to you. We are meeting here today to try to see where we are now. Are we learning how? Are we being helpful in TRADOC? Are you doing it cleverly in FORSCOM? That is what this meeting is all about. We do know that certain aspects of this also appear in TRADOC, for example, in the Basic NCO Course. (This is not really at TRADOC because the field runs a lot of them while we run a few). BNCOC is one of the bright spots in training. The sergeants are very much in favor of its format. During the first week they take a diagnostic test and spend the rest of the week correcting deficiencies. When they are all up to the same line of departure, they are taught new things, to include how to train. That is one example of an effort in the Army to move its training proficiency and its achievement up those curves.

We are going to follow this approach in all of the advanced courses. Lieutenants hold many different jobs in the Army. They arrive at the advanced course with different backgrounds, strengths, and weaknesses. They are all individuals and they are all different; therefore, we are going to have to take a look at each individually and find out what they know and don't know and spend some time in bringing them up to the common line of departure.

In the infantry we are going to train lieutenants either in mechanized infantry or light infantry. When they get to be captains they will have to be cross-trained. The light infantry have got to be told about the heavy and the heavy about the light and so on.

Well, in any event, let me finish all this by saying that all of the problems that confront the Army in the future are either being aggravated or accelerated. The number of them is related to the amount of equipment that is coming in because each piece of equipment has its own set of problems. All of these problems are going to converge on the operating forces over the next seven years. The Army is going to have to show that it can adapt to those challenges.

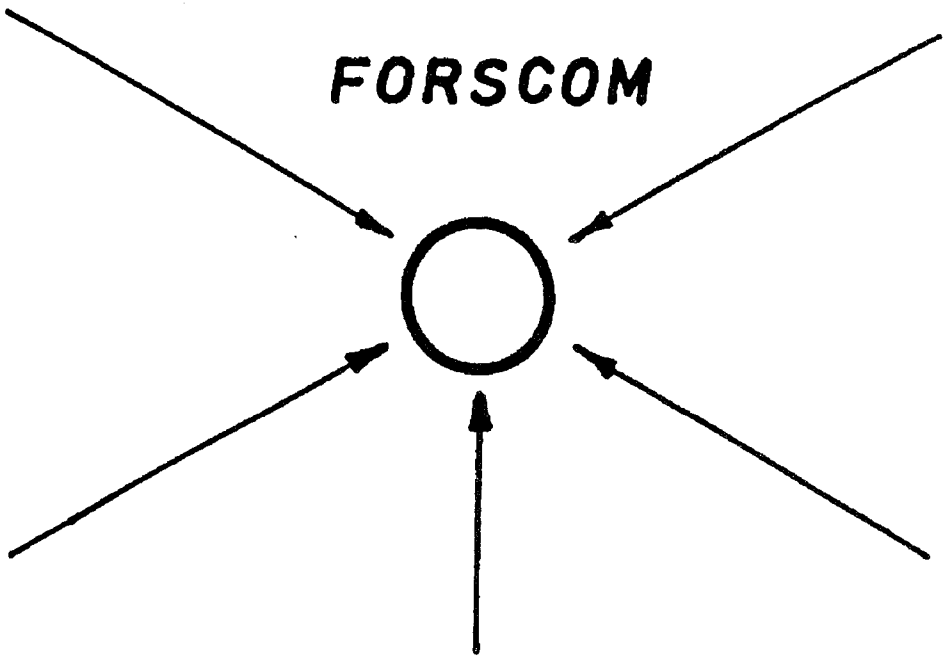
Let me end by saying I know the Army can adapt to solve these problems. We must adapt! This is the number one problem facing the Army with the single exception of being ready for war tomorrow morning. But the problem of adapting is a thornier one than readiness. One of its dimensions is that as we begin to individualize the training of people and units, as we begin to be more dependent upon weapons systems, and spend more time on total systems, we must maintain the heart or, if you will, the spirit of the Army. We cannot go all the way to where the Air Force is with only the officers doing the fighting.

Yet, I am the greatest admirer of business-like efficiency of the Air Force. In order to cope with the problems similar to those I have been talking about, they have individualized to a great

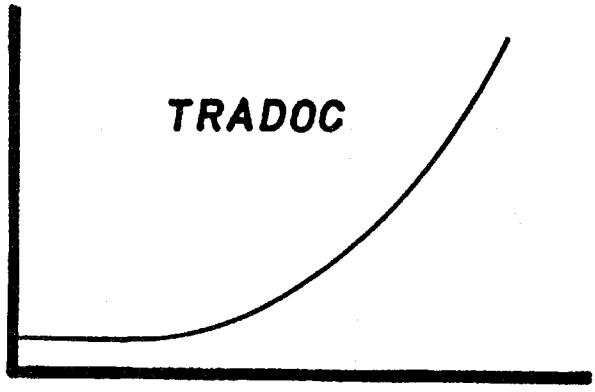
extent. If you go to any Air Force base, it is inspiring to see a sergeant get up all by himself with no first sergeant telling him what to do. At 3 o'clock in the morning he goes down to the snack bar and has a cup of coffee and then goes out on the flight line and works on his F-15 from 4 o'clock in the morning until 8 o'clock. Then he goes back to the snack bar, eats breakfast and then goes home.

The Air Force is an industrialized business and many of the methods they have developed are going to have to be adopted by the Army to cope with our problems. We can't afford grossness, but yet, how are we going to do that and maintain fighting morale? Maybe we have to have one whole set of people who are handled one way, and fighting battalions of paratroopers who are handled another way.

In any event, today we are going to see where we are. How much individualization as typified in the Soldier's Manuals, SQT, and ARTEP's have we accepted? How much of our theory about the managing of these kinds of problems make sense? TRADOC invented some of them but you have used them. We have paired up one of our guys and one of your guys to tell us all how well we are doing. I started out looking at John Wickham and thinking that what we are doing is important to him in getting his division ready for war tomorrow morning. But also, what we are talking about is going to be a more acute and important problem in the next seven years than it is now. The name of the game is getting our weapons systems effectiveness going up the curve. How far can we take the Army up that curve? Now I would say in a way that we could change the insignias of FORSCOM and TRADOC. We could make this the FORSCOM insignia:



and we could make this the TRADOC insignia:



Thank you. Let's get on with our very important work.

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REMARKS BY GENERAL WILLIAM E. DePUY

TRADOC COMMANDERS' CONFERENCE
25 MAY 1977

"THE FURTHER WORK OF THE TRADOC"

I want to say right off the bat that I have a very good feeling about TRADOC and about all of you. Yesterday morning I was sitting in the Comanche House having breakfast with several AFTCON IV conferees. We were talking about a strange phenomenon that bothers us all. That is the frequency with which retired generals leave the Army with some trace of bitterness. And if they don't leave the Army with some bitterness, they soon develop it by reading the Army-Navy Journal and the papers which are loaded with only the bad news. But I just want all of you to know that, as far as I'm concerned, the circumstances couldn't be better. My satisfaction couldn't be greater and the fulfillment of the last four years has made the other 32 years really worthwhile. In other words, I'm feeling good about it and I wanted all of you to know that.

General Rogers, in his remarks to us this morning,* struck a note of pessimism about the budgetary problems which will confront the Army in the coming months. He was telling us that we, the Army, must be prepared to fully explain and justify our programs to President Carter's new administration. As with all new administrations, many options are being looked at and our civilian superiors must have facts upon which to base their decisions. So my advice to all of you is don't misread the Chief. He is not a pessimistic man. He and I look upon the justification of the needs of our Army as a challenge to be faced and solved.

I'm really kind of embarrassed to have asked you all to meet with me here at Fort Sill. But I felt it necessary for me to get a few last things off my chest. I also did it for another reason. During the last year I just haven't been getting around to visit many of you. I haven't been to see Bucky Harris** and I haven't been down to see Ray Ochs+ at all and there are places I haven't been for a year. There are other places that I almost went to but had to cancel out. This is not the way I would have liked to have done it. I would like to have been able to do what my good friend and able assistant, Frank Camm++ has been able to do which is to get around and visit you. I appreciate his efforts very much. But a combination of physical things and the fact that a lot of my chickens have come home to roost in the last year have made extensive travel

* General Bernard W. Rogers, CSA, in closing remarks to the Annual Forces Command/Training and Doctrine Command Conference (AFTCOM IV) 25 May 77.

** MG Richard L. Harris, CG, USATC Engr & Ft Leonard Wood, MO.

\+ MG Elmer R. Ochs, CG, USA Military Police Sch/Tng Ctr & Ft McClellan, AL.

++ LTG Frank A. Camm, DCG, TRADOC.

The William E. DePuy papers. Command History Office. U.S. Army Training and Doctrine Command, Fort Monroe, VA.

difficult for me. A lot of this I have already told to Donn Starry,* who, by the way, was my personal choice. I didn't do the decision-making, but I did make some strong recommendations and I think he's going to be just a great TRADOC commander. And I think you're all lucky to have him.

I told Donn, "When you get into TRADOC, you're going to be a hero right off the bat. You're going to go out and visit a lot of places and they'll say that so and so DePuy hasn't been here for a year. This is the good will I leave to you. It will make your reception which would be good in any event, even better.

In the light of all that, I decided to invite you here to thank you for the work that you have done collectively and individually. I also want to take this opportunity to talk about some of the loose ends which remain. Of course, this is one of the great aggravations of leaving any kind of a job, whether you're going to retire or are being transferred. There are also some of our projects that I feel strongly on as to the direction they should take, some of them are sort of mid-flight, others are just getting ready to take off, and some of them are about ready to crash. I thought it might be useful for the leadership of the TRADOC if I could talk about some of those things. I will also tell you the azimuth on which I think certain of our major activities and programs are headed.

OFFICER TRAINING

Now, the first thing that I want to talk about is officer education or officer training. This subject has several facets to it. About four years ago, some of you will remember, I was very unimpressed with the kind of training that I found in some of the TRADOC schools. At that time, I didn't think that the infantry lieutenants were learning how to dig holes, and I didn't think that the engineer lieutenants were learning how to drive bulldozers and so on and so forth. That was my first reaction. I hadn't been tutored by Paul Gorman** yet, but I was right. I didn't know why I was right in those days, but I guess it was sort of dumb instinct. Today, I know <u>why</u> I was right. I can even explain exactly how right I was. But, in any event, over time we began to get more of the training outside and get engineers to drive bulldozers and infantrymen to dig holes and other inspiring things like that.

About that same time I asked Charlie Rogers'+ and Frank Cochran's++ predecessors: "Why do we teach what we teach in officer training? Why do we teach what we teach in ROTC? Why do we teach what we teach during the basic camp that goes on at Ft Knox? And what does that have to to do with the 6 weeks ROTC camps for the rest of the ROTC cadets? What does that have to do with the officer basic course? In turn, what does this training have to do with the advanced course? Then, what do we know about leadership training?" Well those questions were not answered. I couldn't get any answers to those questions that anybody was satisfied with. Now, I'm not pretending that I was smarter than the guys that I was talking to, because everybody seemed to agree that those questions were not being addressed. We really didn't know why we were doing what we were doing. But, you know, I guess I was asking what President

* LTG Donn A. Starry, Commander Designate of TRADOC.

** MG Paul F. Gorman, DCST, TRADOC.

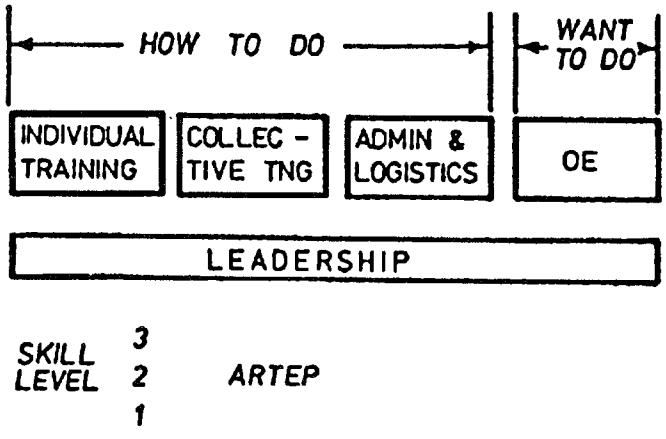
\+ MG Charles C. Rogers, DCSROTC, TRADOC.

++ BG(P) James F. Cochran III, Cmdr, First ROTC Region, Ft Bragg, NC.

Carter would call a "zero-based" question. And what they'd been doing was making modifications each year to an existing curriculum. For example, if one year management was in vogue, we added some management. As the behavioral sciences became fashionable, we added some of that, and so on and so forth. Until, in fact, the officer courses were sort of an accumulation of reactions to the passions of the moment or the idiosyncrasies of whoever was running the railroad at that particular time.

Now we know that the way to go about planning training is through Instructional Systems Development or using Criterion-Referenced Instruction. Today, TRADOC has organized to do those things. Although none of us are ultimate experts, we're all comfortable in looking at problems that way. In fact, we even have a language we can speak to one another and we understand what that means. However, we had not developed a concept for officer training. Oh, there were some concepts, like the "whole man" concept, which I never quite understood except that it had a lot of electives. It was a "growth experience" for the guy. It was the first time that a captain could sit down and put his feet up and think. As a matter of fact, I was told a few days ago by my historian, Brooks Kleber, who had attended a meeting at Ft. Leavenworth in which I was excoriated, to put it mildly, by the historians who had gathered there. They said that nut DePuy is going to cause a lacuna which is going to create a whole generation of idiots who all know how to clean a rifle, but who don't know "why" we have an Army. I didn't lose a lot of sleep over that because we do have a system which begins to answer the question of how to train an officer. But you have to have concepts. Now, we do have a concept and have applied it in a couple of places. We've applied it at Ft. Benning where Will Latham* has done a great job. Because of Jim Kalergis'** ministrations to the Tank Force we will soon be able to apply it at the Armor School.

The concept really is the same as I gave on my television tape+ where I was talking about leadership, but I was really talking about all officer training. In this concept, I had four blocks as I show here:



* MG Willard Latham, Commandant, USA Infantry School, Ft Benning, GA.

** LTG(R) James G. Kalergis, Chairman Tank Force Management Study, HQ DA.

\+ GEN W. E. DePuy, Organizational Effectiveness, Television Tape #909-777-0453-B.

The first block stemmed from the concept that says that every lieutenant must know how to do what the soldiers under him, at least up through skill level 30 and in some cases skill level 40, must know. He must know how to be a tank commander or a squad leader. In the food service area, he has to know how to be the chief honcho in the kitchen or the steward or whatever the people under him have to do. In other words, the mess officer has got to come up through the food service business. Well, we haven't done that throughout all of TRADOC, but what I'm saying to you is that's where we're going and that's where I think we have to go.

Individual Training

The first thing we're now able to say is before we try to train a lieutenant to be a tank platoon leader, we want to make him a driver, a loader, a gunner, and then a tank commander. That takes you up to E-6, through the 3rd skill level. And after he has done that, we want to make him a platoon leader. Now I want you to extrapolate this example of a tank platoon leader to all the other schools and MOSs and career management fields. We even know what a leader has to be able to do. We didn't know that before because we didn't have ARTEPs or Soldiers Manuals based upon job analyses. The concept is that officers will be able to do what their soldiers do and that tells us now what to put in the first block.

Collective Training

In the second block, we say platoon leaders must be able to train and lead their platoons through the platoon level ARTEP events. There's more to it than that, but if you didn't do anything but train the platoon to attack, defend, withdraw, or do platoon firing exercises as a part of a company, you would go a long way towards exactly defining the second box which is the tactical application of the particular unit commanded by the lieutenant. My discussion of the first two boxes has been designed to clarify the relationships among ROTC, OCS, the summer camps in ROTC, the Military Academy summer work at Camp Buckner, and what is taught in the Officer Basic Courses. So the general idea there is that all pre-commissioning training is going to be able to bring cadets up to a certain level.

The exact level will vary a little bit. In the infantry you can go a little further because they don't need a lot of equipment. You can certainly bring them up to the 20 level and in some cases a little bit beyond that. In other fields that level of proficiency may be to skill level 10 or half way to skill level 20. Then when they come to a TRADOC school, they should be given a test. This diagnostic testing is what is done prior to training in the Air Force's Operation Red Flag. They make those squadrons fly against the enemy before they have been given any special training to find out what they can do and what they can't do. Then they spend five or ten days on remedial work. After that, they go back and do it again. That's exactly what we want to do in every officer basic course in the Army. We want to know what the ROTC has taught them before they arrive. We want to know what the USMA cadets have learned at Camp Buckner. I believe that any lieutenant who knows that he is going to have to take such a test is going to handle most of that training on his own at night, because he doesn't want to be embarrassed. As a result, many of our training problems are going to be taken care of by the individuals,

themselves. We are going to have to teach him, and probably on his own time, what he doesn't know at the beginning of the basic course. This will be done in learning centers using the most advanced methods we have such as TEC programs, simulators, and anything else we have. When all of the lieutenants are on the same line of departure, you can proceed into the things that we didn't expect them to know before they came to the officer basic course.

Support

So the first two boxes are fairly well cleared up. How about the third and fourth box because the same thing may be said about them? Now the third box on the chart is personnel and logistics matters. We have dubbed it "Support" or you could call it "management", personnel management and logistics management, if you will. For a lieutenant, it means how you get the soldiers paid, how you get spare parts to fix your tank, and how you fill out a TAMMS* form. If you're a captain, you have got to know what the PLL** is and so on and so forth. When you are promoted to major or lieutenant colonel the amount of detail changes, but I'd like to see this whole concept applied up through the War College level. I'll talk more about that in a minute.

Then at higher levels, management becomes like financial management or overall program management and things like that. I asked Paul Gorman the other day to get a task force started to investigate this. What we need to do is to conduct a detailed analysis of this problem, and we need the help of all of the schools to do that. We need to analyze each level from the lieutenant up through the colonel and maybe even the general level. We must analyze what officers assigned to those jobs should be able to do in that box called support. And, of course, it will vary by level. But the subjects are still personnel, logistics, financial management and so on.

OE

Now the fourth box, Organizational Effectiveness (OE) or the "Want to" box, is where we can start teaching a lot that is already taught in the colleges, universities, and at the Military Academy. (Right now, however, I suspect tinkering with the Military Academy is out of style). But, nonetheless, we can get to it there too over time. Certainly what the USMA cadets are taught at Camp Buckner in the summer can be adjusted.

This last box is Organizational Effectiveness. Here again, we have had a considerable amount of work done by the Organizational Effectiveness Training Center. Bill Mundie+ and his people have been right in the middle of it. Very recently workshops have been held which are designed to tell the school commandants which parts of OE and which instructional materials should be incorporated at each different level—the basic level, the advanced level, and at the Command and General Staff College. A great deal more definitional work still has to be done and the process will be evolving forever. But here again, I'm sure that in the ROTC programs at the colleges and universities of the United States, there are just a lot of cadets who are taking courses which are

* The Army Maintenance Management System.

** Prescribed Load List.

\+ MG William L. Mundie, Commander, USA Administration Center & Fort Harrison, IN.

associated with these subjects. In other words, a lot of them are involved in the behavioral sciences or organizational development studies. We need to tighten that up a little bit.

So the first two boxes are fairly clear. The Training Developers are going to be working on the third box to analyze and define it better. And as for the last box, OE, people are actively engaged right now in trying to produce helpful instructional material. On my diagram I also placed leadership across the bottom. What I mean by this is that when you get right down to it, the leadership that we can convey to a lieutenant or a captain has to derive from each one of those four functions. We can teach him some of the individual skills, some of the collective skills, some of the management skills, and some of the organizational effectiveness skills that he needs to be a leader. There may be others, but basically that is my thrust.

Now I am going to look at this subject of officer training in a little different light. Down at Ft. Benning, MG Latham has developed separate light and mechanized infantry tracks for the Infantry Officers Basic Course. This move has caused some nervousness, but that nervousness has pretty well gone away I think. GEN Kroesen, the Vice-Chief of Staff, and the Chief of Staff of the Army have all agreed with it, and we're going to do it. Rather than having a lieutenant go through a common core of subjects followed by a three week course of specialized light or mechanized work, we would totally immerse each student in either mechanized or light infantry hoping to get the young man ready for the job he was going to be assigned to. We know before this lieutenant goes to Ft Benning that he's going to serve in either a mechanized or light infantry battalion. We're trying to pull everything out of the Ranger Course that would help make a better lieutenant in light infantry and place it in the 14 week light infantry track. Now, this raises an interesting question as to what happens when the officers go to the advanced course. General Kroesen doesn't want to have the Army permanently divided by a cleaver into the heavy and light. This is partly because of tradition. I also think he's worried, and appropriately so, about career management. He's also concerned with maintaining morale. He doesn't want an officer to think that because he was picked to be a light infantryman in his very first day in the Army and took the light infantry track, that he could never serve in Europe in a mechanized infantry division. This presents the challenge to the Infantry School along with all the other schools that when the captains come into the advanced course, some of them will have had one set of experiences and the others will have other experiences. Now, you know that the officers coming into your advanced courses come from all sorts of different jobs. The variety and diversity of assignments and experiences is enormous. The first thing we need to do in the advanced course is give an inventory test. It's just like the US Air Force's Operation Red Flag. Take the students out and put them on the range, and in this case probably with a piece of paper and a pencil. Find out what they know and what they don't know. In the Infantry case we are going to cross train the light and mechanized experienced officers because we had to agree to do that with the high command of the Army (even though some of us would have been prepared to let them go mechanized or airborne all of their lives). I'm not going to argue that case. We are going to cross train them. But, I submit to you that the same situation exists in the Engineer Advanced Course. I'm quite sure that engineers have had all sorts of jobs and experiences and I'm sure that it would be a good idea to find out what they know and what they don't know. You know the same applies to Signal and Transportation Corps officers. We must spend some time with learning centers and special individualized treatment to teach them the things they don't know so that the class is at least ready to proceed into the company and battalion level-training more or less as a homogeneous group. That is how the officer training goes. And you could carry that on up

through the Command and General Staff College. The problem gets more complex as you go up farther because you are dealing with people who have had more divergent experiences. And, of course, the body of knowledge that you'd like to impart to them has also expanded. We have already done some of this. Some of the required individualized training at C&GSC may be taken care of by the OPMS* electives, but some if it may not.

Now this leads me to a connected problem, if you will, of what is taught at the Army War College. The War College was not included in the TRADOC when it was formed. I concurred with this course of action. This occurred despite the fact GEN Haines,** felt at that time that this was a disastrous decision. He may have been right! I concurred because I had just observed the Army War College being thrown into a lot of projects which didn't really inspire me much. These projects included surveys of what made lieutenant colonels unhappy, and others which I felt stirred up more bloody problems than they solved. I was also aware of the extent to which the Department of the Army has always felt that the War College was an instrument of the Chief of Staff. As a matter of fact, it started as the War Plans Division when it was at Fort Leslie McNair. They prepared the Rainbow Plans for World War II. And then the college fell under the control of the Deputy Chief of Staff for Personnel for awhile and they did personnel management type things. I guess they're under Deputy Chief of Staff for Operations now and do strategic-type things.

In any event, I've written two letters to the Chief of Staff of the Army on this subject. (If you all haven't seen those letters, you can ask for them and we'll send them to you). The first one was simply one that MGs Thurman+ and Menetrey++ put together and it was prompted by the meeting we had out there on a review of SCORES.‡ We got to talking about the tactics and techniques and procedures and concepts for commanding a corps. The more we talked, the more we were impressed with our own inadequacy. We were impressed with the fact that the art or science of commanding a corps had dissipated somewhat over time. I'd say the center of gravity of Leavenworth is at division-level and below. They have excursions to the corps level and are writing manuals for corps operations. But when you stop to think that the officer who leaves the Command and General Staff College is a major, then you realize that there's quite a gap in years before he goes to the Army War College. During those years, given the acceleration of change that we have, the new weapons which come in, the new concepts which have evolved, and the new procedures, training programs, and techniques which have been developed, the officer is behind the power curve. Now, one way to get him caught up would be to give him a test. I've asked MG Thurman to tell me what such a test should look like. For those of you who didn't attend AFTCON IV, we discussed this idea and GEN Kroesen is for the tests. He likes the idea. I'm not sure of all the details of what he was thinking as we talked about it, but he's for them! The other way, of course, is to catch the smaller number of officers who go to the War College, but these are the officers who are going to go on further anyway. This would be the logical place to put the corps-level instruction. Let the division-level be at C&GSC with an excursion to the corps, and let the corps-level training be at the Army War College with an excursion back to the

* Officer Personnel Management System.

** GEN Ralph E. Haines, CG, Continental Army Command (CONARC), 1 Nov 70 to 31 Jan 73.

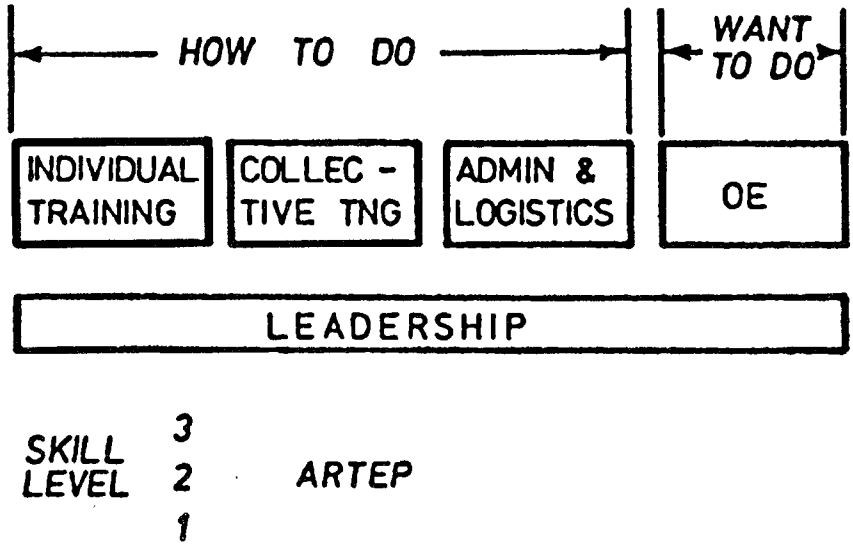
\+ MG John R. Thurman, III, Commander, Combined Arms Center, Ft Leavenworth, KS.

++ MG Louis C. Menetrey, Asst Dep Cdr, Combined Arms Center Development Activity, Ft Leavenworth, KS.

‡ Scenario Oriented Recurring Evaluation System.

division. We must train corps G-3's along with corps commanders. We have to focus on how we should train corps staff officers.

In my second and longer letter to the Chief of Staff and I tried to explain to him what I've just said to you. My letter is a little more carefully worded than what I've just tried to convey, but I suggested that officer training is a four-legged stool similar to the four part concept I spoke of. The concept applies just as logically to the Army War College as it does to the Advanced Course at the Armor School. I was so bold as to suggest that we ought to train our generals. Some foreign armies train their generals in one way or another and that he should carefully take that up at his next commanders' conference. This is critical since general officers have more diverse backgrounds than those junior officers entering the advanced courses. I don't know whether we should give them a test or have a questionnaire; but, in any event, I think the Chief of Staff of the Army knows instinctively that the majority of the general officers are not with him on Organizational Effectiveness (OE) yet. It's not that they are opposed to the principles of OE, its just that they're not trained. We know that many of the general officers are not trained in tactics, techniques, or procedures of battle. I could give a test to all the generals in the Army on Electronic Warfare (EW) and few would pass. And that's not their fault; but, the fact is, few would pass.



So the generals need the training and they need to know about what is in each of the four boxes that I described.

For example, just take Electronic Warfare. They've got to know what jammers are, the kinds of jammers, the kinds of Russian jammers, the ranges of effectiveness and so on in general terms. That's individual training. Then they've got to know collective training. When I was out at a FORSCOM division a couple of weeks ago, I asked the EW officer what his orders were. He told me that he didn't have any orders. My purpose here is not to criticize this division because it is my guess that I could go into any division and go to the EW officer and ask him what his orders were and he wouldn't have any. So generals need training, and they need training in the first box, the second box, the third box, and the fourth box. Now that's all I'm going to say about officer training but I wanted you to know that I've gone on record saying that we now think that

we've got what Paul Gorman likes to call a "construct" in our heads (I call it a concept) that, in fact, lays out in a way that you can look at it and think about it as the components of officer training. The details vary enormously at each level but they're all there. And it's within the context of that concept that you have to think about whether or not we teach the corps-level at the War College, and whether or not we teach generals, and how should the Command Refresher and Battle Captain Courses be structured. The Battle Captain Course is just like the Basic NCO Course. These guys are going to come in from everywhere. Some of them will have been in the office of the Chief of Staff, some on ROTC duty, some in an Army Readiness Region, and some of them will have been at DARCOM*. They've been all over the bloody place and now we're going to try to get them ready to assume command of a battalion. How do we know where to start from? Every one of them is going to be different! So here again, the Battle Captain Course should start with some kind of a diagnostic or inventory test, just like the Basic NCO Course does. The first week is spent playing catch up ball and then the next three weeks spent learning new things. So I commend to the TRADOC doing a little cerebral work on that concept so that you're comfortable in dealing with those unresolved problems of officer training which I have just reviewed.

RESERVE OFFICER TRAINING CORPS (ROTC)

I want to just say one thing about ROTC other than the comments I made earlier which connected it more or less to the Instructional Systems Development concept that we have for officer training. I have a little bit of a guilty conscience about ROTC, because when something runs well, you tend not to spend your time on it. The ROTC program is running well because Charlie Rogers and his team of regional commanders have caused that to happen. One of the things that I worry a little about is the fact that I don't think the Army, in general, quite understands how much it depends on ROTC. In fact, the truth of the matter is, I'm certain that is the case. You know it's our fault that we don't, and it still runs well. It has produced 60% of the officers of the Army for so long that everybody takes it for granted. I noticed an article by Trefry** in the Field Artillery Journal in which somebody asked about the comparison between the Military Academy cadets and the ROTC cadets. Trefry kind of airily dismissed the ROTC by saying that the R meant Reserve. Well, it does. That's exactly the way you spell it; but, the fact of the matter is, the ROTC program provides most of the officers in the Army. It always has as far back as any of us can remember.

I just leave with you the thought that here is a program that is absolutely central to the combat readiness of the Army. It has recovered from its deep illness from several years ago when the land grant colleges went off the compulsory training programs. But today it is not well known or appreciated; and therefore, it may not be protected as well within the TRADOC and the Army family as its importance demands. I leave this thought with all of you, sort of in a corporate sense. The ROTC is trying to move from seven thousand, up to ten thousand officers. It's moving along in that direction, but it just is not going to get there all by itself without some tender loving care.

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* US Army Materiel Development and Readiness Command, Alexandria, VA.

** MG Richard G. Trefry, Director of Management, Office CSA.
Article referred to is: "The Journal Interviews MG Richard G. Trefry", Field Artillery Journal, Vol 45, No. 3 (May-Jun 77) pp 22-23.

INITIAL ENTRY TRAINING

I just want to say one word about the training centers and OSUT.* I think Donn Starry would agree with me on all of this because when he was the Commander at Fort Knox, he had a training center. He personally participated in many of the conferences from which these ideas on initial training sprang. The point I want to make about the initial entry training centers is that the philosophy or the concept that TRADOC has established there is worthy of preservation.

Historically, basic training in the US Marine Corps, Army or in any army has always been a very rigorously prescribed program of instruction. Now here again OSUT and Basic Training should be based upon the Soldiers Manuals up through Skill Level 1. However, there are differences between Fort Leonard Wood, Fort Dix, Fort Jackson, and Fort Sill.

When I arrived in TRADOC, I was dismayed at the absence of the feeling of responsibility at the training centers. I was really embarrassed for about the first year because I saw things going on there which to me seemed to be dumb. What was worse, they were always able to prove to me that it was a TRADOC directive or a CONARC directive that they were following that was the cause. I found out later that wasn't entirely true, but it was too much true. They even added dumb things themselves to the dumb things that we had told them to do. A lot of initiative was being shown there! What struck me was that whatever you gain through centralized control, you more than lose in terms of the application to the training problem of professionalism, imagination, and initiative. This applies literally to thousands of officers starting with the major generals and working down to the captains and lieutenants. That system which had many merits had one enormous demerit and that simply was that the commander did not feel personally responsible for the product. What this system had done was make the commander feel personally responsible for the process, meaning that the commander was executing the CONARC program perfectly — "warts and all." What he wasn't so worried about was that some of the things that were being taught or the methods of teaching were just dumb. They were counter-productive and wasted time. In any event, what we did to solve this was to say: "Don't do anything dumb." If there is anything out there going on that you think is dumb, just stop it. You now have the authority. Well, that led to a great deal of diversity over the years. And I've been waiting to get fired for that. If the Government Accounting Office or the Office of Management and Budget or anybody else came and found the great differences that existed between the training center at Fort Sill and the one down at Fort Bliss and so on, their obvious conclusion would be that we don't need a TRADOC Headquarters. It would appear that TRADOC was not playing any role in initial entry training at all. They just had a bunch of training centers doing their own thing.

What we've also said by saying: "Don't do anything dumb" is "If you can think up something better to do, do it, and then let us know." We've kept a light rein on the training centers and have tried to visit and talk enough so that if there's anything we really don't like, we could step in quickly and stop it. I really believe that the quality of training is enormously higher today than it was in 1972. The number of dumb things has been reduced by 90%—but we'll always have some. But even more important is that the good ideas that constantly churn up out of that leeway and mission-type management are innumerable, and the training centers are wise enough to watch one another and pick and choose from what the other guys are doing. They accept the things

* One Station Unit Training.

they like and reject those they don't like. I feel very strongly that the advantages of that system vastly outweigh any disadvantages. The disadvantages of that system are that some of the better ideas may not have been broadcast everywhere and imposed. There may be better ways of doing certain training which are not implemented at all training centers. But that's a minor consideration when compared to what we're getting out of having smart, dedicated major generals, supported by a lot of very fine colonels, who have got battalion and company commanders and committees that have brought initial entry training right up out of the Middle Ages. So I simply wanted you to know that's sort of why we're where we are now. You, Donn Starry, and everybody will have to decide whether that's the way to go in the future, but I felt obligated to describe how we got there and the advantages I have seen.

You know we are just at the beginning of the road on OSUT. OSUT is one of the best examples of TRADOC decentralizing responsibility and authority for constructing a system for the guys who run it. It started because the orders to Fort Sill were to combine Basic Combat Training with Artillery Advanced Individual Training and do it in a certain number of weeks. We said that if that's not right, then we'll entertain a change. Unfortunately we have not been able to institute OSUT at Fort Benning for political reasons, but I hope we soon will. John McEnery* made the point that we're really just at the beginning of that road. We've got a long way to go and there's still a lot of institutional sludge in there, because we are dealing with committee groups that were doing the BCT thing in a certain way. The chances are they're still doing it that same way today. It's hard to really integrate and come up with new forms for it. But, anyway, I just want to tell you "Don't rest on your oars on OSUT, you've just started."

TRAIN THE MANEUVER ARMS AS THEY WILL FIGHT

Now I want to come back to a subject that I touched on earlier which has to do with the problem that Stan Diez** worked so hard on. This had to do with whether or not TRADOC is aligned properly in respect to the functions of mounted warfare, light warfare, air mobility, and the associated involvement of the Combined Arms Center. This has been a fascinating and controversial subject, and it hasn't ended up exactly the way I thought it would; however, perhaps it ended the way it should have. But I would like to speak to that problem for a moment, because I'm leaving it on your doorstep largely, but not totally unresolved. I'd say we're on the 25 yard line and it's not at all clear whether we're going to go further. It is a real problem.

I guess one of the first manifestations of the problem came along when we started to write FM 71-1 and 71-2 after FM 100-5 had been pretty well laid out. Those are the two derivative tactical operation manuals for the company/team and battalion task forces. The question immediately arose as to what is the doctrinal relationship if you will, between Fort Knox and Fort Benning. That opens a real "Pandora's Box" of all sorts of interesting possibilities. You immediately begin to think of other armies such as the Israeli Army. How do they do that? Well, up until very recently they had a guy in charge of the armored force who also had mechanized infantry. In any event, they had an army that was all tanks and aircraft. And the infantry had been pushed into a secondary or tertiary status except for the paratroopers. Well, they got into a war and one of the big lessons they learned was that the infantry was still very, very important.

* MG John W. McEnery, Commandant, US Army Armor School, Fort Knox, KY.

** LTC(P) Everett Stanwood Diez, Study Director, HQ TRADOC.

Now their Chief of Staff, GEN Gur, happens to have been a paratrooper, himself. He was stationed in Washington during the 1973 War so he was untouched or untarred, if you will, by victory or defeat. So he was picked to be the Chief of Staff because he wasn't controversial and because he was a strong man. He led the attack into Jerusalem back in one of those earlier wars. So he ordered the Israeli Army to use the infantry more. And they're doing that, but the armor generals are worried about this order. The armor generals were accused of not using the infantry properly in the last war; but they said they couldn't use them right because the infantry wasn't armed correctly. They insisted the infantry didn't have the right kind of vehicles and that they were just going to get them slaughtered.

The next thing that happened was that the first infantry units in the Israeli Army to go mechanized were airborne units. The reason for this was that they were the best troops they had. They wanted the best troops with the best vehicles to fight in the main battles so that's what they did. Then, the infantry kind of counterattacked, and now they have retrieved proponency for mechanized infantry doctrine. But the armored force commander has now invented a little infantry of his own. He's got little mechanized rifle companies who are going to go into tank battalions and he's going to train them. All I'm saying here is that this problem is not unique to the US Army.

The Germans at Munster have both panzer grenadiers and panzers together. Their doctrine was just clean as a whistle until they began to put all of the Jäger* divisions into Marders.** Now everyone is mechanized infantry including a lot of those that are trained in Hammelberg. So now the Germans are in some disorder also. That may be a slight overstatement, but I can tell you that there's no harmony. One of the controversial areas is that they teach combat in cities in Hammelberg with light infantry but there isn't really much light infantry left except for airborne and mountain soldiers. The guys up at Munster are not very happy because they're not participating in developing combat in cities-type doctrine. They've got most of the troops. The German Army is struggling with this problem. The Israeli Army is struggling with the problem too.

The British Army is amazing in what they do. Because of their regimental system and rotation to Northern Ireland, all of their infantry are hybrid. They'll take an infantry battalion like the Irish Rangers and send them to Cyprus as light infantry, and then they'll bring them back and send them to the Army of the Rhine and put them all in armored personnel carriers. And because they have to do that, they've made virtue of necessity and said that's easy to do. It isn't easy to do. They've got all sorts of problems, but their infantry is the kind of infantry that can do anything.

Well, it's not only writing field manuals that you get into problems. It's also the kinds of questions asked: What should be the content of Infantry OSUT? Are we going to have mechanized infantry OSUT and light infantry OSUT? Where is the spiritual center for all of that? We are proceeding toward drawing a firm distinction between the light and heavy infantry. As I said earlier GEN Kroesen was concerned about breaking the infantry in two. About the same time that concern was boiling around and Stan Diez was studying it, the whole question of the 101st Airmobile Division came up. The question was: Is it organized right? At REFORGER,

* Light Infantry.

** German Infantry Fighting Vehicle.

reports by FORSCOM indicated that there were lots of problems. There were a lot of us who felt they had lots of problems. We felt they weren't airmobile enough. We felt they didn't have enough tank killers. So we began looking at that problem and wondered who was in charge? To whom do I turn in TRADOC to answer those questions? Do I go to Jim Smith* at Fort Rucker?

Back in 1971 or 1972 Bruce Palmer** made the decision that the proponency for certain flying machines was put at Fort Benning for airmobile, Fort Knox for the attack helicopter and the scout, and Fort Eustis for the transport helicopters and so on. What we did was to disintegrate airmobility into its elements. I say disintegrated as a careful choice of words because, in a way, that is exactly what we did. Then we asked: Where is the soul of airmobility now? Is it at Leavenworth? I guess you could say that's where it is or that's where it belongs because Leavenworth has to write a manual on the airmobile division. Lou Menetrey and Roy Thurman have been very active at pulling this together. Is Leavenworth the right place to do it? I don't know. Where does the 101st Division go? It goes to Knox for certain things, Benning for others, Sill for others, and Leavenworth for others. It's all over the place. Then you ask yourself as to where the inspiration for airmobility came from? Well, a lot of it, though not entirely, came from Fort Rucker. A lot of people who never were at Rucker went down and learned how to fly to become a part of it. Harry Kinnard+ got into airmobility, not so much because he was an airmobile guy, but because he was a hell of a good army officer and so did a lot of other people. And Ham Howze,++ the Chief of Army Aviation, got into it. But it was down at Rucker where they hung the machine guns on the helicopters, learned how to fly, talked about "nap of the earth", helicopter armament, and what not. I had a feeling the situation wasn't very tidy. It still isn't. The Knox/Benning relationship isn't very tidy. But if you look for example in a foreign country that tells you exactly how to solve that problem, the more carefully you look at what they're doing, you find that once they've solved one set of problems, they create another set of problems. They just moved the interface around somewhere. But the interface is still there. I've just signed a letter on this subject which I sent to C&GSC and the three combat arms schools. A copy is also going to go to all of you and that is where we're going to leave it. We're going to have the two Infantry Officer Basic Courses at Fort Benning, one mechanized and one light. The concept has been approved and we're going to continue it. At the officer advanced level we're going to cross train.

We're going to leave the proponency or the distribution of weapon systems developments the way they are right now which doesn't follow any conceptual pattern. The TRADOC System Manager for the attack helicopter is going to be Doc Bahnsen‡ and he is going to be down there at Fort Rucker. This is simply because they've got the talent down there. We had a big argument about the UTTAS.‡‡ And we finally decided to leave the UTTAS where it is because of Neil McGillicuddy.# In the long run it might well go to Fort Rucker. So I've kind of left that as an unresolved issue for the future.

I have said that I want Fort Knox responsible for being the guardian of mounted warfare doctrine in terms of the need to rewrite FM's 71-1 and 71-2. The Armor School is the prime

* MG James C. Smith, Commandant, US Army Aviation School, Fort Rucker, AL.
** GEN(R) Bruce Palmer, Jr., Former Vice Chief of Staff of the Army.
\+ LTG(R) Harry W. O. Kinnard, former Cdr of 11th Air Assault Div.
++ GEN(R) Hamilton H. Howze.
‡ Colonel John C. Bahnsen, TRADOC System Manager for the Attack Helicopter.
‡‡ Utility Tactical Transport Aircraft System.
\# COL Cornelius McGillicuddy, TSM for UTTAS at Fort Benning, GA.

contractor for mounted warfare doctrine across the board. But I expect you to subcontract to the Infantry School for the mechanized Infantry doctrine. The Armor School coordinates it, and if there's a problem, you'll have to come to the Commander of TRADOC. Oh, and I also expect Fort Sill, Fort Belvoir, and everybody else to back you. And I expect the same from the Infantry School. I'm not saying that the Infantry School is only involved in light infantry. He's involved in light infantry and mechanized infantry. He's going to train mechanized infantry officers, mechanized infantry soldiers and so on, but I also want him to be clearly responsible for the light infantry. I'm talking about the airborne, Ranger, light infantry, air defense support of light infantry, and the doctrine. I'm talking about everything involved in the whole package. C&GSC has a hand in all of this too, particularly when you get to CATTS,* CAMMS,** and combined arms exercises. I'm just saying that someone has to keep track of battalion level and below light and heavy infantry for doctrinal purposes. And that's where I'm going to leave the ball when I walk away.

Now I'm going to leave the airmobile training doctrine except for one area. I have been generally unimpressed with the capability in Army Aviation that has existed in the other schools. However, McGillicuddy and his guys have done a tremendous job on UTTAS. But what I haven't been able to find is airmobility in "quotes" anywhere. I haven't found anybody at Fort Knox or Fort Benning who's worried about the whole concept of airmobility. The Armor School has been more interested in Air Cavalry and attack helicopters. The Infantry School has been more interested in airmobile operations. And the Artillery School has been interested in getting forward observers and laser designators into the air. The logisticians have been interested in the Chinook transport helicopters. So I've invited Jim Smith to put in a modest combat development organizational element for "Air Mobility". Because, you see Jim and his people already perform an interesting function within TRADOC. The Aviation School is the only place that we have a "center of excellence" on Army Aviation. There are aviators all over the place, but Fort Rucker is the only place you can go when you want to talk about flying techniques, aviation training, avionic packages, airframes or engines. This organization has got to be small; but it, nonetheless, will be a place to go to talk about Air Mobility generically if we want to. If you want to talk about it at division and above, you can go to C&GSC. But Leavenworth is not a technical institution; by its very nature, it is less technical. What I'm saying is that it looked a lot clearer to me about a month or so ago. I was going to put all the airmobility down there with the project managers. I was going to put all the mounted stuff with the Armor School and all the light stuff with the Infantry School, but I backed away from that. I backed away from it for a lot of reasons. One reason is that I don't have the conviction that that solution is exactly right. I'm very much aware of the resistance to it at almost every level within the TRADOC and outside. I just didn't want to leave a phony, impermanent-type decision behind that wouldn't stand the test of time and might be quickly turned around, unraveled, or undermined within hours of my departure by the landing of vultures from all sides. So what I've tried to do is to leave the issue in its current state, knowing that larger issues are left for the future. Whether that will stay the way it is, whether it will eventually be solved through integration at C&GSC, whether gradually the mounted warfare doctrine will migrate to Fort Knox, or whether the light infantry doctrine will eventually

* Combined Arms Tactical Training Simulator.

** Computer-Assisted Map Maneuver System.

go to Benning, I don't know. It will just resolve itself by happening. I just wanted to tell you where I left the bloody thing.

THE TRADOC INSTALLATION CONTRACT SYSTEM

I want to talk next about contracts for a little bit. We had a meeting in TRADOC last week where we reviewed the contract system. Now I must admit, first of all, that I have a guilty conscience about the contract system, and secondly, I feel very strongly about the utility of the concept. But I've been around long enough to know how quickly we can drift away from it. In fact, Jim Smith was telling me as we walked out of AFTCON IV this morning that he feels we already have. I agreed with him in some respects. I brought the contract system to TRADOC. It took us quite a while to get it started, and during the first couple of years I personally participated in the contract signing. We went into great detail and tried to discipline the system and instruct the commandants in the way I wanted the system to run. When I finally thought it was in hand, I forgot that turbulence and reassignments had changed the participants and made the mistake of walking away from it. My confidence was also inspired by the fact that both John McGiffert and Max Thurman* were so efficient that it was tempting for me to not spend very much of my own personal time on it. I think that, over time, some corruption of the contract system has occurred. To convert this, I told Max Noah** the other day that he was now the appointed guardian of the contract system at the TRADOC level.

But you guys who run the installations have got to be guardians of the contract system at your level, looking both down and looking up. And you should be very hard-nosed in dealing with the TRADOC staff and use those contracts to your own advantage.

Now a problem which all of you face is that my staff, and no doubt like your own comptrollers, will tend to drift away from the contract system because it's a very unforgiving system. It's a tough one to live within because it forces everyone to face up to the problems. Other methods may allow you to circumvent or slide these problems around; the contract system will not. It is always much simpler if you get a reduction to slice 1% off of everybody's program and tell them to try harder. My staff sometimes tells you to try harder.

I ran into a case, in fact, this is what brought it all up. This had to do with Fort Benning in which we had exchanged correspondence on what the Infantry School and Center could do and what it couldn't do. My staff brought me a letter that really said: "Come on Infantry School, try harder." Well, I don't want to do that. What I want to do is to deal with the commanders of the posts in terms of the programs and that's not easy to do. It's awfully easy to salami slice everything and eventually end up not knowing where the programs are. So when a school commandant, for example, feels that he really doesn't have enough resources to execute that part of the contract which provides the output or products, in other words the program output, the number of acres of grass cut, amount spent on heat and so on, he must be very hard-nosed with the TRADOC staff and say: "No! my resources don't cover this." He can describe exactly how he has used his resources against the various elements of his program. Then he can say that he wishes to renegotiate his contract and agree with you as to what I'm <u>not</u> going to do. The "salami slicing" method will not permit you to talk that language. It makes no difference whether

* MG John McGiffert and MG Maxwell R. Thurman — both former DCS, Resources Management, HQ TRADOC.
** COL(P) Max W. Noah, DCSRM, TRADOC.

TRADOC or the installation salami slice, this method of management leads us into trouble over time. The other thing it does is make a mockery of the contract. It makes the contract a dead letter! Some of you haven't seen the other side of the coin because you haven't run installations under the old system.

The old system, the way CONARC had to manage, was dealing through the intermediate Army headquarters. That was what I would call budget management. Budget management had gotten to the point where there was no program visibility from the CONARC headquarters down to the installations where things actually happened. This occurred because the people in between were using budget management and made the system opaque. So the procedure then had to be that we distributed the money, then you made blind lunges and waited for some awful things to happen. When a disaster was reported to CONARC, they had to assume they had distributed resources incorrectly. This routine, of course, leads to the squeaking wheel receiving the oil syndrome. It is just a bad way to run a railroad.

One of the problems which has developed is that some of our installation analysts have been on the job for so long that they know more about the installation than the major general running it. I think that's probably true, although not in every respect. But the analysts know where some of the bodies are buried, and they know where some of the disconnects are between the budget and the programs. They know where a few people are stashed away and how money has been shifted here, there, and everywhere. That's both good and bad. The bad part is that they think they're smarter than the major general running the installation. So, when somebody asks what we ought to do about a slight budget shortage or the installation comes in and says that they need some more money, the analyst comes back and says: "No, you don't need any more money because down there in the facilities engineers, you've got a guy named Blotz and another named Ledbetter and they're really not working very hard. They know too much! As a result, the installation commander gets a message down that says: "You really don't need anymore money because you've mismanaged this area over here."

A TRADOC management scheme ought to be able to go into any one of your program elements and investigate and analyze it, and then either agree or disagree with you. I think that is fair enough. But they ought not to deal informally with programs. So what's happened is that we have, in some respects, slowly eroded the contract system. We haven't ruined it, but we better be sure that we don't. So my advice to you guys is be very tough in dealing with TRADOC headquarters, but deal in terms of programs on the basis of your contract. Don't let this system die and don't be salami sliced; only talk in program chunks. I know that it is easy for me to say but hard for you to do. But I see Max Thurman* over there and I don't think he would object too much because it's the discipline of the system.

Let me give you an example. Now brother Thurman has moved up one echelon, and he also knows where all our bodies are buried across the board in TRADOC. We're about to have some problems in cuts of personnel and money and so on. But, in any event, the problem is going to come up and the new Commander of TRADOC will have to decide if he is going to take his cuts in Combat Developments, Training Developments, Training, ROTC or base operations. He's only got five programs, five big spending activities.

* MG Maxwell R. Thurman, now serving as Director, Programs, Analysis, and Evaluation, HQDA.

We all know that taking money out of base operations funds without closing installations is just a shell game. There is no money to be taken out of ROTC. It's a program that's close enough for government work. If we want to produce 10,000 officers, we're going to have to spend what we're spending now. There is no relief to be had there. Now the question is are we going to salami slice Combat Developments, Training Developments, the number of officers in the battalions of the training centers, the number of sergeants, the number of hours taught, or the number of days in Basic Combat Training. In other words, are we going to go in and tinker with every little thing in the system or are we going to say we're willing to talk to the Department of the Army on any aspect of our program? Foremost, however, is we don't want to salami slice ourselves to death. Then the TRADOC is going to have to decide whether we are going to set aside certain parts of Training Developments, certain functions in Combat Developments, or whether we're going to go back to the Department of the Army and say AIT in units, which is anathema to the Army, or stop airborne training or stop other training. Should we close out certain courses entirely and transfer the whole responsibility to FORSCOM and USAREUR?

It's hard for the TRADOC Commander to decide that. If the budgeteers come and tell you they'll just take 5% off everything, they are willing to wait and see what it is you can't do. They'll say don't renegotiate the contract and just use the elasticity in the system all the way down to the Basic Training companies. Let the officers in TD work more on weekends; let the CD'ers try harder and so on. The point is when TRADOC is faced with these cuts, you'll see their cascading effects throughout the system.

When you're dealing with significant changes, you should go in and do it through the program system. This is the only way you can deal with your superiors. It's the only way that the TRADOC Commander can have any idea of the significance of a change of resources. It's the only way the Chief of Staff of the Army can have any idea what the significance of the change in resources is if you deal in reasonable program packages. It's hard to do that. It's time consuming. It would be so much easier to take 1% off everybody. But I'm telling you that you had better protect that contract system. If I were an installation commander, I'd be more interested in protecting the system than anybody else.

TRADOC SYSTEMS MANAGERS

Now I want to talk a little bit about TRADOC System's Managers. I talked to a TRADOC System's Manager the other day. I won't name him, but he's one of the new ones. He had already run into one of the pitfalls or problems that we worried about right from the beginning. This was when the original debate took place and Bill Vinson* was in the heart of this with you. I didn't get involved in the detailed negotiations, but I did work on the concept of how big an office the TRADOC System's Manager would have. Would it be a big office that did things or would it be a small office that acted as sort of a servo-control?

Of course, we had to go to the small solution because we just don't have enough people. What this means is that a TRADOC System's Manager for the tank system, the ROLAND, or whatever has got to be a man who sees to it that all of the subsystems are being developed in coordination. He must assure that the system is progressing, but he can't actually do it all himself. This is

* MG William H. Vinson, DCS, Combat Developments, TRADOC.

similar to a project manager in DARCOM who may need some night vision equipment from one laboratory, a commodity command or a R&D command, a gun from another one, a computer from another one, the radio from another one, the ballistic hull from someplace else, and somebody else does his cost effectiveness analysis. His job is not to do all of those things, but he is the manager and he's got to PERT chart the whole thing and see to it that it happens.

Well, this TRADOC System's Manager told me that he was already running into the feeling on the part of Combat Developer's that now that we had TRADOC System's Managers, they could wash their hands of responsibility for the system. So much for the tank! (Incidentally this example is not the tank.) But this manager ran into Training Developers and Combat Developers who were very happy that he had been appointed because they thought they were relieved of that job. TRADOC has to understand the role of the System's Manager. They have to run around and get the Training Developers, Combat Developers, the analyzers, the testers, the Project Manager, the DA Staff, and if necessary, those in the Department of Defense and the Government Accounting Office to do their thing at the right time and in the right way.

You know we agonized for a long time in TRADOC HQ's, as I know every school did, about how in the devil can we coordinate CD with TD. I remember being right here at Fort Sill and listening to Dave Ott* talk about it. We were always looking for some organizational integration or overlap. What most people finally did was have a lot of meetings. You solve those problems with a lot of meetings. Al Akers** gets all of his colonels in and they sit down and hash it all out. All schools have the same problems.

The TRADOC System's Manager is slightly different. He causes a lot of meetings. His office is the permanent secretariat of all those meetings you have to have within the school and outside the school. But it is not, in fact, an operational agency. It will undoubtedly under enlightened management have strong ideas about things, and it will drive a lot of actions and make the system go. It's very important that we understand that, and that everybody makes it work. Don't walk away from the problems that the TRADOC System's Manager was designed to solve!

THE PRINCIPAL MISSION OF TRADOC: ANALYSIS!

There are many other things that I could talk about. I guess my last point is one which is probably too complex for me to explain successfully. But what I would like to do is describe to you what I would call the essence of TRADOC. I don't mean by that we're all so great, or that this is any great bundle of moonbeams, or that we're smarter than all of those in FORSCOM or in USAREUR. We're not! But every once in a while I ask myself "What is there about TRADOC that, in fact, has value? And what is there that really lies at the heart of TRADOC? What is the essential ingredient?" Well, I would say that it just has to be an analytical approach to solving problems.

If you really examine the products of TRADOC in Combat Developments, and if you take off the ribbons and wrapping paper and find out what's inside the box, what you're going to find is analysis. You're going to find scientific, objective analysis or an attempt to get scientific objective analysis. Because our doctrine, even FM 100-5 and works that flow from it, is based

* LTG David E. Ott, former Commandant US Army Field Artillery School Fort Sill, OK.

** BG(P) Albert B. Akers, Assistant Commandant, US Army Field Artillery School, Fort Sill, OK.

on assertions which really come from analysis. Let's take the employment of attack helicopters on the European battlefield. Now that is doctrine! (Whether doctrine is in Combat Developments or Training Developments, I couldn't care less because it's somewhere in between.) But most people think of it as Combat Developments. But the manual that has been written on the employment of the attack helicopter and the instruction at Fort Leavenworth, I hope....(it wasn't once)....is based on actual tests, experiments and evaluations. Those at CDEC* know this perfectly because they were in this test business with us. We discovered scientifically, by that I mean by making experiments, observations, and measurements, what are the optimum standoff ranges, the exposure time, and the flight techniques which will reduce the vulnerability of a helicopter. We discovered the same thing with putting a tank hull down on a reverse slope and the same thing with firing a TOW so many times before moving positions.

The TRADOC isn't really important to the Army because we're such a smart gaggle of guys, because we're not any different. You could take a whole room full of FORSCOM officers and put them in here and take this whole room of TRADOC officers and exchange them. After just a little bit you wouldn't notice the difference. We're just all Army officers and we're capable of running units just as much as we're capable of doing Combat Developments and Training Developments. So it doesn't have anything to do with us. We're not a bunch of geniuses. We've been put in these jobs and have been given responsibilities. The only real power we have, the only weight that we can put into the balance, is based on objective test evaluation, measurement, and analysis.

Why do you suppose that Glen Otis** and Bob Baer+ are now regarded in the Army as the guys who at least once a month save the XM-1 tank. Now why is it that Glen has such a reputation of usefulness? It is not just because he's a hell of a nice guy and smart and all that stuff which he is, but it is that he walks into the Secretary of Defense's office with a lot of facts. Where do the facts come from? They come from tests, evaluations, measurements, shoot-offs, and analyses! That is what the Tank Project Manager provides. If he didn't have all that and he walked into the Secretary of Defense's office, he would never be invited back. Where does he get it? What do we deal in? If you take a look at the whole Combat Developments procedure, even the decision that we need a new system, you'll find it is based at least on an assessment made on the back of an envelope. But the effectiveness of the thing in some vague kind of numbers is better enough than the old one to justify the difference in dollars. And all those are numbers. We're in the analytical business.

In fact, all the contributions that Bill Vinson and his guys make in Combat Developments are made using the results of tests and associated analyses, coupled with dollar costing. We use this data to tell the Department of the Army whether we ought to go ahead or not on a project, or whether it's on the margin, or whether we ought to start over again. It's analysis based on hard data, objectively collected through tests and experimentation. Each of us do essential parts of analysis. We have models at Fort Leavenworth where we can manipulate data further and come up with more answers. So the soul of TRADOC in Combat Developments is simply the analytical manipulation of data — hard, cold data, if possible — or informed opinions and judgments based on partial data. But it's the data and analysis that give us the right to participate.

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* Combat Developments Experimentation Command, Fort Ord, CA.

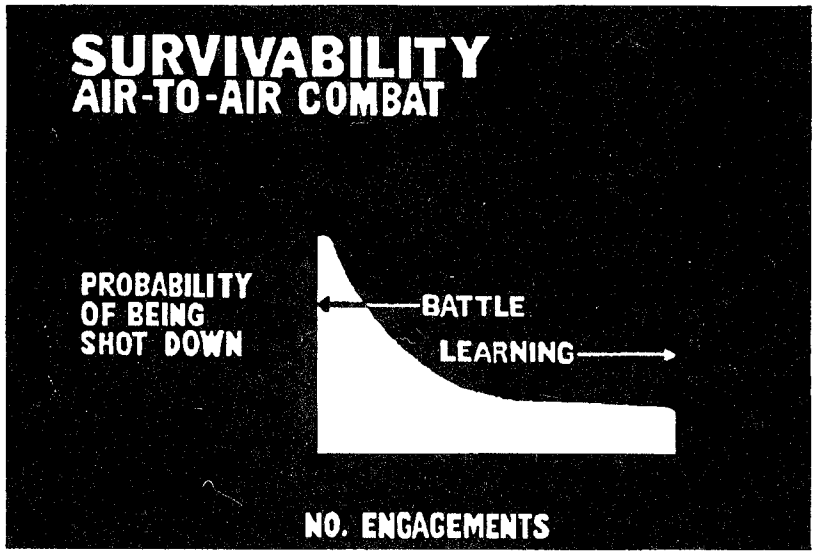
** MG Glen K. Otis, DCG, USA Combined Arms Combat Developments Activity, Ft Leavenworth, KS.

\+ MG Robert J. Baer, Project Manager XM-1 Tank System, DARCOM.

Now I submit to you the same thing is true in Training Developments. Now Paul Gorman showed us a chart today that gets right to the heart of the way the trainers have got to look at things.

This chart shows than an Air Force fighter pilot has a 60% chance of surviving his first mission. But after he gains experience, he increases his survivability to 90% on his tenth mission.

Now, some analyst had to find that out. That data came from researching the VietNam War, flights over North Korea, North VietNam, or World War II. My guess is that they probably used



data from all of those wars. Then they analyzed that data, and they drew that curve, so that now we've got a starting point. What I'm saying is that if you're in the training business, you need the data. You need the cost and training effectiveness analysis just as much as Bill Vinson and his people need the COEA for comparing the XM-1 tank with the M60A3 tank, the Leopard, or the T72 tank. You need it just as much for the same reasons, it's the only basis on which to proceed.

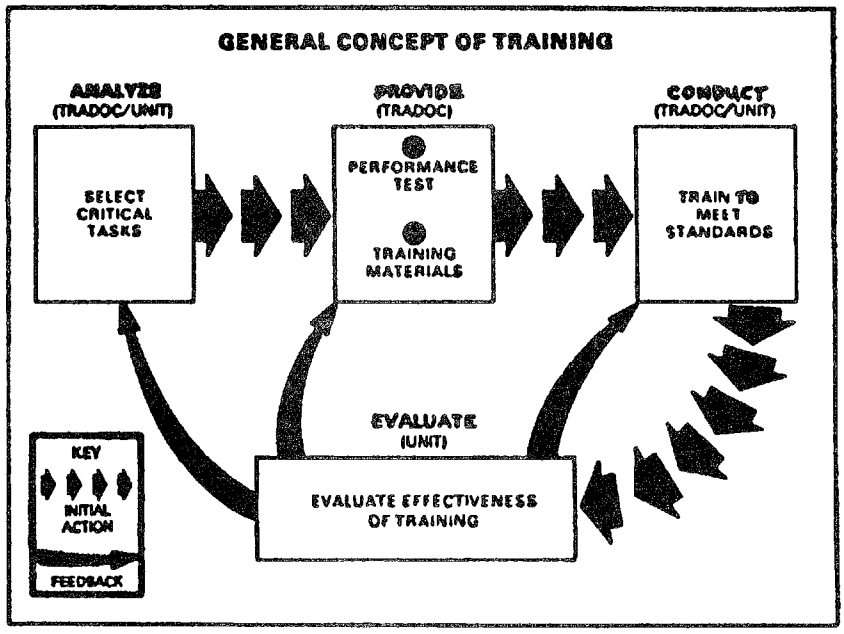
Take CABL.* We're moving a lot of administration out of the company up to the battalion. You know we really need to know with hard, objective data how much better this system will be, how much it costs, and so on.

If we decide that we are going to train some soldiers only up to a certain level, but not beyond that, we ought to have some factual basis or analysis for that decision. In fact, when you look at the concept of training which we now use, what do you find? The first big block is analysis. That is the starting point upon which the entire process begins. And what's the last block?

* Consolidation of Administration at Battalion Level.

Evaluation! And the results go back to analysis and you go through a cycle with a feedback mechanism.

I said yesterday that FORSCOM provides the spirit when they're dealing with troop units that



we can't provide. We can provide a little bit of it. We can provide a high spirited basic trainee or OSUT graduate, and we do that. But the real inculcation of spirit within that little team that GEN Kroesen was talking about, the spirit that the units are going to go to war with....that's really the business of the field commander.

What is our business at the TRADOC? What led us to the Soldiers Manual and the SQT? Analysis! Analysis led us to it. Was it perfect analysis? No. Are we getting better at it? I hope so. What led us to the ARTEP? Well, that came right off the top of our head the first time around but the later versions came from analysis. We haven't analyzed management yet. We have to have it, gentlemen. Until we do the task analysis, our opinions aren't worth a penny more than anybody else's.

We're forever going to be in arguments with either DA or other headquarters, because their gut feelings are just as good as ours. If they're bigger than we are, more senior, or have a more romantic job, they may win the argument. But if we've got the data, if we've done our homework, and we've done our analysis, we'll win every time. The fact of the matter is, we have prevailed in almost every issue that's come up whenever we had the data. Whenever we get in trouble, it's because we're "winging it". So if you ask me what is the essence of TRADOC, I'd say it's the scientific approach, the analytical approach to Combat Developments and Training Developments, and that, of course, includes the ROTC. And that is a frame of mind. It's not romantic. It's the antithesis of romanticism. I don't have any objection to romanticism, but in our business, it doesn't have much value. It is so much dross.

So in your schools, in your activities, in your training, in your Combat Developments, in your development of doctrine, the closer you can stick to analysis the better off you will be. If you don't have the analysis because you don't have the data, you must go get it.

Just like the PARFOX* study and tests. We now have a TRADOC Bulletin and we now have a film explaining these defensive positions. Someday we'll have a field manual which says that here's the way to dig holes in the ground. Up to now everybody had his own particular preferences. These books and films say the reason you dig holes in the ground this way is *because* data and analysis have shown us that this is the best way to do it.

The way you fly helicopters is this way <u>because</u>. Some day we're going to have to figure out what is the most cost effective thing to do against a tank attack. Should we fire CLGP's?** Should we fire dual-purpose ammunition? Should we smoke 'em? Should we put mines in front of them? Right now, nobody in this room has got a clue as to what we should do, but if you asked the engineer, he'd throw mines. If you asked a missile enthusiast, he would fire CLGP. If he just invented the bomblets, he'd fire dual purpose rounds. If you were to ask a tanker, he'd say shoot it with a tank gun. But, the fact is, sometimes TRADOC is going to have to write a little book about this problem of destroying tanks and perhaps right here at the Field Artillery School. But the Artillery School doesn't know the answer to that question right now. But they must find out! When their findings are based on analysis and experimentation, then the book can be written. Then, and only then, we won't have to argue with people who have different gut feelings than we do.

So gentlemen, I just wanted to leave that thought with you: Analysis is the essence of TRADOC!

That should be why you do a certain kind of night training with lasers or with those rifles that you've got down here with the lights on them. It's not just because it's obviously a hell of a lot better. The next step is to find out <u>how much</u> better it is. It's just like the training effectiveness analysis done on BRM.+

We've been floundering around with BRM and the only thing we've discovered so far is that it doesn't make a bloody bit of difference how you teach rifle marksmanship — it all comes out the same way. So that just means we haven't got enough data and we haven't asked the right questions and we don't know what the answers are. All we have so far is that we've picked the cheapest way. As long as any way will teach it, then the inclination takes the way that takes the least ammunition and the least time. So anyway, gentlemen, I do want to leave that thought with you.

Let me just say that I sound as if I don't believe you know that. But I know you understand what I've been saying and all I'm trying to do is to say go further in that direction. We have the machinery for analysis now. We've got the organization for it. We've got TRASANA,++ TCATA,* and CDEC.** If I had one little criticism of school commandants, it would be that we don't use all the marvelous capabilities in TRADOC that we've got. Many commandants

* Parapet Foxhole.
** Cannon Launched Guided Projectile.
\+ Basic Rifle Marksmanship Training.
++ TRADOC Systems Analysis Agency.

aren't using TCATA, TRASANA, CDEC or the Test Boards. The Training Developers also are not using all of that capability. We have the most marvelous machinery now set up. It's not perfect, but it can do all sorts of things. You can go get ARI+ and all sorts of people to make studies for you. Basically, everybody wants to do important things, and the important things are the analytical things and that is what TRADOC is all about. If you're not using it, you're really missing a bet. And the Army, therefore, is also missing some of the quality, developmental work which it deserves to get. Remember that TRADOC is receiving the money that it takes to run CDEC, TCATA, TRASANA, pay for the Boards, and pay for 6,000 people in Combat Developments and all the rest of it. The taxpayers are entitled to expect us to use what we've got, and I'm quite sure we could use it a hell of a lot better.

The essence of TRADOC is, in fact, the understanding that a cold-blooded analysis has to lie at the beginning and at the end of the important things that we do. Do we need the HESH++ round, the HEP‡ round, or the HEAT‡‡ round? It's a very important issue. I wrote a little letter about that to you because this is just one example in which the British have one idea and we have slightly other ideas. Who's right? We'll have to find out. And we don't want to get into an argument. There's no point in our arguing about that. I wouldn't think of it. I don't know the answer, but there is one — you can find the answer to that problem and any other and that's TRADOC business.

CONCLUSION

Well, gentlemen, let me just say that I appreciate your coming to this. I said in the beginning that I'm leaving TRADOC and the Army with a very, very good feeling about them as institutions and a very good feeling about you individually and collectively. I am <u>not</u> pessimistic. I hope that in three years from now if I'm as pessimistic as the rest of those old bastards that I keep running into, you'll all come and tell me. Say, now damn it, General, you told us to tell you and we're going to tell you. But if I start writing poison pen notes to newspapers and express the feeling that the Army went to hell on the first day of July 1977,# I want you to come and tell me. In the meantime, just keep doing what you're doing. Good luck and thanks for coming!

* TRADOC Combined Arms Test Agency.
** Combat Development Experimentation Command.
\+ Army Research Institute.
++ High Explosive Smash Head.
‡ High Explosive, Plastic.
‡‡ High Explosive, Anti-Tank.
\# General DePuy retires from active service on 30 Jun 77.

III. POSTRETIREMENT YEARS

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Are We Ready for the Future?

One of the most significant challenges faced by today's military forces is how to exploit fully the combat power provided by high technology weapons and equipment. One approach under study is a reorganization which exponents say would narrow the growing gap between the capabilities of new weaponry and those of the individuals and units that take it into battle.

By Gen. William E. DePuy
U.S. Army, Retired

The U.S. Army is testing an important new organizational concept for its armored and mechanized divisions at Ft. Hood, Tex. These divisions now constitute the bulk of the Army and are the basic tactical building blocks for operations in the defense of NATO. Therefore, these tests and the decisions which flow from them could shape the Army and its capabilities for many years to come.

The reason for considering a sweeping reorganization at this time is the growing gap between the capabilities of the new high-technology weapons and the expected battlefield performance of the individuals and units into which those weapons are now being introduced. Army units in general, and forward tactical units in particular, are being inundated with technical and tactical complexity. The human material remains a relative constant. Consequently, it is important that organization and doctrine, as well as its training, exploit fully the combat power of its new weapons and equipment.

The concept of the reorganization being examined at Ft. Hood is to decentralize complexity—that is, to reduce and simplify the technical, tactical and training responsibilities at the lower echelons, and to provide more problem-solvers for the increasing number of problems. More specifically, the following changes are being considered in the Hood tests:

- Companies would be reduced in size and would specialize in single-weapon systems whether they be tank companies, infantry companies, antitank guided missile companies, or in the case of mortars, a platoon at battalion level.
- The task of coordinating the combined arms would be shifted from company back to battalion level in order to develop more available combat power on the battlefield.
- More leaders will be required to cope with and exploit the additional complexity and lethality of weapons systems and equipment. Seasoned leadership would be pushed further down and forward on the battlefield so that decentralized, quick-reacting tactical authority could outmove and outfight the more cumbersome centralized system of the Soviet Army.

From *Army* 28, no. 9 (September 1978): 22–29.

- The combat support and service support systems would be tuned to the new concept, the new weapons and their capabilities.

The net effect of reducing the size of platoons, companies and battalions, while maintaining equal numbers of weapons on the battlefield, would be to have more battalions. For example, an armored division in Europe that now has six tank battalions would have about ten.

Unsurprisingly, there is, in some quarters, only limited enthusiasm for the new organization. Many arguments have been marshaled against it. The Army has yet to make any final decisions.

Before considering the issues involved, it may be well to look back at previous reorganizations. At the beginning of World War II, under Gen. George C. Marshall's guidance, the "square" divisions of World War I (two brigades of two regiments each) were "triangularized" into a division headquarters directly commanding three regiments. One layer of command, the brigade, was eliminated.

At the same time, smaller armored divisions were formed with six maneuver battalions—three tank and three armored infantry—grouped under combat commands which were organized as flexible task forces according to need. This was a very advanced concept. The changes were consistent with the experience of the European combatants and they were ordered into effect and briskly accomplished. The smaller units were more agile and flexible and they performed well during that long and arduous war.

By the late 1950s, Gen. Maxwell D. Taylor decided to streamline the Army to meet the challenge of nuclear operations. He was somewhat driven in this direction by repeated suggestions from partisan quarters that nuclear weapons made armies obsolete and that only nuclear-delivering aircraft were useful. Even the name of the new organization, "pentomic," was a response to that aspect of the problem.

The division consisted of five big battalions called battle groups, each commanded by a full colonel. The five big maneuver companies in each battle group were commanded by captains. The pentomic reorganization was based on the concept that tactical operations on a dispersed or porous battlefield would be conducted by smaller, faster moving, harder hitting, high-quality units which would concentrate quickly to fight and disperse again quickly to avoid the atomic blast.

The Army was not wildly enthusiastic about the pentomic concept or tactical nuclear war, so after a brief trial period quietly shelved the pentomic division. Tactical nuclear warfare had failed to capture the Army's imagination. The advantages of alacrity and responsiveness were hard to demonstrate. More important, in the short run it failed to provide career progression or even jobs for infantry officers between the grades of captain and colonel. This flaw turned out to be lethal for purely institutional reasons.

The reorganized army division (ROAD) of the early 1960s was generally a return to the World War II format with a few significant adjustments—brigades instead of regiments, no artillery general and some functional changes in combat service support. There was no murmur at this turn of events but rather a huge sigh of relief upon returning to the comfortable and familiar doctrinal ground of the past. The armored divisions, largely untouched by the pentomic experiment, were brigaded and enjoyed some additional "carburetor"adjustments.

Large, formally organized, doctrinally driven institutions absorb conceptual changes slowly and often reluctantly. In fact, an Army is preoccupied, through its schools and career incentive programs, to imbed and strengthen a deep faith and commitment to existing doctrine. Any attempt to change that doctrine, suddenly produces deep-seated and broadly based resistance.

The extent of this resistance is proportional to the success of the preceding indoctrination and the accumulated personal experience of the members, as well as their professional stake in a system assiduously mastered over many years. Armies could not be battleworthy if this were not true.

So conceptual or doctrinal change is much like drastic surgery; it should only be undertaken for the most powerful reasons. It can only be done under the active authority of the collective leadership at the top.

Yet, it is often true that the conceptual leaders of an army are not also the highest authorities—in their times. J. F. C. Fuller, Charles DeGaulle, Heinz Guderian, Adna Chaffee, and, more recently, Hamilton Howze, are all examples. Those who occupy the seats of power and control the incentive systems must be convinced of the necessity for change in order to be willing to bring it about, even against the grain of the Army. The chiefs of the German general staff faced the same problem in the late 1930s as they imposed the concepts of Gen. Guderian on the ultraconservative and skeptical institution that was their army.

Hard evidence in support of a new concept is difficult to come by. In the case of Gen. Guderian's early tests and demonstrations, the tanks tended to break down. Today at Ft. Hood, much of the new equipment with which to test the new concept is not yet on hand. No set of tests, however carefully designed, will provide wholly one-sided data in support of a new concept. So the high command will not find test results that easily point the way. Nor can it expect to find broad support throughout the Army for the changes proposed. In the end, it must sift the evidence, discern the major features of the problem, and rely on its professional judgment.

Let's look more closely at the proposal and its background. Because of the cost of and preoccupation with the Vietnam war, the Army lost a generation of modernization. New model developments piled up and now the Army is confronted with the most extensive modernization program in its history. The next decade will see virtually every major weapon or piece of equipment replaced by a much more capable but more costly and complex counterpart. Some of the new weapons possess astounding capabilities when compared with their predecessors. In fact, almost all the new weapons and equipment may be classified as high technology.

The challenge is to achieve comparably high battlefield performance. The question is whether current organization and tactics are capable of coping with the new complexity and lethality and of exploiting fully the new weapons in order to win battles against a more numerous and technically modern opposing force.

In short, are we ready for the future?

For every 100 soldiers in the division forces of the Army (those forces which go off to war), there are, excluding individual weapons, 70 major items of equipment. The Army, like the Navy and the Air Force, has become capital-intensive and weapons-dependent. Winning battles depends upon the efficient employment and continuous operation of highly lethal and highly complicated equipment. If the 1,200 M60 tanks in Europe are deadlined or in the hands of poorly trained crews, the battles will be lost no matter how famous the division or brave the leaders.

Historically, the Army has been unit-oriented, whereas the Air Force, for example, has been weapon-oriented. The squadron and wing of F-15 aircraft are organized precisely to support, train and employ that 20-million-dollar fighter. The infantry company, on the other hand, has been regarded as a constant factor in the combat equation to which is added, from time to time, new-style rifles, grenade-launchers, mortars, antitank weapons, and even fighting vehicles.

Further on, we will consider the tactical side of this problem, but first we must be quite cold and thoroughly objective in assessing the current proficiency in our use of weapons and equipment. In doing so, we are not being critical of the individual officers, NCOs or soldiers involved; they do superbly well in the conditions we have created for them. Rather, we are concerned here with analyzing the conditions and environment in which company-level personnel are forced to operate.

Our companies are large, much more so than those of the Germans, Israelis or Soviets. They are functionally complex; in a mechanized infantry company, for example, they maneuver in the case of rifle platoons and attached tank platoons, provide antitank guided-missile fire and give direct fire support with their own mortars. They also perform the functions of administration, supply and maintenance.

Each infantry company has an arms room full of equipment. They are endemically understrength in soldiers and in properly experienced NCOs. Personnel turnover is rapid. Teams and crews stay together for very short terms. Maintaining complex equipment with partially trained mechanics is a staggering problem. A thousand distractions and diversions hamper operations and training.

The company-level command structure of professional officers and NCOs can cope with almost any set of problems if they arise one or two at a time. But, under the conditions we have created they cannot be expected to simultaneously solve a cascade of problems—and yet, simultaneity characterizes the battlefield.

Consider the time and effort required to prepare for annual or semiannual tank gunnery qualification exercises. Consider the state of tank gunnery during the off-season when time and attention are focused on other requirements, such as individual proficiency (SQT tests), unit proficiency (ARTEPS) or administration and logistics (AGIs and CMIs).

A real measure of a unit's effectiveness would be to administer all four qualification tests or inspections within the shortest possible time—say two weeks—for success on the battlefield requires all the individual and unit skills to be exerted simultaneously. It would not be surprising in this method of testing to find performance down by 50 percent or more, across the board.

The burning question is whether there are practical answers to cope with the convergence of complexity and simultaneity. One response is to say, "It's always been that way." But we have not always had XM1 tanks that will cost a million dollars each. We have never before had infantry fighting vehicles (IFV) costing a half-million dollars, and which each will have more combat power than a whole platoon and as much technical complexity as the tank. Nor have we had antitank weapons that fire a single missile round costing nearly $4,000.

An army that will have to fight out-numbered must attain performance advantages by exploiting the full potential of the new weapons.

Consider the problem and the challenge of the XM1. Tank training has never been easy. Under current training and management conditions, the average M60 crew does not achieve more than 60 percent of the potential of the tank gun and fire-control system, even during the semiannual tank gunnery seasons. Between the intensive training periods the level of proficiency is drastically lower. The XM1 adds a night-fighting and shoot-on-the-move capability which will require even more difficult technical and tactical training. Bringing an XM1 crew up to reasonable standards will be comparable in many respects to training air crews in sophisticated armed aircraft. Master gunners and master tacticians backed up by master mechanics will be required.

Correspondingly, there is little likelihood of exploiting fully the new IFV within the framework of the current company organization. This vehicle has the complexity of a tank and the combat power of an armored ATGM launcher. It has a high-velocity, dual-purpose automatic cannon, night sights and a rifle squad on board, with a machine gun and both Dragon and LAW dismountable antitank weapons.

The almost revolutionary heavy antitank guided missile TOW has been placed in the infantry as a "tag-along" weapon. Frequently, the ATGM TOW is improperly employed because it is tied too closely to the infantry company operation. The infantry, by definition, operates in close country, such as forests and towns, whereas the heavy ATGM needs open vistas and long ranges.

The Roland and Patriot air defense weapons, TACFIRE and artillery-locating radars and attack helicopters pose the same kinds of problems in other branches.

Skill, management and training technology must be concentrated on these central weapons without distractions or diversions. There are many ways that this can be done, but the most straight-forward, simplest and least disruptive is to create small single-weapon companies—tank companies of ten tanks and 50 men, mechanized infantry companies of 13 IFV and 100 men, ATGM companies of 12 ITV and 50 men, mortars withdrawn from companies and concentrated at battalion, administration withdrawn from companies and concentrated at battalion. The net effect increases the number of officers and sergeants per weapon system while reducing either the scope or complexity of their functions, or both.

In more detail, the proposed organization has three tank companies in each armor battalion with three platoons of three tanks each, plus a tank for the company commander—a total of ten, compared to the 17 tanks of the current company. The mechanized infantry company has three platoons of four IFVs each and one more in the company headquarters—13 in all. The rifle squads are reduced to nine men. There are no weapons platoons or mortars. The entire company totals about 100 men, compared to the present 180. The antitank guided-missile TOW on the improved TOW vehicle (modified M113) is in a separate company in both infantry and tank battalions. The mortars are in a separate platoon in the headquarters company.

Lifting the burden of administration from the company headquarters enables leadership and management skills to be concentrated on training and battlefield performance. Even with these changes, a company commander, his executive officer, a first sergeant, three platoon leaders and three platoon sergeants will be hard-pressed to extract the full value of the XM1, IFV or the ATGMs.

Tests have indicated that the smaller tank platoons are 14 to 40 percent more effective than the larger five-tank platoons in terms of tactical effectiveness. On the average, the three-tank platoon has its XM1s on the proper part of the battlefield doing the correct thing at the right time about 25 percent more often than the larger and more cumbersome platoon. This seemingly small adjustment can be extrapolated to the equivalent combat power of one whole tank battalion in a European-sized division.

What explains the increased effectiveness of the smaller platoon? There is no mystery; it becomes the equivalent of a flight leader and two wing-men who habitually act in accordance with the long-honored formula, "Follow me and do as I do." According to the Bible, Gideon directed his soldiers, "Look on me and do likewise."

The Israelis have demonstrated the high-performance of such a tactical system. The Soviet tank divisions are similarly organized and the German general staff favors the smaller, simpler formations.

Many other measures besides doctrine and organization need to be taken. Above all, there is performance-oriented technical and tactical training. The personnel and logistics systems must be oriented on the principal weapon systems. We cannot have the best man on a $200 typewriter while a less qualified soldier operates a million-dollar tank.

The battalion has been the basic tactical building block from Napoleon and Wellington through World War II. The company was a tightly controlled element of the battalion which operated most of the time within the range of vision and direct influence of the battalion commander, who also coordinated artillery and tanks with infantry. Yet after World War II, the experience of 34 continuous years of duty in central Europe has changed this outlook and the character of the U.S. Army.

The great majority of our line officers and NCOs have served one or more long tours of duty in Germany with the V or VII Corps. The mission during all those years was defense. The frontages have been disproportionately wide because of the relatively few troops available, and commanders have had to spread their forces thinly. In the 1950s it was not uncommon to find platoons operating independently—that is, out of visual contact and thus out of mutual support with adjacent platoons or parent companies. The only possible tactic was a rapid retrograde movement along with hope for reinforcements along the line of the Rhine.

The development and introduction of 12 additional German divisions in the line made it possible to reduce frontages substantially, even though they still remain relatively wide. By the 1960s and 1970s, the focus of independent action had moved from platoon to company. Today, the standard deployment patterns and tactics center on the actions of company teams consisting of tanks, mechanized infantry, antitank guided missiles, and mortars supported by artillery, helicopters and tactical aircraft.

We did not arrive at this state of affairs by design, but rather by force of circumstance. The vast distances and poor visibility in Vietnam reinforced the Army's focus on company operations. Although the current system is not all bad and although our companies are strong and our peacetime company commanders, on the average, very capable, the company is hard-pressed to achieve high performance in terms of weapons proficiency.

To this has been added the chief responsibility for battlefield integration of the combined arms and the coordination of fire support. We seem to be asking too much from our companies. The application of our combat power depends too much upon one man—the company commander—who is already overburdened far forward on a lethal battlefield. This is what the Israelis are trying to tell us and this is also what the Germans seem to believe.

At this point, it may well be asked how we are going to get around the hard fact of the wide frontages. There are two mutually interdependent answers: first, substantial reinforcement from the United States is required in any event to meet a full Warsaw Pact onslaught. Second, a larger number of smaller battalions, coupled with strategic reinforcement, will permit battalion sectors to be narrowed to a point where classic battalion-level operations are feasible. Certainly, this would be true in the areas of main effort where the outcome of the battle will be decided.

It is a good rule that any tactical element which operates independently—that is, out of mutual support and coordination range of its parent unit—must contain the elements of the combined arms team. (Mutual support and coordination range simply mean within the range of direct-fire weapons, 2,000 to 3,000 meters, and generally within the controlling commander's line of sight.) Thus, a decision to shift the focus from company back to battalion stipulates that the battalion must operate within a tactical compartment that meets the criteria of mutual support and substantial line of sight.

Testing of the new concept must be consistent with this principle.

There are additional disadvantages associated with the company focus. The greatest is that it works against the concentration of combat power. This assertion appears to be inconsistent with the idea of smaller units, but, in fact, it is not. Forming combined arms teams at the company level results in the exchange of platoons between companies.

In the case of a tank company, it takes under its operational command one platoon of mechanized infantry. This platoon is the only infantry available for the independent missions assigned to the company. This arrangement might be adequate for a delaying action, but it is certainly marginal for the attack or the active defense.

A mechanized rifle platoon would have a wartime complement of 25 to 35 men and probably average 30. With four infantry fighting vehicles, each of which requires a driver and gunner to remain mounted, the number of infantrymen available to fight on foot will be little more than 20. These small platoons operating with company teams must perform all the mechanized infantry functions for *all* independent missions. This includes clearing small hamlets, wood lines and a dug-in enemy; providing protection for tanks and antitank guided missiles at night and in bad weather; and holding critical terrain.

In general, a platoon is inadequate for these tasks when the enemy is operating primarily at battalion and regimental levels. Two or three casualties will often stop a platoon and will almost certainly stop it if the casualties include the platoon leader.

In the small-battalion concept, a full rifle company would be assigned to the tank battalion. Under the direction of the battalion commander, it would be used in its entirety for one infantry mission at a time. This would concentrate 13 infantry fighting vehicles for fire support of a dismounted contingent numbering at least 60 men and up to four officers led by a captain.

This example illustrates one of the conceptual difficulties associated with the proposed new organization. The battalion task force commander, with his supporting staff and larger, more robust, and powerful maneuver elements, operates almost precisely in the manner of a company team commander under the current concept.

But he has greatly increased effect, much more than the numerical multiple involved. The techniques of control are more personal and direct. The battalion commander cannot operate by deliberate assignment of boundaries and will have little time for elaborate estimates or troop-leading procedures.

It is here that the proposal runs into a prickly hedge. There is at least one generation of officers which has had fixed in its minds the image of the company commander coordinating the combined arms team and acting as the principal agent for the application of combat power against the enemy. Anything less is, understandably, regarded by many (probably most) as insulting, a step backward, a vote of no-confidence. Many battalion commanders tend to see no justification in reducing their commands by 40 percent when they see nothing ahead but combat against larger opposing forces. Recent articles in *Armor* magazine attest to these reactions.

But many reasons argue for moving the focus of combined arms operation up to battalion. On the European battlefield, against very large Warsaw Pact armored forces, the basic tactical problem arises from the relationship among time, the number of defending weapons and the number of enemy targets. The average visibility interval in central Germany is less than one mile. Normally, then, the enemy attacking force becomes visible to the defending forces and weapons as it comes around the corner or over the next wooded hill to the front at a range of 1,500 meters or less. Soviet tactics in this situation are very clear: suppress the defending weapons with heavy artillery fires and move fast.

If the Soviet armored force would move at 20 kilometers an hour, it could close on the defender in less than five minutes; at ten kilometers an hour, less than ten minutes. Given natural obstacles such as streams and soft ground or snow in winter, at ten-kilometers-an-hour rate of advance is more probable. In either event, the defender has precious few minutes to engage and destroy the attacking force.

Tank Battalion

	Current	Under Study
Personnel		
Officers	34	35
Warrant officers	2	3
Enlisted	516	436
Weapons		
M60	54	—
4.2-inch	4	—
Redeye	5	—
81-mm	—	6
XM1	—	36
TOW	—	12
Vehicles		
M60	54	—
XM1	—	36
M577	6	7
M113	18	19
M578	2	—
M88	5	5
M125	—	6
M106	4	—
ITV	—	12
AVLB	2	2
Wheeled	78	53

Current Organization (54 tanks): large 17-tank company—five-tank platoon; own maintenance in company; no TOW.

Battalion Under Study (36 tanks): common base with mechanized battalion; smaller company—11 tanks (smaller platoon—three tanks); one extra tank crew per company; maintenance, mess, administration, supply at battalion—combat service support company; 81-mm mortars—six in headquarters company; separate TOW company—three platoons of four TOW each; no scout platoon.

Consider the basic tasks that must be performed in those action-packed and terrifying minutes. Consider, too, that they must all be performed whether the tactical echelon is a company or a battalion. To the extent that time does not permit them all to be accomplished, is combat power lost.

Assume that the defending force—company or battalion—consists of tanks, mechanized infantry, antitank guided missiles (ITV, at least) and mortars, and is supported by artillery, attack helicopters and close air support. In every task listed below, a passage of verbal instructions is required, whether by radio transmission or by conversation:

- Alert subordinates to appearance of enemy.
- Report to higher headquarters appearance, nature and apparent strength of enemy.
- Initiate defensive direct fires.
- Call for scatterable mines (at least two transmissions).
- Call for armor-penetrating area submunitions (DPICM) or laser-guided antiarmor projectiles (CLGP) or both. Remember that CLGP requires near-continuous communication via artillery channels. Adjust location or priority several times.
- Redistribute fire (at least two transmissions).
- Change radio frequency under jamming (time delay).
- Issue orders to reinforce threatened sector (at least two transmissions).
- Medical evacuation (several transmissions).
- Adjust artillery to conform with battle (repeated transmissions).
- Adjust mortars to conform with battle (repeated transmissions).
- Coordinate commitment of attack helicopters (several transmissions).
- Request and coordinate close air support (several transmissions).
- Respond to requests for situation report.
- Issue orders to displace to alternate battle positions or counterattack (several transmissions).
- Appoint and dispatch commanders to replace casualties.
- Move to observe critical sector.
- Redistribute critical ammunition or fighting vehicles.

Even if each of these tasks could be performed with perfectly working radios in a non-stress environment—as, for example, in a war game or battle simulation—they could not possibly be accomplished by a company commander in five, or even ten minutes. Not only would artillery fire-request and fire-direction transmissions be continuous over any period of time, but heavy Soviet artillery suppression, the direct fire of 50 to 100 tanks and self-propelled artillery, together with probable barrage jamming, would severely reduce efficiency.

This is not an exaggerated picture. Murphy's Law has not been introduced. We have not wounded or killed the company commander or the artillery forward observer. At least 20 radio transmissions on the single command net would be required to develop fully all the combat power available, even with excellent pre-planning. In short, it would be impossible under battlefield conditions to handle such a load at company level. A large fraction of combat power would consequently be lost at precisely the critical time.

This is a glaring fault in design in the present system which selects the company as our principal agent for coordinating the combined arms and for applying combat support fire power.

In comparison, the battalion has 3 1/2 times the number of artillery and mortar observers and radios. It has four times as many command radios and channels. It has a staff to handle reports to higher headquarters and to request and coordinate close air support and helicopters. It can

distribute specialized artillery missions over a greater number of observers. It has resources to replace key casualties.

In short, it is more robust and resilient. While companies are prone to catastrophic failure, battalions degrade more gradually in heavy combat. Therefore, the battalion can be expected to exploit a much higher percentage of available combat power for each kilometer of front, each 100 men or each 100 tanks.

If the Army plans to base its reorganization decision on test results, then the scope of the test should include a fair comparison, under realistically simulated battlefield conditions (including casualty assessment against key people), of the capacity of the old and new organizations to generate and sustain combat power during critical operations where time is a major factor.

While the U.S. Army is considering a shift of focus from company to battalion, the German Army seeks to go one step further. Concerned about the anticipated size and intensity of a Soviet attack, the Germans, under conditions of high criticality and high concentration of forces, favor the employment of pure battalions under the close coordination and control of a brigade commander. In the zone of the main effort—at the *Schwerpunkt*, in German—the pure battalion is thought to be more appropriate to the magnitude of the combat tasks. The brigade commander conducts the combined arms battle and actually moves his battalions within his scheme of maneuver. Certainly, the German Army will be forced to operate with cross-reinforced battalions for much of the time but never with cross-reinforced companies.

It is much more difficult to concentrate combat power efficiently when the combined arms are integrated at the company level. In order to assemble a large number of tanks for attack or counterattack, two things would occur: it would take time to divest the formations of their mechanized infantry, or the infantry would be dragged along even though not required or desired.

The realities of modern weapons, the relationship between time and space, the importance of speed in reaction, the ratio of forces expected to be engaged and the level of combat anticipated in Europe—all these call insistently for shifting the combined arms focus from company to battalion level.

Concentrating talent and management on high-technology weapons to achieve equally high battlefield performance, reducing the size of units to increase efficiency of employment, shifting the focus of combined arms coordination to smaller but more numerous battalions—all this requires an increased number of leaders on the battlefield.

This, too, has provoked skepticism about the practicality of the reorganization under study. Historically, Congress has been sensitive to the officer and NCO ratios and has kept them down. In recent years, the ratios have been slightly reduced, so it is no small matter to propose the enrichment of the leadership mix in the combat echelons of the Army.

It may be that the problem could be solved by reallocation within current allowances. After all, we are speaking of about six lieutenant colonels for each division. With 16 active divisions, this adds up to only 96 lieutenant colonels out of some 10,000, and to about 500 captains out of 25,000. If more officers and NCOs are required in the Army as a whole, there are two additional and powerful incentives for going after the necessary authorizations.

Infantry Battalion (Mech)

	Current	Under Study
Personnel		
Officers	37	31
Warrant Officers	2	3
Enlisted	809	547
Weapons		
TOW	18	44
81-mm	9	6
4.2-inch	4	—
Dragon	27	27
Vehicles		
M577	6	1
M578	6	2
M88	—	3
M113	63	17
M125	9	6
M106	4	—
M220 (ITV)	18	12
MICV	—	32
Wheeled	72	40

Current Organization: 171-man company; rifle platoons, TOWs, mortars, maintenance integrated in company; combat support company—TOWs, mortars, scouts; 11-man squad.

Battalion Under Study: common base with tank battalion; pure rifle companies; nine-man squad; AT (TOW) company—12 TOW; 81-mm mortars—six in headquarters company; mess, maintenance, supply, administration at battalion; combat service support company; no scout platoon.

Although the combat power of armies is rising exponentially, the number of soldiers on the battle line has been declining steadily. At Waterloo, the Duke of Wellington disposed of nearly 20,000 men for each mile of front. When Gen. Alexander von Kluck made his famous right hook toward Paris through Belgium and northern France in World War I, he had 10,000 men for each mile of attack zone. In the same war, the British Fifth Army, which was overrun by the last great German offensive in 1918, deployed 15 divisions on a front of 40 miles or a density of about

5,000 men a mile. In World War II, the density was more nearly 2,000 men per mile. In Germany today, where the U.S. 1st Armored Division of 16,000 men is expected to fight on a front of nearly 50 miles, there are between 200 and 300 men per mile. Even more to the point, of the 16,000 men only 7,000 are in tank and infantry elements. This brings the fighting density down to between 100 and 150 front-line soldiers per mile.

This arithmetic illustrates the fact that fewer and fewer soldiers dispose of more and more combat power and are increasingly responsible for critical terrain. Is it then illogical to concentrate more quality on the cutting edge?

Between wars, we tend to forget how terrifying and intimidating the actual battle up front is between soldiers who apply direct-fire weapons against one another. Contrary to the romantic myth, few men are very good at it and even fewer like it.

After World War II, military historian S. L. A. Marshall published *Men Against Fire*, in which he showed that even in the most elite airborne units half the paratroopers never fired their weapons at the enemy during the hottest battles when their own lives were in grave jeopardy.

In some units, the level of active participation in battle never exceeded ten percent. A respected Israeli airborne commander, asked how many men continued to fight when the going was at its toughest, replied, "Each officer and the man on his right and on his left."

There are a few natural fighters in every unit, but those who have long experience in front-line battle know that the sergeants and junior officers carry the load when the battle goes critical. There can be no doubt that front-line fighting effectiveness is directly proportional to the number of leaders present. Not every sergeant or officer is a battlefield leader, but the process of selection and training guarantees more leadership, both natural and induced, in the ranks of the NCOs and officers than among average soldiers of the line. As the lethality of weapons goes up and the number of men goes down, the leader ratio must rise.

There is another decisive advantage in raising the front-line leadership quotient and it has to do with decentralizing tactical authority on a fast-moving battlefield. During World War II, the German Army achieved astounding results against the much larger and stronger Soviet Army. There were many reasons for this, but one of the most important was the echelonment of tactical control. The Russian Army was then, and to some extent is now, a highly centralized mechanism. The German Army was and remains essentially decentralized with its tactical initiative pushed to the lowest echelon.

The tactical philosophy of the U.S. Army is patterned after that of the Germans, and the Israeli Army is the near-ultimate application of this concept.

While the centralized force is experiencing and observing the results of combat action, sending its sensings to a remote control center, digesting their meanings and concocting reactions, the decentralized force has already embarked on a whole new series of actions finely tuned to the realities of the real-time situation. The smaller, faster, more competent force is like the agile, maneuverable fighter aircraft, which can turn inside a heavier opponent and win. The centralized system reacts to old sensings, which more often than not, quickly lose operational value.

Totally mechanized forces, to a large extent, fight defensive and offensive battles with the same battlefield techniques of cover, concealment, suppression and teamwork. To exploit fully the mobility and combat power of the force, decision-making should be decentralized to the man on the ground who works within the mission imperative and conceptual framework of his next higher commander. The German Army regards this principle, coupled with meticulous training, as the foundation of its historically demonstrated high performance.

The lethality of modern weapons requires a high degree of tactical skill and adaptation to the terrain and situation. Decisions and plans made in remote control centers can well lead to disaster on the line of contact. Creating a larger number of smaller but higher performance battalions is simply a method of pushing intermediate commanders with tactical authority closer to the battle scene. They have additional dangers, but they also have additional opportunities to exploit a slower and more deliberate enemy.

The organization being tested at Ft. Hood would add six lieutenant colonel battalion commanders and six sergeants major, 30 captain company commanders and 30 first sergeants, and 90 lieutenant platoon leaders and 90 platoon sergeants for a total of 250 frontline leaders per fighting division. More leaders per weapon system, more leaders per soldier and more leaders per kilometer give more performance per battle.

There are other important aspects of the proposed reorganization. The most important would be to increase the number of artillery tubes and batteries to enable the delivery capability to keep pace with demands during critical operational time segments. The artillery recently went into a slight decline when the tank and the antitank guided missile became the primary weapons on the NATO battlefield where armor killing is the name of the game. Even today, some professionals are ready to trade off artillery for more antitank capability.

But like any healthy organism, the artillery has adapted to the milieu. It developed three new types of munitions, each antiarmor in design: the laser-guided antiarmor projectile (CLGP), scatterable mines (FASCAM) and armor-penetrating area submunitions (DPICM). These, plus smoke, illumination and good old high explosive, have put the artillery back in business on the armored battlefield, so much so that it will be saturated with requests for one or another of its capabilities as soon as the battle starts.

Additional reorganization matters: the air defense artillery organization would be tightened; a chemical company added; the division engineers pushed forward into the tactical battle zone; the electronic warfare structure improved; and some progress would be made toward system-oriented logistics.

The combat doctrine of the world's leading armies is based squarely on the concept of armored warfare that was developed during World War II, mostly by the Germans. Now, nearly 40 years later, that doctrine has matured and ripened, has been demonstrated in the Middle East and has been infused with new vitality through high technology.

If the next major war occurs in the near future, whether in Europe or elsewhere, involving modern mechanized armies, this refined and reinforced doctrine will undoubtedly prevail, at least at the outset. Then new tactical applications of new technology will appear under the pressure of actual combat. Almost certainly, there will be expanded use of airmobile systems of all kinds.

Underlying this tactical evolution will be the steady advance of military technology with its increased lethality, greater complexity, and higher potential.

The quality of the human material will not improve correspondingly. The army which recognizes the scope and nature of this problem and adapts its organization, tactics and training to the new realities will prevail upon the battlefield. The armies which do not recognize the problem, or do not adapt, will go down to defeat on a battlefield littered with the evidence of missed opportunities.

2

Technology and Tactics in Defense of Europe

By Gen. William E. DePuy
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Not only NATO's soldiers, but its politicians, scientists and public policymakers must understand that the right tactics harmonized with modern weapons—that is, the evident ability to fight—form the true basis of deterrence.

Weapons are the product of new technology. Tactics are the application of new weapons to military problems. Good tactical concepts, in turn, feed back on the refinement of new weapons. In the hands of proficient crews and under the direction of skilled commanders new weapons and new tactics can be combined to win battles—even lopsided battles against larger forces such as those confronting NATO in Central Europe.

In June, 1940, the German attackers and the Anglo-French defenders were possessed of roughly equal strength and technology. Any small advantages were in favor of the Anglo-French. But equal strength and technology were overwhelmed in a dramatic display of superior tactics by the German Army.

Now a whole new generation of military weapons is passing into the hands of all the modern armies. The prime military problem of the West remains that of defending NATO Europe against increasingly strong and rapidly modernizing forces of the Warsaw Treaty Organization (WTO). Other military problems will surely arise elsewhere, but NATO is by far the most demanding and by U.S. government policies and priorities provides the mission basis for the development of American forces.

Therefore, by definition and precedent, it is necessary to review our tactics—the application of new weapons—in the context of NATO. The military problems may be summarized as follows:

- The requirement for forward defense along the eastern boundary of West Germany.
- The existence of modern enemy forces which at the outset of hostilities would outnumber the NATO defenders by more than 2 to 1.
- The paucity of maneuver room in which to fight a defensive battle because of the narrow configuration of West Germany.
- The unequal reinforcement capability of the two sides, which means that force ratios would worsen as time goes on.

In the framework of these problems the right combination of technology and tactics must be found and expressed with simplicity and clarity so that thousands of minds in the several NATO countries can coalesce around the essential elements. Not just soldiers but also scientists,

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engineers, defense managers and political leaders should have a common concept as the basis for their actions, including the design of the next set of weapons.

I will also consider here a conceptual framework built around the requirements for concentration, elasticity, coherence and counter-concentration.

- *Concentration*—mass at the critical points. Napoleon, in 1794, said:

> The same rules obtain in the conduct of campaigns as in the siege of fortresses; the fire must be concentrated upon one point. The breach once made, the equilibrium is disturbed, all the rest becomes useless.

In terms of relative strength, or the correlation of forces, as the Soviets say, NATO is at a critical disadvantage. In a short-warning attack, that is, with forces already on the ground, the WTO would enjoy an advantage of somewhat better than 2 to 1.

It is almost exactly 2 to 1 in division equivalents; 2.5 to 1 in tanks; and somewhat less than that in artillery, antitank guided missiles (ATGM), tactical fighters and infantry. And this 2 to 1 superiority is across the whole front before the attacker concentrates, and before reinforcements begin to arrive from the western Soviet Union.

Granting that strength ratios do not necessarily equate to combat power (weapons quality, tactics, performance and courage all count heavily), they are, nonetheless, a sensible place to start.

Conventional military wisdom has long had it that a defender can cope with a 3 to 1 adverse force ratio. Therefore, to be safe, the attacker would like to have something like 6 to 1 in his favor at the point of main effort—the *Schwerpunkt*, in German parlance. The Russians agree. S. M. Shtemenko wrote in *The Last Six Months* (Doubleday):

> We had no great superiority over the enemy, especially on the 3rd Ukranian Front. The ratios were as follows: in troops, 1.2 to 1; in guns, 1.3 to 1; in tanks and self-propelled guns, 1.4 to 1; in machine guns, 1 to 1; in mortars, 1.9 to 1; and in aircraft, 3 to 1. Obviously, we would have to compensate for this inadequate superiority by massing our forces on the sector of the main blow. It was decided to solve the problem by stripping all secondary sectors of the front. Here is the striking picture of the front then offered . . . troops, 6 to 1; guns, 5.5 to 1; tanks, 5.4 to 1; machine guns, 4.3 to 1; mortars, 6.7 to 1; aircraft, 3 to 1. This edge of superiority was sufficient for breaking through the enemy's defenses and exploiting the success. All the rest depended on the skill of the commanders and the skill and self-sacrifice of the troops.

Conventional wisdom, based on experience, is supported by war-gaming and analysis. Over a long period the war games conducted at Ft. Leavenworth, Kan., the Combined Arms Center of the U.S. Army, affirm that the defender usually begins to lose when the attacker's advantages rise above 3 to 1.

At the Army Materiel Systems Analysis Agency at Aberdeen Proving Ground, Md., the threshold is 2.6 to 1. So, 3 to 1 is a good round figure.

There is very little room for tactical error on the part of the NATO commanders. It does not take much head start to turn an overall advantage of 2 to 1 into local advantages of over 3 to 1. The attacking commanders will use every trick in the book to bring about faster and larger concentrations—to beat the defender to the punch.

Although Russian commanders in World War II developed a strong preference for massive concentrations on relatively narrow fronts, there are those who feel they may not do so in the future.

Weighing against the probability of a few very large concentrations are: the nuclear targets thus formed; the time and massive movements involved, which can hardly be hidden from modern sensors; the opportunities which would be presented by a surprise attack in which the defenders

would not yet be in position, and that a broad front attack would permit the initial commitment of more combat power than would be the case with the deep echelonment of the classic breakthrough formations in which whole divisions are held back in follow-on echelons.

Arguing in favor of the big breakthrough technique is not only the battle experience of the senior Soviet officers but also the fact that larger exploitation forces would have more stamina, more velocity and more decisive effect deep in the NATO rear.

But we cannot know beforehand what the Soviet commanders will do. We only know that whether they try a few big attacks or many smaller thrusts, the defending commanders must acquire information on enemy strength and movement, communicate that information to command and control centers, sort it out, make decisions, and set defensive forces and actions in motion—fast. The U.S. Army now calls this function "force generation."

But whatever it may be called, it would have been futile, even in the recent past, to think that any of this could happen in time. Intelligence was mostly based on information which came up from the bottom—from units already locked in combat with the concentrated enemy force. The Battle of the Bulge is a classic example. But more and more, combat information and intelligence are coming down from the top. The higher echelons of command own and operate or have access to the long-range sensors.

Even so, the difficult fact is that almost every echelon in the affected sector needs this information immediately—from the supreme commander to the colonel commanding a brigade in the path of the onslaught. There is not time for each echelon to consider the evidence, arrive at conclusions and pass them on—*seriatim*.

This latter practice would bring the information to commanders up front much too late to help. What is required is a combination of streamlined operational and intelligence procedures supported by multiple access communications and distribution systems. Critical combat information must be moved in near-real time—intelligence based on correlation and fusion of that information as soon thereafter as possible. There is no reason why such a system cannot be developed, procured, deployed and put into operation so that our brigades and battalions, properly concentrated and supported, can "be there waiting."

Coupled with tactical warning is the high proportion of combat power that will be available to the division and corps commanders in the form of long-range artillery (including missiles and rockets), attack helicopters and tactical fighters. This mobile firepower can be concentrated in minutes while the slower moving, direct-fire ground weapons are assembling at the *Schwerpunkt*.

As doctrine of the modern German Army HDv 100/100 states:

> It is the task of every major commander to adapt at all times the point of main effort of the defense, particularly of fire and air support, to the changing situation. For this purpose he will move forces from less threatened areas and employ them where the course of the battle requires.

However, at present only the artillery is a day-night, all-weather system, and even the artillery has limitations in conditions of restricted visibility. The laser-guided projectiles cannot operate in fog, heavy rain or smoke. Forward observers often cannot see or adjust fire in such conditions.

Most of the precision-guided munitions are similarly affected. Furthermore, the delivering aircraft and helicopters are faced with severe limitations at night and in bad weather. Helicopters will break this barrier before high-performance fighters simply because they can adjust their speed and altitude to visibility conditions. Fighters can be handled in these conditions, but the technical solutions are so complex and elaborate that there are very stringent limitations on the rate at which high-performance aircraft can be employed.

Additionally, WTO air defenses are designed to keep high-performance tactical aircraft from concentrating combat power on the forward battlefield. The battle of technology between enemy air defenses and the tactical air forces has become a modern epic. It is impossible to view with certainty the status of this contest at any one time, let alone project confidently into the future. It is certain, however, that tactical air forces will not be fully effective over the battlefront unless enemy air defenses are physically, optically or electronically suppressed.

Suppression of enemy air defenses will require the combined efforts of the Air Force and the Army. Army artillery, rockets, missiles, electronic warfare (EW) and attack helicopters should all be integrated into the suppression operation. The fact is that the Army and the Air Force have not yet learned how to synchronize their combined capabilities in this complicated operational arena. But the Army is pressing its suppression assistance upon a slightly skeptical Air Force simply because the Army desperately needs effective air support.

It would be misleading to leave the subject of concentration without touching upon surprise, deception and performance. No matter what the force ratios may be, a sleeping, maldeployed or ill-trained force disposes of very little real combat power. What Gen. George Washington did at Trenton, so, too, did the Japanese at Pearl Harbor, and so surely will imaginative and skillful commanders in the future.

The success of the Normandy landings owed as much to deception operations, which pinned down half of the German reserves, as to the rate of reinforcement over the beach. But of all the factors which tend to modify the value of raw force ratios, human performance dominates the scene.

The gap between potential and actual battlefield performance has always been large and is growing. The combat power of a brigade or division could be at least doubled by:

- Matching the high technology weapons with high-performance crews (more human quality).
- Improving tactical performance by organizing smaller units—that is, grouping the new weapons under a richer mix of leadership.
- Exploiting modern training technology.
- In short, creating technically and tactically elite fighting units around the new weapons.

Big battalions comprised of marginal performers are a formula for failure on a modern battlefield.

Finally, with respect to concentration, it is clear that the division or corps commander who fails to cover his opponent's moves with actual combat power ratios somewhere near the 1 to 3 threshold must find other answers to his tactical problems, at least until he can rectify his deployments, or until someone comes to his assistance. This brings us to elasticity.

- *Elasticity*—the ability to absorb shock; not frangible, not brittle: Corelli Barnett in *The Swordbearers* (Midland) wrote:

> Petain signed an instruction on the defensive action of large forces in battle. This instruction embodied all his own ideas and experience and also the lessons learned from the enemy; and it was issued at a time when it had become certain that the campaign of 1918 would open with a German general offensive in the west. Subordinate commanders did not universally welcome its emphasis on yielding ground forward, on elasticity. For the very soldiers who believed with a moral fervor in attack (like Foch) also believed with a similar fervor in not yielding a yard of ground. Once again they confused emotion, gallantry, pride in themselves and their country with technique.

At those places where the enemy achieves local superiority of a magnitude which exceeds the capability of the defense to contain, the defenders have the choice of expending themselves in

place or, if they are not on absolutely critical terrain, the option of trading a little space for time and casualties. Before we worry too much about the agonizing nature of this choice, it would be well to remind ourselves why it is that a defender can tolerate adverse force ratios of as much as 3 to 1.

There are two sets of forces at work. One is the effect of relative strength on battle outcome as expressed in the so-called Lanchestrian equations. Although somewhat controversial, as they were originally based on naval engagements, these equations say that the advantages flow to the larger force on a better than one-for-one basis. That is, one unit of strength added to the already larger force has an effect equivalent to more than one.

Pushing in the other direction are all the advantages which accrue naturally to the defender. These advantages, which account for the 1 to 3 tolerance of the defender, fall in the following categories: concealment and target acquisition, cover and exposure, stationary versus moving gunnery, and terrain and obstacles.

- *Concealment and target acquisition.* As the songbird knows when the hawk is near, the slightest movement will bring certain death. So, too, on the battlefield the stationary defender sees the moving attacker first, at longer ranges and with less error. Tests and analysis show that the defender has a range of advantage from 500 to 700 meters in all of these aspects, and also that the attacker makes three times as many false identifications as the defender.

This is not surprising because the stationary defender has also taken pains to conceal himself. If the attacker is in a buttoned-up tank (standard Soviet practice), he will be bumping across rough ground while trying to see through narrow vision blocks. The target-acquisition advantage goes decisively to the stationary and concealed defender.

- *Cover and exposure.* Defending armored vehicles can be dug into the ground by bulldozers gouging out ramp-like positions, or they can find cover behind natural crests or hillocks which provide protection for all but the heavily armored turret. The attacker on the other hand must leave cover in order to advance upon the defended position. Battle positions are selected by the defender in order to magnify this problem for the attacker.

The simple table below illustrates the magnitude of this advantage in terms of relative target size.

Exposure of Tanks in Attack and Defense (using M60s)

	Defender hull-down	Attacker in full view
Height of target in meters	**1.3**	**3**
Area of target in sq. meters	**3.5**	**10.4**

It does not take much imagination to translate this better than 3 to 1 difference in exposure into corresponding loss rates on the battlefield. In the case of infantry tests with direct-fire weapons, the dug-in defender has a 6 or 8 to 1 advantage over the exposed attacker. Defending positions specially constructed to provide frontal cover against direct-fire weapons add another 50 percent in effectiveness.

- *Stationary vs. moving gunnery.* Most of the main battle tanks now in the hands of troops on both sides of the Iron Curtain have single-shot hit probabilities (Ph) of more than 60 percent at a range of a mile if both the firing tank and the target tank are stationary. Even

if both sides have installed gun-stabilization systems on their tanks to provide a shoot-on-the-move capability, the Ph goes down sharply.

It is for this reason that, until recently, it has been the practice in most armies to fire from a short halt in the attack. These halts increase the accuracy of the attacker's fire but also increase his exposure and the probability of his being hit by the stationary and concealed defender. The newest tanks, especially the U.S. XM1, have stabilization systems so advanced that their Ph on the move is about equal to the Korean-vintage tanks while stationary. Even so, the stationary tanks will retain an advantage into the foreseeable future of at least 2 to 1.

Antitank guided missiles have interesting characteristics which drive their tactical employment. On the one hand, the heavy ATGM, with second generation guidance, have hit probabilities from 70 to 90 percent for a single shot out to 3,500 meters. In the range band from 2,500 to 3,500 meters, the ATGM outperforms the tank by at least 3 to 1. However, most of the heavy ATGM in service today are either lightly armored or not armored at all, and are susceptible to suppression or destruction by artillery fire and air attack.

They also have relatively slow rates of fire and cannot see or operate through heavy fog or smoke. They are even degraded by the normal dust and smoke characteristic of any battlefield. The ATGM must be carefully sited to take advantage of its long-range accuracy and to protect it against its vulnerabilities. As enemy tanks approach an ATGM it progressively loses its advantage. Under 1,500 meters, the faster firing, more heavily armored tank has the edge. Thus it is that the defender's advantages with the ATGM can be maintained only by preserving long stand-off ranges through tactical maneuver.

- *Terrain and obstacles.* In Germany the typical battle position is on a wooded hill or in the outskirts of a hamlet or town. Usually, the attacker must cross an open valley or fields fully exposed. The defender has the advantage in terms of target acquisition, exposure and gunnery which have been outlined.

Facing this situation, the attacker tries to minimize his problems by finding covered and concealed routes which will lead him as close as possible to the defended position. When he is forced into the open he suppresses the defender with artillery and direct-fire weapons and blinds him with smoke or attacks during periods of reduced visibility such as night, fog or heavy rain.

He also seeks to minimize his exposure by rapid movement, giving the defending weapons as little time as possible to engage. Lastly, he tries to throw a large force at the defender in hopes of saturating the defending gunners.

Correspondingly, the defender seeks to slow down or stop the attacker precisely when he is at the optimum engagement ranges for the defending weapons. The classic method for slowing the attacker has been the use of minefields laid athwart the enemy's expected line of advance. Test and analysis indicate that properly employed mines double the effectiveness of the defender—more exposure for the attackers, more time to shoot for the defenders make for many more targets hit.

The advent of artillery scatterable mines which can be thrown in the path of an advancing enemy even after he has started his movement puts an even more effective device at the disposal of the defender.

A combination of all the defender's advantages adds up to an impressive increase in combat power for each defending weapon or unit engaged. It is difficult to compute a single number which fairly represents these cumulative advantages because that figure would change constantly in response to force changes (casualties and concentration); range changes (as the attacker approaches); and terrain (intervisibility distances, cover and concealment).

Nonetheless, for the purpose of the Army's new battle book, such a number has been provided to help tactical commanders better understand the dynamics of the battlefield and to assess their plans and dispositions. In that battle book the defending M60A1 tank is given a kill rate per minute of .3, whereas attacking T62 Soviet tanks are given a rate of .02. This is an advantage to the individual defending tank of 15 to 1.

These advantages only apply to weapons on line; in line-of-sight with enemy forces and served by courageous, highly trained crews. Often the generals concentrate the brigades and battalions on the critical terrain. The colonels and captains must push their weapons up onto the line. The classic tactic of holding one-third of the force in reserve at *each* echelon (two up and one back) is a formula for certain defeat. It guarantees that a force already outnumbered voluntarily holds back more than 50 percent of its direct-fire weapons from the initial battle. Thereafter, the reserves are committed in futile pennypackets.

Obviously, the advantages of the defender are enormous, but they are not invincible. It is the doctrine of all experienced armies (but not necessarily the practice of inexperienced units within those armies) to avoid, whenever possible, battle on ground chosen by the enemy. Attacking into prepared defenses is always expensive, often fatal and usually unimaginative.

Unfortunately, there are times when it cannot be avoided: when envelopment, infiltration or surprise will not work. Even then the advantages to the defender diminish as the attacking force closes the range. The long-range defending weapons are no longer enjoying unreturned shots—target acquisition begins to equalize—hit probabilities go up for both sides and reach parity in the final melee. The larger side with more eyes and guns begins to prevail.

Although it will thus be necessary on many occasions to stand and fight, it must be understood that the defender's advantages decay over range and usually over time.

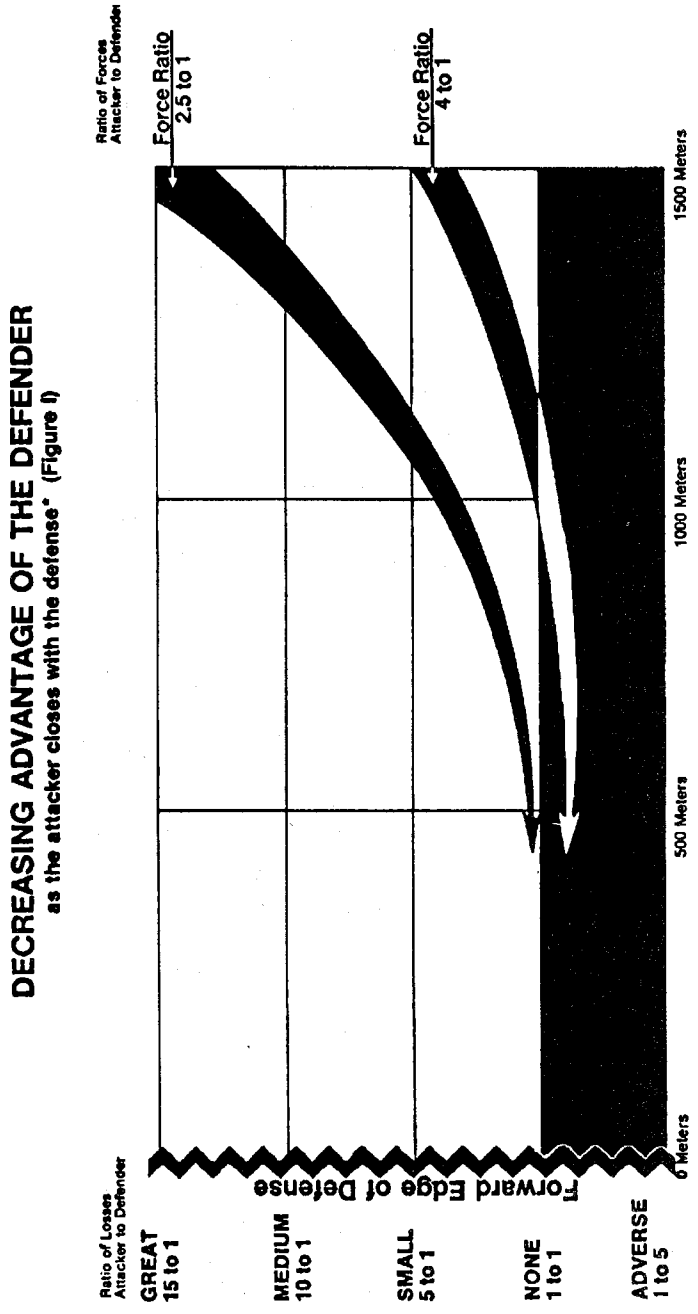
Figure I depicts the results of two battle simulations. In general, the two curves show the rapid decline in the advantages of the defender as the attacker approaches. In the battle represented by the upper curve the defender was outweighed (in combat power) by 2.5 to 1, in the lower curve by 4 to 1. Notice that as the force ratios change in favor of the attacker, the defender's advantages are of lesser magnitude and diminish rapidly to parity or worse.

Most importantly, the curves illustrate the fact that the defender's advantages are greatest (as high as 17 to 1 in the one example) at the outer ranges. Thus, if the defender can use his armored mobility to maintain distance between himself and the attacker he can preserve his advantages—in fact, he can repeat them over and over again.

The classic military response to sharply adverse force ratios has been to execute delaying operations. By stepping back to a series of rearward positions, the enemy is forced to go through the sequence of a meeting engagement one more time, with all the time delays, risks and initial losses involved. The delay has traditionally involved large steps backward, usually to major terrain features such as rivers, cities or ridge lines where the defender found pronounced terrain advantages.

In West Germany, the political and geographical tolerance for the classic delay is very low indeed. It is, therefore, necessary to seek the benefits of the delay by compressing the tactical movement into the micro-terrain of the main battle area up forward.

Even the most successful defensive operations in the main battle area would not guarantee against enemy penetrations using helicopters or airborne troops to overfly the ground defenses. Not only has this dimension of the threat been expanded by the helicopter, but, also, the Soviets are building them by the thousands. Therefore, quick reacting, equally mobile defensive forces


DECREASING ADVANTAGE OF THE DEFENDER
as the attacker closes with the defense* (Figure I)
Ratio of Forces Attacker to Defender
Force Ratio 2.5 to 1
Force Ratio 4 to 1
Ratio of Losses Attacker to Defender
GREAT 15 to 1
MEDIUM 10 to 1
SMALL 5 to 1
NONE 1 to 1
ADVERSE 1 to 5
Forward Edge of Defense
0 Meters
500 Meters
1000 Meters
1500 Meters
* Two typical battle simulations.

will be required for the security of the rear areas. Air cavalry would be a suitable complement to the more heavily armed German territorial defense forces deployed behind the fighting corps.

If concentration backed up by elasticity describes a logical set of tactical measures to exploit the military technology of the 1980s in the defense of Central Europe, the question remains as to whether there may be other even more effective alternatives.

It is surprising that someone has not proposed to build fortifications along the border between East and West Germany. In somewhat similar circumstances the Chinese built a wall, Hadrian threw up an earthwork across the waist of Britain, and the French word *Maginot* has become shorthand for futility. None of these barriers, or even former Secretary of Defense Robert S. McNamara's Electronic Wall kept the attackers out.

The attacker in each case, went over, through or around the obstacles once he decided to commit the necessary force. However, by reducing the vulnerability of the defender and thus multiplying his effectiveness, the obstacles may be said to have had some temporary value.

The problem with most of these defense systems stems first from the difficulty of concentration—there are just so many prepared positions in any one sector. The second and greater problem is that there is no elasticity to fixed fortifications so that failure of the system, when it happens, is usually catastrophic. The defense cannot maneuver and, when penetrated, the mobile attacker has a free ride. More will be said about this; in the meantime, history urges us to be wary of peddlers selling fixed fortifications as the basis of a successful defense.

More relevant, however, is the German experience against the Russians from Stalingrad to the end of World War II. For 2 1/2 years a German army of about three million men fought a strategic defensive battle against Russian armies of 5 1/2 million men which at one time disposed of some 500 divisions. No Western army but the Germans' has direct experience of such epic battles over such staggering distances.

The performance of the German Army in these circumstances was little short of miraculous. Certainly it was destined to lose in the long run for strategic reasons, but where it faltered tactically it was, as often as not, the amateur hand of Hitler on the controls. In any event, that series of battles is the closest analog in actual experience to the problems which would face NATO should the WTO attack in Central Europe.

German defensive tactics were varied according to circumstance and were often mixed, but may be classified in three general categories:

- *Linear.* Hasty or deliberate field fortifications backed by local reserves—tanks where possible.
- *Zones.* Lines of field fortifications and strong points prepared in depth within a tactical zone.
- *Mobile.* Linear screens of infantry backed by large armored reserves in depth.

The linear defenses were usually breached by heavily concentrated forces which then penetrated until they ran out of steam. Some of these penetrations were of phenomenal depth.

In the fall of 1943, Marshal F. I. Tolbukhin concentrated a force about ten times as strong as the German Sixth Army opposing him. For example, there were 83 German and 800 Russian tanks.

The Sixth Army defended the southern sector of the so-called "Wotan" line—field fortifications built by engineers, forced labor and the infantry troops themselves. The Russian attack went in on 9 October on a 20-mile front. Gen. Tolbukhin disposed of 45 divisions, three tank corps, two mechanized corps and 400 batteries of artillery. By 23 October the Russian

infantry had literally gnawed its way through the defense and Gen. Tolbukhin launched his armored exploitation force which burst forward 120 miles in eight days.

On 27 October the Sixth Army threw the 13th Panzer Division against the flank of the charging 51st Russian Army to no avail. Once the massive exploitation started to roll, the single armored division was simply shouldered aside. The failure of the "Wotan" line was total and catastrophic.

By 1944 the German armies had lost so many tanks that the defense was carried mostly by infantry. Some commanders in Poland and East Prussia conducted their defensive operations in zones consisting of several successive lines of field fortifications and strong points. This was the only technique by which elasticity could be provided for dismounted troops—troops who could not survive in the open against either tanks or artillery.

DA pamphlet 20-233, based on the views of German generals after World War II, states:

> In East Prussia the Third Panzer Army, with its nine weak divisions and only 50 tanks, 400 artillery pieces and insignificant air support was opposed to 44 Russian divisions, 800 tanks, 3,000 guns and strong air forces. The use of improvised zone defense tactics enabled the Panzer army to stop the Russian onslaught for one month, after which the collapse of the adjacent armies forced a withdrawal from this sector.

A zone of prepared lines studded with strong points, suitably supported by mines and obstacles and heavily armed with antitank weapons, is an apt description of Soviet defensive doctrine. The Soviet defense at Kursk was an example of the deep zone. Gen. Erich von Manstein fought through it—but barely. Gen. Walther Model on the north flank did not. In any event, the Germans were forced to scurry out of the bag, because of enormous Russian penetrations on both flanks of the Kursk salient.

The zone defense finds its beginnings in the German Army of World War I, which sought to provide elasticity to the dismounted infantry when confronted with massive breakthrough concentrations. On the Somme in 1916 a German army, outnumbered by the British 6 to 1 and using such a defense, inflicted 56,000 casualties among the English on the very first day—stopped the attack—and gave up its own casualties at the precisely inverse rate of 1 to 6.

Something like the zone defense is the only option if the forward defense force is not mechanized or armored. Some of the U.S. divisions scheduled for deployment to NATO in case of war are in just such a configuration. They could also serve well in the cities and towns, forests and mountains. But even the zone defense lacks ultimate elasticity. If penetrated, it, too, fails catastrophically.

The third defensive tactic, probably preferred by the German Army of World War II but increasingly beyond their capability as the war went on, could be called a mobile defense. It took full advantage of the nearly limitless maneuver space available in Russia as well as German tactical superiority.

The most spectacularly successful example of the mobile defense was a series of operations by Gen. von Manstein along the Donets River in February and March, 1943.

After closing the ring around Stalingrad in November, 1942, the Russians attacked on either flank, and after tearing a 350-mile-wide hole in the German defense (almost equal to the width of the entire NATO central front) plunged westward 300 miles, taking Kharkov in the process.

Gen. von Manstein, meanwhile, extracted 1st and 4th Panzer armies from the Caucasus; improvised a defense of his open left flank; closed a gaping hole in his center; met with Adolf Hitler who came to fire him; destroyed most of a Russian tank army which had got into his rear; recaptured Kharkov, and reestablished the line of the Donets. Toward the end of these wide-ranging operations, the 1st SS Panzer Corps thrust 120 miles into the flank of the Russian advance.

On the map three World War II operations in Russia have been superimposed on an outline map of West Germany.

At the top, a comparatively modest Russian breakthrough in 1943 by Marshal Konstantin K. Rokossovski, from the Dnieper River to the Pripet marches, is laid over the Hamburg-Bremen area.

At the bottom, a 190-mile penetration to the Rumanian border by Marshal Ivan S. Konev in 1944 is transferred to the terrain of southern Germany where it reaches from Czechoslovakia to the Rhine.

In the middle it can be seen that Gen. von Manstein's counterattack around Kharkov, had it taken place in central Germany, would have carried from Frankfurt to Hannover and across the industrial area of the Ruhr.

Free-wheeling, mobile defense operations require more space than the NATO center can afford. Any one of these operations would be regarded as disastrous by Germany.

In answer to a question on the viability of forward defense, Gen. Alexander M. Haig Jr., supreme allied commander, Europe, replied: "I think it is clear that no alliance of sovereign states can survive whose strategy would concede to an aggressor the territory and populations of some of its members."

Especially, we might add, if the nation which would give up the most is also the major contributor to the defense.

Driven by these territorial imperatives, the NATO armies have entered upon an historic effort to harmonize their tactical concepts.

The German and U.S. armies have led the way in this effort. It would be wrong to assert that all differences have been eliminated. To some irreducible extent the two armies reflect dissimilar national experiences, traditions and perspectives—even styles.

There is certainly no disagreement about the dynamics of concentration—only a sober recognition that it presents the first and greatest challenge at the onset of hostilities. Elasticity is really only one, but a most important, feature of what the U.S. Army now calls the "active defense."

Both armies plan to commit more combat power forward. That is, they will hold less in reserve in order to cope with the heavy initial odds and thus throw more guns on line in response to the demands of the NATO forward strategy. Both armies prefer tactics which exploit the mobile firepower of armored and mechanized units. This, in turn, requires decentralization of operations with crucial reliance on the initiative and skill of thousands of junior officers.

The Germans will always worry about the possibility that its allies will use a bit too much elasticity to preserve their forces while their army uses a bit less to preserve their homeland. However, they both recognize the value of holding key terrain and will counterattack whenever the opportunity or necessity arises. On this last point the German Army has this to say:

> Counterattacks are always necessary when, in the case of deep penetrations, the *coherence* [emphasis added] of the defense cannot be maintained or restored in any other way, or when lost terrain must be recaptured.

Thus we come to the third characteristic of a successful defense: coherence.

- *Coherence*—continuous geographical and functional integrity. In its physical form coherence simply means a continuous, unbroken front. Functionally, it means much more. Modern armies like modern societies are composites of many interlocking, interdependent activities. If one element breaks down, as, for example, an electric power failure in a large city, chaos ensues.



Correspondingly, the effectiveness of an armored division conducting defensive operations against Soviet forces is very much dependent upon combat and support functions and organizations which lie outside—usually behind—the division. Air defense, tactical air support, intelligence and maintenance are good examples, but there are many others. These four functional systems extend from the battle line back through the theater of operations. In the case of intelligence and maintenance, they reach all the way back to the continental United States.

These combat and support functions are vertically integrated, increasingly sophisticated, and very vulnerable. The air-defense system consists of a carefully echeloned array of warning radars, communications, control centers and weapons. Although the most forward weapons may belong to the division commander, the system as a whole does not. It is upon the functioning of the whole system that the success of the division utterly depends.

The tactical air control system (TACS) is also a vertically integrated set of fighter units, support services, command centers, communications and control elements. The relationship with the division is one of support and coordination. The failure or disruption of this system could deny a division a large increment of combat power just when it was most needed.

The intelligence system, too, is essential to the operations of the division. The division commander has no hope of reacting to major enemy moves in time if he is confined to his own modest intelligence and information-gathering assets. The system on which he must depend extends back through all the tactical echelons to the theater level and into the United States from which very important support originates.

The intelligence system includes a rapidly growing set of advanced sensors linked with transmission, correlation and distribution subsystems. If the intelligence system breaks down at any important node, the division commander is in deep trouble.

The maintenance system likewise is echeloned and integrated so that weapons will be repaired or replaced as the battle proceeds. A failure of the maintenance and associated repair-part supply system would ground a division in a matter of a few days. In the October, 1973, war the Israeli Army processed more tanks through the maintenance system than the total number of tanks in their battle inventory.

A common characteristic of these vertically integrated semi-independent systems is that they are soft—almost totally devoid of defensive combat power when on their own. Where it might take a 6 to 1 superiority for Soviet tank units to break through the defenders in the main battle area, those same tanks could destroy support units in the rear almost at will. Additionally, the tactical air control, air defense, intelligence and service support systems are all utterly dependent upon sophisticated and somewhat fragile electronic communications and control systems. No modern Army could operate with Mongolian recruits poking around in its electronic viscera with rusty bayonets.

Earlier we said that we could not afford to let enemy armored exploitation forces into the political and industrial heartland of West Germany. Now we are saying that we cannot let those spearheads into the heartland of the field army. Coherence joins concentration and elasticity in a set of cardinal principles for the conduct of forward defense.

- *Counter-concentration*—delay, reduce or prevent enemy concentration. The last of the tactical problems is the problem of unequal reinforcement capabilities. The Soviet capability to reinforce a short-warning attack with forces from the western military districts of the Soviet Union and elsewhere in the WTO hinterland is substantially greater and faster than the movement of NATO reserves from the continental United States.

When the Anglo-American forces came ashore in Normandy in June, 1944, they were in considerable danger of being shoved back into the channel. Nine German Panzer divisions stood behind the coastal defenses in reserve. That they were not thrown into the sea was owed in various degrees to valor, deception and the isolation of the immediate battlefield by tactical air interdiction.

Of valor much has already been written. Deception froze the German 15th Army in place while waiting for Gen. George S. Patton's nonexistent army group to land near Calais. By

keeping their Panzer divisions too far back, in accordance with the experience of the German generals who had fought in Russia, the full impact of Allied tactical air superiority fell upon belated efforts to concentrate them against the beach landings. Field Marshal Erwin Rommel, after suffering under Allied air attack in Africa, wanted the Panzers moved closer to the beaches before the battle started. He was overridden.

The experience of Panzer Lehr Division was typical. Commanded by Lt. Gen. Fritz Bayerlein, once Gen. Rommel's chief of staff in Africa, Panzer Lehr was organized in France specifically to deal with the Allied invasion. Gen. Heinz Guderian, then inspector general of Panzer troops, sent a message to Gen. Bayerlein that read: "With this division alone you must throw the Anglo-American forces into the sea."

Panzer Lehr was the best equipped division in the German Army. On the afternoon of D-day, 6 June, Gen. Bayerlein was ordered to move the division forward to battle. The 140-kilometer trip took parts of two days and one night. During the day of 7 June, Panzer Lehr lost to air attack 90 armored fighting vehicles, 23 artillery prime movers and 123 trucks. On the morning of 8 June, Panzer Lehr attacked in the British sector at half strength.

The 12th SS Panzer Division, also held back too far, suffered similar losses. Thus it was that a modern and seasoned army was denied effective concentration by the interdiction of its movement and the destruction of much of its combat power in the process.

Since Normandy, the sophistication and effectiveness of fighter aircraft has increased many-fold. But, alas, so has their cost and the effectiveness of their antagonists—the air-defense missiles and guns. P-47s and 51s were bought by the thousands. F-15s and A-10s are procured in the hundreds while the Soviet armed forces have spent 20 years and enormous funds on an air-defense system aimed precisely against the effectiveness of allied tactical air forces.

Today, the number of sorties which could be allocated to deep interdiction in an effort to isolate the NATO battlefield seems disproportionately small in comparison with the threat. A repetition of the successful Normandy interdiction operation by tactical air forces alone appears unlikely.

Nonetheless, a modern tactical aircraft with a skilled pilot at the controls is the most sophisticated weapon system in existence for deep interdiction. No other sensors can compare with his eyes, nor can any processor match his discriminatory judgment. A pack of fighters which has penetrated or circumnavigated enemy air defenses and has jumped a column of vehicles moving up to reinforce the battle is probably unsurpassed in effectiveness by any other combination of systems.

Currently, long-range tactical missile and rocket systems are only partially effective interdiction systems because of a combination of target-acquisition difficulty, target-location error, delivery accuracy and, most importantly, marginal warhead lethality. Lest anyone be offended by the introduction of the cost factor, it is only meant to say that heretofore it has been more sensible to put available resources on tactical air forces and direct-fire weapons for the forward line.

Now there seems to be a reasonable chance that effective interdiction by ground delivery systems can be revived through precision guidance techniques applied to submunitions delivered into the target area by rockets and missiles, themselves guided most of the way. High-technology sensors will soon be put into the field which can locate hard and moving targets within delivery system accuracy requirements. Automatic target information processing, including the correlation or fusion of multiple sensings, can reduce the interval between acquisition and attack to workable limits.

The use of terminal guidance for submunitions relaxes somewhat both the time constraints and the accuracy requirement for the delivery systems. There seems little doubt that all this can be done from a technical standpoint. Just how it will work on a dirty and disorderly battlefield remains to be seen.

Remaining also to be seen is whether the technical capability will be converted to a serious war-fighting capability or will remain an interesting demonstration. The counter-concentration function is so important that competition between terminally guided submunitions delivered by rockets and missiles and tactical air forces (perhaps also using similar munitions) should be encouraged and sustained. As a practical matter, we will probably see a mixture of the two on the future battlefield.

Conspicuous by its absence in connection with counter-concentration operations has been any discussion of nuclear weapons. Where the terminally guided submunitions may prove to be a viable weapon in counter-concentration, the neutron weapon almost surely would be.

But the employment of tactical nuclear weapons—the conduct of sustained tactical nuclear operations—requires a coherent defensive system fully operational, both horizontally and vertically. It is specious to think that tactical nuclear weapons can be brought into the midst of disaster and somehow turn the tables. The nuclear option on the central front of NATO depends not only on the security and free operation of the delivery means but also the efficient operation of the battle management system from sensors, through communications, to processors, decisionmakers and delivery systems and back and forth, over and over again.

The integrity and coherence of the total defensive system must be maintained or the tactical nuclear weapons could never be delivered on the right targets at the right time.

So what does all this mean? Does it mean that such a concept of defense and its operational measures will guarantee the successful defense of NATO? Does it mean that clever tactics, cleverly exploiting high technology weapons will relieve the NATO allies of further painful effort, worry and expense? No, it just means that commanders on the spot must conduct the defense in the light of these realities. Scientists, engineers, defense managers and political leaders also should understand these principles and the tactics, weapons and risks associated with them.

Lastly, it means that strategies of deterrence are not sufficient for fighting battles if deterrence fails. Knowing how to fight, and preparing along those lines, is the only real basis of deterrence. As Gen. Erich Ludendorff once said, "A strategical plan which ignores the tactical is foredoomed to failure."

3

'One-Up and Two-Back'?

By Gen. William E. DePuy
U.S. Army, Retired

Battle tactics have traditions like everything else in the Army. Yet, sometimes science and sometimes genius show us there might be a better way to penetrate the enemy's lines than what we've been taught.

Everyone knows that is wrong—or is it?

"Two-up and one-back and feed 'em a hot meal" had been the first law of infantry tactics for as long as anyone can remember. Thousands of aspiring lieutenants armed with little more than this marvelously simple rule of thumb passed their examinations at Ft. Benning, Ga., and proceeded to careers of varying distinction. It is the purpose of this discussion to suggest—indeed insist—that we have had it backward all along.

But first we must narrow our field of view. The question becomes most interesting in the context of the attack, even more specifically the assault. This will be the focus. We have argued elsewhere that in the defense just the opposite is true and necessary. Three-up, or four-up and one-back is forced upon a numerically inferior but highly mobile force. But this is a diversion—back to the attack.

If there is one strong image on the mirror of our collective military minds, it is that of the long, thin line of troops making its gallant and bloody way forward against the murderous fire of an entrenched enemy. Cecil Woodham Smith enforces this image in writing of the Crimean War in *The Reason Why*:

> But the Grenadiers and Coldstreams though under deadly fire formed into line with as much precision and lack of hurry as if they had been on the parade ground, and began deliberately to advance up the glacis towards the Great Redoubt . . . storm after storm of bullets, grape, shrapnel, round-shot tore through them, man after man fell, but the pace never altered, the line closed in and continued ceremoniously and with dignity.

As late as World War I, infantry drill regulations were designed to bring large bodies of troops on line and to keep them on line as they advanced into the fire of the defenders. What has since become mere ceremonial drill was then, and for centuries before, the heart of discipline and tactics.

"Squads right!" and its reciprocal command, "Squads on right (or left) into line!" made for snappy formations in the armories and on the parade ground but were, in fact, methods for converting battle lines into columns and back again as the flow of battle and the lay of the land might require. At bottom, it was the technique of massing combat power on the critical part of the battlefield at the crucial time.

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Combat power before World War I grew out of the barrels of many guns—muskets and rifles and small artillery pieces. To mass combat power, one must mass men. The two were synonymous.

Thus, tactics consisted of orderly, efficient and reliable techniques of concentrating large numbers of men in small areas in such a manner that they could present the maximum number of weapons to the enemy; in short, a closely packed line.

As artillery improved toward the end of the Napoleonic wars this technique began to produce enormous casualties. The American Civil War was an even more dismal bloodletting. The whole process culminated in the ultimate horror of Verdun in World War I. Even the somewhat extended ranks of the Great War could not withstand the havoc wrought by a combination of high explosives, shrapnel and the scything effects of the machine gun.

The response of the participants to the failure of Napoleonic tactics on an enormously lethal battlefield came in a variety of forms, some well-known, one more obscure.

Some Allied commanders, most notably the British, decided to retain the tactics of the assault in line but to reduce losses by the simple expedient of destroying the defenders by the employment of astounding masses of artillery firing millions of rounds until the enemy was reduced to impotence—utterly destroyed. It did not work.

The German Army dug deeper and devised an elastic defense in depth which resulted in the debacle at the Somme in 1916 when 56,000 British troops fell on the first day alone. Followed by Passchendaele, the British were shocked and dismayed.

Almost in desperation, Field Marshal Douglas Haig turned to the tank. Used prematurely in small numbers on the Somme, the tanks had nonetheless shown promise at Arras. Detailed planning was in the hands of the famous Col. J. F. C. Fuller. A force of nearly 500 tanks led the attack on Cambrai in late November, 1917.

At first a smashing success, the attack opened a seven-mile-wide breach and collected 16,000 prisoners. But the lack of experience in tank-infantry cooperation combined with the mechanical frailty of the machines themselves finally caused the battle to grind down with little gained in relation to the effort expended. Nevertheless, a new era was born and war would never again be the same.

The German Army after Verdun also developed a new tactic for the attack of strongly defended and fortified lines. It was still a broad front attack, but, instead of stand-up waves of soldiers advancing generally in line, the German attackers moved in small groups which endeavored to use the cover of the terrain—to find holes and weak spots in the defense—to bypass resistance and to press on deep into the rear of the defenders, a massive infiltration by thousands of small elements.

Employed with enormous success against the Russians at Riga, it became the basis for retraining the German Army in preparation for the last great offensive in 1918. Even though its first application destroyed the British 5th Army, it failed in the end because the means of deep and decisive exploitation were not available. They did not even exist in those days.

A series of additional attacks, including the second battle of the Marne, also failed to produce the decisive results sought by Erich Ludendorff and so desperately required by a tired Germany. The Allied counteroffensive ended the war.

But tucked away in the folds of that long and brutal war another technique was raised to an incredible level of effectiveness by the remarkable Erwin Rommel. He brought to modern tactics the difficult art of direct-fire suppression during the critical assault phase of the attack. We will return to this fascinating performance and its implications in a moment.

We must dismiss the strong temptation to follow the tactical evolution which grasped these several lessons and wove them into the fabric of a whole new doctrine—one which produced the panzer *blitzkrieg* of World War II. But we have a more modest purpose and return to the realm of Lt. Rommel and his enormously effective tactics while fighting in France, Rumania and Italy in World War I.

In 1937 Rommel published the first edition of his war experiences under the title *Infanterie greift an.* His stories and his tactical successes are awesome. Undoubtedly it would be possible to find doctrinal explanations in German Army tactical manuals of the time for the particular technique of combat which he applied so successfully. But the degree and manner of its application was uniquely his.

His tactics were distinguished by the masterful use of direct-fire weapons to gain nearly total fire superiority over his opponents in narrow sectors in order to effect a breakthrough as a prelude to penetration and victory.

Rommel went to war, and remained throughout, with the Württemberg Mountain Battalion, by any measurement a remarkable fighting unit. From the beginning, he displayed such unusual tactical sense and initiative that he quickly became a key leader and by the end of the war, still a first lieutenant, he came to dominate the operations of the battalion, and even, on occasion, of the Bavarian Alpine Corps to which it belonged.

In Belgium and France as a platoon leader and company commander he was subsumed, so to speak, in the tactical practices and wisdom of the times. In the difficult fighting just west of Verdun and in the Argonne he followed artillery barrages into the French defenses with a boldness and dash rare even among the excellent mountain troop leaders.

But when the mountain battalion was sent into its proper environment, in the hills and mountains of Rumania and Italy, Rommel's genius for war found full scope for its application. It is in the nature of mountain warfare that artillery support is modest at best and often not available at all. Consequently, the mountain troops were often on their own—dependent upon the weapons they could carry and usually battling against larger forces entrenched on higher ground.

The mountain battalion was a formidable organization when compared with current battalions. It consisted of six mountain rifle companies and three heavy machine gun companies. As a detachment (task force) commander Rommel as often as not found himself commanding about half of the battalion with constantly changing mixes of rifle and machine gun companies.

The German Army was parsimonious in respect to promotions. Still a first lieutenant, Rommel was sometimes given operational command and control over entire battalions from adjacent regiments—this in addition to his own battalion-size task force.

Rommel possessed that cherished attribute which the Germans call *Fingerspitzengefühl*, an uncanny ability to assess the opportunities inherent in the situation and the terrain. He relied heavily upon direct fire suppression and used it surgically to effect breakthroughs. He practiced rapid exploitation and exercised personal control over every action.

The year 1917 provided him the full opportunity to develop and to display these techniques. (Table I shows certain selected features of five illustrative operations.)

He habitually organized his force into three functional components: a suppression element, an assault element and the exploitation force. Whenever possible, which was almost always, he personally assigned both positions and targets to every machine gun in the suppression element. The assault element was small in relation to the suppression element and became progressively smaller as he gained experience. The exploitation force was normally the largest.

Table I. Examples of Rommel's Infantry Battles in 1917

Date	Place	Size Force	Suppression Element	Assault Element	Exploitation Element	Ratio Support to Assault
1/7/17	Gagesti Rumania	1 rifle co. 1 MG plt.	1 rifle plt. 1 MG plt.	1 rifle plt	1 rifle plt.	2 to 1*
8/10/17	Carpathians	3 rifle cos. 2 MG cos.	1 MG co.	2 rifle plts.	2 rifle cos. 1 MG co.	3 to 2
8/11/17	Carpathians	3 rifle cos. 2 MG cos.	1 MG co.	1 rifle plt. 1 rifle sqd.	2½ rifle cos. 1 MG co.	3 to 1
8/19/17	Carpathians	3 rifle cos. 2 MG cos.	1 MG co.	1 rifle sqd.	2⅘ rifle cos. 1 MG co.	9 to 1
8/25/17	NE Italy	3 rifle cos. 3 MG cos.	1 MG co. 6 light MGs	4 rifle sqds.	2⅘ rifle cos. 2 MG cos.	4 to 1

*One MG platoon equals one rifle platoon (a conservative estimate of MG effectiveness).

Rarely did the assault group have more than 100 yards to travel between its covered attack position and the breakthrough point. In all cases shown, the suppression was sufficiently effective so that the assault force went in virtually standing up, without casualties, and then split laterally to work with rifles and grenades to widen and secure the breach.

In most cases, Rommel personally led the exploitation force through the breach into the depth of the enemy position, directing each platoon or company to objectives in accordance with the unfolding situation.

It can be seen from the table that in all but the first battle Rommel was commanding a battalion-sized force. As time went on he came to prefer "weak" assault forces. On 19 August an entire heavy machine gun company opened the way for a single squad in the assault, followed by the remainder of the battalion in exploitation.

Certainly these attacks are the antithesis of the long, thin, bloody line. Rommel had learned an important lesson: the principle of concentration applies just as decisively at the company and battalion levels as at the division or corps.

It is not difficult to discern the application of this lesson to the operations of the 7th Panzer Division in France in 1940 or of the Afrika Korps in the following two years.

Looking back over our own performance in World War II, Korea and Vietnam we are bound to ask whether the U.S. Army has embraced this key to tactical success. Certainly some commanders in some units understood and applied direct-fire suppression with skill and imagination. However, the net assessment surely must be that we have not brought this technique into the heart of our doctrine and practice.

Perhaps we need more recent evidence. Lt. Rommel's experiences were exciting, but, after all, World War I was a long time ago.

We might consider some fascinating parallels between the Rommelian techniques and those practiced by the Vietcong and North Vietnamese during that unmentionable war in Southeast Asia. There were, of course, hundreds of VC and NVA attacks against strong points or perimeters such as fire bases, Special Forces camps and district towns. *Almost without exception*, the

attacking force consisted of a suppression element, an assault detachment and an exploitation force.

Ask any Special Forces trooper, district advisor or infantry commander who survived such an attack and he will almost certainly tell you that the battle started with very heavy direct-fire suppression against the defensive positions in a particular narrow sector of the perimeter. The weapons used were recoilless rifles, RPGs and machine guns. Mortar fire fell on the interior of the position to discourage redeployment toward the threatened sector.

The next move was by a small assault detachment with the mission of cutting the wire or employing bangalore torpedoes. After the breach in the wire the assault detachment would attack the nearest bunker—those covering the breach—with hand grenades and explosive charges. This done, the exploitation force charged through the gap into the interior of the defended position.

On many occasions the defenders could actually hear the suppression element digging weapons positions a scant 50 to 100 yards from the wire or perimeter some time before the attack.

The Israeli Army drills incessantly in almost identical techniques designed to reduce Soviet-style desert strong points of the kind employed by the Egyptians and Syrians in 1973. The suppression element includes tank guns during daylight attacks and RPGs, machine guns and recoilless rifles in any event. The assault force may be engineers using special equipment or infantry formations similarly trained.

The techniques for working outward from the point of breach along the line of trenches and dug-outs have been standardized and have proved to be effective in several wars. Exploitation into the depth of the strong point is routine.

Soldiers have always been accused of preparing for the last war. In this case we could be accused of preparing for the last war twice removed plus one or two intervening affairs. But the evolution of weapons and tactics is a continuum. As in navigation, it is easier to know where you are if you also know where you have been.

Now at last there are very modern methods for simulating many of the critical features of combat in order to find the best tactical solutions without waiting for that next war. In 1976 at Hunter Liggett Reservation, Calif., the Army's Combat Developments Experimentation Command (CDEC) conducted a long series of laser engagement simulations with infantry units in the attack and defense.

CDEC has this to say about such simulations: "The experiment marked the first time that a force-on-force infantry experiment had been conducted with realistic real-time casualty assessment. Methodology for simulating (with lasers and associated instrumentation) rifles, automatic weapons, grenade-launchers, antitank weapons, hand grenades and indirect-fire weapons was employed. The technology developed for this experiment opens up almost unlimited possibilities for future infantry field experiments."

In the mid-1970s Ft. Benning prescribed a whole new concept for infantry positions. Designed to defeat the direct suppressive fire of an attacking enemy, the defensive positions were to be dug behind some form of frontal cover—a rock, tree or hummock, or where no such natural cover existed, behind a parapet to be constructed from the spoil excavated in the course of digging-in.

Used with stunning success by certain units in Vietnam, this technique was only partially—perhaps reluctantly is a better word—accepted by the infantry noncommissioned officers.

Requiring, as it does, that the soldiers in each two-man position fire to the right and left at about a 45-degree angle across the front of adjacent positions, this system of defense involves a

high degree of mutual interdependence. The protection of each position from a direct frontal assault depends upon the fire from the positions on either flank.

The benefit derived from the system, of course, is that these interlocking positions can continue to engage the advancing enemy even when they are receiving suppressive fire from the front. The inability to see directly to the front during the enemy assault reduces casualties, but produces anxiety, especially among the sergeants, many of whom apparently would rather take their chances with the enemy fire while looking and fighting to the front.

It was for these reasons that CDEC was asked to evaluate the parapet foxhole. Troops from the 7th Division at Ft. Ord conducted some 70 trials in which a platoon of infantry armed with laser engagement simulators on each weapon, in a highly instrumented environment, attacked a rifle squad similarly equipped using three different foxhole configurations.

The first was the good old hole in the ground called standard. The second was the parapet foxhole as described earlier. The third was a so-called split parapet in which there was a slot in the middle of the parapet through which the soldiers could see and shoot either to the front or obliquely from behind the cover of the two "humps."

The more important findings were as follows:

- "Based on the casualty exchange ratio, the parapet and split parapet foxholes are more than twice as effective as the standard foxhole in the daylight defense."
- "The soldier prefers the split parapet foxhole over both the standard and frontal parapet foxhole."
- "The attacker *fired three times as much ammunition* against the parapet foxhole as against the standard foxhole *to achieve the same number of hits.*"
- "*Use of two fire support squads and one maneuver squad was more effective in penetrating all types of prepared positions than the use of one fire support and two maneuver squads.*"

This last finding was a bonus. While looking for one thing, as is so often the case during scientific experiments, the Army found something else of equal importance.

More specifically, it was found that a formation of two up and one back—that is, two moving and one shooting—penetrated the defense only 25 percent of the time. But when the ratio of movers to shooters was reversed—that is, two shooting and one moving—the defense was penetrated 87 percent of the time.

The fact that the CDEC experiment could be used to support the one-up and two-back thesis is not the point. In fact, that formula appears to be much too conservative; nine to one may be an extreme ratio but that seems clearly the way to lean.

This conclusion is pure Rommelian. From the standpoint of the fighting army these findings surpass in importance almost any issue one could name, from SALT II to the draft.

With respect to the configuration of the foxhole, Ft. Benning now recommends that the hole behind the parapet be extended to the flank so that when the position is not under suppression and at night the soldier can see to the front and fight to the front.

When the suppression begins to come in hot and heavy on the position, the soldier can avail himself of the protection of the parapet (or rock or tree) while continuing to participate in the defense actively with his weapon.

One obvious problem with the split parapet is that neither rocks nor trees are easily configured in the split mode.

So far we have been talking about the operations of light infantry. Can we fairly extend our findings into the realm of mechanized and armored warfare? There are reasons to believe that the answer is a resounding and indispensable yes.

In the first place, armored forces are designed around mobile firepower. In World War II, the light armored divisions possessed no more than three armored infantry battalions, compared with nine in the infantry divisions. In the more skillful armored divisions, the scarce infantry resources were employed whenever possible within the protection of the fire envelope of the armored task force to which they belonged.

When it became necessary to clear a roadblock, seize a village or secure an exposed flank so that the armored force could continue on its main mission, the armored infantry assault was supported by the fire of all available weapons in the tanks and armored infantry vehicles of the force as well as the indirect fire of artillery and mortars.

These operations were firepower intensive. The ratio of suppression to maneuver was habitually high. Exploitation was the name of the game.

When the German Army speaks of "panzer grenadiers," they are thinking of just this kind of relationship and this kind of combat technique. Because of the special relationship between armored infantry and tanks within the framework of an armored task force, the Germans have given their armored force the responsibility for the doctrine and training of panzer grenadiers. The light infantry remains separate at the infantry school at Hammelburg.

The U.S. Army wisely decided not to follow the German lead, although it was considered carefully at one time. Having fought in Korea and Vietnam primarily with infantry battalions, the bulk of the Army's seasoned maneuver commanders have risen to eminence in the infantry branch. The solution was to build on that base of excellence by training light infantry officers and NCOs in mechanized infantry tactics and techniques. This process is well under way but has not been completed. The last three commandants at Ft. Benning—all distinguished infantrymen—have had extensive command experience with mechanized units. A mechanized infantry vehicle now stands in front of Infantry Hall at Ft. Benning.

But the difficult and time-consuming process of comprehending the basic nature of mechanized infantry tactics (panzer grenadier style) is vividly demonstrated by the stormy and uncertain history of the Army's effort to develop an infantry fighting vehicle over the last decade. The development of what has now been called the XM2 has been a technical and conceptual running gunfight.

There have been a number of constituencies which have brought their more or less helpful influence to bear on the problem.

The Army's initial description of the XM2 (then called the MICV) included requirements based on a tactical scenario in which the MICV was pitted against its Soviet counterpart, the BMP. The idea was that the MICV gun must be able to defeat the BMP armor at longer ranges than the reciprocal capability of the 73-mm recoilless weapon on the BMP.

Of course, it was not just the BMP, but also the tanks and antitank guided missiles that could kill infantry vehicles on both sides. This aspect has led to heated differences regarding the vulnerability of the MICV. To meet the requirements of defeating the BMP and also to provide a powerful weapon against dismounted enemy infantry the Army specified that the MICV would have a dual-purpose automatic cannon, which it named the Bushmaster.

The vehicle itself was to be armored against .50-caliber weapons, be able to fire on the move by virtue of a stabilized turret, carry a pod containing two TOW ATGM, swim and have cross-country mobility compatible with the new XM1 tank.

Several secretaries of defense were skeptical about the MICV for a number of reasons, not the least of which was that it was going to cost more money than one normally associated with the infantry—doesn't the infantry fight on foot?

Defense analysts, preoccupied with the Russian tank threat, wished to convert the MICV into a primary tank killer. This tendency was reinforced by the fact that the simulation models available to the analysts were never able to cope with the complexity or even the role of the mechanized infantry, and focused only on the battles between tanks and antitank weapons. For years all the simulated war games ended with one side or the other defeated before the first infantry became involved.

Congressional committees were somewhat bewildered by all this, plus the fact they could always find witnesses who said that the Army did not need such a vehicle in the first place, and if it did, the MICV was not the vehicle.

Conspicuous by its absence in all the debate was any meaningful discussion of its primary roles and missions as an infantry fighting vehicle.

In defense—hull-down or dug-in—the firepower of the Bushmaster alone exceeds the firepower of the whole squad against dismounted attackers. The armor-piercing round can destroy light armored vehicles. The antitank guided missiles can overwatch and protect advancing tanks.

In the attack the XM2 can escort and protect tanks by suppressing or destroying dismounted enemy infantry armed with antitank weapons. Lastly and importantly, the XM2 can make the difference in the execution of the most difficult aspects of the active defense.

Carrying only nine soldiers when at full complement, and leaving behind at least a driver and gunner, the dismounted squad will probably average no more than five men in actual combat. A platoon of 20 men and a company of 70 or 75 on foot with light weapons will not have the capability to maneuver independently in heavy combat. *But* that platoon or company, like Rommel's "weak" assault element, supported by a dozen or more XM1s and XM2s in the suppression role, can overcome enemy dug-in positions standing in the way of the armored force.

The stabilized and armor-protected 25-mm Bushmaster is ten times as effective as the standard infantry machine gun in the suppression role. A single platoon of four XM2s is thus the firepower equivalent of 40 standard infantry machine guns. How Rommel's mouth would have watered!

The ability to defend NATO requires a military force that can move on the battlefield. Even though the strategic mission may be defensive, the tactical situation may require the attack. Mechanized forces may find it necessary to attack to seize the battle positions from which to defend—to counterattack to regain critical terrain if it is lost—and to attack whenever that mode is the most effective way to accomplish the overall mission and to destroy the enemy force.

If there was ever an army that needed an alternative to the long, thin line with its high casualties and dubious prospects it is the weapons-intensive, manpower-starved, all-volunteer Army of the 1980s.

4

FM 100-5 Revisited

By Gen. William E. DePuy
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One of the principal authors addresses some of the criticisms that have been directed at a widely discussed field manual whose publication five years ago was heralded as signaling a 'renaissance' in tactical theory and practice.

When *Field Manual 100-5, Operations*, was published in June, 1976, the authors were driven by certain events and forces then at work:

- The Vietnam war—combat with light and elusive forces—was over.
- The defense of central Europe against large, modern, Soviet armored forces once again became the Army's main—almost exclusive—mission.
- The Arab-Israeli War vividly illustrated the lethality of modern weapons and the high value of crew proficiency and the skill of tactical commanders.
- A decade of war was to be followed by a decade of intensive modernization. *FM 100-5* and its first two offspring—*71-1* and *71-2*, the operating manuals for company and battalion commanders, responded to these influences along the following lines:
  - The focus was mainly on combat in Europe.
  - The accent was on armored and mechanized warfare.
  - Soviet forces were recognized as the enemy and Soviet tactical doctrine became the immediate center of attention.
  - Weapons characteristics, trends and applications were emphasized.
  - Superior concentration of combat power in the attack and in the defense through good intelligence, quick decision and high mobility was described as the only solution for an outnumbered force.
  - Operational and tactical concepts were designed to cope with Soviet strength and the lack of maneuver room in West Germany. Those tactics could best be described as an elastic defense combined with counterattacks in order to defend along and close to the border of West Germany.
  - The bulk of the force was pushed forward. Reserves were, therefore, relatively smaller than normal. Coherence was to be maintained and penetrations avoided if possible. All in all, it was a tall order.

We are now in the fifth year since *FM 100-5* launched a substantial renaissance in tactical theory and practice throughout the Army. Experience has been gained in training, in exercises and war games, as well as in operational planning.

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Based on that experience, the Army is in the process of reviewing its doctrine, a wise thing to do. Doctrine is a somewhat circular enterprise. It must inform and instruct the Army on how to operate, but it is not really doctrine unless it also expresses the manner in which the Army actually goes about its business. In short, to be doctrine it must "take."

There is evidence that some of the doctrine set forth in *100-5* has not taken hold throughout the Army in the manner intended. Concern with the doctrine in *100-5* has been expressed both within and from outside the Army. Interestingly, there has been almost no discussion of offensive doctrine; rather, attention has been centered exclusively on the defense. This may be because the offensive doctrine is fully accepted, but is probably because the Army is so deeply absorbed in the highly visible mission of NATO defense.

Criticisms often heard within the working Army include statements such as these: "The defensive doctrine is too reactive—the enemy calls the tune." Or, "There is too little offense in the defense. Or put another way, too little action in the active defense." (The term "active defense" is mentioned only once in passing in *100-5* as an adjective and seldom in *71-2*. However, in *71-1* "active defense" becomes the official descriptor of the defensive doctrine set forth in this family of manuals, although, as we shall see later, there is no consensus on the meaning of that term.)

One also hears, "The defense does not adequately exploit the less flexible and more centralized procedures of the Russians by retaining the initiative and by confronting him continuously with new situations to which he will find it difficult to respond," and, "The defense does not actively integrate fires with maneuver to shape the battlefield in ways advantageous to the defender."

Lastly, and most importantly, the active defense is regarded by many officers simply as a delay triggered by the mere appearance of the enemy on the battlefield.

Criticism from outside the Army falls into two interrelated categories:

First, is the feeling variously expressed that the U.S. Army relies on attrition even though it has lost the relative superiority which would make that option a viable choice.

Second, that in any event, attrition is a pedestrian approach to war. Maneuver tactics are the way to go and the only sensible course of action for a small force badly outnumbered.

As one of the principal authors of *FM 100-5*, there is some temptation to quote extensively (and selectively) from the manuals to show that the critics are wrong. However, each criticism has enough substance and merit to deserve—indeed, demand—careful consideration.

The remainder of this discussion takes up the criticisms and offers some thoughts on their causes and remedies. At this point it is no longer possible to avoid saying that all this may be quite presumptuous for an old soldier no longer in the king's employ. But it is hard to walk away from a problem so central to our prospects for winning battles and winning wars. So first for the concerns of the working Army.

The intention of the defensive doctrine was to employ a variety of tactical methods in the service of the mission. For example, *71-1* explicitly supports the idea of a diversified defense: "Although the overall operation may be defense the [company] team can expect to execute almost any kind of combat action . . . attack, block, defend a specified piece of ground, delay, withdraw or move rapidly from one part of the battlefield to another as part of a concentration of force" (*FM 71-1*, Pages 5-15).

Certainly, a very large number of our most thoughtful and tactically skillful officers understand fully the logic and necessity for a diversified defense. However, if any substantial number of officers translate the active defense narrowly and exclusively as a delay then the other tactical options are nullified and the concept of the diversified defense is rendered ineffective.

In this case, the criticisms of our doctrine must be declared valid. More than one division commander judges this to be the true situation.

Certainly, we need to know how and why this wide divergence in the interpretation of defensive doctrine has come about. There are no doubt a number of reasons. However, we will assert that three appear to be prime movers:

- Imprecision in the definition of active defense.
- Imputing inevitable success to Soviet offensive tactics.
- Uncritical acceptance of war-game results, especially the unrealistic tempo of action and steady, inexorable rates of advance.

It is not entirely clear, upon careful reading of the doctrinal manuals, whether the "active defense" is meant to describe the total package of tactical options open to a commander with a defensive mission, or whether it is more specifically confined to the concept of elasticity in the face of a very large enemy attack. A case can be made for either interpretation, which suggests a troublesome ambiguity on a fundamental point.

It is clear, however, that all three of the key manuals tilt heavily toward a defensive concept which involves "the utilization of successive battle positions, in depth, to wear down and weaken the enemy, followed by counterattacks" (*FM 100-5*, Page 12).

It seems probable, in retrospect, that the emphasis upon this particular solution—an emphasis geared directly to the Soviet breakthrough tactic—has worked to crowd out the other options and has expanded beyond the breakthrough situation to dominate tactical thought in other circumstances. If the terrain is critical to the overall conduct of the defensive battle, or is especially well adapted to the defensive purpose, the commanders may decide to avail themselves of other tactical options such as strongpoints, more deliberate defensive works or, in some cases, traps, ambushes or spoiling attacks.

The second prime mover comes from an equally respectable source. The very valuable manual on Soviet operations published in April, 1978, as well as most of the other intelligence products presented to the working Army over the past five years, strongly conveys the idea that Soviet forces in the attack are irresistible in their forward movement.

If elasticity is to be displayed in the face of overwhelming attacks, and all attacks are thought to be overwhelming, then all commanders would always choose to give ground. The cumulative effect of this logic is distressingly obvious.

The great detail in which Soviet doctrine arranges the echelonment of forces—the distances and times separating the successive elements—the schedule of their commitment and the desired rates of advance presents a picture of invincibility, of certain success. But these are only goals and hopes, presented in a tactical vacuum. The enemy is not present or, if he is, submits willingly as a training aid. We are not unfamiliar in our Army with this kind of preparation for battle.

But war is not like this. The enemy is present, the terrain is difficult. Things go wrong. The doctrine runs into practical difficulties.

Surely, the choreographed Soviet doctrine—the intricate offensive minuet—is especially subject to frustration by a flexible, wily and tough defender.

The last major influence which has probably furthered the tendency to go quickly and uncritically to the delay has to do with the war games we play for training purposes.

War games are notorious for playing at too fast a tempo. Few of the games take into account such dampening mechanisms as troop-leading times, friction in execution such as errors, stupidity, fear and incompetence. All weapons are manned by perfect crews; that is, they extract

the full design potential from weapons. Small-unit tactical leaders are assumed to be able to deploy all their weapons during all engagements so that every one bears upon the enemy.

In fact, crews in war are lucky to realize 50 percent of their weapons potential and tactical leaders would be unusually skillful if they could bring half their weapons to bear. And, as we all know, Murphy's law runs rampant.

The net effect of all this is that most war games run at least three times faster than they should, move forces at three times the actual rate and consume ammunition and produce casualties on a commensurately unrealistic basis.

Unfortunately, all of these war-game characteristics feed the image of overwhelming Soviet attacks. It is a good war-gamer who can move backward fast enough to avoid annihilation.

Quite obviously, every Soviet attack is not a concentrated breakthrough effort. Indeed, some experts argue that such attacks will be the exception rather than the rule. Logic tells us that where breakthrough concentrations are achieved, the greater portion of the front will see secondary efforts.

Obviously, too, there is no such thing as a constant rate of advance when viewed from a single sector at a particular time. Soviet armies do not move forward on some magic cruise-control set at 15 kilometers an hour or some other rate derived by averaging movement over periods of days and weeks. Instead, battles are episodic, advances sporadic, and subject as much to the terrain and the quality of the defense as to the doctrine of the attacker.

Just because we have studied Soviet doctrine exhaustively, we must not sanctify his intentions nor assign his tactics an aura of inevitable success.

A well-situated, well-supported U.S. tank or mech company with ten to 15 high-performance tank and antitank weapons should be able to destroy a Soviet tank battalion coming straight at it nine times out of ten with moderate losses.

If that Soviet battalion is operating as part of its parent regiment advancing in the sector of a U.S. battalion task force, and if that defending task force is even reasonably competent, then the Soviet regiment should also be destroyed forward of the battle position.

In these circumstances, elasticity in the form of giving ground is not required, but full exploitation of the inherent advantages of the defender is more than ever required.

Thus, elasticity at the nose of the enemy's main effort at the beginning of the onslaught does not automatically require elasticity later when the attack is spent, or elasticity elsewhere.

It is fair to ask here just how the company and battalion commanders are to know whether they are deployed across the nose or on the flanks of the enemy's main effort. Central to the concept of success when fighting outnumbered is to see enough of the battlefield so that division and brigade commanders can make these determinations just as they must determine where and when to concentrate their forces. This requires the brigade commander to tell his battalions what tactics to employ as part of his concept of operations, such as "Hold here!" "Give here!" "Counterattack there!" Concepts well tuned to the mission, the terrain and the enemy will surely call for diversified tactics.

This conclusion prompts a word about counterattacks. *FM 100-5* is cautious about leaving behind the advantages of the defender in order to venture out in the open in counterattack. This may well be true of a head-on counterstroke but too cautious in respect to counterattacks in general. A well-executed counterattack falling on the flanks or rear of an enemy force just as it suffers a severe check in front has often been spectacularly successful.

The vulnerability of a force oriented both physically and mentally in one direction to an attack from another direction is extremely high. The cover is to the front, but the fire is from the flank; the tactical disposition is to the front, but the threat arrives on the flank; the mind is fixed on one plan, but the situation demands another. These conditions can set the stage for annihilation.

Only the commanders on the ground, operating within the context of their mission and in accordance with the concept of their higher commanders, can exploit the full range of available tactics and techniques to achieve success. Only the commanders on the ground, not the doctrine of the Army, can be allowed to narrow their choices because of the infinite variety of terrain and situations with which they will be confronted.

The authors of the next edition of *100-5* have the important task of broadening the options by clarifying the doctrine. It may be that the term "active defense" should be clearly broadened to make it synonymous with diversity—dynamic diversity. On the other hand, they may wish to discontinue the term entirely, as it now carries some confusion in its intellectual baggage, and simply refer to "operations for defensive purposes."

But, in either event, the option of elasticity must be preserved. The last thing we want is to throw that baby out with the dirty bath water.

In the face of a narrow breakthrough attack, the choice may be between elasticity or a shattered defensive system—a deep penetration into the heartland of industrial and political Germany and Soviet tank divisions on the rampage in the midst of those supporting echelons upon which the forward defense utterly depends. If we retain, as we must, the classic meaning of the other tactical options (delay, withdraw, deliberate defense and so forth), and if the active defense is either broadened and diversified or discarded, then we are left with no good description of the tactic of elasticity.

The easy answer is to lump the idea under the "delay." Unfortunately, the intent of the delay (to gain time) is not the intent of elasticity (to slow, stop, destroy). The authors must clarify this fundamental point in such a way that the mobility of armored and mechanized forces is exploited as much in the defense as in the attack. The smaller force must use all the advantages which accrue to the defender—over and over. But it must also use the equally powerful advantages of the attack when the situation is right.

In struggling with this problem we should all be aware that we are in good company. In an earlier article on elasticity in the defense, it was mentioned that Marshal Ferdinand Foch was constitutionally unable to accept the tactics of Marshal Henri P. Petain—tactics which gave ground—but which also brought the last great German offensive to a standstill in 1918.

In 1938, the chief of the German General Staff, Col. Gen. Ludwig Beck, issued new "battle instructions" at the direction of the commander in chief, Gen. Werner von Fritsch. These instructions were interesting in that they reversed the views of the General Staff which favored a "delaying defensive action." It is not surprising that the General Staff, which grew out of the *Reichswehr*—the 100,000-man Army—should have arrived at such a tactic.

The German forces had perfected elasticity in World War I. In the late 1930s they found themselves with 24 incomplete German divisions arrayed against the potential of 90 Allied divisions. But Gen. Fritsch, like Marshal Foch, did not like the tactic. He called it "organized flight." Fritsch and Foch favored the attack.

The "always attack" doctrine worked beautifully against Poland, France and Russia until Stalingrad. Thereafter, the German Army fought a bitter battle with Adolf Hitler, as well as the massive forces of the Russians. Hitler wished to hold every inch of ground. The German generals desperately wanted to fight a maneuvering defense.

In December, 1994, Brig. Gen. Bruce C. Clarke, commanding CCB of 7th Armored Division, held the critical area of St. Vith against the Fifth German Panzer Army under Gen. Hasso von Manteuffel. In the course of that epic battle, one of the most important of all the battles in the Ardennes, Gen. Clarke—in order not to be destroyed—gave ground slowly as he maneuvered his armored force against the Germans.

His corps commander ordered Clarke to give not another inch. Gen. Clarke objected. British Field Marshal Bernard L. Montgomery, commanding all Allied forces on the northern shoulder of the Bulge, sided with Clarke in favor of elasticity.

The classic question now once more confronts an Army faced in Europe with a huge adversary. Diversified tactics, maintaining the initiative, shaping the battle, giving ground when necessary, taking it back by offensive action, leaving the tactical decisions up [to] the officers on the ground—all this is the mark of a cool, mature, well-trained and confident army. Our doctrine should both inspire such an army and express its deep convictions.

But, before ending this discussion, we must turn and face our outside critics who see a failure in our Army to understand the superior value of maneuver.

The maneuver enthusiasts are, of course, entirely right in favoring a war of aggressive movement as the key to success. Aggressive movement is the heart of offensive action, and offensive action is the only route to victory.

Who could disagree with such sound thinking? Where the outside critics err is in their assertion that the U.S. Army does not understand all this.

Part of the problem surely stems from the deep frustration associated with the defensive strategy adopted by the NATO alliance. The decision to defend is the most the NATO commanders believe they can extract from the forces available. These are strategic and operational rather than doctrinal or tactical decisions. The U.S. Army like the other NATO armies is tactically and doctrinally unhappy with the situation in Europe—any professional soldier would be.

But the U.S. Army is not by its character, preference or record of historic performance an attrition-minded, defensive-minded, fighting organization.

The War Between the States, the Spanish-American War, World War I and World War II were characterized by unremitting attack. U.S. forces then were more apt to be labeled bloody-minded than defensive-minded. Static, passive, timid, conservative were, and are, grossly inappropriate descriptions.

The brilliant landing at Inchon, the march to the Yalu and the Ridgway counteroffensive were more typical of the American view of how to fight a war than the political-military stalemate along the 38th Parallel.

Vietnam was a strategic defense characterized almost exclusively by offensive operations within South Vietnam and an offensive air war in North Vietnam. "Search and destroy," a term subject to misunderstanding and opprobrium, is nonetheless no descriptor of a static defense. It was during the war in Vietnam that the strictly American concept of airmobility came into full flower.

The conceptual work by Lt. Gen. Hamilton H. Howze was articulated and practiced by Maj. Gen. Harry W. Kinnard, first in the experimental 11th Air Assault Division and then in combat operations with the 1st Air Cavalry Division.

The tank-minded Israeli Army is coming around to the idea of airmobility and the Soviet Army is in the process of stealing the concept in its entirety. But the seminal work was solely American—not the sign of any hardening of the intellectual arteries or any aversion to maneuver.

Setting NATO aside for the moment, one can make an interesting argument that any other future war will probably be fought under nonlinear circumstances in which offensive action will dominate at the operational and tactical level no matter what the strategic mission may be.

The Middle East presents the clearest possible example of that probability. Given the distance to the Persian Gulf and the relative shortage of strategic lift, it is axiomatic that the forces we could deploy there would be very small relative to the forces we might oppose and would be tiny relative to the vast geographic area in which they would operate. There could be no continuous fronts stretching from the Alps to the sea or across the waist of Korea.

As in the Philippines in 1898, in the Southwest Pacific in 1943, throughout the Vietnam war, small forces conducting offensive operations over large distances would be the order of the day.

The seizure of operating bases and the projection of power from those bases to dominate the surrounding area would be the only real option. Tactical air forces, airmobile and armored forces operating from bases seized and secured by airborne and Marine assault elements will certainly be the heart of our doctrine—very American, bold and imaginative, flexible and aggressive.

The generation of officers now in command, seasoned in airmobile environment of Vietnam, is especially well suited for such operations. Accustomed to open flanks, to operating on the basis of ambiguous intelligence, seeking the enemy and not the terrain, concentrating rapidly, and adapting constantly to the flow of events—these leaders have maneuver in their bones.

Let the critics relax.

5

Tactical Nuclear Warfare

THE EVOLUTION OF U.S. ARMY NUCLEAR DOCTRINE, 1945-1980. By John P. Rose, Westview Press, Boulder, Colo., 1980, 252 pp., $23.50. (Member $21.15)

reviewed by Gen William E. DePuy, USA (Ret)

From his vantage point on the faculty of the Military Academy, Maj (Dr.) John Rose views the evolution of U.S. Army nuclear doctrine with deep dismay. The problem, as he sees it, is succinctly stated in the early pages of his valuable and provocative book:

> Army tactical doctrinal developments—both nuclear and conventional—have been responsive more to political preferences held by national authorities than to the real nature of the threat and the rigors of the nuclear battlefield. Were the two congruent there would be no problem. But the evidence is overwhelming that the type of war preparations favored by United States political authorities over the last decade and a half and the type of war for which the principal enemy is preparing differ markedly. Hence, to the extent that training and doctrine have followed the former instead of the latter, the Army may be poorly prepared for a major war with that opponent.

Although he is focused on "Army" doctrine, the issues he treats go far beyond the Army. By their nature these issues touch upon centerline strategic policy and are thus the legitimate and pressing concerns of all military professionals and defense authorities most certainly including the leaders of the U.S. Marines.

The first and largest part of the book can be characterized as a diagnosis of the problem. Toward the end, the author presents his prescription for a cure. The first part is somewhat stronger than the second.

The diagnostic work is thorough, scholarly, and clear. It takes us through the events and influences which have shaped our tactical nuclear policy and doctrine. Some of these factors have been viewed as constructive, but others—the majority—are described as diversionary and counterproductive.

Rose notes that military institutions have a tendency to resist change and, in the case of nuclear weapons for battlefield use, he considers that resistance to have been stubborn and prolonged.

He is, however, fair in his recognition that there have been powerful diversions which have led the Army away from what he regards as the good works of the 1950s and early 1960s involving a proper attention to the business of tactical nuclear warfare. Maj Rose notes, approvingly, that Army leaders in those days were thinking and working hard on organization and tactics for the nuclear battlefield, and just as enthusiastically endorses the fact that those leaders still held to the honorable concept of winning wars.

But sadly, according to the author, those good beginnings were swept away, first by a concentration on "counterinsurgency" as a policy, and then by its prolonged and doleful application in Southeast Asia.

From *Marine Corps Gazette* 65, no. 4 (April 1981): 64–66.

When Vietnam had run its course, one might have expected a return to the nuclear accents of the late 1950s, but, alas, another diverting event—the Yom Kippur War—seized the attention of the Army. Recognizing that its long preoccupation with a light and elusive enemy in the jungles and paddies of Southeast Asia in no way qualified it for a head-on highly lethal winner-take-all armored battle, the Army concentrated its doctrine and training on the preparation for just such battles.

Maj Rose explains this most recent preoccupation of the Army fairly and exhaustively while regretting its nearly exclusive focus on conventional combat. He does not, as he might well have done, go on to say that NATO rationalization, standardization and interoperability (so-called RSI) had been largely nonnuclear in emphasis. And now the priority afforded to the Rapid Deployment Force (RDF) bids fair to become still another deviation from the nuclear path.

In a country which shuns grand strategic designs, the bureaucracy is often starved for direction and guidance. When counterinsurgency, RSI, or RDF came along as an official policy, they swept all else aside.

The author's perceptions of all this are sharp and penetrating.

In any event the combination of the Yom Kippur War and the NATO priority led the Army to review and revise its fighting doctrine. The results were embodied in a keystone manual, *FM 100-5 Operations,* in which the Army concentrated on fighting outnumbered against superior armored and mechanized forces of the Warsaw Pact in central Europe.

The author points out that not only is *FM 100-5* dominantly focused on conventional weapons, but also that the one chapter on nuclear weapons was added somewhat as an afterthought. He is not inspired with the nuclear doctrine, such as it is, and describes it as merely a procedure for releasing "packages" of nuclear weapons to the tactical commanders. The procedure is so centralized, so time-consuming and arbitrary, that no commander can plan with any assurance a tactical scheme of fire and maneuver.

This reluctance to unleash the nuclear weapon, even at the tactical level, and the awkwardness of the resultant control mechanism leads the author to the heart of his concern—the attitudes of many senior military and most senior civilian policymakers toward the employment of nuclear weapons.

Rose sees several converging forces at work. The first he describes as a congerie of myths and illusions—of false images surrounding nuclear weapons. Coupled with the first, indeed fostering these myths, is a general ignorance of the facts regarding the characteristics and effects of modern nuclear weapons. Third, is the resulting absence of any coherent tactical nuclear strategy, realistically tied to a plan of campaign.

These forces, which have been at work for at least 15 years, have created a whole theology of reticence—a blind trust in deterrence and the abhorrence of a fullblooded search for the tactical utility of nuclear weapons. The theology may be recognized by its reactive language—flexibility, war avoidance, graduated response, conflict termination. It is not a war-fighting doctrine. It is, rather, a desperate hope that deterrence will work, that if somehow such a war should ensue it can be held at a low level of violence, and finally that "war termination" can be induced by metering out the horror in limited packages of violence with no other military objective.

War is looked upon as a natural calamity such as Mount St. Helens. It calls for a damage-limiting approach not—perish the thought—a war-winning mentality. This policy chooses to overlook all the giant issues, grievances, and perceived threats which led to the outbreak of war in the first place. They are dissolved in the mutual aims of both parties to stop the fighting. Everything we know about the Russians makes this a policy of madness.

This nation, of all nations, should have learned in Vietnam that our enemies fight for a purpose. Metering violence may appeal to us as a rational concept, but it seems only to enrage our adversaries.

The author explains the evolution of nuclear weapons toward battlefield utility by limiting one or another of their lethal effects. The neutron bomb (enhanced radiation) is optimized against personnel while the limited radiation weapon is designed to reduce fortifications. His attack on the myths and illusions is well conceived and skillfully conducted. However, regrettably, Rose looks only at one side of the equation. Are the Russians as fastidious as we seem to be in respect to collateral damage? Do they see virtue in battlefield restraint or are they inclined always to raise the ante in search of victory?

The author must believe the Russians see, as he does, a kind of tactical nuclear firebreak between conventional operations on the one hand and strategic nuclear war on the other.

Perhaps. But the definition of strategic nuclear war to a European may not coincide with ours and the Russians stand deep in Europe. Additionally our European allies are just as frightened of theater nuclear war as we are of strategic war. Unfortunately, the fact that tactical nuclear weapons of advanced design may be no more destructive than conventional weapons used in mass does not, by itself, remove these widespread concerns.

But Rose would probably say that these complications in no way change the fact that we may find ourselves in nuclear combat for which we are not prepared.

For their part, the Soviet authorities give every indication that they are fully prepared to resort to nuclear weapons as a key element in their tactical and operational plans for victory in Europe. Grechko says that Russians say what they mean and mean what they say. What they say is that nuclear weapons will provide the firepower to support the offensive operations on which they depend for victory. Some now take comfort from the fact Russians admit the possibility of a conventional phase of operations—that they have been greatly increasing their conventional firepower—and that they have said much less about nuclear war since 1971. But the greater fact is that they have the capability to fight a tactical nuclear war now and we, according to Rose, do not.

He suggests the time has come to face this issue, to cast aside the illusion and embrace the realities, one of which is that "sub-kiloton weapons with increased accuracy offer a credible tactical weapon as warfighting instruments." On this basis and other realities he sets forth his own concept for a nuclear war fighting doctrine.

The first premise is that nuclear weapons can be folded into tactical operations without undue difficulty.

> In spite of different effects generated by nuclear weapons, tactical battlefield operations are not obsolete to the art of war. Provided certain practical adjustments are made to counteract nuclear effects, nuclear weapons have not compounded the complexities of warfare.

From that point the concept is simply that sufficient nuclear weapons will be released to the tactical commanders so that they may get on with the war. Planning and coordination should be centralized (at corps and division) but control and execution of nuclear fires must be decentralized (to battalion level).

So far so good. The idea of operating the maneuver force at the battalion level is classic and largely unarguable. Giving those battalion commanders support by nuclear weapons would certainly be required, but it is simply not credible that this combination alone would defeat the Warsaw Pact. The author touches but lightly on other applications:

> The proposed concept allows for immediate nuclear engagement of targets . . . . to include: enemy nuclear capability maneuver units, second echelon units, fixed targets . . . .

Nonetheless, it is here that the main chance for success surely lies.

Except for fixed targets, the practical application of nuclear weapons has been restricted primarily to those targets formed by the configuration of the front and the shaping of the battlefield by maneuver. This is the realm in which the battalions operate.

But the bulk of the enemy force during the critical early days of war is not visible from frontline battalions nor is it fixed in nature. Rather, it is on the move from and through the rear areas. Just recently has high technology produced the means to find and strike these moving or movable targets. The wizards of micronics are now producing sensors of all kinds—radars, electro-optics, thermal, electronic, electromagnetic—which can detect enemy forces in the deep or proximate rear areas. High volume processors can correlate or fuse this information into both target and situation analyses. Precision weapons can be launched within time and accuracy tolerances suitable for the engagement of these moving or movable targets.

The destruction or decimation of the enemy elements moving to contact must surely be the most effective application of tactical nuclear weapons. If this can be done the battalions in contact could maneuver to victory over the first echelon enemy in the main battle zone. The "good old American pragmatism" which Rose admires and finds inherent in American fighting men could be given free rein.

But without chopping the Warsaw Pact down to size, even the Sgt Yorks and Gen MacArthurs would have their hands more than full.

Something along these lines must be the basis for a tactical nuclear war fighting doctrine. There is, however, no guarantee that the Russians aren't equally aware and at the moment better prepared.

The issue of who strikes first lies untouched in the Rose treatise. Suffice it to say that only an intact, coherent force could possibly execute the nuclear interdiction of an enemy's second echelon and only such a force could maneuver successfully on a tactical nuclear battlefield. It seems unlikely that any force subjected to an extensive first strike with theater nuclear weapons could do either. Regrettably, Maj Rose stops short of these issues.

6

TOWARD A BALANCED DOCTRINE

By Gen. William E. DePuy
U.S. Army, retired

The seductiveness of maneuver doctrine tends to magnify its virtues and to understate the importance of synchronization, without which the most ingenious maneuver schemes can degenerate into indecisive minuets or end in disaster.

Gen. George S. Patton Jr. would be pleased to know that maneuver doctrine has taken a strong hold on the U.S. Army of the 1980s. It has a long list of virtuous features. At the risk of oversimplifying, here are some of the most important:

- Maneuver doctrine brilliantly provides the basis for exploitation of the high mobility provided by the M1, M2, M3 family of armored fighting vehicles and the two modern helicopters, Blackhawk and Apache.
- Maneuver doctrine is active as opposed to reactive and thus fits, more comfortably, the American temperament.
- Maneuver doctrine seeks to keep the opposing force forever off balance, forever reacting to U.S. initiatives but always one futile step behind. It is assumed (hoped?) that the Soviet operational and tactical system is cumbersome and thus a natural victim for such a doctrine.
- Maneuver doctrine as expressed in *FM 100-5* is a sound, logical step forward on the long road of tactical evolution. It has ample growth potential to absorb new technology.

On the other hand:

- As touted by certain members of the military reform movement it could be construed as a one-dimensional answer to multidimensional problems on the battlefield.
- The explanation of AirLand Battle 2000 usually has reinforced the notion that bold maneuver alone will carry the day.
- The Army and the Air Force are not yet fully together on the coordination of battlefield air interdiction (BAI) against rapidly moving enemy follow-on forces—a central theme of AirLand Battle.

Partly because maneuver doctrine is so inherently attractive to soldiers, it has generated its own excesses. In arguing its undoubted merits, proponents have apparently felt it necessary to contrast those virtues with the vices of alternative doctrine. The chief contrast has been drawn with the so-called tactics of attrition.

Attrition is such an "ugly" doctrine that it claims no known or announced adherents, even though most wars finally have been resolved on that basis. Certainly it is permissible to be against

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attrition so long as the critic does not spread his anathema over the whole idea of fighting; not only fighting, but hard, bloody fighting, should that be necessary.

Victory in such combat has classically gone to the commander who concentrates (and applies) superior combat power at the point and time of decision. We know, but sometimes forget, that there are *two* dimensions to concentration and *two* methods involved:

- Concentration of forces in space via maneuver.
- Concentration of actions in time via synchronization.

This article's premise is that proper doctrine must seek both goals and employ both methods in a judicious mix and that synchronization embraces a widening range of complex but essential functions.

Lest this issue seem overdrawn, there are a number of very bright and influential young field grade officers who have contributed much to maneuver doctrine, who by their talent will remain influential in doctrinal matters throughout their careers and who are genuinely worried about what they perceive as a mutually exclusive relationship between maneuver and synchronization. The argument goes that synchronization smacks of set-piece warfare—a Montgomery perhaps, compared with a Rommel or a Patton. And if synchronization, therefore, means stopping the war for time-consuming, deliberate arrangements for every battle, then it will nullify the enormous benefits that otherwise would flow from rapid and bold maneuver.

This is not a trivial issue. Perhaps the logic trap is in moving the discussion to the outer boundaries of each concept. One could visualize an army strangled and immobilized by its internal procedures for synchronization, every battle a Normandy landing or an El Alamein. Correspondingly, an army devoted to an endless bloodless ballet does not inspire much confidence.

But extremes prove very little. Common sense tells us to move toward the center, to synthesize the virtues of each in a higher order of competence and professionalism—an Hegelian dialectic if you will. The remainder of this article, therefore, centers on synchronization with the goal of bringing that process up to a level of equal prominence with maneuver in doctrinal thinking throughout the Army.

This is not an argument against maneuver doctrine. It accepts the primacy of maneuver as all supporting actions must be keyed to maneuver. The scheme of maneuver (concept of operation) is the first and great requirement. The second, which is like unto it, is synchronization.

The history of war is replete with examples in which superior forces were concentrated for battles which were then lost to smaller but better-handled opponents.

Gen. Sir Bernard L. Montgomery's predecessors in North Africa, with the notable exception of the unsung Gen. Sir Richard N. O'Connor, regularly assembled forces larger and potentially stronger than the Germans, and just as regularly were defeated. At Gazala, Field Marshal Erwin Rommel maneuvered himself into the rear of the British and into what the Germans themselves described as the witches cauldron. With the British commander, Gen. Sir Neil M. Ritchie in the rear, the Eighth Army never made a concerted and decisive move against the trapped *Panzer* Army. Individual British (Indian and New Zealand) brigades engaged the Germans as the spirit seized their various commanders or as they were forced to fight for survival. But Gen. Ritchie probably never generated, at any one time, more than ten to 20 percent of his army's latent power.

Gen. Rommel, on the other hand, was actively present in the "cauldron" with his troops. He, personally, brought up his supply and ammunition trains, had a path cut back through the British mine field as a direct resupply route, issued orders to his force, routed the Eighth Army and went

on to the Egyptian border—capturing Tobruk on the way. He synchronized the actions of his smaller force and developed more intensive combat power at the critical time.

It is interesting to note that the deep enveloping maneuver of the Germans did not stampede the phlegmatic British. The mere presence of the whole *Panzer* Army in the British rear was not enough. Only when Gen. Rommel delivered a well-coordinated attack did the defense collapse. The psychological effects of maneuver can be overstated. British phlegm may have its counterpart in a Soviet command which is less than skittish.

Finally, on this point, the French have a marvelously descriptive term for the tactics of a force so powerful and confident that it ignored the movements of the enemy and simply marched straight to its objective—"a maneuver of scorn."

Until recently, the thought behind the word "synchronization" was embodied in two well-worn tactical and organizational concepts: "fire and movement" at the lower tactical echelons and the "combined arms team" on the organizational plane. The regimental combat team (RCT) of World War II was composed of infantry, artillery, engineers, antiaircraft automatic weapons, tanks and tank destroyers attached, plus medics and services so that the commander had in hand all the ingredients necessary for a successful battle.

The modern brigade is built on the same concept as indeed is the division. The term used in World War II, and even now, to convey the idea of synchronization was "coordination" as in a "coordinated attack." The term "synchronization" has been brought forward to imply a greater scope and more precision in the relationships between the functions and activities performed on the battlefield.

First the scope: the branches of the Army plus the tactical air force define most but not all of the functions involved. It is interesting to note that a branch is usually formed as soon as the battlefield function is acknowledged as vital and unique. A recent branch to be formed was intelligence. Electronic warfare (EW) teeters on the edge of qualification. Army aviation has been formalized as a branch.

Departing for a moment from the classic view of corps, divisions, brigades and such, the Army actually consists of *parallel, echeloned, vertically integrated* and *individually controlled* functional systems. For the purposes of execution they are echeloned vertically. For the purposes of synchronization, they are sliced horizontally at the level of each major tactical and operational echelon. Because maneuver is the key to which all functions relate, those horizontal slices are the familiar armies, corps, divisions, brigades, battalions, companies and elements of the maneuver force. These relationships can be depicted graphically. (See the diagram on page 317.)

The tactical air control system has been added to the diagram in parentheses, added because tactical air is a key function, in parentheses because of Air Force sensitivity. There are several things to be said about this simple diagram:

- The maneuver function is the first among equals because all other functions are keyed to the scheme of maneuver, but it is important to understand that the maneuver arms are a small fraction of the strength and composition of the army in the field.
- All the vertical functions are multi-echeloned. Some, like intelligence, extend all the way from the surveillance radar platoon or the intelligence officer of the infantry battalion up through the echelons all the way to Ft. Meade, Md. Fire support extends from the forward observer (FO) with the maneuver unit through the battery and up to the corps artillery. Air defense extends upward from the "Stinger" to the theater air force commander.

- These vertical functions are true systems—input (FO), process (fire direction center/Tacfire) and output (a volley by 155-mm howitzers). They are vertically integrated systems, often with their own internal communications (the netted radars of air defense).
- A tactical commander, say brigade, owns and operates just small segments of the vertical systems and thus is dependent on all those links in the chain above his level. If those links are severed, for example by distance, enemy action or communications failure, the effectiveness of the functional system is greatly reduced. The intelligence system, for example, is totally dependent on continuous vertical linkage. A large part of the intelligence which a brigade commander will need to maneuver wisely will come to him *down* the chain from above. So, too, air-defense alerting as well as interdiction and counterfire targeting will come from above.
- The *execution* of plans and orders amounts, finally, to a specific action at the lowest echelon of each function; for example, the tank moves, the howitzer fires, the air-defense missile is launched, a bomb is dropped, a bridge is built, information is acquired, a radio is jammed, a part is delivered, an engine fixed.

It is the horizontal synchronization of these actions, which concentrates combat power in controlled bursts of intensity that wins battles—battles to which these elements have been conveyed by maneuver. Synchronization is the responsibility of the maneuver commander.

Army doctrine has long recognized that synchronization is a stepped function. The degree of synchronization will vary depending on the tactical circumstances. Consider the classics:

- A meeting engagement.
- A hasty attack (or defense).
- A deliberate attack (or defense).

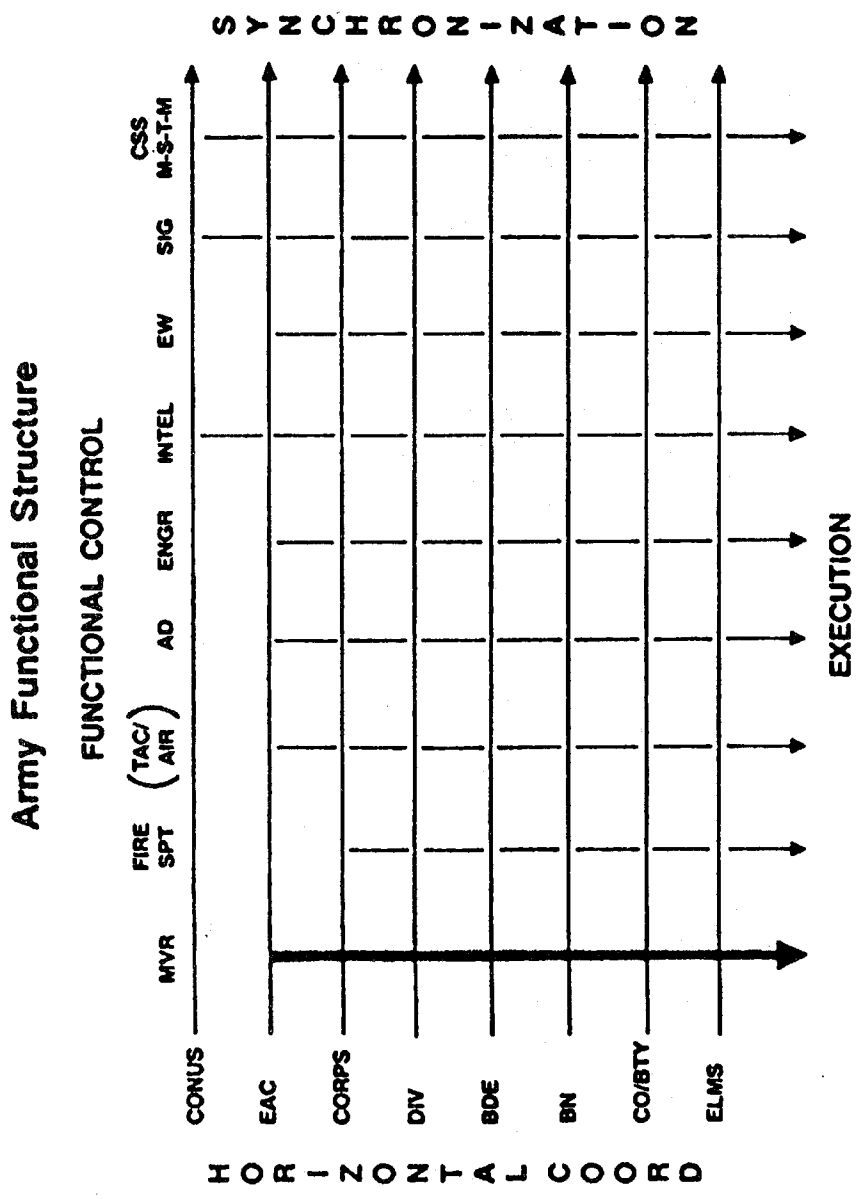
Obviously, meeting engagements consist of many unforeseeable happenings to which commanders must respond as they occur. Beyond basic fire and maneuver, the degree of synchronization is relatively low because time is short. In the hasty attack and then in the deliberate attack there is progressively more time and thus more synchronization.

The question arises as to just how one decides how much synchronization is desired or required. This question carries us to the heart of the military art.

Only the commander can decide (and he must decide). Commanders vary. Gen. Montgomery had a passion for full synchronization that involved *very* deliberate preparation. Gen. Patton was the opposite. While Gen. Montgomery prepared a world-class extravaganza for his Rhine crossing, Gen. Patton slipped the 5th Division across at Oppenheim without breaking the stride of his general advance. In neither case was there much opposition. The German Army was already beaten and Gen. Patton's judgment was the better.

How *does* the commander decide? Time is a double-edged sword. While we are preparing our attack, the enemy can be preparing his defense. So there is a fine judgment required and there is a high premium on speed and efficiency of the synchronization process. We are, of course, involved in a search for relative advantage. Synchronization is a method of maximizing that relative advantage—it is a synergistic process. If an immediate charge into a disorganized enemy produces the greatest relative advantage, then that is the right solution. But an impetuous attack into a deliberate defense is the wrong solution. In between, there are many choices.

In addition to the degrees of synchronization there are other variables, such as echelons involved and the precision required. At the lowest echelons where synchronization is fire and movement, precision is everything. If the first platoon charges into the open before the second


Army Functional Structure
FUNCTIONAL CONTROL
MVR
FIRE SPT
(TAC/AIR)
AD
ENGR
INTEL
EW
SIG
CSS M-S-T-M
CONUS
EAC
CORPS
DIV
BDE
BN
CO/BTY
ELMS
HORIZONTAL COORD
SYNCHRONIZATION
EXECUTION

platoon opens its overwatching suppressive fire, it is a disaster. We are dealing in seconds. This level of precision extends through company to battalion.

At brigade the tolerances are slightly relaxed, but only slightly. Even at division the counterfire and EW must occur within minutes and fractions of minutes to reinforce the combined effects. So one might say that high precision synchronization is a characteristic of the tactical echelons (battalion, brigade and division).

But synchronization, perhaps with slightly relaxed tolerances, must extend also to the operational echelons—particularly the corps. For a number of years, the Army and Air Force have been working (at Tactical Air Command, Training and Doctrine Command, and Readiness Command, for example) to develop the mechanisms and procedures for air-land cooperation at the corps level. Recently, Lt. Gen. John R. Galvin, commander of VII Corps, wrote about the high potential for progress in the U.S. Air Forces in Europe/U.S. Army, Europe, joint enterprise called the "Warrior Preparation Center." This effort to train commanders and staffs in airland battle operations also affords a basis for refining cross-service procedures and concepts of operation.

Gen. Galvin notes that some of those procedures have become more mechanical than tactical. At least one reason for that state of affairs could be that the Air Force has not yet decided exactly what to do about battlefield air interdiction. By definition BAI involves the launching of attack aircraft against targets of high significance to the ground commanders. But, because the destruction of these targets requires the penetration of enemy air defenses, the Air Force wishes to go about such operations in a deliberate manner involving careful planning and the employment of a number of support aircraft—the Air Force version of synchronization.

These are not insignificant problems and push the Air Force toward a 24-hour planning cycle—an intricate and extended process. The Air Force would thus prefer to handle BAI in the same manner as any air interdiction mission, the only distinction being the target selection process.

The unresolved problem arises when the army requests the attack of moving enemy targets (for example, a tank division approaching on route A). The nature of these targets, the importance of them to the army commanders and the response times required make the synchronized attack of these targets by Tactical Air Command air entirely incompatible with 24-hour planning cycles. The Air Force clearly is agonizing over this problem. It is unresolved. We can hope that such joint efforts as the Warrior Preparation Center will contribute to a solution—Gen. Galvin seems to believe they will.

It has long been clear that an absolute prerequisite for the effective employment of a force is a clear, simple commander's concept of operation. Based on this concept, which features his "scheme of maneuver," all the functional commanders can plan and execute their part of the battle.

The commander's staff will further elaborate and schedule (synchronize) the actions in time and place.

In the event of surprises, errors and other inevitable misfortunes such as communications failures, each subordinate can act as he believes the force commander would act were he present. The subordinate can act through his understanding of the larger concept. Without such knowledge he must wait for orders. This, of course, is the essence of the German *Auftrag Taktik* (that is, based on mission-type orders)—continuous, intelligent and adaptive synchronization.

There is more to synchronization than *Auftrag*. Let us imagine that the reader has been appointed suddenly as a task force commander (division- or corps-sized expeditionary force, say

to the Middle East). As he surveys his new command and considers the great distances over which he must operate he would discover that the vertical systems were all stretched to, or beyond, their elastic limits in terms of communications. In short, some of the links would separate.

To the extent that the vertical systems are pulled apart by distance, to that same extent, does he lose his intelligence support—his air defenses—his fire support and logistics, and the like. He has no basis for synchronization even if he is able by personal effort to get instructions down to his battalions and brigades. His smaller force is then reduced to the guns and bayonets of the maneuver battalions.

This is the great challenge to the designers of contingency forces. It is the essence of C^3I (command control communications and intelligence) design. The suddenly appointed commander who does not understand this and does not take expedient measures to repair his ignition harness is headed for disaster.

Recently there have been disturbing claims that the Soviets have set higher standards for synchronization than has the U.S. Army. Suffice it to say that they seek to execute an operation at army level (a big U.S. corps) five to six hours after receipt of orders. Even if it takes them twice as long, say 12 hours, they would not be the slow, sluggish organization we happily describe to ourselves. If we intend to operate inside his decision cycle we have our work cut out for us. Fast synchronization comes from good, simple procedures backed by reliable communications.

Perfect synchronization shuts down the enemy force. At the lowest level—that of fire and movement—the fire suppresses the defender and the attacker moves in with grenades and automatic weapons. There are very few perfect operations even at the lowest echelons (there are some). As the scope of synchronization expands there will be no perfect operations. But perfection is the design goal. A perfect operation might have the following features:

- Near-real-time surveillance reports, reinforced by supportive intelligence, of sufficient accuracy so that the commander knows the major dispositions and movements of the enemy and has time to announce his concept of operations and issue necessary orders.
- Just when the Red artillery could be expected to suppress our antitank defenses, his guns are silenced with counterfire.
- Just as the Red attack is stopped in front of our defensive position and just when the Red commander wishes to issue new orders, his command net is shut down by surgical jamming; his efforts to turn his force to meet our counterattack are futile—his tanks are faced in the wrong direction.
- As Red attack helicopters appear to support his attack, they are driven off by carefully positioned air-defense weapons.
- As our counterattack moves into the flank of the enemy force stalled in front of our defensive position, the Red overwatching forces will be blinded by smoke and rendered ineffective by the fires of our artillery and by our close air support.
- As Blue attack aircraft go after the follow-on forces to keep them out of the current battle, Army rockets suppress Red air-defense weapons along the ingress route and no aircraft are lost.

Because synchronization is a reciprocal game, every success enjoyed by Blue is a subtraction from the effectiveness of Red. Remember, we are only interested in subtracting from the Red force those elements of effectiveness which interfere with the successful fulfillment of the Blue concept of operations. This leads to lopsided victories by the force in synchronization.

Instead of the narrow range of force ratios with which combat models normally deal (in the range of 3, 4, 5, or 6 to 1), we see actual relative combat power ratios and resulting loss exchange

ratios of 10, 20, 30 or 40 to 1. Unfortunately, what we cannot measure we do not cherish. With rare exceptions, the force-on-force combat models now in use do not adequately reflect the high payoff of synchronization.

At this point, we must make an excursion to slay a pesky dragon.

When the "assault breaker" program was launched by the Office of the Secretary of Defense/Defense Advanced Research Projects Agency, its very name conveyed extravagant hopes. Via assault breaker, we would find and destroy the Warsaw Pact armored forces long before they appeared in the main battle area. It was simply a matter of buying the radars to find them, the missiles to reach them, and the smart munitions to kill them. Over time, and on reflection, wiser heads prevailed and these expectations were scaled down.

The airborne radars would be vulnerable to air and surface-to-air missile attacks, and in the choppy European terrain there were limits to line of sight. The effectiveness of smart warheads was greatly reduced against targets in forests or against long linear targets, like columns on roads. Some of the munitions had not yet demonstrated cost-effectiveness. And most important, the overall cost of the system began to escalate to the point where the services decided that the program would absorb too large a fraction of their budgets relative to the effects they expected to achieve.

Almost from the beginning, top Army managers judged that such wholesale bashing of the Soviet armor at long ranges was a dubious enterprise. However, the Army saw value in "deep attack" as a means of creating discontinuities in the arrival rate of follow-on forces (second echelon) which would offer opportunities for offensive maneuver. A bridge was thus extended toward AirLand Battle doctrine. But this conceptual bridge has never been completely built.

In the early days of assault breaker—which had become known doctrinally as attack of the second echelon or in the North Atlantic Treaty Organization (NATO) as follow-on forces attack (FOFA)—various analyses were undertaken to determine the relative value of different targets in the enemy rear area. The target values were related to the importance of each to the Red commander. Herein lies a problem which persists to this day. Red-based target value analysis (TVA) is a wholesale approach to a problem for which wholesale means will never be available.

A single corps could shoot up 1,000 two million dollar missiles (two billion dollars) in a short period of time if it were expected to participate in wholesale armor bashing. No responsible Army leader believes that this kind of money will be forthcoming while at the same time it is used to buy an otherwise modernized and balanced fighting force.

In order to exploit the new deep attack technology, within reasonable prospects for funding, the Army is looking at more modest application—such as deep attack synchronous with maneuver, not just generally harmonized as in corps campaign plans, but intimately synchronized as in support of a brigade or division scheme of maneuver—not attacking all Warsaw Pact elements detected and in range but that particular regiment or tank division which must be held off while the U.S. commander executes his surgical operation against the first echelon. It is obvious from this redirection that TVA must be based directly on value to the Blue commander; in short, values derived from their impact on the ability of the Blue commander to execute his concept of operation.

Limitations on means are not restricted to long-range missiles. The U.S. Army will never have enough EW equipment to jam all the Russian radios in range, only enough to jam the critical radios in a selected area at the proper time. Correspondingly, there will never be enough multiple-launch rocket system rockets to shut down all the Soviet artillery detected and in range—only selected artillery at exactly the right time.

Commanders in the field instinctively line up on the side of Blue target value, although they may not think of it in those terms. After all, they command combined arms formations to which they must issue instructions based on what *they* plan to do.

Unfortunately, most of the analytic and modeling community is still Red TVA oriented. Not the least reason is that their modeling techniques are not sensitive to the Blue-oriented (synchronized) operational doctrine. They can, however, easily handle the implications of a generally diminished Red force—diminished by wholesale bashing but never enough. So without means to measure the value of synchronization, they tend to ignore the premise. The immediate danger that arises out of this basic conceptual error is that deep attack prices itself out of the market on a wholesale basis whereas it is affordable and vitally important on the retail plan—that is, in synchronization with maneuver.

To close this argument, the following excerpts are taken from the revealing book *The Desert Generals* by Correlli Barnett (Indiana University Press):

> In the words of a German staff officer: "A German panzer division was a highly flexible formation of all arms, which always relied on artillery in attack or defense. In contrast, the British regarded the anti-tank gun as a defensive weapon, and they failed to make adequate use of their powerful field artillery, which should have been taught to eliminate our [the German] anti-tank guns."

Gen. William H. E. Gott, commanding general, 7th Armoured Division, British Army, said:

> The German will not commit himself to tank versus tank battle as such. In every phase of battle he coordinates the action of his anti-tank guns, field artillery and infantry with his tanks and he will not be drawn from this policy.

Gen. Michael O'Moore Creagh, 7th Armoured Division, British Army, in a lecture on Battleaxe said: "When on the defensive his [the German] policy was to draw our tanks on to his guns and then to counterattack with tanks."

> . . . the green territorial troops of 22nd Armoured Brigade, only a month in Egypt, had charged home on the dug-in Italians as if on a fox, and had been beaten off with the loss of 52 tanks.
>
> During the engagement [Crusader] . . . the British phalanxes of tanks had tried to get at the German armour, ensconced amid its lorried infantry and artillery, in a series of cavalry charges . . . They had been shot to a standstill by the German anti-tank artillery . . .

These passages tell us that maneuver, in the offense or defense, in the absence of the carefully synchronized actions of all the elements of combat power did not work well on the North African desert in 1941-42 and that it could not be different today.

7

A World War II Story Retold from New Perspective

A Time for Trumpets: The Untold Story of the Battle of the Bulge. Charles B. MacDonald. William Morrow & Co., Inc., 105 Madison Ave., New York, N.Y. 10016. 712 pages; photographs; charts; notes; bibliography; $19.95.

By Gen. William E. DePuy
U.S. Army, retired

A master historian, marvelous storyteller and participant, Charles B. MacDonald, has written a story of an epic battle from the unusual perspective of the soldiers who fought it. The author says it is the untold story of the Battle of the Bulge, and he is right. His book will be cherished by the men who did the fighting, celebrated by enlightened historians and studied by professional soldiers.

The men who fought and survived that bitter campaign will appreciate this book because the author tells their story—the story they wanted to tell but could not. Each of them saw just a tiny fraction of that rending collision between two enormous armies.

Like all huge battles, this one involved thousands of engagements between small groups of men contesting for dark wood lines, tiny villages and temporarily important crossroads.

For these soldiers, on both sides, Mr. MacDonald has added deeper meaning to their personal experiences; meaning beyond the bitter cold, numbing fear and desperate comradeship.

For this purpose, the author has sketched in the top-down context. For those soldiers, he has put the pieces together. But, overwhelmingly, his is a tribute to the very soldiers he takes the time to describe.

Never mind that Army groups, armies, corps and divisions were working their way competently through a whole new operational experience. The author's message is that individuals made a difference. Some rose to the occasion while others faltered or failed, but an astounding majority did what was necessary. Courageous men appeared, did their duty, sometimes survived, often did not.

The author names and describes many such men and their actions. Notwithstanding his heroic effort to give credit where credit is due, there were many more of equal merit known only to God and their buddies. For these, too, this splendid book was written.

A Time for Trumpets is also a much-needed historical corrective. Understandably, the circumstances of that campaign elevated a few units and their dramatic battles to prominence and thereby assigned obscurity to most of the others. Mr. MacDonald raises the visibility of scores of other actions of comparable importance without diminishing the luster of the battles at Bastogne and St.-Vith, Belgium, and the Third Army's agile and aggressive move against the south flank of the German salient.

From *Army* 35, no. 2 (February 1985): 85–86.

Now, instead of three great peaks rising from the plain below, Mr. MacDonald has described a towering massif—a cluster of peaks rising from a high plateau of exemplary performance, courage and sacrifice by the vast majority of units and individuals involved.

Although the Battle of the Bulge extended from 16 December to 28 January, when the entire salient was finally erased (a period of 43 days), this book is largely confined to the first 11 days. It would have been impossible to continue the depth and intensity of his treatment much longer in a single book. Out of 623 pages, the first four days of battle consume over half. By Page 584, he reaches the end of the 11th day of battle. Of course, much bitter fighting took place over the last 32 days. Half the 80,000 American casualties occurred after 3 January.

How then can this book be called an historical account of the Battle of the Bulge? The answer is that, strictly speaking, it cannot. But the author is right in his appraisal that by the day after Christmas, 1944, the 11th day of battle, the German attack was broken. The issue was no longer in doubt. The crisis was over.

Adolf Hitler was not prepared to accept failure or admit to his forces that his gamble had failed. His brave soldiers fought on in the great tradition of the German Army and both suffered and inflicted grievous additional losses.

Hitler had a grand, if unrealistic, goal. He wanted his newly reconstituted *panzer* armies to slice through the Ardennes, as they had in 1940, and instead of heading for the channel coast at Dunkerque, France, to turn more abruptly north to Liège and on to Antwerp, Belgium.

This would isolate, and pin against the North Sea, four armies—over half the entire Allied force. His generals thought his plan was too ambitious, given the forces available, but thought they might reach Liège and destroy the U.S. force south of the Meuse River.

Although one of the two *panzer* armies did break through in the southern zone and nearly reached the Meuse at Dinant, Belguim, the Sixth *SS Panzer Armee* on the north was stymied from the outset by the unexpectedly stiff resistance it met in the vicinity of Elsenborn, Belgium, and to the north. Moreover, every effort by the German force to turn toward Liège was blocked by the successive and successful extension of the First U.S. Army front to the west.

The margin of affordable error during this first week and a half was near zero. The issue was continuously in doubt.

The gallant defense by the divisions on the frontier (4th, 28th, 106th, 99th and 2nd Infantry divisions and the 9th Armored Division) plus corps and Army combat engineers bought some precious reaction time for the badly surprised American high command. The description of these battles forms the strong introduction to Mr. MacDonald's account. That reaction time was well spent.

After the initial shock on 16 December, the command responded quickly. Four reinforcing divisions (7th and 10th Armored divisions, an 1st and 30th Infantry divisions) were on the move by 17 December, and the two airborne divisions (82nd and 101st) were on the way the next day.

Each of these divisions arrived just in the nick of time, and the gripping story of the battles along the frontier on the northern flank and around Bastogne form the spine of Charles MacDonald's detailed account.

By the 11th day of battle:

- The northern shoulder at Elsenborn had been stabilized after bitter fighting by the 2nd, 1st and 99th divisions. If one looks for a center piece, this is it.
- Sixth *SS Panzer Armee* was never able to get its attack rolling to the northwest. *SS* Lt. Col. Joachim Peiper's *kampfgruppe* had been destroyed.

- Bastogne had been defended by the 101st Airborne and elements of 9th and 10th Armored divisions. The road from the south had been opened by the attack of 4th Armored Division of Third Army.
- First Army had extended a strong defense westward from Elsenborn by the successive deployment of a veteran and formidable force consisting of 30th Infantry, 82nd Airborne, 3rd Armored, 84th Infantry and 2nd Armored divisions grouped under XVIII Airborne and VII corps.
- The last effort by the Germans to break through to the Meuse River and Liège had been defeated by the offensive action of 2nd Armored Division of VII Corps at Celles, Belgium.
- With the 26th Infantry, 80th Infantry, 10th Armored (-) and 5th Infantry divisions, Third Army had driven the southern blocking force (7th German Army) as far north as the Sure River east of Bastogne.
- German commanders on the ground knew that the attack had failed and went over to the defense.

"The Road Back"—the collapse of the salient, the hard fighting involved, the commitment of nine more American divisions—is included by the author for completeness, but his heart is not in it and his method will not permit it. He has told the story he set out to tell.

Professional soldiers will study this book long and hard. It describes in clinical detail what happened when the U.S. Army was struck without warning by a massive armored attack—a one-time experience in its long history.

Mr. MacDonald's book arrives when U.S. Army doctrine for such a contingency is in healthy ferment. The timing could not have been more opportune.

The similarities between the situation facing NATO commanders today and those that faced VIII Corps, First Army and 12th Army Group in 1944 are extensive. The Fifth *Panzer Armee* with five divisions attacked two U.S. divisions deployed on a 40-mile front. Today, U.S. V Corps in Germany covers a 50-mile front with two divisions and is opposed by a Soviet army of five divisions. *Kampfgruppe* Peiper was the forerunner of the much-discussed Soviet operations maneuver groups.

It might be more than interesting to bounce emerging Army tactical and operational concepts against the scenario which unfolded 40 years ago and has just now come alive thanks to Mr. MacDonald's pen.

8

The Light Infantry: Indispensable Element of a Balanced Force

By Gen. William E. DePuy
U.S. Army, retired

Unequalled in its preferred terrain, this versatile addition to the modern U.S. Army has the ability to fight effectively in a wide variety of situations. But to achieve their maximum potential against an enemy equipped with modern armor, our light forces badly need an adequate shoulder-fired antitank capability.

A 50-year trend toward larger and heavier divisions was stopped by Gen. Edward C. Meyer and reversed by Gen. John A. Wickham Jr. when these Army chiefs of staff, one former and the other incumbent, gave a new dimension to Army capabilities by making room for the light infantry division.

Reactions to this turnabout have been mixed. There is a satisfaction with the increased strategic mobility of the new light infantry divisions, but concern about their utility once delivered.

Others wonder how this new departure measures up against continued Soviet emphasis on heavy armor and how it fits the Army's new tactical doctrine and strong focus on maneuver.

It is my premise that light infantry is required and that the chief of staff is correct in his move to meet that requirement now.

Few have difficulty in sensing the utility of light infantry in, say, Central America or even Korea. When applied to Europe or Southwest Asia, however, there is conceptual difficulty and considerable confusion.

History and recent experience tell us that armies must be able to fight in all kinds of terrain against all manner of opposing forces. The heavy armored and mechanized divisions which have come to dominate the U.S. Army force structure are designed to confront similar formations of the Warsaw Pact on the central NATO front.

More specifically, they are designed to execute highly mobile operations in the remaining open areas of West Germany. These heavy divisions are less suitable, however, for operations in forested areas and increasingly urbanized terrain. They are, of course, unsuitable for operations in mountains.

Light infantry, on the other hand, is highly suitable for operations in these kinds of closed or obstructive terrain and in such an environment is more mobile, survivable and effective than armored or mechanized forces.

From *Army* 35, no. 6 (June 1985): 26–41.

Because this assertion regarding the relative effectiveness of light infantry will not go down easily in some quarters, I shall dwell on the matter at some length.

The light infantry: What is it? What can it do? How does it differ from the Army's other maneuver arms?

At the outset, it must be made clear that we are not referring to the 9th Infantry Division (Motorized), another subject altogether which needs separate and careful treatment in its own right. In what follows, we speak of pure infantry—infantry on foot, carrying its weapons on its backs.

Mechanized infantry shares these characteristics when it dismounts, airborne infantry when it has slipped out of its parachute harness, and air assault infantry after the delivering helicopters have departed.

But we plan to leave our light infantry on foot—in the forests, the buildings or the mountains—to fight it out. This kind of infantry is specifically designed for such operations. It does not leave the roads in the valley clogged with the vehicles it has left behind as it climbs into the hills (as in Korea). It does not depend for its main firepower on the guns of armored fighting vehicles which it, in turn, would be obliged to protect. It may be moved from time to time by helicopters into mountain and otherwise inaccessible positions, but it does not operate a vast armada of flying machines. It is, in short, very much like World War II airborne divisions once they found themselves on the ground.

Light infantry consists of soldiers on foot, carrying rifles, grenade launchers, machine guns, light antiarmor weapons, mortars, hand grenades, possibly mines, and always radios. In their pockets, pouches and rucksacks, they carry ammunition and life support equipment such as entrenching tools, food, water, ponchos, first aid kits and sleeping rolls.

These trained and hardened soldiers, individually and in small teams, move and dwell in the very small compartments of the micro-terrain. They walk, run, crawl, dig and employ their weapons in the deep nap of the earth. These terrain compartments are defined and limited by the range of direct vision (intervisibility). They can be relatively larger, as in clearings and along firebreaks, from mountain ridges or high buildings. They can be very small, as in the rooms, basements and attics of houses, in the spaces between trees and bushes and in the confines of rocky declivities in the sides of mountains.

In this kind of terrain, control is necessarily decentralized. The fighting takes place at team, squad and platoon level, most of it beyond the view and some of it beyond the knowledge of battalion and even company commanders. In no other form of combat does so much depend upon small unit leaders and aggressive and innovative responses to transient opportunities within the broadest interpretation of the mission at hand.

In his book *On to Berlin,* Lt. Gen. James M. Gavin, U.S. Army, retired, affords a classic view of light infantry operating magnificently in its own environment. Lt. Col. Ben Vandervoort's battalion of the 505th Parachute Infantry was fighting toward the key bridge over the lower Rhine in Nijmegen, The Netherlands, in cooperation with the tanks of the British Grenadier Guards.

> The tanks of the Grenadier Guards were very vulnerable in the city streets . . . Vandervoort's troops had to fight their way from building to building. . . . It was a new experience for the troopers, but they soon discovered that the best technique was to fight from rooftop to rooftop. . . . Later the veteran troopers told me . . . what they wanted to do . . . was to get as close . . . as they could . . . to fire down into the gun positions of the 88s and the foxholes of the Germans. . . . As a British officer of the Grenadier Guards later described it, "A jolly sight to see those paratroopers, hopping from rooftop to rooftop." . . . In the final all-out assault, they overran all the German positions . . . of the 500 Germans . . . south of the river . . . only 60 survived.

Light Infantry can maneuver offensively or defensively through kinds of terrain where no vehicle can or dares to go. It can disappear into such terrain and become invisible to the enemy in front and to sensors above. The grazing angles of the airborne radars do not reach into the nap of the earth and light infantrymen are poor reflectors.

Because the infantryman is almost completely vulnerable to enemy weapons, he has learned to survive by the continuous use of cover from fire and concealment from view. It is these passive measures upon which the survivability of the light infantry chiefly depends. Consider the skillful application of these techniques by our erstwhile opponents, the Vietcong and the North Vietnamese army.

Much of the utility of light infantry comes from the fact that it is a widely distributed, very high resolution surveillance, target acquisition and engagement system. By placing soldiers in every terrain compartment across its front, however small, the enemy cannot move without detection and engagement. It is not just the light weapons of the light infantry which are brought to bear; the infantry is the agent of all the firepower that can be summoned from the rear: artillery, mortars, rockets, missiles, attack helicopters and tactical air forces.

Thus, a large fraction of applied firepower need not be carried into the forward edge of the battle area on the backs of light infantry, but, nonetheless, these heavy systems must be present in the force and available in support of light infantry whenever they go into action.

At the end of World War II it occurred to me that, as an infantry battalion commander, one of my greatest contributions to the success of the venture was to move artillery observers to the next high point of ground from which they could dominate by heavy firepower all the terrain under their view.

And so it will always be that the light infantry, in addition to its own intrinsic fighting value, is also a primary means by which massive modern fire support can be brought to bear with precision and decisive effect on enemy forces encountered or flushed during aggressive light infantry operations.

We must not be carried too far by the following analogy but the light infantry soldier is, beyond doubt, the most versatile, advanced and effective combat "system" on the battlefield and will never be duplicated in mechanical or electrical form. If we ever came close, we could not afford such a mechanism.

Consider:

- In one package, the light infantry soldier provides an optical and aural sensor system (eyes and ears) tied into a central processor (the brain) with an incredible range of operating programs and almost infinite recoverable memory.
- The system can be rapidly programmed (through training) and loaded through a voice-recognition system. It is, thereafter, adaptive and self-reprogrammable.
- It can accept and apply mission-type instructions to infinitely variable terrain, conditions of visibility, size and composition of enemy force and enemy movements and actions.
- It can assess and select covered and concealed routes of advance into the enemy rear and onto his flanks.
- All this is mounted on a multi-flex chassis capable of negotiating every kind of terrain, including water obstacles, by self-propulsion.
- Super robotic arms, hands and fingers with infinite degrees of freedom couple the control processor to weapons and communication devices.
- This remarkable fighting system includes automatic and continuous position location, plus situation analysis and reporting, with a large, flexible (even entertaining) vocabulary.

- The "system" performs target detection, identification, acquisition, munition and weapon selection, engagement, damage assessment and reengagement as indicated by target condition.

The light infantry soldier offers what the gurus of artificial intelligence only dream about, wistfully, and are destined never to even remotely approach.

Light infantry is a unique, indispensable element of a balanced fighting force. In its preferred environment, it is the maneuver force of choice. There will always be a strong temptation, however, to "fix" the light infantry by beefing it up. Each of its virtues in light infantry terrain will be regarded as a deficiency in "universal" terrain. The organizational mechanics will inevitably try to give it mobility, survivability and more lethality by loading it up with heavy weapons, vehicles and even armor. The danger then becomes one of creating an impotent hybrid, too encumbered to be mobile in the forest and too vulnerable to survive in the open.

This is not to say that the light infantry can do it all alone. It should not be deployed without additional fire support which need not accompany it into the forests or mountains. But it must be able to support light infantry wherever it may be and be able to exploit its target acquiring and target forming characteristics.

There is no controversy and little doubt that light infantry will be required in many of the contingency operations which may arise, particularly in the less-developed regions of the world—areas characterized by tropical jungles, forested mountains and swampy deltas.

Mountains remind me of a recent news item to the effect that the 10th Mountain Division (Light Infantry) was considering recourse to mules to pack its heavier loads. That is one way to do it, but a better one by far is by helicopter.

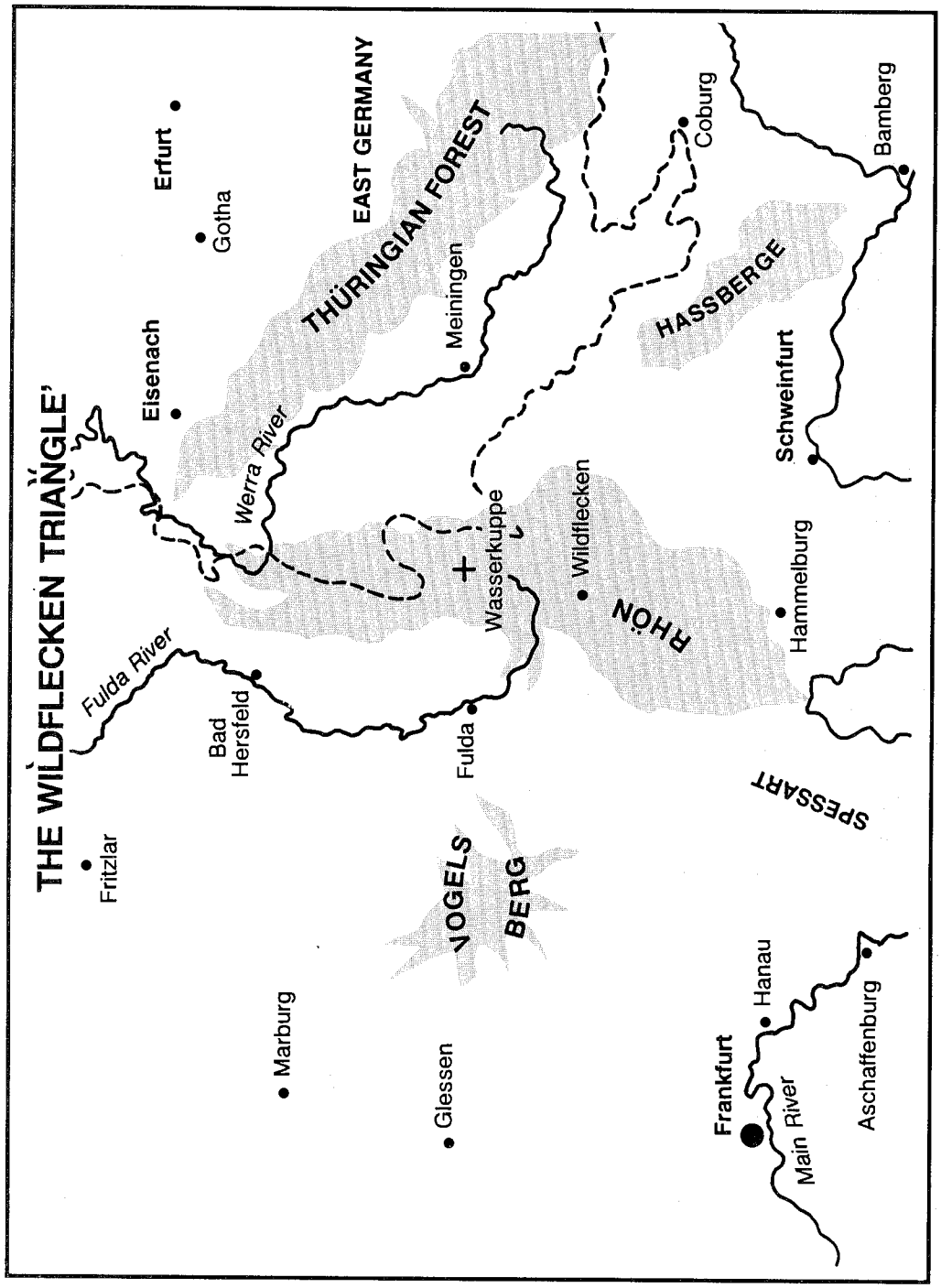
In fact, the 101st Airborne Division (Air Assault), as it is now organized, is a nearly perfect mountain division. It could deploy into, say, the Zagros Mountains along the Persian Gulf (should that be necessary) by lifting light infantry with heavy antitank guided missiles (ATGMs) to the high ridges overlooking the few routes which snake their ways through the valleys below. It would be virtually impossible for a mechanized army to dislodge such a force.

What about Europe? Gen. Frederick J. Kroesen, when serving first as VII Corps commander and later as U.S. Army, Europe, and NATO's Central Army Group commander, wanted more infantry; he saw needs for it almost everywhere. German Gen. Uhle Wetter made a strong case for more infantry in the forested and urban terrain of West Germany. Recently, the U.S. Army has canvassed its current NATO commanders on the subject and it is reported that they, too, are interested in light infantry divisions, or parts of divisions, in the U.S. force in Europe.

From an operational standpoint, there is a marvelous opportunity to use up to two light divisions smack in the center of the U.S. sector. Between V and VII Corps lies an awkward piece of terrain which is in the form of a giant wedge or triangle.

The apex is on the zonal boundary beyond Wildflecken. To the south and west stretch the high hills, deep ravines and thick forests of the Hohe Rhön and the Spessart. The base of the triangle runs along the Main river from Würzburg to Hanau. This nearly equilateral wedge of terrain is about 75 kilometers on a side and it acts as a huge gusset in the fabric of the U.S. defensive sector which extends north in V Corps and east in VII Corps.

If they could, both corps would love to wish this terrain away; it is an embarrassment to a highly mechanized force. Neither corps wishes, or can afford, to invest its very mobile armored or mechanized divisions in such restricted terrain. V Corps will be drawn northward into the battle of the Fulda Gap and the VII Corps eastward into the Meiningen-Würzburg corridor.


THE WILDFLECKEN TRIANGLE'
Fritzlar
Fulda River
Bad Hersfeld
Eisenach
Erfurt
Gotha
Werra River
EAST GERMANY
THÜRINGIAN FOREST
Meiningen
Coburg
Bamberg
HASSBERGE
Schweinfurt
Wasserkuppe
Wildflecken
RHÖN
Hammelburg
SPESSART
Fulda
VOGELS
BERG
Marburg
Giessen
Frankfurt
Hanau
Main River
Aschaffenburg

So why not deliver a light infantry corps to infest and operate in and from this terrain? It would be nearly impossible for Soviet mechanized forces to dislodge it with any reasonable diversion of effort.

Under these circumstances, the Soviet commander would most likely ignore this terrain—stick to the high-speed routes on either flank, do battle with our heavy divisions in the open and do his best to press on to his assigned objectives.

But can NATO take the same view? On the Hanau-Würzburg line, the base of the triangle represents nearly 30 percent of the U.S. battle line. Furthermore, this terrain, although difficult, is by no means impassable, even for armor. Recall that in World War II a task force of 4th Armored Division made a fast transit of this area from Aschaffenburg to Hammelburg in an ill-fated effort to free U.S. prisoners. They did not make it back because they were trapped in unfriendly terrain. That same terrain today is an optimum environment for light infantry operations.

Within the protected confines of this enormous hedgehog, positioned on the flanks of two main invasion routes, the defending army could locate long-range pocket and missile firing positions, surveillance and target acquisition bases and special operations raiding forces. Offensive operation by light infantry could be mounted against the flanks and rear of Warsaw Pact forces moving on adjacent routes.

The area affords a protected penetration route for attack aircraft and helicopters working on the rear echelons of the opposing force. It provides a stable anchor for the mobile operations of our armored forces on either flank. In short, light infantry could convert the Wildflecken Triangle from a liability to an asset.

The huge urban coagulations, for example, at Munich, Stuttgart, Frankfurt and in the Ruhr also could harbor light infantry. But surely these politically sensitive requirements would be met by the reserves and territorial forces of our NATO allies.

In Europe or in Southwest Asia against modern armor, it is always possible for light infantry to construct strong points or other fortified positions behind mines and within wire, given time and circumstances. Such was the typical employment of infantry on the North African desert. When, as with the Germans in June 1942 at Bir Hacheim (the southern anchor of the British Gazala line), the armor felt it necessary to attack such defenses frontally, it paid a heavy price. But too often the infantry was left behind to be rounded up by the mobile force which achieved an operational victory. Remember, too, the more recent fate of the Bar-Lev line along the Suez Canal in October 1973. It is brave but sad to use light infantry in this way.

Thus far, I have tried to convince the reader that light infantry is particularly well suited for employment in closed and obstructive terrain, and that it can maneuver aggressively in there when heavier forces are greatly inhibited or totally blocked.

The use of light infantry in World War II by the Germans as a screening and shaping force leads some to consider such forces as primarily defensive. In the open steppes or desert, that opinion tends to be borne out but it is clearly not true in light infantry terrain. Such terrain, in fact, affords a more congenial environment for the attack than for the defense. This is because the compartmentation of the terrain permits the attacker (light infantry) to maneuver out of view and to concentrate undetected. The defense, on the other hand, is obliged to occupy all of the terrain compartments—only light infantry can do so—in order to maintain even surveillance across the front. Therefore, the defense can never be very strong at any one point and must rely on the massing of heavy firepower delivered from the distant rear as a means of rapid

counterconcentration. In these cases, the infantry line is a gigantic sensor array for which no viable mechanical substitute has ever been found.

In the attack, light infantry is even more effective on its own account because it can move by stealth, at night, or through covered and concealed routes within the micro-terrain into the enemy positions or into his rear areas. Elite light infantry operating in this manner is a terrifying weapon.

An attractive option often open and often exploited by seasoned light infantry in World War II was to find its way by concealed routes into the enemy's rear, usually at night. By occupying a controlling piece of terrain, the infantry then called on heavy fire support to assist in destroying the enemy force sent to dislodge it. It is unlikely that this formula has lost its effectiveness through age.

In the set of new light divisions, the Army has a force which is strategically mobile and tactically versatile in its preferred terrain. The challenge to Army commanders will be to integrate this new capability into successful "operations." The operational art which is now being revived and strengthened in an Army which has been tactically preoccupied since Korea is the art of conducting successful campaigns using high performance tactical units, within a strategy for winning wars.

In certain contingencies, light infantry might comprise the chief component of the force. In Southwest Asia, light infantry would more likely be a key element; in NATO, it would be a useful addition.

In all these cases, the rapid strategic deployment of light divisions could be important as a token of U.S. resolve and intentions. Upon arrival, however, their combat performance is the paramount issue. In this discussion, there is an implicit assumption that light infantry can destroy enemy armor with the weapons in hand—if not at long range, then surely in close combat. Unfortunately, this presupposition is under challenge.

In the last 15 or so years, armor technology has thrown off its dependence on rolled homogeneous steel plate and has exploded to new and higher levels of effectiveness. Spaced, laminated and even more exotic concepts for armor protection have reached a point where many of the smaller antiarmor weapons have been rendered largely ineffective, at least against the frontal armor and turrets of the most modern tanks. This fact has profound implications for light infantry which is so heavily dependent on those same smaller weapons.

The largest tank guns and the heaviest ATGMs can penetrate the most advanced armor in the frontal aspect. But these weapons are too large and heavy to accompany light infantry into its favored terrain so, generally, these larger weapons will be confined to the force which rides to work.

Correspondingly, they will be found with infantry which more often operates in areas of good visibility. Long-range fields of fire favor ATGMs because of their ability to engage tanks beyond the effective range of the tank's guns. Except in the mountains, opportunities for long-range shots are rarely found in light infantry terrain.

The Dragon was developed in an effort to bring the effectiveness of the ATGM to the infantry which walks to battle, jumps, lands from helicopters or dismounts from vehicles. Given its weight and bulk, its distinctive signature, long time of flight, slow rate of fire and relatively high profile—coupled with a range well within the effectiveness envelope of the rapid firing tank gun—the Dragon demands the full measure of devotion from its gunners. Now the newest armor moves Dragon into the marginal category in terms of frontal penetration.

Efforts to replace Dragon have been unsuccessful. "Rattler" aborted after industry proposals had been received. "Awesome," a new concept (from AAWS—advanced antitank weapon system), is just now moving into the front end of the development process. It is hoped that this effort will move rapidly to fill a pressing need.

At the low end of the spectrum, the arena in which the light antiarmor weapon (LAW) operates, high technology armor has gained at least a temporary upper hand.

Lest we forget what this means to light infantry, Gen. Gavin's views were clear after his experiences in Sicily as the commander of the 505th Parachute Infantry Regiment. In his book, *On to Berlin,* he notes:

> Ironically, after many lives were lost, in mid-August 1943 we received a War Department intelligence bulletin telling us that the bazooka [2.36 inch] would not penetrate the frontplate of the Tiger tank—as though we didn't know it already. More sadly, we still had not obtained a larger bazooka by the time Gen. [Douglas] MacArthur sent the first troops to Korea seven years later to meet the Soviet T-34 tanks in the summer of 1950.

T. R. Fehrenbach in his book, *This Kind of War*, tells us what happened seven years later:

> Task Force Smith was dug in along the main highway between Suwon and Osan. . . . At 700 yards, both recoilless rifles (75-mm) slammed at the tanks. Round after round burst against the T-34 turrets with no apparent effect. . . . Lt. Ollie Connor, watching, grabbed a bazooka and ran down to the ditch along side the road. Steadying the 2.36-inch rocket launcher on the nearest tank, only 15 yards away, Connor let fly. The small shaped charge burned out against the thick Russian armor without penetrating. Connor fired again, this time at the rear of the tank where the armor protection was supposed to be thinnest. He fired 22 rockets, none of which did any damage. . . . The tanks . . . continued down the road.

Ten years ago, the Army undertook to replace the current LAW with a new and better weapon called the Viper. The Viper program has been discontinued. In trying to meet the range, time of flight and penetration specifications, within the weight limits for light infantry use and at a cost which would allow proliferation of the new weapon throughout the force, the program came apart.

Now the Army is completing an evaluation of other alternatives, including a number of foreign models. The Swedish AT-4 is regarded favorably for troops who have a vehicle to help carry it around. But the discouraging fact is that presently there is no hand-carried/shoulder-fired individual antiarmor weapon anywhere in the world which can defeat modern armor head-on at a weight and size appropriate for light infantry operations.

Such is the low state to which the Army has been brought by the ascendancy of armor technology. Such is the chief problem which faces the light infantry.

What is the solution?

First, it should be very clear just how these valuable troops should be employed. In the best of all worlds, light infantry would be used:

- Against comparably equipped light forces in any kind of terrain.
- Against armored forces, in general, only in light infantry terrain.
- Against the most modern enemy armor only in that part of the light infantry terrain which is not physically negotiable by that armor.

But the reader will be uncomfortable with such rules and assumptions; the world is a disorderly place which does not always submit to precise formulae. In emergencies, decisions to send U.S. forces into combat are not made by authorities who are aware of such technical problems; President Harry S. Truman was not thinking about 2.36-inch rocket launchers when he ordered U.S. troops into Korea.

It is easy to imagine a scenario in which the United States goes to war in some distant part of the world in which the exigencies of the situation cause light infantry to be exposed to conditions which are unfavorable for such troops.

There are ample precedents for such expectations; however, we are aware of the fact that there have been times when the troops managed to succeed against all odds and all tactical logic. This is at once the glory of the fighting troops and the shame of the weapons development community. The men who equipped the U.S. Army with the 2.36-inch bazooka were not with Gen. Gavin in Sicily. He bailed them out with the only currency he had, the lives of his brave troops.

When this same 82nd Airborne Division was thrown into the Battle of the Bulge on the critical northern flank of the German penetration in December 1944, the light infantry of the 504th Parachute Infantry Regiment under the legendary Col. Reuben Tucker again bailed out the high command. As Gen. Gavin described it in *On to Berlin*:

> Shortly after daylight on December 20, I met Col. Reuben Tucker. . . . He told me . . . that approximately 125 [German] vehicles, including 30 tanks, had moved . . . in the direction of Cheneux. . . . He was anxious to go after them without delay. Any ordinary infantry regiment would want at least a battalion of tanks in support before it attacked, but Tucker's idea was to attack the Germans and take their armor away from them. Besides, he had been carrying with him about a truckload of *panzerfausts* he had captured from the Germans in Holland, and they were to prove to be the paratroopers' best antitank weapon. . . .
>
> So with his German *panzerfausts* and his superb infantry, Tucker moved at once to attack the Panzer forces in Cheneux. . . . Heavy fighting took place . . . the German firepower was impressive. They were using a great many 20-mm flak weapons.
>
> Col. Tucker had deployed the 1st Battalion of the 504th . . . and as darkness descended . . . Companies B and C were under tremendous fire from the village. . . . Tucker ordered . . . a night attack. . . . His 3rd Battalion . . . made a wide flanking movement . . . cut off Germans in the town and completely destroyed their command. . . . Tucker lost 225 dead and wounded. . . . Tucker captured 14 flak wagons and a battery of 105 howitzers as well as many vehicles. . . . The next day they pointed out they were now the 504th Parachute Armored Regiment.

It is just this kind of wild and inspired action which causes commanders to accept without complaint almost any mission which is served up in the heat of battle. But weapons development decisions are not made in that environment nor are the tactics those weapons suggest appropriately left to chance. We are obliged to think through this problem now and move with speed to resolve it; otherwise, we will be faced, inevitably, with a rerun of Task Force Smith.

If it is true that the laws of physics and the state of current technology preclude the development of a shoulder-fired weapon that can defeat enemy armor head-on as it approaches the infantry position, then we must find a weapon which at least will defeat enemy armor should it penetrate into light infantry positions.

Such a weapon and the troops trained to employ it could deny many of the urban and forested areas of West Germany and most of the villages and towns to the opposing force. Up-to-date maps show this to represent more than half of all the terrain which lies before the armored and mechanized forces of the Warsaw Pact. This combination of facts draws us to the conclusion that the employment concept needs to be adjusted and the performance specifications thus relaxed.

An enemy tank which makes the mistake of penetrating terrain infested with light infantry can be engaged from all aspects at very short ranges. That should make the technical problem easier. No large weight need be allocated to a large rocket motor to achieve long range and high velocity.

Thus, the warhead could be larger and the rocket could be smaller, as in the World War II *panzerfaust* or even the Soviet RPG. If that avenue does not lead to success, then other technical solutions must be explored quickly.

But, above all, the weapon must be clearly effective. It takes intrepid soldiers to employ such weapons, and intrepid soldiers will be hard to find if their audacity is seen to be most often rewarded by failure. A few examples like that of Lt. Ollie Connor in Korea will dry up the pool of intrepidity overnight.

Furthermore, this weapon must be maneuverable in the hands of a single tank-hunting soldier who may find it necessary to crawl, run, jump or hide. He must be able to fire down into the street below from a window or roof. The minimum range could be as short as ten yards. This is the weapon American ingenuity must now produce.

In 1950, our eyes had been on the atomic bomb, the strategic air command, on the unlikelihood of any more wars fought by light infantry. We were nearly done in by a rusty T-34 tank driven by a North Korean recruit.

Today our eyes are fixed on outer space, on an export war between machines; scientists, not soldiers, are thought to be required. Watch out, Ollie Connor!

With a program for five light divisions (four active and one National Guard), the Army has made a reasonable and timely organizational move. With the 6th Division deeply embedded in its Alaskan duties, Gen. Wickham will dispose of just three new light divisions (7th, 10th, 25th) in the strategically mobile and immediately ready force. Combined with the two "special" divisions (82nd and 101st) there will be five Army light infantry divisions out of an active force of 18. Considering the open-ended and far-flung exposure of this nation, its allies and interests, it is hard to argue that this is an extravagant number.

If the utility of one or two light divisions in NATO is accepted, then the program makes eminent sense—sense, that is, when the antiarmor problem is solved, sense insofar as the special conditions which favor the use of such forces are thoroughly understood, and sense to the extent that light divisions are seen as just one important element of a balanced force.

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20 July 1985
Highfield Farm
Delaplane Va
22025

Dear Huba

Thank you for sending me the draft of the latest version of 100-5. I am writing directly to you as the chief architect of the doctrine embodied in 100-5. Please make a few copies of this letter and send one to each of the following: Gens Richardson, Vuono, Mahaffey and Thurman.

You and the many others involved have produced a sound and much needed operational doctrine for the Army. You and the small inner band such as Sinnreich and Holder will be long remembered and I'm sure amply rewarded for your splendid work. But the greatest reward for those who work on fighting doctrine will come in the form of future successful operations by the U.S. Army.

I would be out of character if I were not to comment on your draft.

In your "memorandum for reviewers" you make some points which need to be made to the whole Army. I hope the High Command will find a way to do that. As you say in that memorandum some of the pendulums were (inevitably) pushed too far. It is in the nature of our Army to do that. The sheer vigor and exuberance of the officer Corps makes it vulnerable to over-doing whatever lies at hand. It is not only prudent but possible to be "for" maneuver without being "against" firepower. This is a pendulum that needs to be pushed back and promptly. It is possible to be "for" the offense without being "against" the defense. Along this line I must say that I believe you have the same problem with CONTROL. Your draft pushes the case too hard against control. I understand the motive - over-control is bad - it stifles initiative. But control is not bad it is the very tool which brings cohesion to all tactical and operational ventures. Oh yes, I know that there is another tool - the commanders concept (his intent) but control is a user friendly function which lies at the heart of our business. We weaken the concept of control at our peril. Consider:

- Control is the tool we use to synchronize the various combat functions on behalf of the commanders concept
- Control is the tool by which the functional commanders comply with the concept
  - boundaries and objectives control maneuver
  - Tactical and technical fire direction control Firepower and Fire Support
  - Rules of Engagement, and air space management geometry controls air defense
  - etc etc.

Handwritten. The Maxwell R. Thurman Papers. Box: VCSA, Incoming Correspondence A-J. Folder: Incoming Correspondence "C," 1933–1935. U.S. Army Military History Institute, Carlisle Barracks, PA.

- Control and control measures increase as we proceed down from the operational levels to the tactical levels. Synchronization is primarily a tactical function. To the extent that the Corps own and operates units and assets which must be synchronized with divisional operations to that same extent, one could say that the Corps is a tactical echelon.
- Most of the working Army is at the lower Tactical (and technical) echelons.
- Yes - we are all against over-control. We have here the unavoidable problem of good judgement and balance. Human endeavors and pendulums are more comfortable and effective when they operate close to the center.
- The term "independent" operations is frequently used in the discussion on control. I would suggest that is the wrong idea and the wrong word. Below the theatre commander or the commander of a raid or special operation few commanders are "independent" nor should they be. By putting judicious limits on the degrees of control we do not create "independent" commanders. They are instead very much constrained on where they go and what they do - constrained by the overriding intent and concept of their next higher commander. The freedom they need is the freedom of method - the how but not the what. The reason I dwell on this point is that it reminds me of the oft mentioned "Islands of combat" in early doctrinal concepts. These "islands" can be part of a successful operation if they take place at our initiative within our concept and thus when taken together are mutually interactive and supporting. But "islands of combat" which occur within the framework of the enemy's concept are merely symptoms of disaster. Again it is a matter of cohesion which requires effective control.

There are two other subjects which I only mention for future consideration. Both are so fundamental as to be inappropriate for the current version of 100-5. They may be inappropriate for any version but they bother me by their absence in our doctrinal literature.

- The first is the impact on operations and tactics of the increasingly vertical integration (read centralization if you will) of certain critical battlefield functions viz tactical air support, air defense. Intelligence/EW - Maintenance & Supply - and even firesupport for Deep Attack, SEAD and counter C^3. If any of these vertical systems break down the result could be catastrophic. For example if a deep maneuvering Army brigade (or even division) outruns its communications links and the vertical integration of the functional systems is broken then the commander may not receive (will surely not receive) critical timely intelligence, air defense, Fire Support - Air Support - SEAD - EW - etc etc. Where does this appear in our doctrine? Where should it appear?
- The last subject is the impact of weapons on tactics and operations. 100-5 is weapons-free. Consider the Air Force. Air Force doctrine is an articulation of the central control of flying machines for the execution of close support, interdiction, counter air and mobility support. No airplanes! - no doctrine! In our case no JSTARS - no JTACMS - or no MLRS - no

deep attack by fire etc. Does this enormous impact of technology on our organization and tactics - even our operations - have no place in our doctrine?

Thank you for giving me the opportunity to comment.

respectfully

Bill DePuy

10

'Tribute to the Men Who Fight'

The Rise and Fall of an American Army. Capt. Shelby Stanton. Presidio Press, 31 Pamaron Way, Novato, Calif. 94947. 448 pages; index; bibliography; maps; photographs; $22.50.

By Gen. William E. DePuy
U.S. Army, retired

The title of this excellent book is somewhat misleading. Capt. Stanton, a former paratrooper and Green Beret and an emerging historian of eminence, has written by far the best book yet published about U.S. soldiers and Marines in combat in Vietnam.

The larger political and operational issues are woven around his description of 82 specific and separate operations as a parallel but secondary theme. Central to that theme, however, is the transformation of the actual war on the ground from the level of counterinsurgency to the clash of great national armies as both North Vietnam and the United States, respectively, massively reinforced the Vietcong and the government of South Vietnam.

His word pictures of the violent encounters of that war are clear, evocative and authentic. Although framed in their operational context, the battles are described in terms of the soldiers who fought them. Those men will recognize the battles in all their sadness and terror, as well as in the overpowering feelings of elation and triumph which crown victorious engagements.

Capt. Stanton greatly admires the style and aggressiveness of certain elite units. He bluntly notes, however, the marginal performance of others which were thrown together too quickly and were indifferently led.

Without fully developing the issue, Capt. Stanton nonetheless explains the operational objectives established in 1966, which were all classically related to the counterinsurgency effort and conspicuously ignored the implications of the major deployment to the south of the North Vietnamese army.

For example, the mid-1966 goals were attrition of the Vietcong and the North Vietnamese army equal to the replacement capability, elimination of base areas, opening of roads, securing the population, pacifying priority areas, and defending bases, cities and food production.

The attainment of the counterinsurgency objectives was, of course, entirely contingent on the defeat of the enemy's main forces. Couched as it was in terms of attrition and devoid of any real chances of success, this futile application of force lay at the heart of the Vietnam tragedy and the squandering of the U.S. Army.

Against this background, the author traces the growing frustration of the troops and the Saigon command as the North Vietnamese army and Vietcong main forces made increasing use of the cross-border sanctuaries to meter their losses and stay in the game. Capt. Stanton notes the decline in effectiveness of the Army as it was consumed by the longest of all American wars. But in doing so, he is careful to note the continuing willingness of the soldiers and Marines to fight as long as they were well led.

From *Army* 35, no. 12 (December 1985): 100.

This book is, at bottom, a tribute to the men who fight at the platoon, company and battalion levels. It is not a tribute to the high command in terms of operational wisdom, nor to the overall management of U.S. military resources. Capt. Stanton's final paragraph conveys his net assessment.

> The United States Soldiers and Marines in Vietnam fought through some of the most difficult terrain in the world and won some of the toughest encounters in American military history. However, they fought without benefit of the country's larger military machine programmed for their support in case of war. The Reserves and National Guard were notably absent in the Vietnam conflict. The magnificent courage and fighting spirit of the thousands of riflemen, aircraft and armor crewmen, cannoneers, engineers, signalmen and service personnel could not overcome the fatal handicaps of faulty campaign strategy, incomplete wartime preparation, and the tardy superficial attempts at Vietnamization. An entire American Army was sacrificed on the battlefield of Vietnam. When the war was finally over, the United States military had to build a new volunteer Army from the smallest shreds of its tattered remnants.

We must hear more from this young and very promising military writer and historian.

11

Soviet War Ways: Sizing Up a Potential Foe

Soviet Airland Battle Tactics. Lt. Col. William P. Baxter, U.S. Army retired. Presidio Press, 31 Pamaron Way, Novato, Calif. 94947. 304 pages; illustrations; notes; index; $18.95.

By Gen. William E. DePuy
U.S. Army retired

This is a most important book to military professionals of all ranks. Col. Baxter carefully, clearly and perceptively lays out the framework of Soviet military thought. He does not presume to teach us to think like Russians, but rather to teach us how they think about the same problems of modern military science with which the West is also struggling. Although there are similarities, it is the differences which stand out.

If war should occur between the United States and the USSR, the respective military leaders and their highly professional and high-performance forces will go at one another in quite different ways. Which system will best withstand the passage of arms remains for the future to reveal.

The author, wisely, does not pass judgment on this ultimate question, nor does he plunge directly into such contemporary issues as echelonment and deep attack, broad front versus narrow breakthrough attacks or the likelihood of either a chemical or a nuclear onslaught. His technique is to lead us through the hierarchy of laws, principles, priorities and interdependencies of Soviet military science and their basic philosophy of war:

> It is sufficient to understand that these laws and principles . . . are expressions of the Soviet perceptions of the fundamental factors that decide the course and outcome of war. They are . . . imbedded in all of the branches of Soviet military science and in the logic of the Soviet military mind. Understanding their content and meaning is fundamental to understanding Soviet military theory and practice.

This is heavy stuff, but it is undoubtedly correct and indisputably important.

Starting with the strategic views of the communist party on war—when, where and why—he proceeds down through military science to military art at the operational and tactical levels. It is at these levels—the theory and practice of engaging in combat—that the differences in approach become vivid.

In the Army today, there is great emphasis on operational art—the bridge between strategy and tactics. Important as this may be, the Soviets plainly and simply assign this duty as a normal "function of command" above division level. It is above division where flexibility appears in the Soviet system, and conversely at division and below where it is conspicuous by its absence.

With this as a starting point, the author zeroes in on what would seem to be the critical differences.

The U.S. Army stakes its success on the flexibility and initiative of its individual leaders and soldiers.

> Colonel General Biryukov makes the statement that although qualitative factors such as morale and individual bravery and the capabilities of individual weapons can be significant to the outcome of a single

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> battle, in the end, 'the law breaks its way through a heap of accidents.' He holds that while individuals may defy the odds in single instances, the weight of the laws of war will prevail in the end.

The Soviets believe in management, as opposed to individual leadership.

> The Soviet perception is that a vast and complex endeavor such as modern war cannot be understood or directed by the entrepreneurial skill of an individual, no matter how talented or brave. The scale of violence demands a managerial approach to armed conflict that is based upon the dispassionate analysis of data and the application of proven and tested procedures.

Attrition, the dirtiest word in current U.S. Army doctrine, is warmly embraced by the Soviet Army.

> The purpose of this resource-intensive, actuarial approach to tactics is to ensure that the enemy war machine will run out of forces before the Soviet Army. In World War II . . . the Red Army deliberately exploited its numerical superiority to 'bleed white' the technically superior *Wehrmacht.* Soviet tactics are designed to take casualties in order to cause casualties.

U.S. doctrine emphasizes agility, with maneuver taking priority over firepower.

> In the offense, *udar,* shock, exploits massive violence to degrade the combat effectiveness of the enemy by affecting his psychology as well as physically destroying his combat forces.

It is only fair to say, however, that both the United States and the USSR emphasize maneuver at the operational level. At the tactical level (divisions and below), there is a clear divergence where the Soviets tend strongly to firepower. Perhaps one could say that the generals shoot, while the marshals maneuver.

There is a palpable distaste among the current crop of Army doctrinal gurus for automated decision making. They fear the baleful effect of computers and other automated systems on the mental agility of the U.S. force, which should be the product of the commander's mind. A good commander, so it goes, will do the unexpected—use initiative—and stay one step ahead of his opponent's decision making.

Col. Baxter describes an entirely different point of view:

> The Soviet Army. . . seeks to reduce the physical [mental?] pressure on commanders by performing complex spacetime analyses and correlation of forces computations electronically in a process described as concept-algorithm-decision. . . .
>
> The critical part in this process is the algorithm. . . . The structure of the algorithms is a form of logic. . . . The mathematical expressions that define the values of the various elements are derived from what the Soviet Army refers to as collective wisdom: a combination of historical experience, professional judgment, and experimental data. . . . Many of the calculations are performed by computers, and the ultimate goal appears to be to automate the entire process. . . .
>
> . . . The practical results of this system are that it likely inhibits the few really brilliant tacticians, reinforces the mediocre and poor tacticians, and supports the average tacticians. This outcome is certainly compatible with the Soviet view of man as a collective animal. . . .

Soviet battalions and regiments do not have operations and intelligence staffs, in contradistinction to their U.S. counterparts. It is said that the battalion and regimental chiefs of staff assist with these duties, but that the commander subsumes both functions in his own responsibilities.

The strong indication, however, is that these tactical echelons are expected mainly to do what they are told to do by the division level, where such staffs first appear. The inescapable conclusion is that planning and tactical initiatives come down from the army and division levels, and the role of the lower tactical echelons is to "execute" the ensuing orders.

The American system pushes these functions and flexibilities down to a much lower level.

Control is regarded as a mixed blessing by the U.S. Army. Too much control rules out initiative at lower echelons and is judged to be a negative influence on the prospects of success.

On the other hand, much of the U.S. Army operates much of the time under the closest control—for example, the artillery and air defense systems—as well as the whole set of control requirements inherent in the concept of synchronization (concentrating the action of all units and all weapons in time and space to achieve bursts of combat intensity).

The Soviets, on the other hand, clearly embrace strong control measures throughout the tactical echelons. These differences may be more or less than meets the eye. On this point, the Americans may practice more control than they wish to admit and the Russians somewhat less.

Col. Baxter has provided a basis for us to focus on these various and deep-seated differences in philosophy, style, organization and procedures which will surely have a profound effect on the conduct and outcome of battle should the two giants of the twentieth century meet on the field of battle.

It is highly likely that both sides assume the superiority of their own stance and system; however, once the fighting starts, both sides will scramble to adjust to the cruel lessons of the battlefield. High-flown concepts will give way to the grim practicalities.

Human beings do learn, mostly from failure. This learning process usually starts first—and moves more quickly—at the forward edge of the battlefield. Surviving armies locked in combat often begin to resemble one another as the realities sink in—just as U.S. armored forces patterned themselves after the German *panzer* formations.

Both sides would do well to climb down from their theoretical towers and contemplate the possibility that the opposing system may have some merit and embody some wisdom worth considering. It is fervently hoped that we do and they do not.

12

VIETNAM: What We Might Have Done and Why We Didn't Do It

By Gen. William E. DePuy
U.S. Army retired

A maze of conflicting forces, practices and states of mind at the highest political and military levels caused the United States to drift through its longest war without a concept of operations that responded adequately to the escalation of the struggle by North Vietnam.

Operation plans should, in the best of all possible worlds, pursue military objectives which coincide with strategic goals. In this usage and for working purposes, political and strategic goals are basically synonymous. In the case of Vietnam, the strategic goal was to prevent the spread of Communist power in Asia—the political goal was to preserve the territorial and political integrity of South Vietnam. This matching of political goals and military objectives is a difficult and sometimes delicate business. Since the advent of nuclear weapons, and especially since the American nuclear advantage disappeared, the political goals established in the several wars which have actually occurred have been localized.

For example, in Korea after Gen. Douglas MacArthur's ill-fated sally to the Yalu River, we settled for the preservation of the territorial and political integrity of South Korea. In that war, there was a period in which military operational objectives diverged from the original political goal. This divergence caused enormous confusion and contention—not to mention the dismissal of Gen. MacArthur—some of which persists to this day. In such cases, the definition of winning—of victory—arises. There are those who still, incredibly, believe we failed in Korea.

In the Falklands, the British confined their political and operational objectives to the reconquest of the islands. They did not seek the defeat and surrender of Argentina on the mainland.

In Grenada, we did not go after Cuba, the incubus of the problem.

In these cases, the political and military objectives were tailored to each other and to the practicalities. In NATO, the political objective is to defend Western Europe. Agreement on how that should be done operationally may not extend beyond the confines of deterrence in the minds of several of the NATO partners.

In Vietnam, the same difficult questions arose and continue to trouble the minds of many military as well as political leaders. At first, the operation was defined as counterinsurgency which was clearly defensive and clearly consistent with the political aim. But counterinsurgency was too narrow a focus to cope with the arrival of the North Vietnamese army in the south. As in the case of Korea (which also adjoined China) our military and political leaders became divided

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over the questions of ways and means of coping with this very large military threat to the U.S. political objective.

There are those who believed that we were in a clear and simple war with North Vietnam and that the defeat of Hanoi by military operations north of the 17th parallel was essential. And it is just here that the relationship between political objectives and military operations was never resolved. For instance, if we had invaded North Vietnam, what would have been the political goal?

In World War II, we pursued a policy of unconditional surrender—the destruction of Hitler's Germany and the utter defeat of Japan. Would such a goal have been appropriate for North Vietnam? Could the government of South Vietnam have then extended its control into the defeated North and been able to cope with the world's most experienced and tested revolutionaries? Would measures short of total defeat have been politically logical? Would China have intervened in a replay of the Korean War? Would the American public have supported such political goals and the enormous operational cost?

We will never know the answers to those questions because the U.S. government was far from adopting such extreme courses of action and even spurned a number of more modest proposals which tried to avoid these monumental uncertainties while offering some hope for success.

In his book *The 25-Year War: America's Military Role in Vietnam,* Gen. Bruce Palmer Jr. reports that:

> Almost from the beginning General Westmoreland had sought authority to conduct operations into the panhandle of Laos to cut and physically block the numerous infiltration trails and waterways comprising the Ho Chi Minh Trail. Significantly, both Ambassadors [Henry Cabot] Lodge and [Ellsworth] Bunker strongly supported such operations.

In *A Soldier Reports,* Gen. William C. Westmoreland explained:

> From the first I contemplated moving into Laos to cut and block the infiltration routes of the Ho Chi Minh Trail, and in 1966 and 1967 my staff prepared detailed plans for such an operation. I recognized that blocking the trail would require at least a corps-size force of three divisions, and I would be unable for a long time to spare that many troops from the critical fight within South Vietnam.

Gen. Palmer resumes the story:

> Ironically, when in 1968 there were forces available, the political climate at home would not permit such a move.

Palmer also related:

> Still another proposal, developed in detail by the U.S. Army staff under General [Harold K.] Johnson, encompassed a regional development project for Southeast Asia. . . . this plan proposed a major road construction project, improving Route 9 (which runs south of and parallel to the DMZ [demilitarized zone] from the South Vietnamese coast to the Laotian border), and extending the road across the Laotian panhandle to hook up with a highway in Thailand. Allied engineers, including contingents from any willing Western European ally, were to be protected by allied combat troops, thereby constituting an antiinfiltration screen of sorts.

It is interesting that Gen. Johnson wrapped his proposal in the ambience of counterinsurgency doctrine. In the same area, Gen. Westmoreland reported:

> I continued for long to hope for an international force to man a line below the DMZ and across the Laos panhandle. One proposal that Deputy Ambassador Alexis Johnson and I worked out was that this be staged [sic] as a regional development project, with engineers extending Route 9 across the panhandle to the border with Thailand. To provide protection for the road construction, combat troops would be deployed, thereby

providing an antiinfiltration screen. Yet after a first flurry of interest . . . in late 1964, officials in Washington never evidenced any more enthusiasm for it.

Let us remember that the Ho Chi Minh Trail, that ancient land route between the Red River Delta in the north and the Mekong Delta in the south, which carried porters and bicycles in 1963 and 1964, became a multiple truck route by 1966. By the time the whole North Vietnamese army came south in 1975 with over 20 divisions for the final battle, the so-called trail was also the continuous conveyor of tracked combat vehicles including medium tanks, heavy ammunition trucks, and air defense weapons and was paralleled by a gasoline and diesel fuel pipeline.

Without belaboring these proposals further, let us consider what might have been had any of the operational plans to block this major line of communication (LOC) been adopted and aggressively pursued.

- The North Vietnamese army's massive deployment to the South might have been stopped in, say, 1966 or 1967.
- Very hard and prolonged fighting might have occurred along the cordon south of the DMZ and across the panhandle of Laos. Perhaps six to eight U.S. divisions would have been drawn into the battle—a force not dissimilar to the one which defended along the 38th parallel in Korea in 1952. Supported by tactical air, such a force should have been adequate even if the North Vietnamese army moved against it with maximum force. To deploy such a force in 1965 and 1966 would have required mobilization and a major national effort. Otherwise, as Gens. Palmer and Westmoreland have said, it was not until 1968 that we had such a capability. Of course, South Vietnamese forces would have been used in the cordon as Korean forces were used along the 38th parallel. But the bulk of the burden would have been borne by U.S. forces. It is entirely possible that even larger U.S. forces would prove to be necessary.
- The air war against the North Vietnamese army and the naval blockade would have been a proactive campaign to support the operational concept of isolating the southern battlefield. Air and naval operations against the North would have been designed to physically disarm the North Vietnamese army rather than as punitive retaliation designed to persuade them to give up their wicked ways.
- Offensive maneuver into the southern regions of Laos and North Vietnam would have been permitted and encouraged but occupation would not.
- A small number of U.S. divisions could have assisted the Army of the Republic of Vietnam (ARVN) in the destruction of the Vietcong main force and those elements of the North Vietnamese army which had reached the South in 1964 and 1965.
- A pacification effort at the level and effectiveness finally achieved under the prompting of Ambassador Robert W. Komer, who headed a pacification program called CORDS (Civil Operations and Revolutionary Development Support), 1967-68, and was succeeded by William E. Colby, might well have succeeded against an unreinforced, unreconstituted and isolated Vietcong political military structure.
- The political objective—to preserve the territorial and political integrity of South Vietnam—would not have been changed.

Whatever the reader may think of all this, the fact remains that neither this nor any other comparable operations plan was ever adopted. After Tet, President Lyndon B. Johnson wanted the war liquidated; later, President Richard M. Nixon wanted only to salvage the international position of the United States.

The interesting issue to consider is why we did not adopt such a plan *before* 1968—before the Tet offensive. The remainder and more important part of this article deals with that question, one of profound relevance to our future.

Before we launch a cold and heartless analysis of our decision-making process, we owe a warm and heartfelt salute to the men who fought the battles. It is slowly dawning on this country that their soldiers, sailors, Marines and airmen fought just as well, just as nobly and bravely as any of their predecessors in the long history of American arms.

That their labors and sacrifices were not crowned with victory was entirely beyond their control. It is to these fighting men that the establishment owes an apology and to these men that the country owes an immense debt of respect. These Americans answered their country's call to arms issued with all the authority of the U.S. government backed by those democratic procedures and precedents which gave that call both force and substance.

Let us now turn to the forces and practices, and states of mind, operating at the highest political and military levels which caused us to drift through our longest war without a concept of operations that responded adequately to the escalation of the war by the North Vietnamese army in 1964. In the mid-1960s, those influences which conspired against the adoption of such a plan may be grouped within the following topics:

The strong focus on counterinsurgency; the ambiguity of intelligence; the symmetry of our response—reaction; gradualism and retaliation; and weaknesses in the high command.

The Strong Focus on Counterinsurgency. The Kennedy Administration, shaken by the Bay of Pigs and threatened by Soviet Premier Nikita Khrushchev with wars of National Liberation, reached for a new initiative in foreign policy. Counterinsurgency (CI) emerged as their response. If, after all, insurgency was the problem, then counterinsurgency must be the answer.

In the broadest sense, that may be true; but, in application, counterinsurgency tends to focus on a narrower base. In the early days, it was largely a reactive concept. Guerrillas were to be defeated, subversion was to be eliminated and nations were to be built somehow along the lines of the American model—unobjectionable, certainly, even if a bit dreamy and self-centered. One of the interesting things about CI was that there was a role for almost every governmental agency in Washington.

A sense of movement was created as these agencies were admonished to get cracking. It is easy to issue orders *in* Washington. By 1962, Washington was awash in committees, seminars, study groups and visiting professors. Counterinsurgency was very much in style. For two years, no briefing on progress failed to include the proud description of a U.S. Army Engineer team which built a much-needed road in Ecuador between the peasant farmers and their market. This bit of good work seemed to resonate beautifully with the self-image of America on the march, providing a practical Yankee antidote against subversion and insurgency in the Third World.

We now know that profound and subtle political issues lie at the heart of counterinsurgency. But in 1962 the program was more grossly defined as a combination of functions and activities in which we excelled—building roads, setting up medical clinics, distributing surplus farm commodities, broadcasting anticommunist arguments and training local armies in the use of U.S. weapons. The political issues were simply assigned to the State Department on a functional basis. In short, the political issues were external to our massive structure for counterinsurgency.

In retrospect, these illusions are amusing, but there was a darker side. The theory of counterinsurgency was one thing, but the reality of Vietnam was quite another. By that, I mean that there was a huge gap between the diagnosis of causes and the reality of Vietnam. This gap persisted for years. Its traces can still be seen. In accordance with counterinsurgency doctrine,

the root causes of insurgency were economic and political at the grass roots (hamlet) level. The illusion, therefore, was that remedies were to be found solely in the performance of the South Vietnamese government.

So our attention and action was focused upon that new and clearly struggling government. When things went badly, which was often, we sought the causes in Saigon. By 1963, we were so unhappy with Vietnamese government performance that we supported the ouster of President Ngo Dinh Diem (and his unintended murder) by a cabal of inept generals.

The problem, of course, was much larger and more difficult even than the admitted weakness of the government of South Vietnam. The mother cell which fed the insurgency was in Hanoi. The Politburo in North Vietnam, consisting of the world's toughest and most experienced revolutionaries, had launched a massive effort to liberate South Vietnam under the guise of a homegrown insurgency. Thousands of trained political agents and military leaders had infiltrated into the south. Arms and ammunition were being delivered by coastal trawler. The Laotian trails were traversed by carrying parties.

The National Liberation Front (NLF) had been established under the control and direction of Hanoi. But emphasis on the North Vietnamese involvement was unwelcome. Emphasis on the military dimensions of the war ran counter to the newly conventional wisdom. The pendulum had been given a mighty push.

If you were "for" counterinsurgency, you were "against" conventional military thinking. Military operational plans were regarded at best as unnecessary and at worst reactionary, unenlightened and stupid.

"The old generals don't understand the problem," it was said. Guerrilla war is not susceptible to conventional solutions—ARVN was organized by the U.S. military for the wrong war under outmoded concepts—we should be fighting guerrillas with guerrillas, or so went the discussions in Washington.

But while these debates went on, a combination of Vietcong skill and North Vietnamese escalation of effort, coupled with the sheer weakness of the government of Vietnam and its army, led to near collapse in late 1964 and early 1965, forestalled only by the emergency deployment of U.S. forces.

U.S. forces were deployed slowly and tentatively at first, with numerous and nervous restrictions on their employment. The very first ground forces (Marines at Danang and the 173rd Airborne Brigade at Bien Hoa) were sent to defend the airfields from which retaliation air strikes against North Vietnam were being launched. By late 1965 and throughout 1966, the inflow of U.S. troops accelerated. By this time the 1st Cavalry Division, with great valor, had fought the North Vietnamese army in the Ia Drang campaign, and the Marines had met a North Vietnamese army division south of the DMZ. It is interesting to note the missions which U.S. forces were expected to perform. At Honolulu on 1 July, 1966, Secretary of Defense Robert S. McNamara outlined six major operational goals:

- Eliminate 40 to 50 percent of all Vietcong/North Vietnamese army base areas in South Vietnam.
- Open 50 percent of all the main roads and railways in South Vietnam.
- Pacify the four priority areas specified in the joint U.S./South Vietnam directive AB 141 (Saigon, central Mekong Delta, Danang area, Qui Nhon area).
- Secure 60 percent of the South Vietnamese population.
- Defend the military bases, the political and population centers, and the main food-producing areas under government of Vietnam control.

- By the end of 1966, Vietcong/North Vietnamese army forces were to be attrited at a rate at least equal to their replacement capacity.

The first five were classical counterinsurgency goals. But these objectives were patently beyond reach without defeating the rapidly growing Vietcong/North Vietnamese main forces. This problem was addressed tangentially by the sixth mission.

One could say that these missions taken together amounted to placing our priorities on setting the dinner table while the kitchen was on fire. Under this strategic guidance, MACV (Military Assistance Command Vietnam) went to the only possible course of action—defend what needed defending and go after the main forces of the enemy with aggressive search and destroy operations. But "search and destroy," starting in 1966, lost its only hope for decisive results when both the Vietcong and North Vietnamese divisional and regimental formations moved their bases into Cambodia, Laos and the North Vietnamese panhandle north of the DMZ. These were facts which Washington was loath to accept.

Mr. McNamara expected a level of attrition which would put a ceiling on the strength of combined Vietcong main force and North Vietnamese army elements; but aggressive U.S. operations were frustrated by the withdrawal of their quarry to sanctuary where he reconstituted, retrained and reentered South Vietnam only when he was ready for battle and could afford another round of losses.

By controlling those losses, he put the attrition goals beyond reach. By the time the sanctuaries were attacked in 1970, the U.S. force was in the midst of its massive withdrawal.

When Gen. Westmoreland first suggested deployment of the 1st Cavalry Division to the Bolovens Plateau in Laos to sever the Ho Chi Minh Trail in conjunction with operations of the 3rd Marine Division inside South Vietnam, his proposal was apparently regarded as an inappropriate expansion of the war. It was not in harmony with perceptions in Washington, including the focus there on counterinsurgency.

Additionally, the State Department was deeply entrenched against violations of the Geneva Accords. This first great diplomatic initiative of the Kennedy Administration in Southeast Asia declared the neutrality of Laos (and Cambodia). Never mind that the North Vietnamese had never withdrawn their army from Laos.

We had dutifully extracted our 500-man Special Forces detachment, the White Star Team originally deployed under the legendary Col. Arthur D. (Bull) Simons; but 6,000 North Vietnamese remained illegally and quietly behind to stiffen the feeble Pathet Lao and, more importantly, to protect the Ho Chi Minh Trail. The Administration knew about the 6,000, but ignored them on behalf of diplomatic progress; furthermore, the embassy in Laos valiantly resisted any serious operations by the United States from South Vietnam against the trail. Presumably, its motive was to maintain a precarious status quo and avoid the widening of the war. The Chinese were already building mysterious roads in northern Laos.

On these crucial issues, the Administration voted with the embassy in Vientiane and not with the military command in Saigon or with the Joint Chiefs of Staff (JCS). Later, efforts from within Laos to encroach upon the trail from the west with U.S.-supported irregular forces never penetrated to pay dirt. This effort of limited effectiveness was also used as an argument against ground attack against the North Vietnamese LOC launched from South Vietnam.

Whatever the reasons, the Ho Chi Minh Trail was never severed on the ground until the short-lived attempt in 1971 by ARVN in ill-fated operation Lamson 719. By then, the United States was in the midst of its withdrawal.


CHINA
CHINA
BURMA
Hanoi
LAOS
NORTH VIETNAM
Vientiane
Demilitarized Zone
Dong Ha
Quang Tri
Hue
Savannakhet
Route 8
Da Nang
THAILAND
BINH BA
Chu Lai
Quang Ngai
Dak To
Kontum
Pleiku
Binh Dinh Province
An Khe
Bangkok
Mekong River
Tuy Hoe
Ban Me Thuo
CAMBODIA
Nha Trang
SONG BE
SOUTH VIETNAM
DAO TIENG
DONG XOUAI
Tay Ninh
Phnom Penh
SAIGON
BINH GIA
INDOCHINA
Long An Province
Ho Chi Minh Trail Routes
Can Tho
ARVN Defeats, 1964-65
Mekong R. Delta

Consequently, the enemy's main access to South Vietnam remained open and operative throughout the war. Efforts to stop the flow by air interdiction constitute a whole fascinating and separate story. Suffice it to say that the effort did not succeed.

The great power of counterinsurgency on the minds of decision makers arose out of its obvious importance. It dealt with security and social progress at the lowest levels—levels where the people lived and worked. Under the aegis of Ambassadors Komer and Colby, the CI effort reached high levels of effectiveness. Its baleful influence on sound military planning stemmed from the persistent misconception that CI could do it alone. This view was just as specious and unrealistic as the opposing notion that CI was irrelevant in the presence of a gigantic clash of national armies.

Before leaving the subject of CI and its impact on U.S. operational planning, it is worth mentioning that the U.S. effort also foundered on the political track. The ultimate measure of effectiveness of the whole U.S. effort simply has to be an assessment of the comparative national political strength of the South Vietnamese government and the North Vietnamese regime.

This subject is so vast and complex as to deserve a whole shelf of books but, against the bottom line, we never quite induced the growth of a strong independent government of South Vietnam. It was a shaky structure girded and propped by a pervasive American presence.

An external American ignition harness extended to every level. The power generator lay outside the machine itself. When it was withdrawn, the spark plugs no longer fired. It is difficult for this democracy of ours to deal with the political dimensions of insurgency. The kinds of measures and risks that need to be taken—the arbitrary (and often undemocratic) controls which may be required—do not go down well back here at home where the value system is unique and to a large extent nonexportable.

Our Congress is in a continuous state of dither and shock over the vaguest suggestion that we are selecting, installing and supporting strong leaders; yet, when we do not, the other side does. At least, by now we should recognize that we may be reasonably competent in the economic and military fields and even have something to offer on the plane of counterterror, but in the center ring—the political heart of the matter—we are self-constrained by our own history and political processes and are, therefore, vulnerable to failure.

The Ambiguity of Intelligence. The second great inhibition on sound operational planning was the ambiguity of our intelligence on the capabilities and intentions of the North Vietnamese government. It was not so much a failure of intelligence collection as it was a product of the natural limitations of the whole process of analyzing and extrapolating from that vast base of information.

A dramatic example of the problem is presented by Mr. McNamara's famous statement in 1965 that the Vietcong were only consuming 15 tons of war materiel each day. This amounts to about three truck loads or 1/20th of the load of a 300-ton trawler. The impact of that statement (assuming that the computation was roughly correct) was devastating. In one blow, it implied that:

- North Vietnamese logistics support of the insurgency was insignificant.
- It would be impossible to shut off such a trickle.
- It would not be worth trying.
- The Ho Chi Minh Trail was not all that important.
- The real problem was the performance of the government of South Vietnam.

What was missing, of course, was a future projection. Nothing in that statement dealt with a strategic appraisal of North Vietnamese intentions or capabilities. We now know through Stanley Karnow's account in *Vietnam: A History*, that the decision to move the North Vietnamese army into the battle was made after a commission from Hanoi visited the south in 1963 and reported that the Vietcong structure was too weak to prevail unassisted. The decision to modernize the Ho Chi Minh Trail was taken at the same time.

But the doctrine of counterinsurgency, coupled with the two-source rule on validation of intelligence data and the inability (or unwillingness) to project, made it seem grossly inappropriate to widen the military effort against future and as yet unconfirmed threats.

When the decision was made to deploy U.S. troops into South Vietnam, it was not to counter the North Vietnamese army because the United States did not yet clearly perceive the future implications of the first reports of unit movements down the trail. Instead, we deployed to prevent a collapse of the government of Vietnam in the face of Vietcong main force attacks. Those attacks at the end of 1964 and the first half of 1965 at Binh Gia, Binh Ba and Dong Xouai demoralized the South Vietnamese and prompted Gen. Westmoreland to give the government of Vietnam and its army a life expectancy of no more than six months unless the United States stepped in to help.

At the time, there was only one enemy division-sized combat element in South Vietnam—the 9th, north of Saigon. It was responsible for the ARVN defeats at Binh Gia, Dong Xouai and later at Song Be and Dau Tieng. The 1st and 2nd Vietcong regiments in Quang Ngai were responsible for Binh Ba.

In the remainder of the country, there were dozens of district battalions, a few provincial regiments and increasing numbers of active guerrillas. But the Vietcong main force establishment did not seem all that formidable against the prospect of U.S. intervention. Indeed, if that had been the extent of the threat, the U.S. deployments through the end of 1966 would no doubt have been enough. Certainly, Washington hoped they would be enough.

But looming over the initial concept of rescuing ARVN from the Vietcong was the first wave of the North Vietnamese army moving south. The large-unit war was forced and initiated by North Vietnam—not by the United States—despite the conventional wisdom which persists to this day. In fact, in 1964—well before the first U.S. combat units were deployed—the first three North Vietnamese army regiments entered South Vietnam.

Thereafter, the rate of deployment of the two forces measured in divisions and regiments/brigades was roughly parallel. This fact was never conveyed to the American people. To the contrary, the impression here at home surely was that we were deploying our Army to fight the Vietcong guerrillas—farmers by day, warriors by night, etc.

Early estimates of North Vietnamese army deployment were not welcome in Washington. That was a problem this country did not want and did not need and a problem for which we had no viable operational concept. We disliked the idea of an enlarged ground war so much that we resorted to air attack in an effort to scare them off: retaliation for their temerity—retaliation that did not work.

The 1st Cavalry Division arrived in 1965 to take on the Vietcong main force only to find itself in the Chu Pong/Ia Drang region repelling an invasion by three North Vietnamese regiments. When it turned its attention to the populated area of Binh Dinh Province in operation Masher/White Wing, lo and behold, it encountered first a regiment and later a whole North Vietnamese army division. The 3rd Marine Division, which desperately wanted to test the counterinsurgency theories of Lt. Gen. Victor H. Krulak, commander, Fleet Marine Force Pacific,

and a former special assistant for counterinsurgency on the Joint Staff, soon found itself drawn to the area of the DMZ to engage the intruding North Vietnamese army.

The U.S. 4th Infantry Division arrived in the Central Highlands in 1966 only to spend its entire tour on the Cambodian border ejecting North Vietnamese army regiments and divisions in some of the most brutal and gallant battles of the whole war.

So, while we started our deployment against the Vietcong main forces, we were quickly drawn into quite another set of problems, none of which was forecast accurately and none of which was received joyfully in Washington or Saigon. We were in a bigger war than we had anticipated or for which we were militarily or politically prepared.

Against this massive misperception, the hullabaloo over the "uncounted enemy" (the Vietcong Self-Defense Force) raised by CBS in *60 Minutes* more properly should have been viewed as a trivial pursuit. After all, the real southern Vietcong were defeated via Tet. It was the North Vietnamese army which thereafter made the difference—not just the North Vietnamese army divisions, of which there were many, but also the integration of North Vietnamese army replacements and units in the Vietcong military/political structure to reconstitute the local threat so badly damaged during Tet and through the Komer-Colby pacification effort.

The ambiguity of intelligence in any situation which revolves around the *intentions* of our opponents is not confined to Vietnam or to the past. We are equally at sea about the operational intentions of the Soviet Union, Cuba or Nicaragua in Central America. Long-range intentions? Perhaps! Short-term or mid-term? No!

When Alexander M. Haig suggested going to the source (of problems in Central America), the Cubans may or may not have been frightened, but he scared the pants off the U.S. Congress. The ambiguity of intelligence, engineered by our opponents, is a major deterrent to early and effective operational planning—not to mention early action.

The Symmetry of Our Response—Reaction. The third great set of inhibitions on sound operational planning may be lumped under the doctrine of symmetry.

Whatever the Vietcong and North Vietnamese did, we also undertook to do. When they organized a sophisticated insurgency, we organized a sophisticated response—counterinsurgency. When they reinforced the main force war with North Vietnamese army units, we reinforced ARVN. When the North Vietnamese army began its border incursions, we reinforced the border.

We engaged the enemy on ground of his choosing. We won battles—even campaigns—but at enormous costs in time, treasured lives and political tolerance in the United States.

By opposing the enemy at every level—by organizing as a mirror image, leaving the option of fighting or evading to him—by honoring the political sanctity of his cross-border sanctuaries until too late, we engineered ourselves into a war of attrition in which the enemy largely controlled the tempo of operations. By leaving the gate to North Vietnam open, we permitted him to reconstitute his losses at will even at the local force level.

Perhaps the most illuminating and awesome story which came out of the war in this last respect was written by Lt. Gen. Tran Van Tra, the long-time senior military commander in COSVN (Central Office of South Vietnam). COSVN, as the putative instrument of the National Liberation Front, was the political and military headquarters for the southern half of South Vietnam. It coincided roughly with III and IV ARVN Corps areas. It contained two-thirds of the population of South Vietnam.

Tran Van Tra was in disfavor in Hanoi after Tet; after all, he had lost the military battle with horrendous and, in the case of the Vietcong, irreplaceable losses. The fact that he had won the

political war in Washington only became clear to Hanoi much later. The Politburo took credit for that windfall but retained its skepticism about Tran Van Tra. When the final attack was mounted in 1975 against Saigon, Tra was relegated to deputy status under the Supreme Commander, North Vietnamese Gen. Van Tien Dung whose book *Our Great Spring Victory* scarcely bothers to acknowledge the role of the Vietcong in the final outcome.

In any event, Tra wrote a book which slipped out before Hanoi banned its publication and confiscated extant copies (and, now we are told, executed the publisher—Ha Man Nhai—in 1983). In this book, Tra, the senior general in the south, describes how he personally supervised the deployment of the North Vietnamese army 320th Regiment to Long An Province and its integration into the Vietcong provincial structure.

To do this, he *walked* from COSVN headquarters on the Tay Ninh Province-Cambodian border to Long An, south of Saigon, with a small bodyguard. When he arrived, he explained the mission of the regiment to its officers and soldiers on the ground. He explained the tactics of the 3rd Brigade of the U.S. 9th Infantry Division and how they might be countered. He supervised the integration of the battalions of the regiment into the local forces at district level and the positioning of companies within the villages.

Here we have the incredible picture of the senior Vietcong commander spending the better part of a month reconstituting the military political structure of Long An Province, which is the southern gateway to Saigon. That he found it necessary is a tribute to the pacification effort and the Tet victory (United States and ARVN). That he was willing to do it personally is testimony to the strength of the revolutionary doctrine of our formidable opponents.

Because of the reconstitution and resurgence of the Vietcong structure in the Delta, not one of the three ARVN divisions there was able to reinforce Saigon during the final battle in 1975. So the war of attrition—the symmetrical reaction to enemy strength and structure—was hopeless from the beginning. By controlling the tempo, the enemy could "manage" attrition within limits consistent with his resources. By his access to North Vietnam via the Ho Chi Minh Trail, he could reinforce and reconstitute as necessary.

Basing my calculations on information in Capt. Shelby L. Stanton's excellent book, *The Rise and Fall of an American Army,* and on Gen. Westmoreland's report in 1969, it seems that U.S. combat formations distributed their efforts roughly as follows until the main U.S. withdrawal began: 40 percent in area support of pacification, 30 percent against the reinforced main force war (North Vietnam army reinforced) and 30 percent against North Vietnamese army border incursions.

Thus, it can be seen that 60 percent of the U.S. large-unit effort was devoted to a reactive response to North Vietnamese army forces already embedded deeply in South Vietnam (the reinforced main force war) and to direct defense of the DMZ and the Laotian and Cambodian borders. There were unending and repetitious campaigns against North Vietnamese army forces who controlled the tempo of the war and disengaged at will. Sixty percent of the U.S. ground forces in South Vietnam in 1969 equates to approximately seven divisions, which could have fought more efficiently astride the Ho Chi Minh Trail along the DMZ and into Laos. The remaining four divisions would have been available to assist the ARVN in conducting the main force war in the south, the chief difference being that the North Vietnamese would be forced to accept decisive combat or change their objectives—a potentially war-winning scheme.

Gradualism and Retaliation. But, having engineered itself into a corner in respect to the ground war, the United States turned to the air war as its last and only advantage; the only asymmetrical

effort of the war—the only part of the overall military operational plan with potential leverage. It produced mixed results.

Interdiction of the Ho Chi Minh Trail was unable to stop movement, although it exacted an enormous price in resources, effort and time on both sides. As in Korea and in Italy in World War II, we placed higher hopes on the effectiveness of air interdiction than the actual results would bear out. This is a recurring American misjudgment.

The retaliatory campaign against the war-making potential of North Vietnam undertaken by the Nixon Administration was within an eyelash of success in 1972 when a bombing halt may have snatched defeat from the jaws of victory. And bombing halts were endemic. They happened so often and for such dubious purposes that one must look for the reason deep in the psyche of the U.S. government in Washington. The only possible conclusion is that we are addicted to a form of gradualism which has been self-defeating. Gradualism is the fourth influence which worked against the formulation and execution of a sustained and consistent operation which had any chance of achieving U.S. strategic objectives.

Gradualism is the son of flexible response, and flexible response is the child of nuclear deterrence. To the extent that gradualism reflects a prudent policy of nuclear avoidance, it is a necessary dimension of twentieth-century policy. But to the extent it reflects a particular American arrogance of power and a false reading of the depth of our opponents' convictions, it is a sure loser.

At the heart of the retaliatory air campaign—which was gradualism writ large—lay an assumption that some finite level of pain inflicted on our enemies would impel them to reverse course. Some level of damage to fuel storage tanks, bridges, thermal electric generating plants and harbor loading facilities would convince them that they should renounce their goal of liberating South Vietnam from what they regarded as the most recent colonial power—the United States and its puppet regime.

It turns out, of course, that we never reached that level of damage. Oh yes, we hurt them enough so that they sought a cease-fire but never enough to persuade them that they should abandon their cause. The disproportion between the goals of a 30-year war and the loss of storage tanks defines our misconception.

Aerial bombing often seems to infuriate rather than intimidate. In any event, the only sensible goal for aerial bombardment is to disarm the enemy; that is, to make it impossible for him to carry on. We were probably close on several occasions but not close enough. By the time we turned the strike aircraft loose in force in 1972, it was to punish, not to win, and even that level of effort with its resultant visible damage aroused a high level of squeamishness among decision makers and put demonstrators in the streets.

We reached a point where the price we had to pay internally was thought to be higher even than the benefits of bombing. So we settled for a level of effort which amounted to covering fire for our withdrawal.

The fact is that gradualism, particularly as expressed in air retaliation, is so easy to start and so easy to stop that it is entirely episodic and is thus substituted for operational planning. It is conducive to a mode of playing it by ear—of being hazy about goals and objectives—everything is *ad hoc* and sometimes linked to the six o'clock news.

If anyone thinks these tendencies were restricted to the Vietnam drama, he does not know Washington. Furthermore, those of us in uniform must ask whether we are a counterweight to these tendencies or a party to the misapplication of power. Does our enthusiasm, pride and can-do spirit make us peculiarly vulnerable to any proposal to apply our forces, however incrementally?

There are a few more things which need to be said on this complex subject which bring us out of the past into the equally difficult present and the murky future.

The fixation on counterinsurgency, the ambiguity of intelligence, the strong tendency toward symmetry (reaction) and the built-in bias toward gradualism are reasons but are not, by themselves, valid excuses for the failure of the military establishment to operate effectively within the decision process in Washington.

Weaknesses in the High Command. It is widely known that the command structure for the Vietnam war was badly fragmented. Early in the war, certainly by the end of 1966, the JCS and CINCPAC (commander in chief, Pacific) had lost effective control over the ground war and the associated pacification effort.

Actual control moved along an axis from the White House to Saigon. A series of powerful ambassadors—ministers plenipotentiary of the President—in Saigon, Bangkok and Vientiane, coupled with the unusually strong influence of Mr. Komer, who moved from the White House to Saigon to preside over the interdepartmental counterinsurgency effort, had the effect of shunting the JCS and CINCPAC off the main line.

At the same time, the second echelons of the State and Defense departments (William Bundy—assistant secretary of defense for international security affairs, 1961-64; assistant secretary of state for Far Eastern affairs, 1964-69—and John T. McNaughton—assistant secretary of defense for international security affairs, 1964-67) accumulated enormous power over policy decisions which shaped our national response to the escalating war. Eventually, the JCS was reduced to the level of passing Saigon requests for reinforcement to the services for action.

The air war was handled through an entirely separate mechanism. CINCPAC retained control of the air war through the twin agencies of the Pacific Fleet and the Pacific Air Forces, both also headquartered in Hawaii. CINCPAC dealt with the White House via the chairman of the JCS, who was supported by the J-3 (director, operations) of the Joint Staff. This three-way channel concerned itself with the level of the air effort, rules of engagement and selection of targets—both target categories and often specific sensitive individual targets.

The air operation was punctuated by a series of bombing halts related to diplomatic moves, truces, cease-fires and later negotiations. The air war, as a consequence of all these influences, was spasmodic.

Certainly, the inability of the uniformed military establishment to deal effectively with the conflicting perceptions of the war which pervaded Washington in the critical years can be attributed in part to this fragmented and weakened structure.

For example, according to Gen. Palmer, the JCS proposed a strategic plan in 1965 which called for comprehensive air and naval action against North Vietnam, air and ground action against the Ho Chi Minh Trail in Vietnam and Laos to stop the southward movement of North Vietnamese forces and supplies, a campaign in South Vietnam to defeat the Vietcong and measures to keep China out of the war or to cope with her should she intervene. The JCS pressed this plan upon the Administration, but without success.

The Administration did not want a large war—did not want the associated necessity for mobilizing the reserves and undoubtedly considered the JCS plan as a gross overreaction to a situation described in entirely different terms—an internal insurgency—by other government agencies. In short, the White House view of the war was widely at variance with that of the Joint Chiefs and remained so until it was too late, politically, to move to a higher plane of effort, risk, cost and sacrifice.

A JCS overshadowed at the seat of government, reduced to the housekeeping chores of the air war and frozen out of ground war operations was not able to perform the expected wartime role of the senior military agency in Washington. As a consequence, we fought our longest and surely most complex war without a strong central military authority or an effective and integrated military chain of command all the way from the President through the JCS to the unified commands and the operational forces. Furthermore, there was not an agreed and well considered national strategy upon which sound operational planning could be based.

At this point, we have nearly fulfilled the promise in the title of this article. We have described what we might have done and a number of reasons why we did not do it. But this treatment would be incomplete were it not to touch upon the current effort of Senators Sam Nunn (D-Ga.) and Barry M. Goldwater (R-Ariz.) to overhaul the top echelons of the defense establishment.

The 645-page report prepared for the senators by the staff of the Armed Services Committee strongly suggests that many of the weaknesses in the command structure which surfaced in Vietnam were not unique to that time and circumstance but were, and are, systemic by nature.

If this is true, and much evidence is presented in the staff report, then the great risk is that any weaknesses in the JCS system that led to its inability to communicate sound operational advice to the nation's leaders during the Vietnam war may reduce its effectiveness in conveying sound organizational advice in the face of a strong attack on the military structure today.

The staff report also contains 12 specific recommendations. Some of those proposals, like the one which strengthens the role and authority of the chairman, are clearly on the right track. Others, like the one which creates an assistant secretary of defense for strategic planning, transfers a classic military function to a civilian agency and thereby weakens the military structure.

In any event, there have been extensive hearings, more will take place, and there will be continuing debates on all these issues. As each proposal comes up for consideration, it would be useful to ask whether it would have made a difference in Vietnam had it been in place at that time.

Would all of the proposals taken together have increased the effectiveness of the armed forces and their operations? Would they have produced a strong, competent, persuasive and respected military voice in Washington? Would they have provided a professional military basis for the development of high-quality strategic and operational plans which were in harmony with political objectives? Would the senior military agency in Washington have been solidly inside the process of planning and operational direction of U.S. forces?

These questions suggest the framework for a set of standards against which the Nunn-Goldwater, or any other, proposals may be judged. We are very unlikely to find more legitimate or better standards.

Finally, the Vietnam experience tells us that the linkage between the President, his secretary of defense and the chairman of the JCS must be tight, continuous and trustful. In the absence of these conditions, no amount of new legislation will help this country solve the problems of high command.

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STATEMENT BY

GENERAL WILLIAM E. DePUY (RET)

BEFORE THE

SUBCOMMITTEE ON INVESTIGATIONS

OF THE

COMMITTEE ON ARMED SERVICES

HOUSE OF REPRESENTATIVES

4 MARCH 1986

W. E. DePuy
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Provided by William E. DePuy, Jr.

Mr. Chairman, Members of the Committee. Thank you for the opportunity to testify during your review of defense organization.

My views are based on long service in the Army and in joint assignments and on my personal study of certain issues. To summarize—my service included:

- Battalion command of Infantry in France and Germany in World War II.
- Command of the First Infantry Division in Vietnam - 1966-67.
- J-3 of the joint command in Vietnam 1964-65.
- Special assistant to the chairman JCS and service on the Joint Staff 1967-68.
- Assistant Vice Chief of Staff U.S. Army (1969-73)—an office created to interface between the Secretariat and the Army General Staff in respect to Army program control and development.
- Command of the U.S. Army Training and Doctrine Command 1973-77 involving:
  - Weapons requirements, organization and tactical doctrine - in short the Army's architectural agency—constantly reorganizing tactical units around new weapons.
  - Training the cadre for the new organizations - the Officer and NCO school system.
  - Training all Army recruits.
  - Army Air Force joint doctrinal development.
  - U.S. Army - German Army—doctrinal cooperation.
- Since retirement I have written extensively on military subjects and most recently about problems in the chain of command during the Vietnam War.

In this statement I will address just four issues raised by the various studies and legislative proposals for reorganization of the Department of Defense:

- The chain of command.
- Composition and Functions of the JCS.
- Authority of the Unified Commanders.
- Service functions and organizations.

THE CHAIN OF COMMAND

I observed, first hand, the baleful effects which can be associated with the fragmented and confused chain of command during the Vietnam War.

By the end of 1966 the JCS and CINCPAC were frozen out of the chain of Command for the ground war and associated Pacification activities. That part of the war was controlled along an axis from the White House to Saigon. The JCS was reduced to the mechanical function of sending troop requests from Saigon to the Services for action after White House decisions.

The air was controlled along an axis from the White House to the chairman of the JCS to CINCPAC and thence to the Commanders of the Pacific Air Forces and the Pacific Fleet. The J-3 of the Joint Staff performed housekeeping chores over the target lists.

At no time during the long years of the Vietnam war was there a comprehensive and integrated operations plan based upon an explicit strategy to achieve the political objectives of the war.

From that national experience I draw the conclusion that civilian (political) control of military forces and military operations must be exercised <u>through</u> the JCS as the senior military echelon in a coherent and continuous military chain of command.

I perceive not the slightest threat to civilian control of the military in this country. However, if that control is exercised improperly or haphazardly there is a very large threat to the successful prosecution of military operations.

Civilian control can be most effectively exercised from the top down by the President the NSC and the Secretary of Defense through the instrument and agency of the JCS represented by a chairman with increased power and authority and backed up by a strong and competent joint staff and other essential joint agencies.

All the major issues of War and Peace, of political and military objectives and the allocation of National Resources should be resolved under the aegis of the President and his chief civilian agencies as part of a front-end process which should always precede the use of military force. The JCS as the top military echelon should participate, through its chairman, in these critical deliberations. Thereafter detailed military planning and prosecution of operations are military functions which can only be performed properly by or through the senior military echelon in Washington.

Planning and operations are a closed-loop process. The JCS must take into account not only the requirements of the combatant unified commanders, but also the capabilities of the Services and the actual progress of the war. No other agency can perform this function.

The exercise of command goes far beyond policy into complex technical controls. One day at the Joint Deployment Agency at the Headquarters of the Readiness Command would convince any fair observer of the truth of this assertion. And that is just one small but vital compartment in the vast apparatus of joint military command.

So, that chain of command must pass through the chairman of the JCS. It should not be an option of the Secretary of Defense to do otherwise. If special operations require special channels so be it, but in all cases planning and execution <u>must</u> be controlled through the JCS (CJCS).

FUNCTIONS AND COMPOSITION OF THE JCS

I agree with the provisions of the proposed legislation which strengthen the power and authority of the chairman. Nonetheless I believe that much of his effectiveness will depend upon his close and continuous consultation with the service chiefs.

I also favor strengthening the chairmans role so that the JCS can be more effective in an area which is seldom discussed but lies close to the heart of their joint mission. I refer to the resolution of doctrinal, procedural and technical problems which arise between the services in the areas of

Intelligence, EW, Air Defense, Deep Attack and Fire Support not to mention General Communications and Logistics.

I would like to see it made unmistakeably clear that the JCS are both authorized and will be held accountable for the development of joint doctrine, tactics techniques and procedures in all those areas and the development of joint requirements for the necessary technical means to support those procedures. Here I mean hardware requirements particularly cross-service communications, and joint data processing systems. The opportunity for progress along these service interfaces is endless and the operational rewards are great. Up to now the JCS has found it difficult to be effective in such a role. Generals Wickham and Gabriel have taken laudable initiatives in this area but the function needs a home in the JCS. It cannot be left entirely to voluntary auspices because some decisions may be difficult for certain of the services while nonetheless necessary.

The JCS has a marvelous instrument for the refinement of joint doctrine and procedures in the READINESS COMMAND — an instrument not well enough used.

Obviously the Joint Staff must play a key role in these matters requiring that staff to be both operationally and technically competent. This means that the joint staff must be expanded to embrace a number of joint agencies. The 400 man ceiling is not compatible with this idea. Qualifications for the Joint Staff should go beyond operational skills and should remain open for a vast array of technical experts as well.

A Vice or Deputy chairman is needed to reinforce the chairman. It would probably be a mistake to make him the full time Director of the Joint Staff — another officer can perform those duties at the rank of Lt. General. The Vice Chairman should be free to travel and thus help represent the CINC's and he will soon be buried in other essential duties. Mr. Packard wants him to co-chair the JRMB.

AUTHORITY OF THE UNIFIED COMMANDERS (CINCs)

The CINCs should be able to organize their commands operationally as they see fit. On the support side however, their authority must be constrained and adjudicated. I would like to see the JCS act as referee.

Certainly the CINCs should have the authority to approve/disapprove key personnel proposed for assignment to their headquarters and as component commanders. Probably the CINCs should be required to render an evaluation to the JCS of the performance of these key subordinates. They should be authorized to relieve poor performers. Surely, too the CINCs should have authority in critical logistical matters such as the positioning of supplies and war reserves in their areas of operation. Again the JCS should referee as between the CINCs and the Services.

The REDCOM commander who supervises the Joint Deployment agency should have specific responsibilities for overseeing the mobilization process and its linkage with the deployment process.

The question of an "operational force" budget is a difficult issue. On the one hand the CINC's clearly need some contingency funds to give them operational flexibility and quick reaction. It is conceivable that they should have control of joint exercise funds. But the great danger is that the small operational and support staffs of the CINCs will be sucked into the vortex of the PPBS.

This should be left primarily to the Services with the CINCs represented by the chairman in the Program process and by occasional pleas to the DRB. Let the CINCs enter the fray on the basis of management by exception.

In time of war or national emergency the CINCs must be able to concentrate on operational matters. In time of War, more than ever, the CINCs will be utterly dependent upon the Services to provide viable combat forces and adequate support. This leads me to my last point which is the necessity to protect the vital function performed by the Services.

SERVICE FUNCTIONS AND ORGANIZATIONS

To some extent the services have been made the villains in this reorganization exercise. It seems as though being "for" increased effectiveness at the joint level has produced a reciprocal mind-set which is "against" the services. This is a very dangerous tendency which must be rejected for one very powerful reason. It is the services who produce the high quality fighting forces which this nation needs to win battles, campaigns and wars. No other echelon or agency can produce such forces. That the CINCs employ those forces does not change this fact in the slightest.

The Ranger battalions that seized the airfield in Grenada were organized, manned, trained equipped and motivated by the U.S. Army. It was the U.S. Navy that produced the team which intercepted the highjackers over the Mediterranean.

Divisions, Wings and Battle Groups are produced by the services. The integration of tactics and technology within these basic combat elements is a (the main) service function. On the other hand the number of divisions wings and battle groups to be produced should be determined above the service level by a process in which the JCS plays a central role.

The provisions of the draft law which deals with internal service organization does not seem to recognize this central function of the services. By reducing and dispersing the military General staff and combining it with civilians under the direction of assistant secretaries, we run a high risk of destroying the very instrument which performs the most demanding and difficult function of the department.

Let me explain that function and relate it to Army staff organization. The Army is required by law, tradition and necessity to organize train, man, motivate, equip and support combatant forces (Corps, Divisions, Brigades, Battalions and Companies of all arms) which are turned over to Unified Commanders for operations. The Army therefore is a design and production organization. The process is called Force Development or sometimes Combat Development.

In either case it is a dynamic highly technical and complex undertaking. It is a military process which can only be performed by professional military organizations. It is dynamic because it is the process by which new technology is brought into the force. It is the process by which units are organized around new weapons and their support. It is the process by which tactics and technology are combined and finely tuned.

The second largest Army command in the U.S. (TRADOC) performs this architectural design function. The largest command in the Army (FORSCOM) produces units according to that design and brings them to a high state of readiness and performance — ready to be sent to the CINC's for operations in war.

Over this process — inspiring and managing it—is the Army General staff assisted and controlled by the Secretariat. The proposed organization seems to assume that the service role is a static support function. Nothing could be farther from the truth. Designing and producing combined arms divisions and constantly modernizing, reorganizing and training them is the central Army function. It is the basis for requirements for manpower by skill and by grade. It is the basis for hardware system requirements and thus is the genesis of the R&D function. Its internal and external support is the driving force behind logistics procedures and organization. Force development programs lead the budget process.

This function which proceeds within the long but evolving continuum of tactical and operational doctrine must be performed by the Army's professional military staff. The Chief of Staff must preside over it under the direction and with the support of the Secretary.

Giving the Chief of Staff two Deputy Chiefs of Staff to preside over operations and plans which are to be primarily joint functions is to shunt him onto a siding while turning over the heart of his enormously important duties to Assistant Secretaries of the Army. That is a formula for disaster.

Let us retain the current system but for "ops and plans" let us substitute "Force Development".

In summary I strongly recommend that:

- The chain of Command always run through the chairman of the JCS who is backed up by the other chiefs, the Joint Staff, joint agencies and commands.
- A strengthened JCS (a strengthened Chairman, Vice Chairman and staff) be held accountable for developing joint doctrine, procedures and systems which solve Service interface problems in the major combat function such as Intelligence EW, Air Defense, Deep Attack Fire Support and logistics.
- The CINCs' authority be increased but that the unified commands should not be sucked into the vortex of the PPBS at the expense of their operational duties and that REDCOM, especially, should be exploited in the area of Joint Doctrine.
- The Services be protected against reorganization back-lash so they can continue to perform the Force Development function of designing and producing fighting forces of high motivation and high performance.

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4 April 86

[John Wickham
Chief of Staff
U.S. Army]

Dear John

Pardon my use of pen and yellow paper. Thank you for your note about my testimony on defense reorganization.

I spent two happy days in mid-March visiting your splendid 7th Light Division. They showed me some training and I had a chance to talk with dozens of officers, NCO's and soldiers. There most of the officers assembled in the Post Theatre to listen to this old soldier speak about the value of artillery and Tac Air to Light Infantry and about "the last 100 yards" where almost all Light Infantry casualties are taken. I pointed out in this last respect that Rommel in WWI the Israelis and the Vietcong had techniques for getting through the last 100 yards which we could well emulate.

My impressions of the division were upbeat. Spirit is high—leadership is excellent—at all levels. The effort to capitalize on the worth and ingenuity of the individual is impressive.

You may be very proud of your first Light Division.

Without detracting from my high opinion of the 7th I want to pass on a concern which developed as I talked to division personnel at <u>all</u> levels.

I asked dozens of individuals to describe the battles for which they were preparing. Their answers lead me to believe that there is considerable confusion on this score. I believe they need some help - and because they are very much <u>your</u> division that help probably must come from you.

By the way there wasn't a whiff of disloyalty to you or the Army hierarchy. There was no cynicism or double-talk. There is uncertainty about what they will be asked to do and that uncertainty leads to waste-motion.

The division takes it as given—given by you—that their mission is to prepare for Low Intensity Warfare as a first priority and for mid- to high-intensity second. The problem is that they do not know exactly what they are to do in LIW. I suspect this confusion is not confined to the 7th Division.

As a consequence they are loyally trying to carve out a niche which generally lies at the nexus where Ranger techniques, anti-guerrilla warfare and deep raids come together. At the other end of their mission (mid intensity war) they see the NTC as a guide.

Handwritten. Letter provided by William E. DePuy, Jr.

The kinds of LIW scenarios they use for training lack realism—that is, it is hard to visualize just where in the world they might be required—or where they would contribute to operational or strategic goals.

We may go to El Salvador to help fight guerrillas but I hope not. Peru, Venezuela etc are no more attractive or likely.

The fact is the 7th is more apt to be fighting the Nicarauguan, Libyan Iranian or ? ? ? national armies. The kind of training needed for that kind of LOW/MID intensity warfare is the kind of training I would think they should be undertaking. But first they must be helped to understand their most likely tasks. I suspect we may have to disarm Nicaraugua some day and the 7th will be needed. It won't be LIW. Someday they may be sent to seize Wheelers field in Libya or stop the Revolutionary Guards on the approaches to Kuwait City.

You can see what concerns me. These military tasks require much more than Ranger techniques. I would be happy to talk to you further if you wish and at your convenience.

In any event my only motivation is to see your light division prosper and to see those fine young men fully prepared for the tough fighting which lies ahead.

Warmly and respectfully

Bill

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The Army War and the Proper Way in Vietnam

By Gen. William E. DePuy
U.S. Army retired

The Army and Vietnam. Andrew F. Krepinevich Jr. The Johns Hopkins University Press, 701 W. 40th St., Suite 275, Baltimore, Md. 21211. 318 pages; abbreviations and acronyms table; notes; index; photographs; $26.50.

A well-written and thoroughly researched book, *The Army and Vietnam* is organized around the single cause to which the author attributes our national failure in Vietnam.

To jump ahead, the villain in the piece turns out to be the "concept" of the U.S. Army for fighting wars. This concept is described as an ineradicable fixation of the Army on European-type war—a prodigious consumption of resources to avoid the spillage of American blood—and to borrow from the demonology of the military reform movement a strong preference for firepower and attrition.

The author then lays out the theoretical anatomy of an insurgency and explains what he believes to be the preferred methods for defeating such a threat.

It will come as no surprise to find that the Army way and the proper way are described as two entirely different matters.

Having thus set the stage, the book traces the war through the advisory years (1954-1965), the years of intervention (1965-1968) and the years of withdrawal (1968-1973).

Each step of the way, the efforts of an enlightened minority to follow the proper path of counterinsurgency are said to be defeated by an Army which turns unerringly to its cherished and deeply embedded concept.

Along the way, we encounter all the old familiar faces.

The chiefs of the Military Advisory Assistance Group in the early years are shown to have been preparing the new South Vietnamese Army (ARVN—Army of the Republic of Vietnam) to repel an invasion across the 17th parallel along the lines of our earlier experience in Korea and in full accord with the concept.

According to the book, Gen. Paul Harkins, the first commanding general, U.S. Military Assistance Command, Vietnam, believed so fervently in the concept, that he could not imagine failure and proclaimed victories everywhere—even at Ap Bac in January 1963 where then-adviser Lt. Col. John Paul Vann began to build his reputation as a realist by proclaiming a defeat.

The often described and much lauded CIA program which implanted Special Forces teams on counterinsurgency operations in Montagnard villages around Ban Me Thuot was abruptly terminated when, the book explains, the U.S. Army repossessed its Special Forces and sent them off to the borders in connection with the main force war and in line with the concept.

From *Army* 36, no. 9 (September 1986): 77–78.

So it was, also, with the Marines. The author tells how the 3rd Marine Division assigned rifle squads to reinforce and support Vietnamese Popular Force platoons around Danang. This program, built around combined action platoons (CAPs), was a centerpiece of the Marine counterinsurgency effort. It was well publicized as the way to go; but as you have now been conditioned to expect, the Army high command in Saigon, driven by its concept, ordered the 3rd Marine Division to the demilitarized zone to fight intruding North Vietnamese divisions.

When seven full Army divisions were deployed in Vietnam, the book says that they marched happily off into the jungles and mountains and to the remote borders seeking combat with the Vietcong and the North Vietnamese main forces in accordance with their understanding of the concept. This, according to the author, left the South Vietnamese population exposed, first to the local guerrillas, and then to the massive Tet offensive.

Gen. Maxwell Taylor is portrayed as a Trojan horse in the Kennedy camp. His urbane manner and intellectual credentials, coupled with his concept of flexible response, led the President to believe that Gen. Taylor was the man to turn the military establishment toward counterinsurgency. After he had been placed in a series of powerful positions, however, it was revealed that he, too, was a solid supporter of the concept. Flexible response, it turns out, was not counterinsurgency but was merely another name for conventional limited war.

There is a one-dimensional flavor to all this which is disquieting. The effort to force all the rich and perverse experience of that long ever-changing war and all the dimensions of our collective failure through the single gate of the Army concept on a go/no-go basis just does not fly. There are too many other aspects which do not and will not submit to such a simple formula.

For example, the author's description of insurgency does not accommodate the reality of North Vietnamese involvement, its incredible revolutionary leaders and the intervention by its formidable army. The views of the senior Vietcong and North Vietnamese army leaders are now available. There was contention between them, and they suffered major reverses. They were close to defeat on more than one occasion. There is nothing simple or inevitable about the way the war developed.

Except for a brief discussion of the abortive attempt in 1965 to create a combined U.S.-Vietnamese command, little is said about the daunting weakness of the government of South Vietnam and the resulting softness of all its enterprises. Having said that, though, we now know more about the political constraints inherent to our own system of government which limits the extent and effectiveness of any effort by us to control the actions of another country at the political level. We see those constraints in action every day with respect to Central America.

The most disturbing aspect of the argument developed in this book is the clear and inescapable implication that we should have been able to throw off the concept and to use U.S. combat troops directly in counterinsurgency operations in the highly populated enclaves or along the so-called demographic frontier.

There are those of us (and I believe we are many) who have drawn opposite conclusions from our experience and study of the war in Vietnam.

We hold that the proper, indeed the only, role for U.S. combat forces is to isolate the insurgent battleground from outside intervention.

This we failed to do in Vietnam, but we should have done it and we will be faced with the problem again and again. Assuming that it can be done, and it has been done (the British did it in Borneo, for example), then the U.S. involvement in counterinsurgency proper should involve only a small, select, fully empowered team of real experts to manage the U.S. assistance program

and to advise and assist the local government in counterinsurgency operations by its own agencies and forces.

If such a government cannot be found or helped—we do not say created—then the chances for success are slender or worse. The harder we try and the more we Americanize the effort, the more likely it is that we will fail. Such are the politics and psychological difficulties in such a situation.

If this opposing point of view has any merit whatsoever, then it tells us several things:

- U.S. combat forces were not and are not the preferred or proper instrument for counterinsurgency operations amongst the people. Short of genocide or relocation, as in Afghanistan, foreign armies have a record of failure in such operations for the most obvious political reasons.
- The instinct of the U.S. Army in Vietnam to go after the Vietcong main forces and the North Vietnamese in the back country was correct. It was not that some abstract doctrine was in error; it was rather the failure to isolate the battlefield operationally.
- A superbly researched book is flawed by the doubtful premise around which it is organized.

16

Troop A at Ap Tau O

By Gen. William E. DePuy
U.S. Army retired

Outnumbered by the 272nd Regiment of the elite 9th Vietcong Division, a small but heavily armed and determined unit of the 4th Cavalry defeated its foes in one of the most gallant stands of the Vietnam war.

When the tanks and armored cavalry vehicles of Troop A rumbled out of the Phu Loi base on 8 June, 1966, the troopers did not know that before the day was out they would have fought and won an epic battle of the Vietnam war.

The 1st Infantry Division which sent Troop A north toward the Cambodian border did not realize that this day would usher in a long-sought showdown with its chief antagonist—the 9th Vietcong (VC) Division.

The 272nd Regiment of that 9th Division could not imagine that it was being sent to its first substantial defeat.

The reasons Troop A went north on that hot and steamy day are buried deep in the larger drama then unfolding in the southern half of South Vietnam.

In 1966, Saigon—the Pearl of the Orient—lay on the boundary between two worlds. To the south lies one of the largest rice bowls in Asia—the vast delta of the Mekong River.

Covered by a sheet of water during the southwest monsoon and etched by the roads, paddy banks and the muddy fingers of that great river, this rich land supports over half the population of South Vietnam.

In its hamlets and towns already divided by family, sect and the reticence of the peasant culture, the virus of Asian communist insurgency ran deep and strong. Here the war of national liberation took its purest course, and until late in the war neither U.S. nor North Vietnamese forces played any decisive role.

North of Saigon was another matter. The area dominated by the economic power and security forces of the South Vietnamese government reached no more than 25 miles from the edge of the city.

There it faded into a no-man's-land of ruined hamlets, abandoned fields and beleaguered outposts. The great jungle to the north was encroaching on these transient works of man.

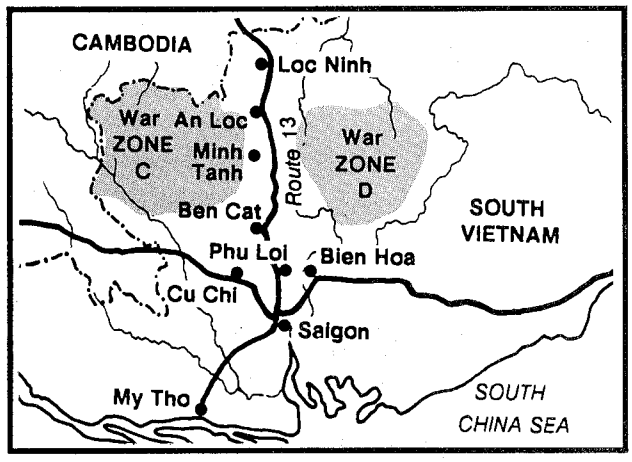
Stretching away to the Cambodian border and far beyond, this green sea of vegetation provided an enormous hiding place for the insurgents and the best covered approaches to the capital of Saigon.

Within it could be found the headquarters of the National Liberation Front (NLF), bases and training areas for the main forces of the VC, and the logistic support structure for the expanding

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war and staging areas for the North Vietnamese Army (NVA) which, in 1966, was in the early stages of its massive intervention.

National Route 13 northbound from Saigon pierced the center of this huge arc of Vietcong territory. Built to serve the French rubber plantations in Binh Long province, Route 13 was the sole commercial artery in the area and the only access to An Loc, the fortified provincial capital, and the two beleaguered district towns of Loc Ninh and Chon Thanh.



An Loc was the scene of the largest tank battle of the war in 1972, and Loc Ninh was the headquarters of Gen. Van Tien Dung who commanded five North Vietnamese Army corps during the final attack against Saigon in 1975.

For 50 miles east and west of Route 13, the VC reigned supreme. The attitude of Saigon to this general area was conveyed by its designation as a war zone.

Since the resumption of the Indo-China war in 1958, the VC had diligently built their combat forces—guerrilla squads and platoons in the villages, local force battalions at district and province level, and main force regiments and divisions under regional control.

The 9th VC Division was the pride of the NLF and the overlord of the war zones. In 1964 and 1965, it had inflicted humiliating losses on the Army of the Republic of Vietnam (ARVN). These shattering defeats did much toward bringing U.S. ground forces into the war.

By 1966, the 9th VC Division was riding high. Its three Vietcong regiments had been joined by a fourth—the 101st North Vietnamese.

By June of 1966, the U.S. 1st Division was nearing its first anniversary in Vietnam. As at Cantigny, France, and El Guettar, Tunisia (both in World War II), it was learning a new kind of war. The mission was simple enough—to find, engage and destroy the enemy's main force units which were pulverizing the Army of the Republic of Vietnam. That meant the 9th VC Division.

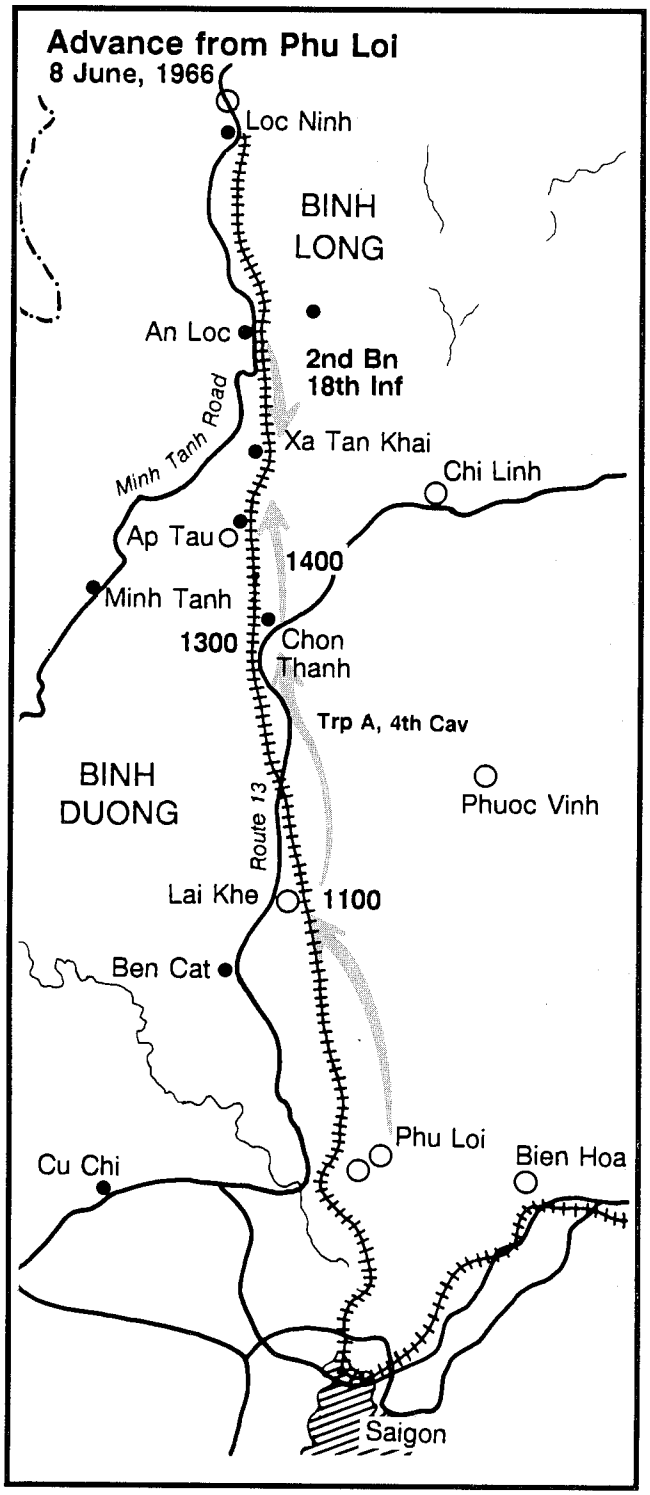
The method was straightforward as well—to conduct intensive reconnaissance, surveillance and intelligence operations to find the 9th VC Division and, after finding it, to pile on both troops and firepower.

The VC, however, preferred to fight only when they thought they would win; otherwise they refused combat and faded away. Battles occurred when the VC were trapped or thought they were falling upon a small isolated unit which they could quickly destroy. The only answer to these tactics was rapid support and reinforcement any time the VC gave battle.

In 1966, there were seven large battles and innumerable skirmishes between the 1st U.S. and 9th VC divisions as this deadly game was played out on a field of 5,000 square miles.

In May, a Special Forces team out of Loc Ninh found on the body of a VC lieutenant a map and plan indicating that the 9th Division planned a campaign in Binh Long province in June.

The 1st Division sent infantry battalions and artillery to An Loc and Loc Ninh. Patrolling revealed nothing. The battalions were withdrawn.



In late May, the 5th ARVN Division reported that 9th VC Division troops had deployed to Binh Long. U.S. battalions were returned to Loc Ninh and Quan Loi (near An Loc) while another was positioned at Minh Thanh.

A contact occurred near Loc Ninh, and the decision was made to move cavalry and medium artillery into the Binh Long area in anticipation of a long, tough campaign. The operation was named El Paso. The heavier artillery could move only by road, and it fell upon Troop A, 1st Squadron, 4th Cavalry, to lead the parade.

Capt. Ralph Sturgis, commanding Troop A, was alerted on 6 June for a move on the 8th. He called back his detached 3rd Platoon and ordered intensive preparation. Capt. Sturgis decided the mission was important when a truckload of tracks and treads and other repair parts suddenly arrived from squadron.

When Lt. Joseph R. Lake and his 3rd Platoon rolled into the cavalry base at Phu Loi, he saw a high level of activity in the troop maintenance area and noted that the troopers needed no urging to put their vehicles in shape for battle. Treads were replaced,

new antennae mounted, additional sandbags added under crew stations and ammunition checked.

On 8 June, Troop A operated 41 armored vehicles. Nine were M48 tanks with 90-mm guns, 29 were M113 armored cavalry assault vehicles (ACAVs) of which two were radar vehicles and two more were flame-throwing tracks, plus an armored recovery vehicle and two engineer dozer tanks. Each platoon had three M48 tanks and seven ACAVs. The platoons sometimes had tank dozers and flame-throwing ACAVs attached.

Experience taught the troopers to seek self-sufficiency on the battlefield. They knew they would be reinforced if they started a battle, but they also knew the reinforcements might be slow in coming. Thus they carried an astounding load of ammunition.

The main weapon on the ACAV was a .50-caliber machine gun protected by steel plate shields which swiveled with the gun. For these, 2,000 rounds of ammunition were stowed.

On the left rear deck was a shielded M60 7.62-mm machine gun for which 7,500 rounds were stowed. The M79 40-mm grenade launcher was provided with 90 rounds. Besides the grenadier and two gunners, the other two members of the crew were the driver and an ammunition handler. The entire floor of the ACAV was covered with ammunition boxes—in some places two deep.

The M48A3 tanks stowed 1,050 rounds of .50 caliber; 6,000 rounds of 7.62 mm for the coaxial machine gun; and 62 rounds for the main gun—primarily high explosive and canister. With 73 machine guns and nine tank cannons plus two flame-throwing vehicles, Troop A was a formidable fighting machine.

Early on 8 June, Troop A left Phu Loi en route to An Loc with a refueling stop scheduled at Lai Khe—the base of the 1st Division's 3rd Brigade. To avoid mines, Capt. Sturgis stayed away from main roads choosing dirt tracks and even an old railway road bed. Even so, ten kilometers out of Phu Loi the lead tank hit a mine. The damaged track was trussed and the tank returned to Phu Loi with an ACAV as escort.

Arriving at Lai Khe at 11 A.M., Troop A refueled, ate some combat rations and moved on. The 2nd Battalion, 18th Infantry (2/18), commanded by Lt. Col. Herbert J. McChrystal Jr. and standing by helicopters at the Lai Khe air strip, was the prime reaction force if Troop A became engaged. Soon after Troop A left Lai Khe, 2/18 was lifted to An Loc—closer to the most likely engagement area.

The 3rd Brigade air liaison officer, Capt. Richard Wetzel, flew over the column in an O-1 Bird Dog aircraft acting as a forward air controller. Capt. Wetzel was in communication with the Bien Hoa fighter base and both 1st Squadron and Troop A, 4th Cavalry.

Supporting artillery was in place at An Loc, and the South Vietnamese 155-mm artillery at Chon Thanh had been brought into the fire request loop. From Lai Khe to An Loc, South Vietnamese road security was to be provided by 5th ARVN Division.

The cavalry squadron commander, Lt. Col. Leonard L. (Lee) Lewane, flew over the column in an OH-13 observation helicopter. He vectored the lead tank along a cross-country course parallel to Route 13 to avoid further mining mishaps.

Col. Lewane was a striking commander—close-shaven head, open face, strong physique, flashing eyes and energy oozing out of every pore. Since the legendary Bvt. Maj. Gen. Ranald S. Mackenzie who, as a colonel, led the regiment against the Apaches, Kiowas, Commanches, Arapahos and Cheyennes in the frontier wars, there had not been a more valiant and dashing leader of the 4th Cavalry—the best regular Army cavalry regiment in the Indian campaigns. (The 7th Cavalry was better known after the Little Big Horn, but the 4th was not envious.)

The order of march was 3rd Platoon plus one flame track (Lt. Lake), troop headquarters (Capt. Sturgis in his command track, 1st Sgt. Pepe in a radar track and one flame thrower); 2nd Platoon (Lt. David Kinkead); 1st Platoon with one dozer tank (Lt. Louis L. Boualt), followed by the troop executive officer, Lt. Ronald Copes, and the trail party with an armored vehicle-launched bridge, the maintenance track and an M88 retriever.

It was the habit of the cavalry to ride on top of its vehicles whenever possible. The cavalry feared mines more than enemy fire, and the heat inside was nearly unbearable, running a minimum and humid 110 degrees.

The column reached Chon Thanh around 1 P.M. From there northward, it was necessary to move on Route 13.

Most large trees had been cleared back from the road 100 feet or more by wood cutters in the charcoal business, but secondary growth touched the shoulders in many places.

There were a few cleared areas scattered along the route. The country was generally low and wet with water in deep ditches along most of the road.

Beyond Chon Thanh, the ARVN security force was nowhere to be seen. Civilian traffic had disappeared totally.

Lt. Lake remembers that suddenly the whole atmosphere became tense and ominous. Some of his scouts reported seeing figures lashed to the tree tops.

Radio reports of furtive movement and brief sightings rippled over the troop net. Lt. Kinkead says that there were reports of sniping, and one trooper was hit in the arm. The cavalrymen began to slip down behind their weapons.

Shortly after 2 P.M., the lead tank of the 3rd Platoon approached the railroad crossing and a mine exploded, taking off the right track and sending up a column of black smoke.

It was standard practice in the 4th Cavalry to "herringbone" upon contact: alternate vehicles faced outward at 45-degree angles. Lt. Lake's lead tank reported the mine and that his tank was disabled and under heavy fire. His scouts reported heavy contact and a higher open space on the east side of the highway.

Lt. Lake tore off his armored vehicle crewman's helmet with the earphones which had kept out the sounds of battle. He immediately realized that his platoon was under intense fire by a variety of weapons.

The 3rd Platoon began to jockey toward the cleared area while engaging the charging VC with every available weapon.

The VC commander of the 272nd had deployed his regiment with the skill and cunning to be expected of a veteran of many battles. He knew about the plans for the American move up Route 13 from VC agents embedded in the ARVN units ordered to provide road security.

Whether he knew it would be armored cavalry is not clear. He moved into the attack position after dark on the 7th. His troops dug foxholes along the old rail bed. The ambush area was at the maximum range of the artillery at Chon Thanh and An Loc.

The foot and trigger of the "L"-shaped ambush was occupied by the 272nd's reconnaissance company. The long axis was organized with three battalions abreast—1st, 2nd and 3rd, from north to south.

The position extended from the railroad crossing almost to the bridge at Ap Tau O—about three kilometers—just the length of a cavalry troop moving with 75-meter intervals between vehicles.

When the reconnaissance company opened fire, it was the signal to the three battalions to assault the column. The numerical odds were nine to one—135 men in Troop A, 1,200 in the 272nd Regiment.

When the battle opened, Lt. Lake's 3rd Platoon had been stopped exactly where the 272nd's 1st Battalion wanted them—in the first kilometer south of the crossing. Thus, the VC attack carried in among the armored vehicles.

The fact that Lt. Lake's scouts reported the open area to the east saved his platoon. Nonetheless, it was touch and go for the first 30 minutes.

The lead tank could not move. VC attempting to climb aboard were shot off by ACAVs moving to the nearby clearing. This tank fought the entire engagement in its exposed position.

Sgt. Joseph Listle who commanded that tank quickly noticed the devastating effect of canister rounds on the VC who were exceedingly numerous in his vicinity. He reported this encouraging fact to Lt. Lake.

As the 3rd Platoon jockeyed into the clearing shooting VC off their companion vehicles, they acquired a little fighting room. The VC must have anticipated such a move, though, because the 3rd Platoon was immediately hit by an intense 80-mm mortar barrage.

Lt. Lake's platoon sergeant, Richard Lanham, was firing his tank-mounted .50-caliber machine gun at the surging VC when the link chute jammed. PFC Avery G. Smith then went out on the rear deck with an M79 grenade launcher to hold off the VC while Sgt. Lanham leaned over the side to clear the chute.

The intrepid PFC Smith kept the VC away from his sergeant and then saved his life by shielding Lanham from a mortar round which fell on the tank. PFC Smith was awarded the Distinguished Service Cross posthumously.

To add to his other difficulties, Lt. Lake's ACAV backed into a wet ditch and stuck there. He worried that he would be an ineffective platoon leader while stuck in the mud, so he ran to the nearest vehicle which contained Sgt. Merle Slater's mortar squad.

Lt. Lake climbed in and, using the radio, regained control of his platoon. Sgt. Slater then politely told him he was standing on the body of PFC Pendergraft, who had been the best mortar man in the troop.

During this time, 3rd Platoon also lost Sgt. Rummel, the leader of the scout section.

Lt. Lake called him the best sergeant he had ever known—always a leader.

While Lt. Lake was fighting for his life, Capt. Sturgis ordered Lt. David Kinkead's 2nd Platoon to move north and link up with Lt. Lake. 2nd Platoon moved rapidly, hosing down the west side of the road with their machine guns as they moved.

As he approached 3rd Platoon, Lt. Kinkead saw some room on the east side of the clearing to which Lt. Lake had repaired under great pressure and with some disorganization.

Part of 2nd Platoon went in on the east while part intermingled with 3rd Platoon where they clearly needed help. Within moments, 2nd Platoon was also fully engaged.

Just after sending Lt. Kinkead forward, Capt. Sturgis, accompanied by the vehicle of 1st Sgt. Pepe and a "Zippo" flame thrower vehicle, was hit broadside by a 75-mm recoilless rifle round.

Sp.4 James Dempsey was wounded while in the driver's seat. When the ACAV came to a grinding halt, Sgt. Thomas Saporito quickly pulled Sp.4 Dempsey back onto the floor and took over the driving chores himself. While Sgt. Saporito was settling into the driver's seat, another 75-mm round hit the command vehicle.

This time SFC Albert Armitage spotted the weapon and killed the crew with the .50-caliber machine gun.

Jinking from right to left to avoid another hit, Sgt. Saporito could not see another 75-mm weapon setting up to finish him off, but SFC Armitage did and swung his .50-caliber around to engage.

SFC Pearson Cole, following in a Zippo, also saw the VC. His driver gunned forward while SFC Cole aligned his flame thrower.

Before the VC could get off a round or Armitage could fire, the 75-mm crew was consumed in a stream of liquid fire. Capt. Sturgis then moved north to the laager. On the way, 1st Sgt. Pepe's ACAV was hit twice and the top kick was wounded.

In the meantime, Lt. Kinkead's arrival at Lt. Lake's position was very helpful. The combined firepower began to force the VC back to the west side of the road. Lt. Kinkead ordered his tanks to fire canister and aim low at the tree line.

Just as Capt. Sturgis came up, Lt. Kinkead's second in command, Platoon Sgt. Robert A. Jackson, was gravely wounded by a mortar round. His .50-caliber machine gun was destroyed. Capt. Sturgis, not knowing all this, asked Lt. Kinkead to go back and help 1st Sgt. Pepe.

Lt. Kinkead started back south on Route 13 when he suddenly realized his external radio might be hit, so he picked it up and placed it on the floor of the ACAV.

As he bent down, a 75-mm round hit exactly where his head had been. It rocked the vehicle up on one track and knocked him to the floor. Recovering from that shock, he pulled up beside 1st Sgt. Pepe's disabled vehicle.

The lieutenant and his medic, under fire, removed 1st Sgt. Pepe to their own vehicle while a lightly wounded trooper also made it across under his own power. They then returned to the laager.

The 1st Platoon, under Lt. Boualt, was third in line following Lt. Kinkead. About one kilometer south of the Ap Tau O bridge, the engineer dozer tank with the 1st Platoon pulled into the roadside ditch and stuck fast.

At about the same time on the southern approach to the bridge, an ACAV dropped out with mechanical trouble. Platoon Sgt. Eugene F. Blair, in a tank, radioed to Lt. Boualt that he would stay with the ACAV for security.

Shortly after 1st Platoon passed the bridge, the battle broke out up front. Lt. Boualt could hear the firing but could not raise Capt. Sturgis on the radio. Nonetheless, he decided to move toward the sound of the guns. Capt. Sturgis at that time was no doubt busy receiving 75-mm recoilless rifle rounds from the VC.

At this time, 1st Platoon was passing across the front of the 3rd Battalion of the VC 272nd Regiment. As it moved north with two tanks and six ACAVs, 1st Platoon received fire from the west to which it vigorously responded.

Soon, however, Lt. Boualt was surprised to find large numbers of VC moving parallel to his course 50 to 100 meters west of the highway. These VC were obviously more interested in moving north than in fighting. He assumed that this was the 2nd Battalion of the 272nd sideslipping north toward the troop laager which was then forming opposite the VC 1st Battalion.

The 1st Platoon was able to inflict some damage during this running gunfight, but its greatest contribution came as the stream of VC veered toward the road hot on the tail of Lt. Kinkead's platoon just then closing in the laager.

The VC presented their flank to Lt. Boualt, and he laced them with the fire of all his weapons. This flanking fire must have been galling to the VC as they turned viciously on the 1st Platoon.

As Lt. Boualt reconstructs the situation, he was about 500 to 800 meters south of the laager and generally on the hard top of the road. He was hard-pressed. One ACAV was hit and the crew evacuated. Another ACAV was totally destroyed.

The VC entered and drove off the first of these and then left it in the edge of the nearby jungle. This left the platoon with four ACAVs and two tanks, one of which promptly received a mortar round inside the turret leaving only the stunned driver alive and setting a fire in the engine compartment.

Lt. Boualt revived the driver and instructed him to back into a nearby stream to extinguish the fire. This tank remained partly under water for the remainder of the day.

Lt. Boualt describes the configuration of the troop at that time as similar to a tadpole—he was the tail. His five remaining vehicles fought it out for the remainder of the battle in that position. Around 5:30 P.M., he closed into the southern sector of the laager.

Lt. Boualt remembers that PFC Peyton, his conscientious-objector medic, ran from vehicle to vehicle patching up troopers regardless of the fact the area was crawling with VC.

When PFC Peyton observed that a group of VC were trying to kill some of his patients, he turned an idle M60 machine gun on them—telling Lt. Boualt afterward that this was a one-time deviation from his noncombatant duties.

PFC Peyton had a busy day because 1st Platoon had six troopers killed and 14 wounded out of their starting strength of 40 men.

In the laager, Lt. Lake had his own conscientious objector named Sorenson who also went from vehicle to vehicle tending the wounded of 3rd Platoon. Lt. Lake cannot figure for the life of him how Sorenson survived unless of course the source of his conscience made some special dispensation.

By 3 P.M., Troop A minus the 1st Platoon had coiled like a Texas rattler under attack and the VC were aware that it was a very dangerous adversary; however, the 272nd kept coming.

The continuous fire fight was punctuated by surges of fire and movement as the VC commanders called on their troops to try again and again to wipe out this obstinate band of Americans.

During this long fight, Col. Lewane in his helicopter and Capt. Sturgis on the ground combined with Capt. Wetzel to bring in tactical air strikes on the 272nd with enormous effect. The road and railbed provided excellent reference points for the F-4 and F-100 pilots.

Within two hours, Capt. Wetzel directed about 24 flights totaling 43 aircraft against the whole line of VC. Capt. Wetzel was a seasoned forward air controller and the Bien Hoa pilots were old hands.

Bombs, napalm and cluster bomblets blistered the area west of the road. Troop A was more than willing to share honors with the Air Force.

From the beginning of the engagement, Troop D of the 4th Cavalry, the air cavalry troop, kept relays of helicopter gunships working the enemy's flanks and rear.

With his uncanny instinct for impending battle, the division artillery commander—Col. Martin Camp—had positioned Lt. Sam Floca at Chon Thanh to ride herd on the 155-mm guns.

He was a good choice. When the fight started, the South Vietnamese battery commander refused to fire on the grounds that South Vietnamese infantry were in the area on security duty. They had, of course, long since departed.

Lt. Floca drove the 155 battery into action at gunpoint. Later when they reached their ammunition expenditure allowance, he convinced them they should continue to fire. As a result,

Lt. Gary Arnold—an artillery aerial observer—fired a number of critical missions during the heat of the battle.

The guns of the cavalry, combined with the artillery and fighters, drove the 1st and 2nd battalions of the 272nd back to the west. Col. Lewane directed 2/18 Infantry to land to the north and sweep the west side of the highway, but the closest landing zone was almost four miles north, and 2/18 arrived after the show was over.

On two occasions in the heat of the battle, Col. Lewane landed his fragile OH-13 inside the laager under heavy fire. He wanted to eyeball his troops and determine the state of their ammunition supply. He walked from vehicle to vehicle and found the troops full of fight and with plenty to shoot. His presence in the thick of battle was just what the troopers expected of their commander.

In the meantime, the 3rd Battalion of the 272nd, except for the passage of 1st Platoon across their front, must have felt left out, and that brings us to Sgt. Blair with his tank and the damaged ACAV at the bridge.

Blair and his two crews had repaired the ACAV and were about to start north to join the noisy battle up the road when elements of the VC 3rd Battalion slipping to their right opened fire from north of the bridge. Fortunately for Blair, he was separated from the VC by the stream and a wide stretch of swamp grass.

The VC began to work south on Blair's west flank. He kept them under fire with his two .50-caliber machine guns and doses of canister from the tank gun.

It then occurred to Sgt. Blair that some air support might come in handy. He called Capt. Sturgis who sent Capt. Wetzel to help, and soon the VC were treated to a heavy dose of napalm and cluster bomblets which must have been very discouraging as the VC fire dropped off sharply.

Just as Blair was feeling better about his situation, though, he spotted two VC setting up a 75-mm recoilless rifle on the hard top of Route 13. Then two more appeared with some ammunition. Blair took a dim view of this development, called for canister, traversed his main gun to the right and fired.

The VC and their gun were cleanly swept off the road. Not a bad performance for an infantry sergeant who had never fought in a tank before. When the VC broke contact, Blair had one round of main gun ammunition left.

Capt. Sturgis was also feeling better. The fight was still on, but he knew he had won it. His boss landed again, went to several fighting vehicles and checked the ammunition supply and the condition of the troopers.

Still satisfied on both counts, he agreed with Capt. Sturgis that the trail party should come forward. Capt. Sturgis called Lt. Copes on the troop net and told him to move up.

Lt. Copes had two ACAVs, two repaired tanks and the M88 recovery vehicle. Just as Lt. Copes came up to the stuck engineer dozer tank, Col. Lewane landed his OH-13 nearby.

Lt. Copes and Col. Lewane went to the dozer tank expecting to find the crew dead or missing; but to their astonishment, the hatch opened and out came four very happy engineers.

Col. Lewane remembers that he had an eerie feeling when he landed. It was too quiet. The engineers reinforced his concern when they said they had been fighting VC for over an hour. The M88 pulled the dozer out of the ditch and, as Col. Lewane took off, Lt. Copes started north.

Col. Lewane circled one time, saw the lead tank stop, saw smoke, heard a large explosion and realized Lt. Copes now had his own private war.

The driver of the lead tank, Sp.5 Hugh Oliver, was wounded by the mine and crawled up on the turret just in time to be blown off onto the road together with the tank commander, Sgt. Charles Norris, by the impact of a VC 75-mm round.

The remainder of the trail party then closed on the lead tank with all guns blazing. Sgt. Norris started to pick himself up from the roadside when he saw an automatic rifle lying nearby. He grabbed it only to find a VC on the other end. His hands had been badly burned and the VC won the tug of war.

His adversary then broke for the jungle, and Sgt. Norris ran to Lt. Copes's ACAV. He climbed into what he thought would be a safe refuge only to find a trooper inside loading M16s and handing them up to the lieutenant who was emptying them at the nearby VC.

One very unfriendly VC then ran up to Lt. Copes's vehicle and flung a grenade through the hatch. Lt. Copes, who is as courageous as he is big, flung it back and before it went off put some bullets into that brave but impertinent Vietcong.

The grenade then went off and cleared the enemy for some distance around. When the fighting subsided, Lt. Copes ordered his small army forward leaving the lead tank smoldering on the road. Lt. Copes picked up Blair and his two vehicles at the bridge, and the six armored vehicles closed the Troop A laager about 5:30 P.M. without further adventure.

The battle was over. Many troopers had shed their flak jackets, and some were stripped to the waist. The heat in the fighting vehicles with engines running, guns firing and tension running high for over three hours was indescribable.

Lt. Lake remembers that a dozen or so troopers were standing within the circle of vehicles talking and cooling off when two enemy soldiers in North Vietnamese uniforms and holding rifles popped out of a ditch just 15 feet away. Someone cut them down.

Troop A held the field of battle but the price was high. The platoons mourned their dead and evacuated their wounded. There is no exultation among soldiers at the end of such a battle. Twelve troopers were killed and 33 wounded. The engineers lost two more killed and four wounded. Troop A went into battle with 135 men and lost 51 (14 killed and 37 wounded).

The 272nd Regiment lost most of its 1st Battalion including its commander, about half of the 2nd Battalion and some of the 3rd. On 9 June, "Hanoi Hannah" offered rewards for killing or capturing any officer from Troop A, 4th Cavalry.

The Air Force delivered 13 tons of high explosive bombs, 14 tons of napalm, seven tons of fragmentation bombs and 24 canisters of cluster bomblets.

On 9 June, Troop A moved to An Loc under its own power with 40 of its original 41 armored vehicles. After Ap Tau O, the U.S. command in Saigon sent to the United States for more armored units whose utility had been established beyond any doubt.

For the battle on 8 June and two larger but not tougher battles with the 9th VC Division which followed in June and July, the 1st Squadron, 4th Cavalry was awarded the Presidential Unit Citation. The troopers of Mackenzie's old Indian fighting regiment would have understood and been proud.

One last event on 8 June tells us more about the 4th Cavalry than such awards could possibly convey.

Back at the scene of Lt. Copes's war, Sp.5 Hugh Oliver, the driver of the abandoned and smoldering tank, regained consciousness as he lay in the roadside ditch, sorely wounded and blinded in one eye. He heard VC talking all around him. He could see his tank ten feet away. Incredibly, the engine was still running.

Sp.5 Oliver crawled to the tank, climbed into the driver's compartment and drove away. As evening began to fall, troopers at the laager saw a lone battered and smoking tank drive up Route 13 and into their lines with a bloody head sticking out of the driver's hatch. They let out a cheer and sent Hugh Oliver off in a medevac chopper.

17

Highfield
23 May 87

Dear Max:

Dave Meade called to ask me to put down some thoughts on the question of the Fixed Regiment versus the Flexibly Organized Brigade. As usual, there are debating points on both sides of the issue. When looked at in the narrowest context, the pros and cons for each are nearly a wash. However, there are larger and deeper issues involved and I shall try to bring them forth in the (probably) rambling discussion below.

First off, we have had considerable experience with these alternatives. There should be no mystery involved. And the idea of going back to regiments, or more exactly, to Regimental Combat Teams (RCTs) evokes memories as recent as the 1950s. I use "Regiment" to make the distinction easier to handle, but there is one very large difference in the new version of the RCT — the artillery battalion is also organic. This was not done in WWII and for good reasons — more later on that.

There are some things to remember about our experiences with the alternatives. In World War II the infantry was organized on fixed lines and armor on the flexible model. Within Infantry divisions, cross-attachment was limited, normally, to the assignment of a tank platoon and a TD platoon to an infantry battalion. On rare occasions (the breakout from Normandy) tank companies were sometimes attached to battalions and whole tank battalions to a single Regiment. This happened in my Regiment during the move from Avranche via Mayenne to Le Mans.

But the tanks and tank destroyers were somewhat akin to accompanying guns a la the Civil War mode. The WWII RCT also included (on an attached basis) an engineer company, a medical collecting company, and a Direct Support artillery battalion. The most useless appendage of the regiment was its poorly trained, unintegrated cannon company (its own artillery). RCTs were almost always assigned zones of advance and sectors of defense delineated by boundaries. The

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The Maxwell R. Thurman Papers. Box: CG, TRADOC, Official Letters 1987, June-July. Folder: Official Letters, July 1–10, 1987. U.S. Army Military History Institute, Carlisle Barracks, PA.

division commanders concentrated forces by narrowing boundaries at the "Schwerpunkt" and widening them in economy of force elsewhere.

The RCTs were known quantities — never changed — developed internal team work — stayed within their boundaries and slogged and slugged it out. The DS artillery was for all intents and purposes organic except it was part of a larger, highly professional, artillery organization which could exploit the full potential of the division artillery and supporting Corps battalions by concentrating all fires when desirable and necessary. Div Arty lightly influenced tactical deployment of the DS battalion, with potential concentration in mind, but the hand of Div Arty was never visible to the Infantry except when the Infantry wanted more fire. Therefore, Div Arty was a positive, not a negative, influence. Infantry battalions routinely received supporting fires from one to three battalions and in a crunch, five to ten.

The Germans used the system, now being proposed by certain groups in which the artillery was organic to the Regiment. German artillery was inferior to US artillery in quantity and in quality — especially, the quality of its tactical and technical fire direction — Thank God! In WWII US Army artillery was the most professional element on the battlefield — sometimes the only professional element.

In the armored divisions, which were drastically streamlined in 1943 after the North African experience, there were only six maneuver battalions — three tanks — three armored infantry. These six battalions, plus the armored artillery, the armored engineers, medics, and combat trains were "brigaded" flexibly into Combat Commands of which there were three. CCA and CCB were the principal combat commands. One commanded by a brigadier the other by a colonel. CCR was formed "to march the reserve." It also was to "reconstitute" broken battalions.

The theory was that the two main combat commands would be tailored to the tactical jobs. As time went on, certain battalions became aligned with certain combat commands, all else being equal. However, when tactical circumstances required, the battalions were shifted as necessary. Usually a combat command had both tanks and armored infantry. In some divisions CCR was used habitually as a third brigade. And thus, a pattern of one tank and one Armored Inf Bn (AIB) per combat command emerged for routine work.

In Vietnam the infantry was organized under the ROAD concept. Brigades were Combat Commands. For routine work — i.e., area patrolling or even pacification, some divisions left the same set of battalions under the same brigade for long periods. Some brigades were "fixed" for

special operations — i.e., the Riverine brigade of the 9th Div and the 3rd (airmobile) brigade of the 9th under Hank Emerson, etc.

When divisions were employed offensively over long periods in highly mobile configurations, the brigade concept was extremely useful and widely used. In the First Division in battles in the Rubber plantation and along Route 13 in 1966-67, the battalions were continuously scrambled amongst the brigades purely on the basis of need and availability. The First Cav tended in the same direction during intensive operations where flexibility is absolutely required. As a stepping stone into the subsequent discussion, let it be noted that the flexibility of the brigade system is the most necessary and most often used in fast-moving, far-ranging mobile operations in which the division plays a central and active role.

In the heavy divisions — today — in Europe etc., the brigade composition tends to be more fixed than flexible, simply out of the basing mode and the relationship of the basing to the GDP. Furthermore, the sectors are wide and the brigades fight semi-independent battles. The flexible use of the brigade concept occurs mostly in large exercises, CPXs, and wargames. Nonetheless, European practice more or less fixes brigades in terms of their initial sectors and missions. There is a natural tendency also to keep brigades together because of the relationship between the Bde commander who trained them and the battalions which have partaken of his style and standards.

Something must be said about cross-attachment at Battalion level. For many years it was the pattern to put a rifle company (mech) with tank Bus to give them security at night, in fog, in forests, towns, and a capability to reduce stubborn strong points. Conversely, it was customary to put a tank company with a Mech battalion to give it punch. Furthermore, with wide sectors each battalion fought an independent battle at the outset and required a combined arms team.

The National Training center has led to a general pattern (in CONUS) of cross attaching on the 2 x 2 pattern — that is, two tank and two Mech companies in every heavy battalion. This practice is an artifact of the NTC tempo of operation. The Army in CONUS which is greatly influenced by the NTC exposure has apparently concluded that there isn't time — in the face of an OPFOR blitz — to rearrange the task organization in the middle of the NTC ordeal.

Thus we see the inadvertent emergence of "universal battalions." Not a perfect answer for any one mission but on the average better organized for a set of operations. This recent development has profound implications for the subject of fixed versus flexible brigades.

Consider the fact that if such a system were installed Army-wide brigades would not only be fixed but would be essentially the same in balance and capability as would each battalion within them. The direct consequence of this trend would be to deny the option of selective task organization for each mission in order to be prepared, generally, for any mission. THIS IS THE CENTRAL ISSUE.

The Army would be wise to move carefully on this issue and devote to it much thought and discussion. Let us consider the conditions in which the flexible concept has great advantages:

- There will be times when a critical piece of terrain must be seized by dismounted infantry to prepare the way for an armored advance. Given the fact that Mech platoons will dismount no more than 20 men (less after casualties) it may often be necessary to use an entire infantry battalion to get the job done. The terrain may make it impossible to provide direct fire overwatch from the armored vehicles during the toughest phases of the dismounted attack.
- Conversely, it may well be undesirable to tie down any tanks in a battalion level strong point (blocking position, etc.) on a key piece of terrain too large to be held by a single rifle company.
- Correspondingly, it may be essential to mass the tanks in large numbers to effect decisive maneuver around and between these infantry held strong points.
- On the third day of the war when Soviet (Warsaw Pact) forces have achieved some unexpected but threatening advances, the defenders will be in a mad scramble. Division commanders will be grabbing battalions from sectors without penetrations and will be throwing them into brigades in critical sectors or into ad hoc counterattacks by suddenly created task forces (Kampf-Gruppen). It is inevitable. Study the German response to attacks by larger Soviet forces.
- River crossings by dismounted infantry when Bradleys acquire reactive armor and cannot swim in the assault.
- Light brigades relying on ATGM sent off to screen a dangerous flank or cover a wide area for economy of force as contrasted with brigades heavy in tanks for the decisive maneuver.

Consider that a brigade commander with all 2 x 2 battalions in a fixed brigade can redraw boundaries to create concentration but the tool of task organization — tailoring to the mission — is no longer his, ___ would it be available to a Division Commander with Fixed Brigades.

In World War II it was not only unpopular but often disastrous to move battalions from one regiment to another. It led to recriminations and reluctant compliance. The battalion of the 1st infantry attached to the 2nd infantry was given "the toughest job; the least support; the most casualties, etc., etc., etc." It is a mental hang-up.

There are two contrasting visions of future battle extant today. I exaggerate slightly to make a point.

The first embraces the "Islands of Combat" vision of Air Land Battle 2000. Self-contained battalions and brigades scattered across the terrain commanded by new-model Lt Col's and Col's following the intent of their higher commander who: practice AUFTRAG — display initiative — move rapidly — operate inside the enemy's decision cycle — win battles.

The second view starts with all that — recognizes that the cruel fighting has always been done by battalions but also believes:

- Battalions fight at places and times determined by the intent of the high commander (Divisions and Corps).
- Success depends upon whether those battles at those times and places are taking place within the context of the Blue commanders concept or the Red commanders concept, and
- whether these battalion level and brigade level battles are key sub-plots in a larger scenario or theme including to the extent possible:
  - an aggressive supportive intelligence operation which will also determine who operates inside who's decision cycle.
  - a battlefield interdiction operation working over the enemy's reserves and mass of maneuver including BAI and deep fire by rockets and missiles.
  - a counterfire operation which focuses on that enemy artillery which threatens the execution of the concept of operation.
  - an EW operation focused on enemy units to be destroyed at the Schwerpunkt.
  - Air Defense rules of engagement and air space management controls so intimately tuned to the "Concept" that enemy attack aviation is repeatedly led into missile ambushes and, so chastened, adopts less effective techniques of attack which increases the freedom of maneuver for our side.

- The concentration of supporting fires (DS and GS arty, attack helos, CAS) in precise synchronization with key movements (attacks-counterattacks).
- The reinforcement of terrain by engineers placing or removing mines and obstacles in strict accordance with the unfolding scenario.
- The conduct of SEAD etc., etc., etc.

I see the division as a hands-on player. Thus, I tend to come down on the side of flexible organization. I would like to believe that the new-model U.S. Army will be good enough to tune-up for a succession of successful battles — several each day at Division level — producing lop-sided victories.

To achieve that standard we need to maintain the current emphasis on maneuver and add greater emphasis on the exploitation of the vertical functions (mission areas), (collateral arenas of combat).

In this context I oppose cutting loose independent brigades and battalions to go it alone on a battlefield where the enemy is trying his best to put it all together.

Also in this context I worry about any organizational step which interrupts or short-circuits the vertical supporting systems.

Finally on the artillery. I suggest — once more — that the Army consider the implications of the battle of the 2nd Bn 26th Infantry at Butgenbach at a critical early moment in the Battle of the Bulge. That battalion was supported by the division artilleries of the 1st, 2nd, and 99th divisions plus some Corps battalions. Read Charles McDonald's excellent account! Let us do nothing to diminish our ability to do that again should it be necessary.

My dear Max — as usual when you just asked for the time of day you were told how to make the whole watch. Such are the pent-up thoughts of this old soldier.

Warmly and respectfully.

Bill D.

18

Our Experience in Vietnam: Will We Be Beneficiaries or Victims?

By Gen. William E. DePuy
U.S. Army retired

We may never fight another war quite like the one in Southeast Asia, but it had lessons for us that could have important bearings on the outcome of future confrontations.

The end of the war, when it came, was brutal and abrupt. On 3 April, 1975, more than two years after the last American forces had withdrawn from Vietnam, Gen. Van Tien Dung, senior field commander of the North Vietnamese army (NVA), arrived at his new headquarters just west of Loc Ninh. He had been sent by Hanoi to win the final battle of the 30 years war. Fresh from his victory at Ban Me Thuot and the total defeat of Saigon forces in the center of the country, Gen. Dung had been appointed as commander of the Ho Chi Minh campaign and all communist forces in the southern half of South Vietnam. The rest of the country was already in the hands of Hanoi.

Gen. Dung motored to Loc Ninh from Ban Me Thuot along the new eastern branch of the Ho Chi Minh Trail. He was accompanied by a senior official of Group 559, a construction and transportation command chartered by Hanoi in May of 1959 (yes!—May of '59) to develop and operate a modern network of roads and waterways to move and supply large military forces. By 1975, the Ho Chi Minh Trail included 20,000 kilometers of eight-meter wide, all-weather roads, a 5,000-kilometer pipeline terminating at Loc Ninh; Group 559 operated 10,000 trucks on this enormous line of communication.

At Loc Ninh, Gen. Dung found the advance party of his campaign headquarters and elements of COSVN (Central Office South Vietnam), the B-2 Theater, and Military Region 7. All the lines of command came together at Loc Ninh. A troop of motorcycles carried officers from section to section in the widely scattered command post. Telephone cables festooned the rubber trees while scores of electric generators provided power for illumination and dozens of radios which connected Gen. Dung with the forces converging on Saigon.

Gen. Dung picked up a phone and was put through to Hanoi. He reported his arrival and discussed deployment schedules and priorities.

The North Vietnamese general was in the process of assembling five army corps comprised of 17 divisions and was backed up by a strategic reserve of at least three more NVA divisions. These corps also contained artillery and armor brigades, air defense, signal, engineer and service support units. Six specially trained sapper regiments (commandos) already lay concealed up against the defensive perimeter of the capital city.

From *Army* 37, no. 6 (June 1987): 28–41)

Gen. Dung's concept of operation was simple and overwhelming. He would attack Saigon and destroy the government of South Vietnam by a concentric attack with five corps-sized forces and a strong detachment from the Delta. Map 1 depicts the major features of his plan:

I Corps (three divisions) attacking from the North to seize the Joint General staff compound and the High Command of the Army of the Republic of Vietnam (ARVN).

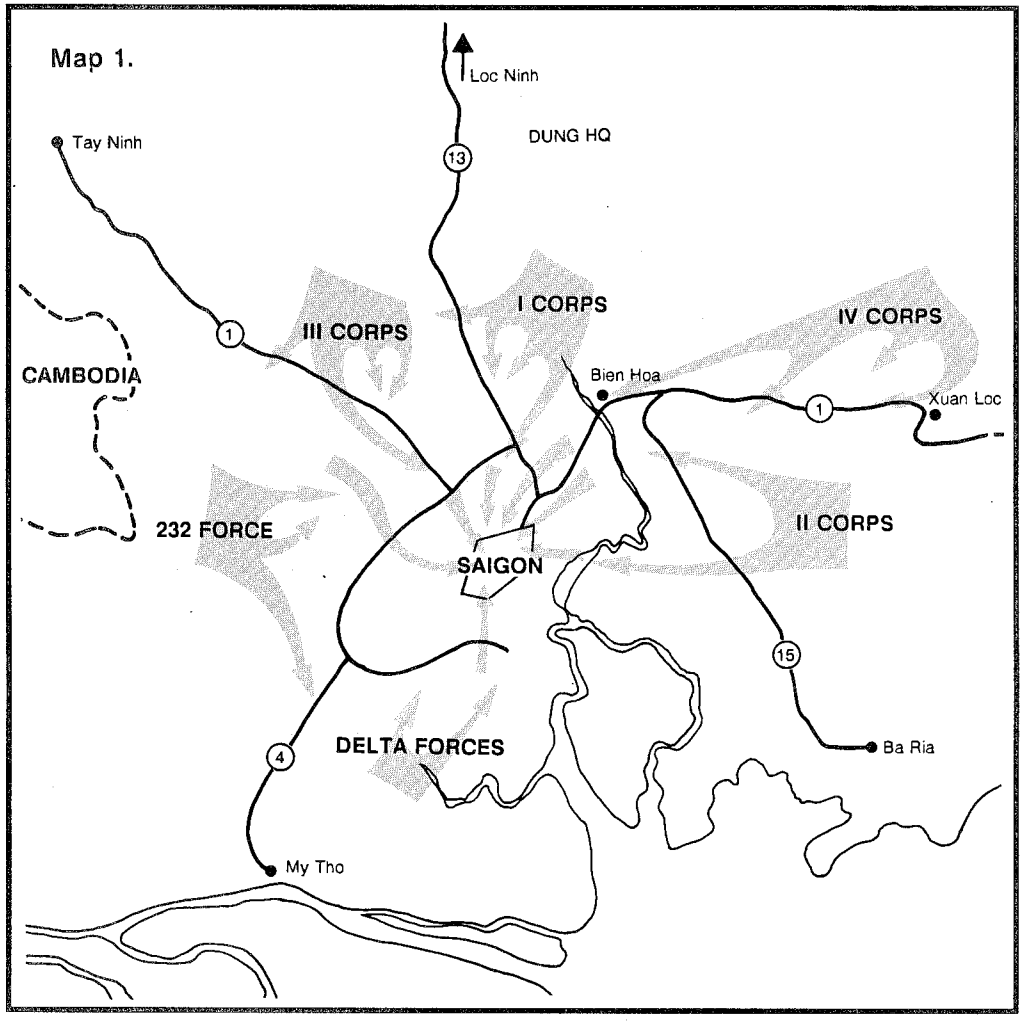
II Corps (four divisions) attacking from the southeast to seize eastern Saigon and the ports.

III Corps (three divisions) attacking from the northwest to seize Tan Son Nhut airport.

IV Corps (three divisions) attacking from the northeast to seize Bien Hoa air base, the Dong Ngai bridges and the Tu Duc Training Center.

232 Force (four divisions) attacking from the west to seize the headquarters of the Saigon Defense Command and of the national police.

Zone 8 Force (two regiments) attacking from the south to seize the southern precincts of Saigon.



When Gen. Dung arrived at Loc Ninh, III NVA Corps was on its way south (see Map 2) from its triumph in the Highlands with the 10th, 316th and 320th divisions. The 10th Division was formed from the regiments that fought the U.S. 1st Cavalry Division in the valley of the Ia Drang River and fought bitter campaigns with the U.S. 4th Division west of Kontum. The 316th Division had spent 20 years fighting in Laos. The 320th Division came from earlier battles with U.S. marines along the demilitarized zone (DMZ).

IV NVA Corps had been formed in the region of Saigon consisting of the former Viet Cong 6th and 7th divisions and the 341st NVA. This corps was sent against Xuan Loc on 9 April to clear the northeastern approaches to Saigon. The South Vietnamese government saw this battle as decisive. Half of the infantry of ARVN III Corps and 60 percent of its artillery plus marines, airborne and Ranger troops from the general reserve were thrown in. A stalemate developed. On 18 April, IV Corps sent the 341st Division around to the west of Xuan Loc along Route 1 and also ambushed the escape routes to the south. On the 20th the defenders fled, were ambushed, and Xuan Loc fell. The IV Corps proceeded west toward Bien Hoa and Long Binh.

The II NVA Corps moved south along the coast on Route 1 after its total victory over Saigon's I Corps at Da Nang. By 19 April, the II Corps with 304th, 324th and 325th NVA divisions and the 3rd Division from Military Region V had crushed resistance in its path and motored at high speed to Xuan Loc. On 20 April, II Corps turned southeast to its attack positions for the Saigon battle. (The 304th Division gained its fame by seizing strong point Isabelle at Dien Bien Phu. The 324th and 325th NVA divisions specialized in positional warfare against the U.S. marines and ARVN in the northern provinces of South Vietnam).

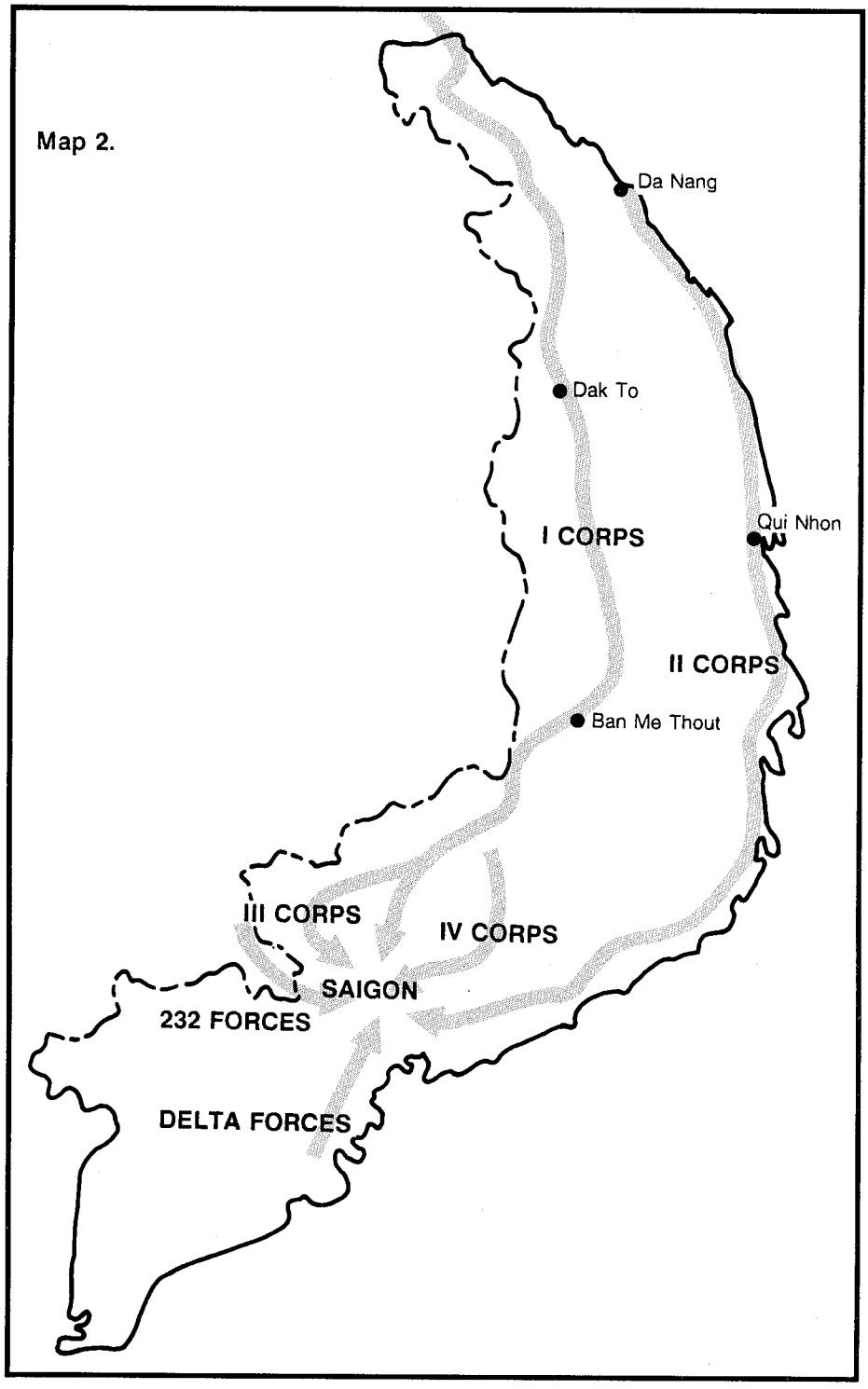
To the west of Saigon, a corps force of four divisions was deployed in the open terrain between the Parrot's Beak and the outskirts of the city. It was designated the 232 Force and was comprised of former Viet Cong divisions (9, 8, 5 and 3). The deployment, without detection, of a combined arms force of more than 30,000 men in terrain largely devoid of cover or concealment should go into the book of professional military records.

The last of the five corps came directly from North Vietnam. I NVA Corps was ordered on 25 March to make a high-speed movement from Nam Dinh in the Red River Delta to War Zone D north of Saigon. This corps made its move of 1,700 kilometers along the eastern extension of the Ho Chi Minh Trail and closed near Phouc Vinh in three weeks; Gen. Dung identifies the 312th Division with this corps. Somehow, the following additional divisions were divided between the I Corps and the strategic reserve (308, 308B, 324B, 325C, and 338). The 968th NVA Division was sent to the offshore islands; 1st NVA was in the Delta while the 2nd NVA was near Da Nang. Given the secretive nature of the NVA and its deceptive and even duplicative numbering system, there may have been a few more or even a few less than the 23 divisions here identified.

Gen. Dung launched 17 divisions against Saigon on 26 April. By 30 April, the defending 5th, 7th, 18th, 22nd and 25th ARVN divisions, together with marine, airborne and Ranger elements of the general reserve, had been encircled, destroyed or had surrendered. At 1130 on 30 April, the North Vietnamese battle flag flew over Independence Palace.

The war was over.

Certainly, this is not the kind of war the United States had in mind when it sent advisers to Vietnam in 1958 to help quell an insurgency—a war conducted by guerrillas embedded in the hamlets and villages—the so-called farmers by day and fighters by night. Even in 1965 when the decision to intervene with U.S. combat forces was made by President Lyndon B. Johnson, there was only one communist division in South Vietnam—the 9th Viet Cong (VC) near Saigon;


Map 2.
Da Nang
Dak To
I CORPS
Qui Nhon
II CORPS
Ban Me Thout
III CORPS
IV CORPS
SAIGON
232 FORCES
DELTA FORCES

however, by Tet, 1968, there were nine such divisions and 36 separate regiments. In the Easter offensive of 1972, North Vietnam threw 11 of its divisions into just three battles—Quang Tri, Kontum and An Loc. By 1975, Gen. Dung had more than 20 divisions at his disposal and all of the guerrilla, local and regional communist forces in the south. The story of the war was one of continuous escalation. We were constantly surprised at the durability of the other side, and we never seemed to grasp the fact that Hanoi simply intended to win at any cost.

As we think back over that long unhappy experience, certain features and circumstances emerge which now seem key to the nature and outcome of the war and also appear likely to reappear in our future:

- We were trapped between our fear of Chinese intervention if we invaded North Vietnam and our inability to bring the war to a favorable conclusion so long as North Vietnam was able to prolong it. As in Korea, we found that war on the close approaches to one of the communist superpowers involved severe operational constraints.
- Our operational approach was to increase the pressure on the other side (size of force, intensity of operations, casualties) in the belief that it had a breaking point. But the regime in Hanoi did not break; it did not submit to our logic.
- We found it extremely difficult to operate effectively with U.S. combat forces against guerrillas who were embedded in the population of the hamlets, villages and towns.
- The very low-signature (nearly invisible) light infantry of the VC and NVA main forces were difficult to find and bring to battle.

War on the close approaches: We have fought two wars so far in the last half of the twentieth century, both in the first tier of nations along the Chinese border. Both were large but "limited" in that all available force, including nuclear, was not used. In both, the maneuver of land forces was restricted.

General of the Army Douglas MacArthur maneuvered deeply into North Korea in a manner entirely consistent with current Army doctrine; however, his approach to the border brought in 300,000 Chinese troops. Gen. MacArthur was pushed back into South Korea and the war went on for two more bloody years. Thereafter, maneuver was restricted to the vicinity of the 38th Parallel, and the war objective was narrowly defined as the defense of South Korea.

Memories of Korea carried over into the Vietnam war, which also was in a country adjacent to China. U.S. military operations north of the 17th Parallel were confined to air and naval forces. Constrained in this manner and saddled with conceptual problems from the outset, the United States never settled upon an operations plan that had any reasonable hope of achieving a favorable outcome in a realistic amount of time.

There is at least a partial parallel in NATO. When the new Army doctrine of deep maneuver was introduced to NATO, it was rejected. NATO is prepared to conduct deep attack by air and missile against follow-on forces of the Warsaw Pact; but NATO has no military concept nor political support for deep maneuver across the Inter-German boundary into Eastern Europe.

These kinds of geopolitical considerations could also be expected to bear upon operations in southwest Asia. President Carter, sorely beset by the oil and hostage crises, announced that the United States would act militarily, if necessary, to prevent the interruption of the flow of oil out of the Persian Gulf region.

To back up this policy, marines have been set afloat in adjacent waters, Diego Garcia has been transformed into a staging and support base and U.S. Army divisions have been slenderized to shorten their deployment time by reducing airlift requirements. Fast sealift has been acquired. A new unified command has been created to preside over any U.S. military action in the area.

It is obvious that we are prepared to send U.S. forces into southwest Asia, if necessary, to protect our allies there and the flow of oil.

Iran dominates the geography of the gulf. She is the primary political force in the area. Her regime is radical and authoritarian. Iran lies on the Soviet border, that is, within the Soviet security zone.

All this poses a strategic and operational dilemma for the United States. For example, if Kuwait were to be attacked by Iran, we would no doubt offer at least air support. If Iran were to launch air or missile attacks against tanker traffic, we would be sorely tempted to launch offensive operations against Iran, the source of the trouble.

In either event, would we not then face the same dilemma which constrained us in Korea and Vietnam? How could we operate effectively against Iran without drawing in the Soviet Union with all its positional advantages?

If we limited our operations against Iran to such a low level that they would not threaten the Soviet Union, how could we bring the engagement to a favorable conclusion in any reasonable period of time?

Before we set such a train in motion, we would be wise to think deeply about its final destination. Considering her most unusual government, going to war with Iran could be a thoroughly bad trip for reasons which go beyond the proximity of the Soviet Union.

War against radically authoritarian regimes: A small dedicated and ruthless oligarchy of aging Stalinist communists who were also proud Vietnamese nationalists provided the political and motivational staying power which pushed a 30-year effort to final victory against formidable opposition.

One must respect this historically unmatched performance and be willing to learn from it.

In the course of their long struggle, the victors in Vietnam suffered losses and endured hardship on a scale which has only been equaled in modern times by the Soviet Union in World War II.

This is only part of the picture. The communist armies lived in jungles, mountains, swamps and tunnels. There was no rotation, no length of tour. Their ration was a ball of rice, eaten perhaps with some manioc root, and on festive occasions a sliver of fish. They ate the fruits and berries of the jungle and made tea from jungle herbs. Throughout, they were willing to fight and to die. From 1965 through 1972, they lost more than 40 percent of their strength *each year* in combat deaths. Based on this evidence, they must be judged to be masters of motivation.

In the U.S. armed forces, motivation is left to the unit commanders. It works well, better in some units and branches than in others. The bonding between soldiers is thought to result from the longevity of their close association at the squad, platoon and company level while sharing hardships and success.

The communists gathered this same harvest over longer periods of time and under more intense conditions. And they do more. Through the three-man self-criticism and self-help cell they get into the minds behind the actions. Flagging enthusiasm, cynicism or deviation from the "line" is surfaced and treated on a group basis. Then the political officers proceed to the ethnic, national and party level.

This system extends to all collective enterprise—civilian and military—at the front and in the rear. It seems, and no doubt often is, heavy-handed. It inflicts stilted repetitious and sophomoric slogans on the troops, but it upheld them through 30 years of unequal combat.

It is a daunting thought that Islamic religious fervor may exceed the effectiveness of all these communist techniques. Soldiers convinced by their spiritual leaders that they are the men of God fighting against the legions of Satan are formidable opponents. If they are also convinced that

the gates of heaven are open to fallen warriors, then battles can be especially bloody and wars most difficult to conclude.

On the broadest political level, there can be no real contest between the motivation of a people fighting for their own survival and their own identity on their own soil, and the motivation of a distant people sending their troops to war on behalf of a foreign policy of, say, "containment." Western abhorrence of war and violence underlies the failed strategy of gradualism which stirs no response whatsoever in the breast of the radical nationalist. There is also an enormous difference in the stability of methods and objectives and the continuity of leadership between the sometimes fanatic and always autocratic regime and the rotating administrations in a Western democracy. Hanoi was dogged in its adherence to its objectives and the program for their attainment. The United States never quite achieved consensus on objectives *or* methods.

Our great and saving strength is that public opinion works its way against actions which offend it. It may take time, but errant policies or adventures ultimately are reversed or terminated.

The chief weakness is that our political process threatens a change of direction whenever administrations change. All great issues—foreign and domestic—are internalized in our electoral debate at least every four years. The "out" party organizes its campaign around "clear alternatives."

A new administration or a shift in congressional balance will often reverse or cripple foreign and military policies, no matter what promises or guarantees may have been offered to our allies by the previous administration.

Prudent military planners should draw the obvious conclusion that operations which span two administrations may lose their support in midstream. Very short operations like Grenada are about perfect. Long inconclusive operations like Vietnam are now known to be doomed. We may take this to be a legitimate consideration in connection with the doctrine governing operational art. It is a political refinement which is no less organic to the problem.

Embedded armies: In Vietnam, the village guerrilla and the district company or battalion were deeply embedded military forces. They lived and fought among the people. Most of their supplies and intelligence came from the people. They hid in forests and swamps or in tunnels or simply sheltered among the populace. They were effective only in their local area. However, these embedded Viet Cong forces survived in the Mekong Delta until the bitter end of the war when they arose, pinned down and then destroyed two ARVN divisions which otherwise might have joined the battle for Saigon. They were assisted in this important task by 12 to 15 main force VC/NVA regiments.

Regular military forces—especially foreign regular forces—were generally ineffective against embedded forces because they lacked local sources of information. They didn't know: "Who's who?"or "Who's where?" Lebanon is a veritable zoo of embedded factions. Sending U.S. marines into that environment to keep order was a feckless decision.

Even the Israeli army cannot cope with such problems within the humanitarian constraints imposed by its country's political system. Television is the final sanction. There are stern political limits on the conduct of military operations against embedded forces, and the problem is sure to worsen. By the year 2000, there will be 6.1 billion people in the world—4 1/2 born every second. Between 1990 and the year 2000, countries of the Third World will add 828 million people. These thickening populations will offer shelter and concealment to armed bands of every kind. A piece in *The Washington Post* of 13 January illuminated the shape of things to come and described a raid in Lebanese Tripoli against anti-Syrian factions:

> The fainthearted did not come out as pro-Syrian militiamen called their names . . . but cowered in corners with their arms around their wives and children. Some ran out trustingly. Others went to hide in vegetable stalls. The more adventurous tried to flee. They were all shot. . . and nothing indicated they were fighters.
>
> More than 200 Sunni Moslem fundamentalists, relatives and neighbors died in a Syrian sweep into the shabby, maze-like slum of Tabbaneh, a nest for religious fanatics with dreams of transforming the northern port city into an Islamic fortress for the faithful.

This is an expanding dilemma. Can you imagine U.S. troops making such a sweep? On what basis would they call out the names?

The record of modern armies against embedded forces is not encouraging. The Russians may have simply resettled most of the Afghans—removed the population in which the fighters would otherwise be embedded. Britain is credited with a huge success in Malaya. It did succeed, but it controlled the government; and the communist terrorists were ethnically Chinese, not Malayan.

The heart of prudence and cold realism suggests that U.S. combat forces should stay away from embedded forces. Any violation of this advice is almost certain to be militarily futile and politically ruinous.

Imagine the consequences of the direct intervention of U.S. combat troops in the Philippine insurgency. Nothing would be more apt to hand the whole country over to the communists and Moslems, providing for them an exclusive claim on the powerful theme of nationalism (even xenophobia).

This is not to say that the U.S. government should never try to help friendly countries faced with insurgency. U.S. intelligence, communications, training and logistic support (as in El Salvador) may well be in order as long as the magnitude and visibility of that effort does not cross the deadly threshold of "Americanization." That threshold, unfortunately, is very low.

Nearly invisible, low-signature armies: The light infantry main forces of the VC and NVA with man-portable supporting weapons were, until the last days of the war, nearly invisible as they moved, as they infested close terrain and even as they fought. They were ordinarily visible only to the light infantry, which opposed them at short range, and to air cavalry scouts at treetop level.

Against modern electro-optical sensors and airborne radars, the signatures of such forces are low. In jungle terrain, they are largely undetectable.

Conversely, it is the plan in NATO to detect and map the location of heavily mechanized Warsaw Pact forces by these same sensors and then destroy them with smart munitions. Like ours, these forces have high signatures with thousands of heat emitting vehicles and generators, tens of thousands of radios and radars emitting signals, and most of the mechanized elements detectable by moving target radars. Western armies and many of the Third World armies are asymmetrical in respect to detectability. Vietnam was instructive.

During the battle for the Highlands, Gen. Dung concentrated three divisions around Ban Me Thuot by stealth. The ARVN II Corps commander expected the blow to fall on Kontum or Pleiku and kept only one defending regiment in Ban Me Thuot. Neither air reconnaissance nor patrolling resulted in discovery of the very large force which in one violent day overran the headquarters of the 23rd Division and that key provincial capital. The proximate consequence was the loss to the government of Vietnam of the entire midsection of the country and a collapse of morale everywhere.

When the North Vietnamese launched their abortive attempt to recreate their triumph at Dien Bien Phu by surrounding Khe Sanh in 1968, the 324B and 325C NVA divisions were invisible except to Marine patrols in contact and, eventually, aerial observation of encircling trench lines.

There and against Quang Tri City and Hue during the Easter offensive, the NVA divisions fought by stealth and silent encroachment.

Efforts to find and attack these nearly invisible forces by tactical air was a very expensive proposition. If 50 percent of all enemy combat deaths are attributed to air attack (a generous allocation) the return on investment in air power was one kill for every three sorties, including those of B-52s. These low-signature armies have brought passive air defense by concealment to a high art form.

We can expect more encounters with low-signature forces taking passive measures to survive in the face of U.S. artillery and tactical air forces. Iranian revolutionary guards fall squarely in this category.

Vietnam also reveals considerable success against such forces. What sensors cannot see, human eyes at close range can discern. This function can be performed by infantry patrols but at great expense in time, trouble and casualties. The 1st Cavalry Division used its air cavalry squadron to find, define and, at least temporarily, fix these otherwise invisible forces. Thereafter the 1st Cavalry concentrated its airmobile infantry, supporting artillery and tactical air. If Army light infantry is to be effective in such engagements, it will be dependent upon air cavalry; and the Vietnam model would be superior to the tank-hunting configuration to which most cavalry now has been converted.

In the Easter offensive of 1972 after U.S. ground forces departed, the NVA went after ARVN at Quang Tri and Hue, Kontum and An Loc with 11 divisions. In all three localities, the victory of the ARVN was directly attributable to U.S. air support. Furtive targets which were so difficult to find at other times came out of the mountains and jungles and moved against the defenders in mass. Enormous targets were formed. Information on their location was accurate and in real-time. Never before in South Vietnam was tactical air power with B-52s on tactical missions so devastatingly effective. It was the airland combination that made the difference. The ARVN defenders shaped the battlefield, and the U.S. Air Force did the main killing.

The lesson is classic and should come as no surprise. Tactical air operating alone against furtive enemy forces is only marginally effective, but tactical air operating against enemy forces which are responding to the actions of friendly ground forces are crushingly effective. Remember tactical air against German divisions streaming toward the Normandy beachhead or streaming away to escape the Falaise pocket. The synergism of AirLand Battle doctrine is no myth.

We have now defined certain features of the war in Vietnam which caused this nation a great deal of pain and embarrassment. What are we to make of all this? Certainly, we have not uncovered any new principles of war; but perhaps we are warranted in suggesting a few footnotes which senior authorities, National Security Council staffers and joint planners might find useful in a cautionary way.

- If we send U.S. land forces to operate near the Soviet border, we should expect a reaction analogous to our own should Soviet forces enter Mexico. We should expect continuous escalation.
- If we are confronted with radical regimes, our options are to leave them alone entirely or resolve to disarm them at whatever cost. No set of intermediate measures can be expected to achieve useful objectives.
- We should initiate *elective* military operations only if we have a reasonable expectation that they can be quickly and favorably concluded—ideally, within the political tenure of the administration making such a decision.
- We should not send American troops to fight embedded forces.

- We should not expect to defeat low-signature forces by air attack alone. Land forces form lucrative targets for air attack.

Finally, these lessons and cautions must be applied judiciously. There are too many who are quick to describe any effort whatsoever to exercise our international responsibilities as the first step toward another Vietnam. By spreading the anathema of that unhappy experience over every future military move or option, we become the victims rather than the beneficiaries of our own experience—a Gulliver bound by his own neuroses.

There are many important areas of conflict which are not on the near-approaches to the communist giants, which may or may not have fanatic regimes (some are lunatic) and may or may not have embedded or invisible forces. Furthermore, some are midway between the superpowers; and others are within our own security zone where we have all the advantages of force size and proximity, and thus a whole variety of options are open to us.

We have already demonstrated a versatility ranging from the partial disarming attack against Libya to the mixture of restrained but apparently effective actions in support of El Salvador.

In general, however, we should remember that it is not easy to find profitable applications for military force in the narrowing maneuver space which exists between the upper sanctions of nuclear prudence and massive communist intervention and the avoidance of imprudent involvement at the lower levels of conflict in the political jungle of the Third World. It will take cool professionalism at all political and military levels. This is the true measure of operational art. It is the central challenge to our new generation of leaders.

If by some combination of unwanted developments we should find ourselves in a war near the Soviet border against a radical regime with both embedded and low-signature forces, let us not stumble unaware into old minefields—as if it is a brand new problem—as if we had never been there before—as if we had learned nothing!

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W. DePuy
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23 July 1987

Lt/Gen Bradley C. Hosmer
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Dear Brad:

I have been thinking about our last meeting and the discussion about the training and education of "Joint Specialists." In preparation for the next meeting I want to give you my line of thought. Even if all the decisions have been made, it is never too late (in Washington) to float a different idea. Let me explain.

Over the last several years, to my delight, the NDU has moved into the arena of "operational art." This was long overdue and is still far from complete. At each meeting for the last four or five years, I have (tediously I suspect) urged NDU to move into the collateral — and joint arenas of: intelligence, EW, air defense, deep attack counter C^3 etc. Each time there has been polite skepticism on the part of NDU commandants and staff.

My proposal now is quite simply, to turn over the AFSC completely to this task as well as its current emphasis on the staff processes of joint commands.

It seems to me that the AFSC is an anomaly. In 6 months it tries to specialize in joint staff procedures while at the same time trying to fill the shoes of the service command and staff college level and assist in such ancillary duties as teaching the students how to think and write. Everyone is short-changed. It is a nearly hopeless task notwithstanding the heroic efforts of a series of devoted commandants and faculties.

The Dougherty study states that joint officer training must occur throughout the service and joint school systems. But what we will get by superimposing this mission on current curriculums is likely to be more "familiarization." In short, a mile wide and a millimeter deep.

The most logical and powerful measure of effectiveness by which joint commanders and staffs should be judged is the degree to which they generate the full potential capability of their joint forces. Therefore, the primary objective of the joint school system should be to train future joint commanders and their staffs in the techniques of full exploitation of joint capabilities in such functions and collateral missions as: Intelligence, Electronic Warfare, Air and Fire Support, Air Defense, Strategic and Tactical Mobility, Counter C^3, SEAD, Mine Warfare, Deep Interdiction

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Handwritten. The Maxwell R. Thurman Papers. Box: CG, TRADOC, Official Letters, 1987, July-August. Folder: CG, TRADOC, Official Letters, July 1987. U.S. Army Military History Institute, Carlisle Barracks, PA.

(FOFA), Logistic Support, Communications etc, together with the staff procedures involved in the command and control of such a complex enterprise. The fact that we are fairly good at these functions within each service does not mean we have mastered them jointly. The joint interfaces within these functions and missions are increasingly complex, both technically and operationally. Future joint commanders and staffs must be helped in this respect by the joint school system. Today, except for the special EW school, they are not.

Even though the Israeli invasion of Lebanon ended on a sour note it began with a brilliant display of the joint exploitation of almost every tool available in their tri-service force. You will recall the use of drones to activate the Syrian air defenses — the subsequent Air Defense Suppression campaign (both electronic and lethal) — the counter C^3 efforts including Commando raids against major headquarters — deep air and missile attack on reserves — an intelligence operation raised to equal status with maneuver etc. Surely it gave us a glimpse into the future of joint warfare.

We must get ourselves into that mental and professional framework and it will take hard work done by professionally trained joint experts. It will not be done adequately in the Service schools — we can count on that. It is not being done at NDU. Hence, my very serious recommendation that the AFSC be thrown into the breach as a major initiative and that the NDU and ICAF be linked tightly to the effort through their operational level instruction. Perhaps in the short term an NDU (AFSC?) team could develop and present to the Service Schools a briefing on the Israeli performance at the launching of "Peace for Gallilee." But this is a secondary thought.

So, back to the recommendation. Why not withdraw the AFSC from its role as a service C&GSC surrogate and devote it exclusively to joint training and education. Why not provide that only graduates of service C&GSC's will attend — will come from the upper 50% of C&GSC graduates — will attend immediately after graduation from C&GSC's — will attend for six months of intensive training in the "deep substance" of joint operations in addition to the current emphasis on joint staff procedures. This course of action would provide bone and muscle to the joint specialist educational program and give it sequence in professional military education.

Perhaps we can discuss this idea at the 8-9 September meeting.

Respectfully,

Bill DePuy

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16 Aug 87

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Dear Max

I thoroughly enjoyed the "Leadership" seminar and your always entertaining remarks.

Here is my letter to Brad Hosmer. When I wrote it I was not thinking, foolishly, about service sensitivities. Instead I was trying to sell an idea.

You will be at least somewhat irritated by the two circled portions.

In a letter to Carl Vuono I tried to explain that my visualization of the required curricula is at least two levels more technical than what they are now teaching at AFSC and what I am afraid would be taught at the Service Schools.

Let me give you an example of my worry. In learning about the conduct of Joint Intelligence operations I would want the students to understand the limitations as well as the capabilities of each sensor system and the techniques and severe limitations of the current fusion process. Only then could they deal realistically with the joint effort, say, within a SW Asia Task Force etc.

On Air Space control I would like to see the alternatives fully explored and fully integrated with the air defense of our sensors and the full exploitation of our airmobility.

There is a terrible tendency at AFSC and elsewhere to limit joint explanations to the level of a command briefing in which all of the following joint and related functions work perfectly:*

- Sensor output
- Sensor management
- Fusion for targeting
- Fusion for maneuver control
- Air Defense C^3I (incl ROE)
- Air Space Management
- Counter C^3
- SEAD
- Comprehensive FOFA
- etc

* or, the discussions are limited to staff procedures at the Hq and the functions of the various player agencies such as the TACC (ATOC) etc.

The Maxwell R. Thurman Papers. Box: CG, TRADOC, Official Letters, 1987, July-August. Folder: CG, TRADOC, Official Letters, 13–17 August, 1987. U.S. Army Military History Institute, Carlisle Barracks, PA.

The fact is there are very substantial problems and deficiencies in everyone. But service sensitivity and unified command sensitivity is such that they are glossed over.

Whether AFSC under my scheme could break that sound barrier is unknown. But its worth a try.

respy. & warmly

Bill

21

The Future of Land Warfare. By Chris Bellamy. 342 pages. St. Martin's Press, New York, 1987. $37.50. Reviewed by General William E. DePuy, USA Ret.

Land warfare is the most critical and interactively complex branch of modern military endeavor. Bellamy seeks to explain it and then forecast its future—an ambitious project. In order to bring the latter goal within practical reach he wisely defines the future as the not-too-distant year 2010.

The business of converting new technology into new weapons and then procuring them in significant quantities is a time-consuming process. This is not to mention the equally long time involved in learning how to operate and employ them. Thus, land forces in 2010 will greatly resemble the forces we see in 1987. Much equipment now under development and procurement will still be around. For example the still ubiquitous M113 Armored Personnel Carrier was developed in the 1950s and deployed in 1960—27 years ago. It will be around for many more years and 2010 is only 23 years away.

The scope of land warfare is so great now and is expanding so rapidly that the book has taken on somewhat of an encyclopedic character. Encyclopedias are not easy to review. However, it is the trends the author describes which provide a handle for critique. Mr. Bellamy does an excellent job of identifying the technical, tactical, and operational basis of the major trends—and this is what his book is all about.

As he deals with the various trends, Bellamy encounters forks in the road which present radically divergent possibilities. To his credit and credibility he does not force an arbitrary choice. He describes the alternatives and passes modestly on. For example, he explains that the use of nuclear weapons could lead to either *blitzkrieg* or stasis—some difference. He believes the evidence is ambiguous on this enormously important issue. The possibilities of stasis run strongly through his work. He sees long, perhaps inconclusive, wars instead of the short, sharp engagements forecast, and hoped for, by many soldiers and statesmen. He sees the ghost of stasis in chemical warfare, firepower, electronic warfare, and the tendency of armies to go to ground. He sees large manpower-intensive armies of the Third World offsetting high technology.

Bellamy starts with a dramatic presentation of three recent wars—Yom Kippur (1973), the ongoing Iran-Iraq war, and Operation Peace for Galilee in Lebanon (1982). He regards them all as portentous. Following this, he provides a discussion of military terrain around the world—a useful lesson in geography—which blends into a discussion of demography and the size of the world's land forces. He then takes the reader successfully through nuclear and chemical warfare; weapons, their platforms, and their protection; and electronic warfare, C^3I, and operational art. The last chapter returns to the question of the future.

The trends are the heart of his presentation. Some are straightforward:

- The Western powers are losing the demographic race, and in the long run manpower will matter in a crowded world.

From *Parameters* 18, no. 4 (December 1987): 106–8.

- The duel between lethality and protection continues in a rough and uneasy balance. Tanks are still useful but threatened by smart top-attack anti-armor weapons.
- Helicopter and nap-of-the-earth airmobility are in the ascendancy. That seems right, especially in connection with modern armies fighting larger, harder-to-find, and primitive (or less mechanized) forces. Airmobile firepower (attack helicopters) is now an accepted companion of heavily mechanized forces. But airmobile maneuver of necessarily light forces may not be as viable. On this controversial issue the jury, clearly, is still out.
- Manned aircraft are increasingly threatened by surface systems but continue to perform essential tasks at levels of effectiveness which other systems cannot duplicate—e.g. in terminal, intelligent engagements.
- Directed-energy weapons are threatening to current systems and tactical concepts. There is widespread unease on this score.

Some of the trends are more complex and controversial.

Bellamy sees chemical warfare as potentially decisive, although he wonders if it too might lead to stasis if both sides use it extensively. On this point he manages to avoid the sad truth that the Western armies are no longer prepared to play this game offensively. The repugnance of the whole subject has led the West into a dreamy state of self-induced disarmament. It was not the quality of allied chemical defenses that deterred Hitler from the use of chemicals; it was his apparent conviction that US and allied airpower could pour chemicals on him in enormous and unmatchable quantities. Today we have defense alone and it is patently inadequate. The Soviet offensive use of chemicals could nullify almost every advantage in which the West takes comfort—air power (from unprotected bases), agility, initiative, and high performance. Chemical warfare would lead to low performance everywhere. A low-performing large force can beat a low-performing small force any day of the week.

On the doctrinal front Bellamy is very skeptical concerning—

> proponents of swift, brilliant strokes or those who believe that the "attrition" form of war is some kind of a devious plot, as opposed to the only way of continuing the conflict if maneuver is impossible. Elegant theoretical structures do not necessarily clarify the brutal, horrible, sometimes (perhaps always) irrational phenomenon of war. Drawing distinctions between "attrition theory" and "maneuver theory" simply obfuscates the real nature of war. Maneuver is of value, maybe decisive value, because it increases the rate of attrition.

Just a few years ago US Army doctrine was described by many as a choice between maneuver and attrition. High technology and even firepower were often lumped with attrition and much confusion ensued. All that presumably has been corrected, but Bellamy reminds the many followers of Clausewitz that he never fell into the trap: "Clausewitz had it right. 'War is an act of violence,' he said, and, what is more, 'the maximum use of force is in no way incompatible with the maximum use of the intellect.'"

Bellamy seems to understand fully the relationship between technology and tactics. Most of his book centers upon this circular relationship. The idea that tactical and operational doctrine will lead unerringly to new weapon requirements is as faulty as the reciprocal thought that every invention will change the doctrine of war. Inventions often open up new possibilities within the doctrinal context—e.g. smart munitions. Some inventions move outside the doctrinal envelope—e.g. nuclear and directed-energy weapons. Others greatly complicate the execution of preferred doctrine—e.g. electronic warfare and chemical warfare.

After a thorough review of C^3I, including the broad movement toward elaborate automated information systems (and with enemy electronic warfare very much in mind), the author makes

this observation: "In the inevitable imperfect world, the military organization either has to increase its ability to process information compared with its opponent *or else* be designed to work on less information."

Here we come up against a fascinating divergence in doctrinal philosophy. In the early 1980s the US Army published a tentative look into the future labeled "Air Land Battle 2000." One of its principal features was a word picture of US battalions and brigades dispersed over a sparsely populated battlefield operating independently within the "intent" of the higher command—exercising initiative—moving inside the enemy's decision cycle—practicing *Auftragstaktik—and generally having a ball. This sounds like the simple option in Bellamy's formulation.*

But his description of the Israeli invasion of Lebanon offers a strikingly different picture:

> At 1400 hours on 9 June . . . unmanned drones were launched over Syrian air defenses, forcing the Syrians to open up with SAMs against fake targets. . . . The Israelis also used ground-based weapons against the missile sites: probably, 175mm guns, . . . MAR 290 rocket launchers . . . and LAR 160s. . . . It is also reported that the Israelis used ground-launched anti-radiation missiles. . . . Ground-launched rockets carrying chaff were fired at Syrian radar sites. . . . In coordination with air and artillery-rocket-missile attacks, the Israelis . . . mounted a commando operation against the main command post for Syrian air defense in Lebanon. . . . It is clear . . . that one cannot talk about "land warfare" and "air warfare" as two separate things. Air was critical to the ability of ground forces to move and fight, and ground systems and forces made a passage for aircraft, as in 1973 but in a far more complex and multi-faceted way.

Here we have a picture of full synchronization of all the assets of both air and land forces. In short, the Israeli commanders generated a very large fraction of the combined potential of their forces within an intricate but powerful operation. This is the antithesis of the "island of combat" described in AirLand Battle 2000. To the extent that one side gains the initiative, to that same extent can he employ the full capability of his force in mutual and multiplying reinforcement. To the extent the other side has the initiative, we will be forced into "islands of combat" on the way to piecemeal defeat and failure.

Bellamy's abundant information and skilled analysis are worthy of our attention.

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Concepts of Operation: The Heart of Command, the Tool of Doctrine

By Gen. William E. DePuy
U.S. Army retired

Command and control means many things to different people. To some, it evokes the image of a communication network; to others, the qualities of leadership. Increasingly, it has been described as an information exchange system. An officer who aspires to successful command must understand that behind these ingredients is a process designed to concentrate the immense combat power of an AirLand Battle force against the enemy in order to win engagements, battles, campaigns and wars. It is a process that unifies the efforts of thousands of men performing a bewildering array of battlefield functions, each one of which is utterly essential to success. This process produces unity of effort from a diversity of means.

Yes, it will use modern communications and even computers, and it will require leadership of the highest order; but at the heart of the process lies the mind of the commander. From the mind of that single person, a dominating concept of operation must emerge. That concept must be appropriate to the mission of the command and to all the circumstances that are unique to that time and that place, and that mental construct must be propagated through the minds of the whole hierarchy of subordinate leaders to animate the entire command and to concentrate its actions before the opposing commander can place a counterconcept in operation.

Concepts are cannibalistic. The better concept, based on the most recent realities, will devour the older, opposing concept based on information that has been overtaken by

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events. His concept of operation is the supreme contribution of the commander to his command and to success. The absence of a powerful and dominating concept concedes the initiative to his opponent; and his other qualities of leadership, however many he may possess, and however admirable they may be, will be simply irrelevant and ineffectual. This article focuses directly on that central, seminal creative act—the starting point and cohesive theme of every successful operation.

In the summer of 1950, U.S. Eighth Army was penned into the Pusan Perimeter in Korea. It was not a shining moment in the history of American arms. Then, in the face of skepticism on the part of his advisers—*subordinates and superiors*—Gen. of the Army Douglas MacArthur launched a sweeping amphibious left hook to Inchon. X corps, led by Marines, went on to Seoul, cut the main supply route of the North Korean army and collapsed the invasion.

Inchon was an incandescent moment and a smashing victory, which sprang solely from the mind of the top commander. The experiences of a lifetime, the lonely thoughts of a superior mind and the demands of the crisis at hand combined inside Gen. MacArthur's head to produce a stroke of genius—a concept of operation so powerful and unexpected that it carried the day, the battle and that first campaign of a long disagreeable war.

The occasions on which a single brilliant idea has led to a decisive turn in military affairs are memorable: Brig. Gen. Daniel Morgan's entrapment of Lt. Col. Banastre Tarleton at Cowpens, Hannibal at Cannae, Field Marshal Fritz Erich von Manstein at Kharkov, Gen. John Churchill, Earl of Marlborough, at Blenheim. These, too, were masterpieces of the martial art. Unfortunately, the military equivalents of Michelangelo, Rembrandt and Picasso are just as rare. We find them occasionally. We do not produce them routinely.

So—what about the rest—the merely competent leaders upon whom the vast bulk of command must necessarily fall? In every battle since the beginnings of time, some natural or appointed leader of small parties or large armies faced the necessity of deciding how to proceed with the accomplishment of an assigned or assumed mission. He needed a plan, and there was just one source—his own mind, experienced or not, trained or not, brilliant or not. He either came up with a good idea, or he and they disappeared into the dust of history.

It is not difficult to perceive that this function, this seminal dimension of leadership, is the supreme contribution of every commander in every battle. Some fall short, and those battles are lost. Physical courage can rarely offset the effects of a bad plan or, even worse, of no plan at all.

At the level of a squad, a concept will be oral and brief. It might in an emergency resemble the instruction of Joshua to his Israeli tribesmen: "Observe my actions and do likewise." At the level of great armies, as in the Normandy invasion, the concept may require several pages of closely knit description. Every commander at every level must produce such a concept each time he receives a mission or an order and every time his working concept is nullified by changing circumstance. It is a demonstrated fact of life that opposing concepts cannot long coexist. The concept that prevails destroys the other. It is a zero-sum game.

This is the process we so blithely label as "seizing the initiative." He who has the initiative must surely have seized it via the imposition of his own concept, and he who loses the initiative has seen his concept rendered useless and irrelevant by the actions of the opposing commander.

"Operating inside the enemy's decision cycle" means neither more nor less than the seizure of initiative via a dominating concept. It could be as simple as a sudden move, say, a counterattack. Or it could be as complex as a counteroffensive. In either case, the progress of a campaign can almost always be gauged by determining where the initiative resides at each moment. The initiative is forever the product of an imposed concept—however improvised, however simple, however transmitted. Poor execution can render the most brilliant concept null and void, but the most magnificent execution can rarely offset the deadweight of a flawed concept.

The Growth of Complexity. A concept of operation is the principal tool of the commander for integrating all elements of his force in a unified effort against the enemy. This role has always been the chief contribution of a good concept, but its importance rises in direct proportion to the growth of complexity.

Increasing complexity arises from the multiplication of battlefield functions, each of which, individually, and groups of which, collectively, must be integrated into the operation of the force as a whole.

In Figure 1, the astounding and continuing growth of functions and means is laid out in three different frames of time

It is currently popular to consult the writings of Gen-Maj. Karl von Clausewitz for insights into the operational art. Indeed, Clausewitz has much to offer, but the structure of armed forces in his time was relatively simple. Foot infantry, horse cavalry and short-range artillery constituted the mass of maneuver. Troops and horses foraged on the villages and the land. Communication was by courier, and intelligence was collected by agents. By the times of Gen. George S. Patton Jr., Field Marshal Erwin Rommel and Marshal Georgy K. Zhukov, warfare had expanded into the vertical dimension while mobility, range and lethality had multiplied. To concentrate the additional functions represented on the battlefield, headquarters were larger, and their procedures were more elaborate.

Today, another tier of functions has been added. War has expanded into the fourth dimension—realm of high-tech electronics. Another increment of mobility, range and lethality has again been added. Commanders must now cope with three times the complexity that confronted Clausewitz, and he described the difficulty of operating when even the simplest action became difficult and when "friction" beset every battlefield endeavor. Of course, Clausewitz was correct. How much more correct would he be today?

With more than 30 battlefield functions now represented and the laws of friction and complexity in full operation, it is not far-fetched to fear the danger of chaos—a disintegration of effort under the sheer weight of complexity. How much more likely that descent into chaos must be when the enemy makes it one of his principal aims. We have even adopted a name for that effort: command, control and communications countermeasures (C^3CM), and they are practiced by all modern armies.

Concepts—The Heart of the Command and Control (C2) Process. It is the aim of every commander to concentrate all available combat power against the enemy at just the right time and in just the right place to win battles, campaigns and wars. The integration and concentration of some 30 functions on the AirLand battlefield are the ultimate product of the C^2 system, and the commander's concept of operation is the start point and the heart of that system. It is the driving central theme to which all the actions of all the elements of the force are keyed. A sound

Figure 1. Complexity
(Growth of Battlefield Functions/Agencies)

DAYS OF CLAUSEWITZ (Napoleonic Wars):

MANEUVER:
- Infantry
- Cavalry

FIRE SUPPORT:
- Tube Artillery
- Congreve-type Rockets

ENGINEERS

INTELLIGENCE:
- Human Intelligence (agents)
- Reconnaissance

LOGISTICS:
- Supply
- Transportation
- Medical
- Administration

11 Functions/Agencies

DAYS OF PATTON (World War II):

MANEUVER:
- Infantry
- Armor
- Cavalry

FIRE SUPPORT:
- Tube Artillery (Direct support, general support, counterfire)
- Rockets

TACTICAL AIR SUPPORT:
- Air Defense
- Armed Reconnaissance
- Airlift
- Interdiction

ENGINEERS

AIR DEFENSE (GROUND):
- Guns
- Automatic Weapons

INTELLIGENCE:
- Human Intelligence
- Signal Intelligence
- Reconnaissance

LOGISTICS:
- Supply
- Maintenance
- Transportation
- Medical
- Administration

20 Functions Agencies

DAYS OF AIRLAND BATTLE (Today):

MANEUVER:
- Infantry
- Armor
- Cavalry
- Attack Helicopters

FIRE SUPPORT
- Tube Artillery
- Rockets
- Missiles

TACTICAL AIR SUPPORT:
- Air Defense
- Reconnaissance
- Surveillance
- Airlift
- Close air support
- Battlefield air interdiction
- Interdiction
- Target acquisition

ENGINEERS

AIR DEFENSE:
- Guns
- Missiles
- Automatic Weapons

INTELLIGENCE:
- Human intelligence
- Communications intelligence
- Electronic intelligence
- Reconnaissance, surveillance and target acquisition

ELECTRONIC WARFARE:
- Electronic countermeasures
- Electronic counter-countermeasures

LOGISTICS:
- Supply
- Maintenance
- Transportation
- Medical
- Administration

30 Functions Agencies

concept propagated through the force and elaborated at every echelon is not only the heart of the C^2 system, but it is also the only known antidote to disintegration and chaos.

Let us lay out the C^2 structure of an AirLand force and then examine the processes by which it is animated.

In Figure 2, *The C2 Matrix*, the vertical arrows depict the combat, combat support (CS), combat service support (CSS), and the tactical air support functions. Infantry, armor, cavalry and attack helicopters are subsumed under the combat heading.

The heavy arrow on the left signifies the leading role of the combat arms—the maneuver force. That force and function are first among equals because the concept for employment of the maneuver force (the scheme of maneuver) is the starting point and the central element of the commander's concept of operation, and the maneuver unit commander is also, and always, the force commander.

The vertical functions, including maneuver, execute all the physical actions that occur on the battlefield. For example: a tank moves, a howitzer fires a round, an air defense missile is launched, a bridge is built, an enemy unit is located, a radio is jammed, an attack helicopter fires, a vehicle is repaired, a part is delivered, ammunition is moved, patients are treated, replacements arrive, close air support is rendered, battlefield air interdiction is flown, aerial reconnaissance is performed, airlift of troops is completed. Air Force intelligence is transferred to the Army, and enemy radars are jammed.

It is important to understand that each vertical function is echeloned in parallel with the maneuver force and entails its own vertical integration. Each represents a function and meets the classic definition of any system—it has input, process and output. For example, the fire support system includes the input of a forward observer—the process of fire direction—the output of a round on-the-way.

Some of the vertical systems extend all the way from CONUS (continental United States) to the lowest echelons. The intelligence system extends from signals intelligence (SIGINT) support functions at the National Security Agency (NSA), Ft. Meade, Md., to the maneuver brigade and its intelligence elements. The air defense system extends from the senior Air Force officer in a theater to the Stinger crew with a maneuver battalion or company.

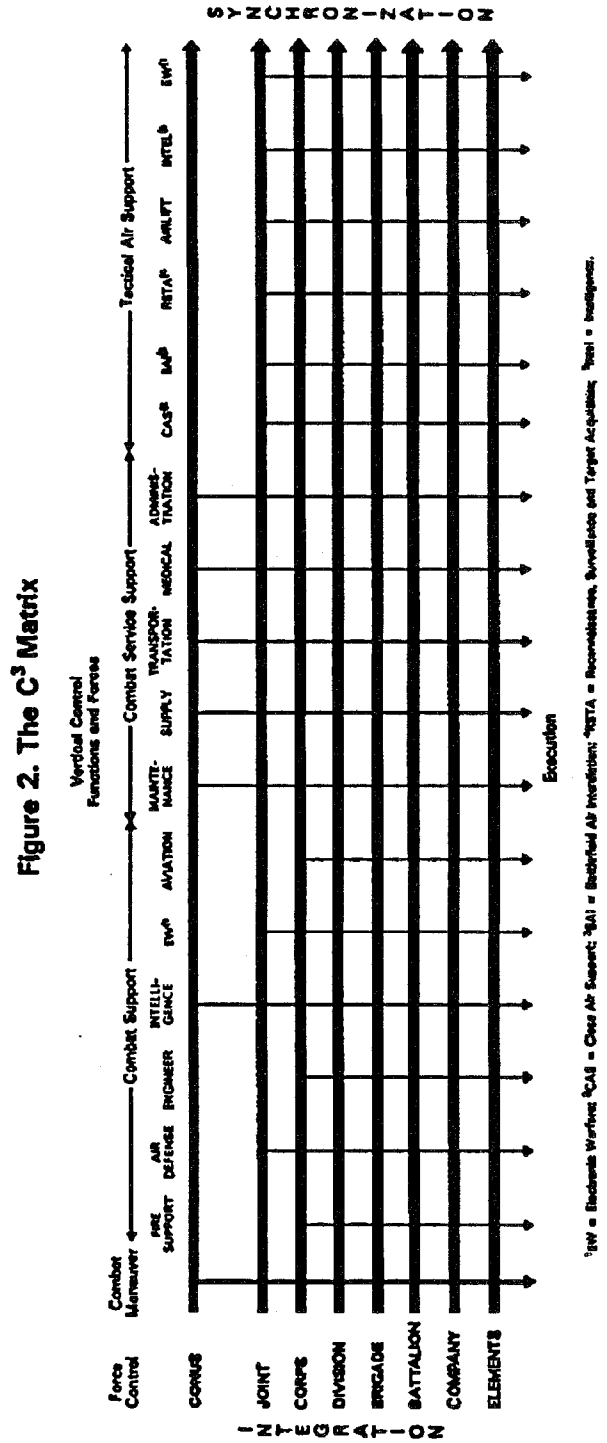
The command echelons of the maneuver force (the horizontal arrows) act as the force integrators at their respective levels. This horizontal function has two important dimensions. Each maneuver echelon develops its own scheme of maneuver (concept) and also synchronizes the supporting functions at its level within that scheme.

The integrating and synchronizing maneuver echelons start at company level and extend up through corps to the echelons above corps, which these days are almost always a joint command. At each of these echelons, the commander is given a mission by his superior, formulates a concept to execute the mission, organizes his force to execute the concept, and instructs each principal element as to the role it is to play. The vehicle for this process is the OPORD (operation order), which restates the mission, describes the enemy, states the concept, and organizes and tasks the forces.

Whether it is oral and short or written and long, the central theme of the OPORD is the commander's concept of operation. To that concept all actions are keyed, and from it all organizational arrangements derive. For example, the structure of an OPORD is as follows:

1.	Situation	
	a. Enemy Forces	given
	b. Friendly Forces	given
	c. Attachments and Detachments	given
2.	Mission (and concept of superior commander)	given

Figure 2. The C³ Matrix



3. Execution	
a. Concept of Operation	*created*
includes the task organization	derived from the concept
b. Tasking for each subordinate element of command, synchronization	derived from the concept
c. Instructions to reserve forces	derived from the concept
coordinating instructions	derived from the concept
(1) boundaries, objectives, phase lines, line of departure—synchronization	
(2) dates, times, places—synchronization	
4. Administration and Logistics	support the concept
5. Command and Signal instructions	support the concept

Nested Concepts. When the top commander develops and disseminates his concept orally, by overlay and frag orders or by a written OPORD, he obliges his subordinates to conform and execute. Each successive subordinate is expected to articulate and elaborate that concept in accordance with the particular conditions of enemy, terrain and resources at his level; thus, the higher concepts are progressively tuned to local reality. This is the genius of the system—a centralization of concept, a decentralization of execution and a full exploitation of forces and opportunities. Cascading concepts carry the top commander's intentions to the lowest levels, and the nesting of those concepts traces the critical path of concentration and priorities. This is the phenomenon the Germans call the *schwerpunkt.* It is the center of gravity of the force not, as so many think, the *point* where the main effort impinges on the enemy force.

The reason the platoon is advancing upon the nose of hill 101 is because A Company must seize that prominence to protect B Company, which will attack past it to the battalion objective, which in turn will enable the brigade reserve to seize the key terrain on the objective of the division making the corps' main effort.

Although the corps commander could not direct the various platoons toward their objectives, he is content to know that their actions will derive from his concept as it cascades down through his command and as each commander, in turn, embraces and articulates that concept in one of his own, which is adapted to the unique circumstances in his zone or sector. The concepts are nested like mixing bowls in a kitchen. Each must fit within the confines of the larger and accommodate the next smaller and so on down to the squad, the tank, and the brave soldier himself, who eventually executes the corps commander's concept. The soldier has not, of course, ever met the corps commander.

Not only is the system of nested concepts the only method by which a large force can adapt to the infinite variety of situations that arise throughout its huge area of operations, but it is also the only method by which the talent and initiative of commanders and troops at every level can be engaged and exploited.

Concepts as the Tool of Doctrine. Armies spend most of their time training for war. At the heart of that training lies a body of doctrine. Its most accurate definition is that doctrine is simply the way things are done by most of the commanders most of the time. By this, we mean how the average commander would react to a particular combination of his *mission*, the *enemy* opposing him, the *terrain* over which he must operate, the composition and condition of the *troops* available to him and the *time* he has to prepare (METT-T).

Armies are usually in the process of improving or adjusting their doctrine either because they have some new insights regarding the enemy, some new ideas on how to fight more effectively,

some new weapon capabilities—or all three. The U.S. Army is in the gestation period of a relatively new doctrine that it has labeled AirLand Battle. The tactical level of this doctrine seeks to exploit the new and better weapons now available and seeks to capitalize on the high quality of its troops and its leaders. The doctrine is offensively oriented, seeks to gain and retain the initiative and expects to fight in a very deep battle zone extending into the enemy's rear areas as well as its own. It hopes to integrate (synchronize) the burgeoning number of battlefield functions with its agile and aggressive maneuver forces.

The Army's focus has simultaneously been expanded to embrace the operational level of war that involves joint forces under unified command seeking to win wars as well as battles. It is an expansive doctrine, but it is in tune with the realities of the times.

The concept of operation is the *only* way that new (or old) doctrine can find its way onto the battlefield or into the training exercise. If the battle is to be fought with agility, depth, initiative and synchronization, as current Army doctrine requires, those characteristics must be manifest in the concept. If the new doctrine is not introduced via these concepts, it will not be introduced at all. A concept of operation is simply the articulation of applied doctrine. There is no other vehicle or method for the purpose.

Classic Concepts. Weapons range, accuracy and lethality change. Vehicular speed and endurance change. Communications range and capacity change, but the classic movements of war on the ground are inevitably just variations on an ancient repertoire.

The "plays"—these schemes of maneuver—are the doctrinal templates that provide at least a starting point for the development of concepts:

In the Attack

- Penetration - At the tactical level, as in Erwin Rommel's technique of one element up and four or five back explained in *Infantry Attacks*, World War I, or at the operational level, as in Russian breakthrough operations at the Vistula and on the Oder.
- Infiltration - As by Gen. Oscar von Hutier's German army in March 1918, in Operation Michel against the British Fifth Army.
- Flanking - As in innumerable tactical examples.
- Encirclement - As in Marshal Fedor von Bock in 1941 at Vyazma (663,000 Soviet prisoners).
- Pursuit - As by Gen. George S. Patton Jr. across France in 1944.

In the Defense

- Fixed - Maginot Line, France; Siegfried Line, Germany; Bar Lev Line, Israel.
- Fortified Zone - Kursk, Russia, 1943.
- Elastic - Marshal Henri Philippe Pétain, 1917-18.
- Elastic with CATK - German Western Front, 1916-17.
- With Entrapment - Cannae, Cowpens, Stalingrad.
- Counteroffensive - El Alamein, 1942.

And numerous combinations and variations.

Unlike football, these plays must be executed over widely varying terrain. The enemy team is not restricted to a certain strength nor are there any "officials" to regulate the contest. Deception is admired. Drowning out the opposing signals is routine. Furthermore, injury is often fatal, and a loss may be the last game. Like football, however, courage under adversity is required and by none more than the higher commanders who may have long hours (sometimes days) to contemplate the possibility of the failure of their concepts. Thus a bold concept, like Inchon, is an act of prolonged courage unrelieved by the physical release available to a small-unit leader.

It is probably fair to say that current Army doctrine calls for repeated acceptance of risk on behalf of greater potential returns. It is a doctrine that would be perfectly understood and beautifully executed by commanders cut in the mold of a Gen. George S. Patton Jr. or a Gen. Matthew B. Ridgway; but there are only a few of them, and the rest of us vary widely in imagination, resolve and risk tolerance.

We do not know exactly how a concept takes form in the leader's mind. We can only assume that some mixture of urgent necessity, prior thought, strong support from an able staff, a repertoire of classic alternatives and some practice in searching and sorting combine to create a concept of operation appropriate to the occasion. We note wide individual differences in respect to the boldness of action, the innovation involved, the degree to which the commander exploits his mobility and his weapons, the cunning with which he shapes the battle and the active or passive attitudes he engenders within his command.

After a concept emerges from the commander's mind, it can be retrospectively examined in all these respects and even for its origins. Inchon certainly rose to some large extent out of Gen. MacArthur's amphibious experiences in the southwest Pacific. Marshal Fedor von Bock's envelopment of the Russians at Vyazma was simply a grand example of an operational preference routinely exhibited by the German army in 1940 and 1941. The two German attacks through the Ardennes (1940 and 1944) can be traced to their devotion to the principles of mass and surprise.

We can see at Cannae, Cowpens, Stalingrad and El Alamein the clearest demonstration of the concept of shaping a battle to the benefit of the defender and then counterattacking decisively when the conditions of the concept are fulfilled. In the Korean counteroffensive, we see the product of Gen. Ridgway's warrior spirit.

In short, we may not understand fully the cerebral process of concept formulation, but we thoroughly understand the product. Hence we try, in training and education, to pour all the necessary ingredients into the heads of our developing commanders and confront them in training with the repeated necessity of mixing and matching those ingredients.

Training and Doctrine Command (TRADOC) has undertaken an analysis of performance trend lines at the National Training Center (NTC), Ft. Irwin, Calif. That effort should produce a running profile of the commander's concepts that could be laid up against the template of AirLand Battle doctrine. The degree of match—of coincidence—might tell us much about the quality of everyday concepts, about the effectiveness of Army training and even of Army doctrine.

Dynamic Synchronization. If the commander's concept is the basis for synchronization and agility is described by the Army as an essential characteristic of a sound concept, how could it be that agility and synchronization are sometimes described as mutually exclusive?

There is a constructive way to think about the relationship between agility and synchronization. A sudden unexpected and adroit move by the Blue Force is almost certain to desynchronize the Red Force by rendering its concept and associated actions useless and irrelevant to the changed circumstances.

There is, however, no law that says brigade or division staff cannot or should not reinforce that sudden move as quickly as possible with all available combat support.

A maneuver element responding to a sudden opportunity or frag order may have the jump on the enemy, but it carries only its organic combat power. If the battalion or the brigade commander can reinforce that move with fire support and tactical air power, cover it with added air defenses and follow it with reinforcing engineers, the disparity in effectiveness between the agile and partially synchronized Blue Force and the desynchronized Red Force can be decisively increased.

When a quarterback in the NFL goes to an "audible" when calling signals, he is calling for a change in the play to be run. He has seen a problem and an opportunity in a sudden change in the defensive deployment. He expects his team to respond instantly to a new concept. Correspondingly, on the battlefield, a frag order may change the concept "on the run" in order to cope with, or exploit, an enemy move. The C^2 team (commander and staff) goes into *dynamic sync.*

In a tactical case, we might give the division, brigade or battalion 100 percent on agility and still reach 50 percent to 75 percent sync within a few minutes. Training simulations should be designed to test dynamic as well as deliberate sync against very high standards of both scope and pace. Command post organization and procedures should be optimized for this purpose.

Perhaps in this whole process we have given insufficient prominence to the indispensable role of the staff. It has been somewhat deliberate in order to underline the creative impulse represented by the commander's concept, as distinguished from the supporting, but crucial, role of the staff. The ideal relationship is one between a continually conceptualizing commander and a staff that, from long association, is inside his mind—a staff that responds long before he asks—a staff that keys its many activities to his current or evolving concept and ties up all of the loose ends—fast!

Collateral Operations and Collateral Concepts. At the tactical level, the concept provides the basis for synchronizing the individual battlefield functions directly with maneuver. At the operational level—that is, at corps and at joint echelons above corps—the individual functions begin to be grouped and combined into *collateral* operations. We have appropriated that term to embrace the following complex, multifunctional, cross-service or joint operations:

- Intelligence operations.
- C^3 countermeasures (C^3CM operations).
- Suppression of enemy air defenses (SEAD operations).
- Follow-on forces attack (FOFA, deep attack operations).
- Joint counterfire operations.
- Deception operations.
- Special operations.
- Special logistics operations.

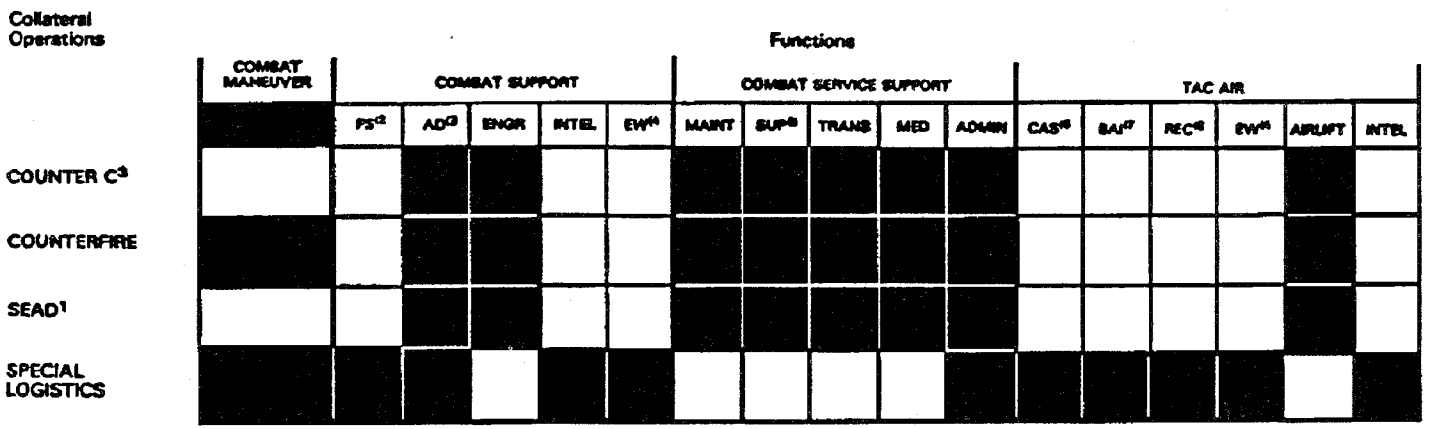
Each collateral operation will usually involve a number of functional elements from at least two services as illustrated in Figure 3 right.

The clearest demonstration of the nature and importance of collateral operations comes to us from the preliminary actions taken by the Israeli armed forces before they moved their maneuver forces into Lebanon in the operation called "Peace for Galilee."

To provide air support for Israeli maneuver forces, it was first necessary to destroy or neutralize the very formidable Syrian air defenses. The Israelis started with a prolonged and intensive intelligence collection operation, which located, identified and electronically defined each missile site and the entire air defense command and control system. That was followed by an air defense suppression operation led by drone flights, which activated the missile site radars and the C^2 links. The radars were then jammed by standoff aircraft followed by massive air attacks on those sites by attack aircraft using self-protecting electronic countermeasures and employing both antiradar missiles and conventional munitions. Simultaneously, a counter C^3 operation was mounted against the air defense command and control system by lethal air attack on control nodes, jamming of communication links and even a commando raid on the main control center. These operations were followed by a deep attack against enemy reserves, and then the Israeli maneuver force began to roll.

Figure 3. Collateral Operations

- Collateral operations could be comprised of functional components as below in white:



[1]SEAD = Suppression of Enemy Air Defenses; [2]FS = Fire Support; [3]AD = Air Defense; [4]EW = Electronic Warfare; [5]SUP = Supply; [6]CAS = Close Air Support; [7]BAI = Battlefield Air Interdiction; [8]REC = Reconnaissance.

Because the Army corps is the nexus between the tactical and operational worlds, the corps commander becomes the principal agent for collateral operations. Although many, if not most, of these operations will have sponsorship at the joint level, some may not and yet may be required for purely corps purposes.

Consequently, a corps concept of operations and the ensuing OPORD must embrace those collateral support operations the corps commander wishes to conduct under his own control to assist his divisions and to increase the likelihood of overall success. At a minimum, he must explain when, where and how he expects those collateral operations to contribute to the execution of the corps mission.

Because the divisions and the collateral operations are drawing support from a single pool of forces, the corps commander will face the necessity of evaluating the most lucrative employment of every support capability available to the corps—that is, he will be forced to choose between reinforcing his divisions and conducting corps-level operations. It will never be an easy choice, but there are some opportunities to mitigate these conflicts and simultaneously reduce the impact of complexity, which he may wish to consider. They are:

- Division of labor between the echelons of the corps.
- Division of time between collateral operations.

Division of Labor. It is simply not reasonable to expect every maneuver echelon to perform every function. There is a clear necessity to specialize, and thus narrow, responsibilities at each level to manageable proportions. For example, a basis of specialization—division of labor—might be the following:

Battalion and brigade - Fire and Movement—precision synchronization of fire support, close air support (CAS), short-range air defense (SHORAD), engineers and direct CSS within the framework of the commander's concept.

Division - Extended synchronization with maneuver of general support (GS) and general support reinforcing (GSR) levels of fire support, air defense, combat engineering, intelligence, electronic warfare (EW), CSS and battlefield air interdiction (BAI).

Corps - Conduct of collateral operations to support the corps or joint concept.

Time Division. Even the division of labor between the various tactical echelons will not entirely solve the problem of competition for the same limited pool of support resources. It is probably not possible to throw a critical mass of support elements against a FOFA operation, a corridor-busting SEAD operation and a full-up C^3CM operation at the same time while simultaneously providing adequate reinforcement of the division (or divisions) making the main effort.

Some collateral operations such as intelligence operations and deception and even special operations may fall comfortably into the time period preceding a major operational or tactical initiative. Others may have a natural sequence—such as SEAD would presumably precede FOFA, and C^3CM may be important for only short critical interludes.

The tentative nature of this discussion reveals the softness in the current state of the art for collateral operations. Each collateral operation will require its own concept of operation, its own assigned forces and its own internal synchronization. The whole question of exactly how to organize and command collateral operations falls into the category of unfinished business.

Given the prominence we have assigned the concept of operations as the heart of command and control, it is only fair to ask whether it receives equal veneration out there in the working Army. The answer seems to be a kind of diagonal nod—yes and no.

On the yes side, a concept is inescapably required in every OPORD or OPPLAN (operation plan). Furthermore, some kind of concept is required for the orderly execution of any mission or the undertaking of any collective task in or out of the military profession.

Recently, the "commander's intent" has been elevated to high status and, in the OPORD, inserted between the mission and the concept. The mission says *what* and the concept says *how*. What is left for the intent except heroic language? Examples of intent that try not to encroach on either mission or concept are pretty thin gruel. It has been said at Ft. Leavenworth, Kan., that the intent tells us *why*, but the answer as to *why* the first battalion is to seize hill 101 is (or should be) clearly contained in the concept of the brigade commander. Thus the concept is the vehicle which conveys the intent, and the method as well—all in one neat classic package. It needs no further elaboration.

There is, however, one aspect of intent which is as powerful as the quality of the concept itself. The strength of the concept can be no greater than the strength of the commander. The force and confidence with which he conveys this concept to his force is an inseparable property of that concept.

This aspect of intent could not be more important, but it is not an additional line of print in an OPORD. Rather, it is the strong steely eye of a Gen. Ridgway as he ordered Eighth Army into the counteroffensive after its retreat from the Yalu. It is a commander saying, "Gentlemen, this is the way we are going to win this battle."

AirLand Battle doctrine demands seizure and retention of the initiative. There is evidence, however, at NTC and elsewhere that concepts for the defense are often explained in terms of: "We will do A if the enemy does B, and we will do C if the enemy does D" and so on. These concepts leave the initiative with the enemy and do not aggressively shape the battle in accordance with the preferred concept. Apparently, this error is somehow related to a Clausewitzian discussion of branching. It is, of course, necessary to consider contingencies, but making contingencies the main theme tends in practice to drain the concept of its dominating purpose.

Conceptual Cop-Out—The Tyranny of Boundaries. In World War I, the control measures for the concentration of large forces were developed and refined and are still with us—boundaries, lines of departure, phase lines and objectives. The unbroken line that stretched from the Swiss border to the North Sea was divided into the sectors or zones of army groups, armies and corps, and these were subdivided into divisions, brigades, battalions and companies. Divisions in the attack had frontages of less than five kilometers. This system of control forced almost every tactical unit to go straight forward into the teeth of the enemy defenses. Sixty thousand young Britons fell on the first day of the battle of the Somme—19,000 were fatalities. At Verdun in 1916, 450,000 Germans and 550,000 Frenchmen were consumed. More than one generation of Frenchmen, Germans and British went down in the prolonged holocaust.

The baleful legacy of those control measures, when substituted for tactical operational concepts, is still with us. They still provide a way out for the unimaginative, risk-averse commander—a commander who passes the conceptual buck downward to his subordinates—a commander who simply divides his attack mission into zones and his defense mission into sectors and his objectives into goose eggs distributed equally to his subordinates, and finally Capt. Jones of A Company with a narrow zone assigned and an objective one kilometer straight ahead moves into the killing zone alongside Capt. Smith of B Company, who fights his parallel battle to a similar objective—alone.

Although there were conspicuous exceptions, World War II concepts of operation were too often expressed in control measures without elaboration—Unit X destroys enemy in zone. The

idea was that the control measures would facilitate the execution of the concept, but it was just too easy to put out an overlay with boundaries objectives, line of departure times and let it go at that.

The famous and unlucky Marshal Mikhail N. Tukhachevski describes the problem in terms of "corridor commanders":

> Commanders with a poor understanding of the essence of maneuver, i.e. the union of efforts, prefer, most of all, to divide the area of their maneuver uniformly among their subordinate units and demand the same results from all. It is a misfortune to be subordinated to such a "corridor" commander. A completely opposite picture obtains with good, efficient leadership . . . A clearly posed objective and an internally coordinated plan mobilize all the resources and equipment and rouse and direct the spirit and enthusiasm in a clearly comprehensive direction.

Field Marshal Erwin Rommel was the antithesis of a corridor commander. Figure 4 records his personally drawn sketch of his attack plan at Gazala in 1942.

Rommel's concept of operation is clear. His entire force was employed within the cohesive embrace of that concept. He did not pass the buck to his corps commanders. He told them *where* to go and his sketch conveyed the *why*. Just *how* they were to fight was left to them. Here again we are in the presence of a tactical genius.

When his plan went awry, he placed his force temporarily in the defense, personally went back and fetched his trains in the middle of the night, had a new supply route opened westward through the British minefield, devised a new concept, issued appropriate orders, overwhelmed the Eighth Army—chased it into Egypt and captured Tobruk on the way. Rommel dominated the action from beginning to end.

When one examines this remarkable performance, it is impossible to separate the execution from the concept. *Rommel created the concept and then left his headquarters to make it happen.* Perhaps in that one sentence we have captured the essence of battle command. Sir B. H. Liddell Hart in his *Rommel Papers* noted that "there are these two forms of military genius—the conceptive and the executive. In Rommel's case they were combined."

* * *

The commander's concept is his supreme contribution to the prospect of victory on the battlefield whether he is at the tactical or the operational level. Without a sound and dominating concept of operation, no amount of command presence, personal flair, years of rectitude, demonstrated integrity, advanced degrees, perfectly managed assignments, warrior spirit, personal courage, weapons proficiency or troop morale can hope to compensate. Of all the qualities we seek to imbue in our leaders, the ability to create and apply a powerful preemptive concept in the heat and pressures of battle and to propagate that central set of ideas throughout the minds of his subordinates is the heart of command.

We can tolerate, although we do not prefer, commanders who may be deficient in other respects so long as they are consistently successful on the battlefield—and at minimum human cost. Experience tells us that soldiers will follow and fight for such a leader whether they love him or not just so long as he keeps them alive while giving them that other essential satisfaction of soldiering—membership in a unit (or a team) that succeeds in battle—a unit that gives them pride.

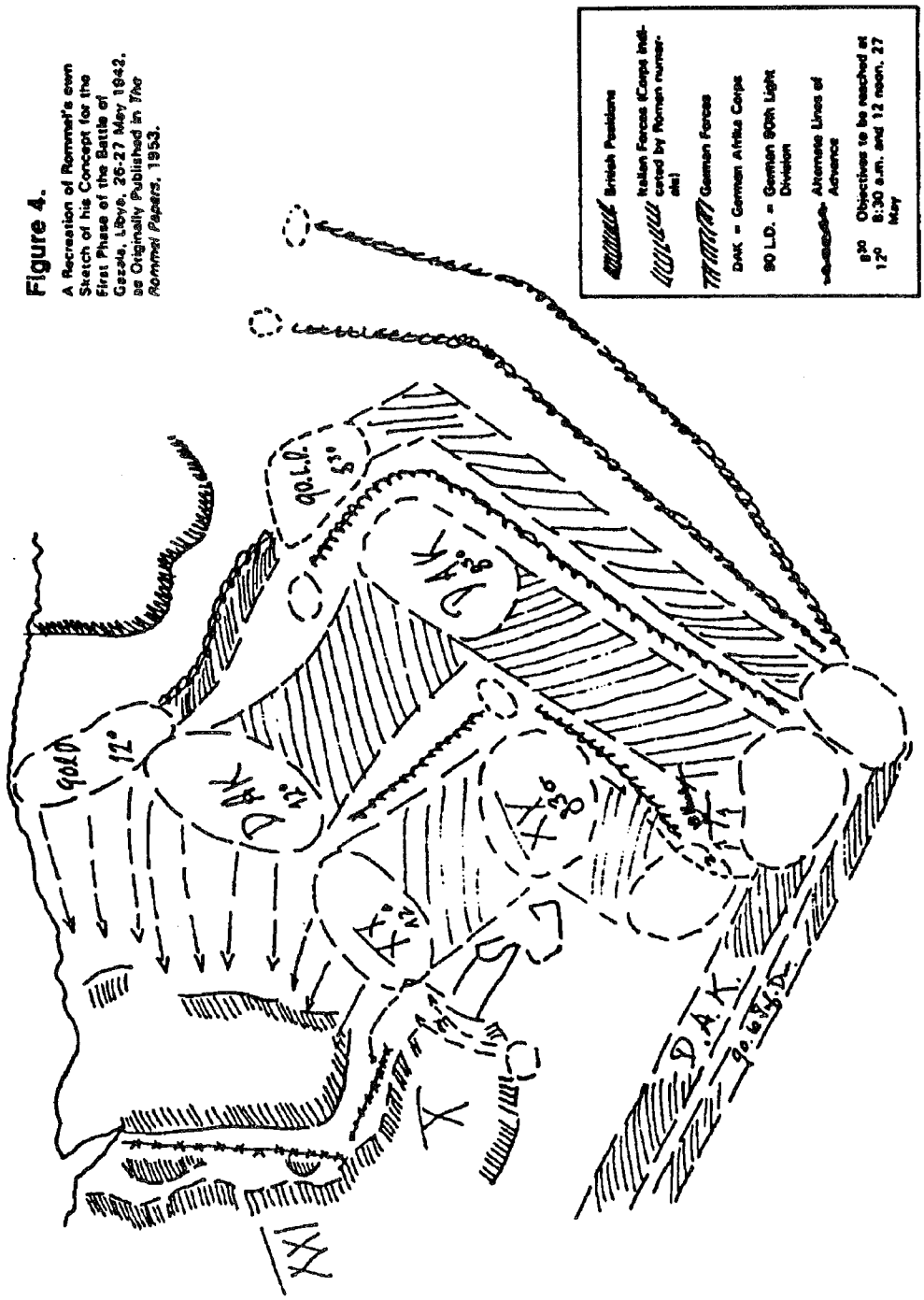


Figure 4.

A Recreation of Rommel's own Sketch of his Concept for the First Phase of the Battle of Gazala, Libya, 26-27 May 1942, as Originally Published in *The Rommel Papers*, 1953.

There is no mystery why the tactical and operational creativity of a commander towers over his other qualities. The complexity and diversity of modern military forces, the enormous combat power that is inherent within them, the potential for creative initiative, which resides in the hierarchy of subordinate leaders, and all the professional reservoirs of doctrine and training can only be mobilized and focused upon the enemy in victorious action through the medium of a unifying commander's concept. Such a concept is the heart of command—the tool of doctrine—the triumph of a disciplined professional mind over the fear, fog and friction of war.

23

GENERAL (RETIRED) WILLIAM DePUY

PRESENTATION TO THE TRADOC COMMANDERS' VISION '91 CONFERENCE

5 OCTOBER 1988

We went through something similar to this not more than a few weeks ago in a very small room, and I am prepared only for a very small room—so I will have to make some field expedient moves here today.

Most of you, I suppose, were in 1972, field grade officers at one time or the other—the generals around the table—and you will remember the atmospherics back at that time. The Vietnam drawdown was coming to a close—we had just cut the Army from 1.6M to 800K in 4 years: a turbulent, disagreeable time with a lot of questions about the morale of the army, an Army perturbed by drugs, by the VOLAR experiments (the War College made a study about ticket punching you may recall). The atmosphere was somewhat poisonous, characterized by a vociferous loss of confidence in the Army leadership.

There was a place called CDC out at Fort Belvoir—when George Forsythe ran it, he thought it had no clout and wrote a letter and asked if the schools could be placed under CDC. CONARC, of course, only snickered at that. Jack Norton, the commander of CDC, also did not think they had enough clout and suggested that it be headed by a 4-star general. CONARC, over where some of you now live, was overloaded.

The reduction of the Army, the cutting of the Army in half, presented a real challenge to CONARC. There was a lot of unhappiness over performance, but there was no way anybody could do a good job in those days or win any medals—no matter what they did.

Bruce Palmer was the Vice Chief of Staff. He didn't think that CONARC was doing a good job with respect to the Troop Command, because he had gone to the Dominican Republic and did not like the support he got. Stanley Resor was the Secretary of the Army; he did not think that CONARC was a good management agency. It was a budget-driven organization, manned mostly by civilians who were in the CONUSA's that General Thurman just mentioned. The technique of management was to cut the budget and listen for the screams and, using a decibel meter, make adjustments between the commands.

One day when the budget was the program and, therefore, the budget was seriously cut, Swede Larsen, who was commanding 6th Army, came in with a message that he was, on the following day, going to fire every civilian in 6th Army. That was later referred to as the "Olympic Gold Medal," the "Gold Watch Treatment." The Secretary of the Army was not amused.

The Maxwell R. Thurman Papers. Box 2: Official Papers—CG, TRADOC; ALB—AirLand Battle; AOF—Army of the Future; ASB—Army Science Board. Folder: Army of the Future. U.S. Army Military History Institute, Carlisle Barracks, PA.

With that background, General Palmer, who was General Westmoreland's vice, and a fine and powerful man, asked me, in my capacity down there as his assistant, to make a study about doing something about CONARC. I called on Bill Tuttle, and a Lieutenant Colonel named Jim Edgar, and the three of us made the study—in a hurry. The going-in concept was simply to combine CDC with the schools and the training centers and do something with the Troop Command that, of course, became TRADOC and FORSCOM. In one week, we briefed the Vice Chief of Staff, Palmer; the Chief of Staff, Westmoreland; the Secretary of the Army, Volke; the Secretary of Defense, Laird; and they all approved it. That does not testify to the brilliance of the work we did; it only testifies to the state of mind of the high command, which was looking for any kind of initiative whatsoever, to try to dispel the gloom and show some signs of life.

Jim Kalergis was then put in charge of the steadfast office (and just incidentally, Carl Vuono was one of his executives). About that time, General Abrams was nominated as Chief of Staff, but Congress did not get around to confirming him. He had quite a bit of time. He reviewed the study, and his contribution was to put in the readiness regions and the readiness groups because he had been, at one time, Chief of Reserve Components. So the starting organization in July of 1973 was a rather remarkable horizontal structure. There were—I do not remember, Max, but you may—about 19 or more entities being commanded directly from Fort Monroe. The training centers, the schools, the integrating centers, ROTC, CDEC, and later, I guess, TRASANA, etc., etc.

Because of that wide span of control, we adopted a Contract Management System, which was input/output oriented. In other words, we tossed money out to Fort Swampy, strictly on the basis of how many students, trainees, or whatever Fort Swampy would produce for that amount of money. And then (because we were still in a turbulent era and the money would change during the year), we would renegotiate the contract with the installation at some lower level at which the reduction in money was matched with the reduction in output. (TRADOC is a command more compatible with that concept than, for example, FORSCOM. It is a little more difficult than FORSCOM because the output measurements are not quite so clear.) The whole purpose of that process was to avoid any surprises of the kind I described when Swede Larsen was going to fire all of the civilians.

I have to tell you a little story about Abe with respect to the selection of the commanders for TRADOC and FORSCOM. Generally, Abrams was by no means decided. He knew that it would be Kerwin and DePuy, but he did not know who would go where. And as he was agonizing over that, two of his old buddies, who were retired, came in and sat down with him and said, "For God's sake, don't send DePuy to TRADOC because when he was Assistant Vice Chief of Staff, he ruined the Army's study system." So Abe announced my appointment to TRADOC the next day.

Now, I think you are entitled to know why we organized the way we did, I am going to run down a few of these reasons, and then we will get into the future.

In the first place, Combat Developments: We started with the CDC organization simply being absorbed into the schools and into freestanding integrating centers. From my viewpoint, it was unthinkable in 1973 to turn over any of the schools to an intermediate command like one of the integrating centers for the following reasons:

There was a rampant criticism of the Combat Development process in Washington. I suspect that's just simple endemic. There was much discussion of the quality of the user representation. It was thought not to be very good. QMRs, which we now call ROCs, were thought to have one or another of two deficiencies. The first was that they were so vague that they were used by the laboratory commands of AMC as a hunting license, a license to go on with a large civilian complement of employees spending a lot of money and producing nothing. The second was that specifications were so precise that the developer had no flexibility. The same controversy is alive today.

It was further thought that alternatives were frozen out of the process. Industry particularly has always felt that we only looked at a few alternatives and that most of those were pet pigeons within the commodity commands. Industry felt that the process excluded all sorts of alternatives. (These controversies that I am mentioning are the kinds that do not go away.)

It was also thought that the centers and the schools were very parochial, that the O&O concepts were all loaded dice: infantry thought infantry. (The first time I saw the MIK V was designed to kill BMPs. It made no reference to the fact that TOWs and tanks might kill BMPs also.) Tanks were to fight tanks or artillery to fight artillery. There were a lot of private wars and no combined arms integration to speak of at that time. In fact, it has only been in the last ten years, I believe, that counterfire, which was part of the artillery war, has, in fact, become one of those things you synchronize with maneuver that wasn't very well understood. The scenarios were thought to be canned. The manuals were thought to be weak. The COEA's were nonexistent or loaded. Test plans were either designed to succeed or, if they did not, ignored. And anyway, the PMs had total control because they had total money and the user got lost somewhere on downstream in the development process. These are criticisms that were rampant at the time.

I had spent four years in the Pentagon as part of the office up there that had been the Weapons Systems Analysis Group under Dick Trainer and so, I came to TRADOC with some history of involvement with weapon systems, just like General Max came after having presided as the Vice Chief of Staff over Weapon Systems Acquisitions. I was sensitive to these things. (I suspect that General Thurman had been sensitized to these same kinds of things.) I just did not believe that we could afford to decentralize further; I believed that the problem was quality control. At that time, Len, CAC, in my opinion was about 75 percent oriented on the Commanding General Staff College and 25 percent or less oriented on combat development. Part of the reason was that Jack Cushman who was running it had grown up within the college and was primarily interested in the Command and General Staff College part of his responsibilities.

Training: We initially took over all the training establishment in place, as is or as was. The Deputy Chief of Staff for Training at CONARC and therefore at TRADOC, was a fellow named Jim Hunt, a very strong character. The training establishment was going through what they called engineered instruction, which was the forerunner of the performance-oriented, task analysis. POIs and lesson plans were in concrete. They were approved by a large cohort or phalanx of civilian specialists at CONARC Headquarters and no deviation was permitted.

In the training centers, the impact of this was especially bad. First of all, there was a psychology best described by the term "on the trail." I ran into it when I first visited a training center. ("On the trail" was, you may recall, a term that came from driving cattle, generally from Texas to Kansas or Oregon to Kansas. Oh my God, here comes another batch—that sort of mentality.) The sergeants had taken over. I have no quarrel with sergeants, believe me, but the

sergeants had been following the lesson plans for so many years that sometimes they had drifted off the center line.

For example, I think I described before having gone to Fort Ord. I watched the trainees crawl up a hill. At the top of the hill was a trench. They laid down parallel to the trench, turned their faces away from the trench, picked up their M-16 rifles, and went chunk, chunk, chunk, chunk, chunk in the trench. I asked them what they were doing, and they said they were detonating booby traps. I asked to see the lesson plan; of course, they did not have a lesson plan. I then watched soldiers go through a live-fire course in which one was to shoot to cover the other and then vice versa; I saw two soldiers go through it who I thought were absolutely unbeatable; in other words, I thought they did it perfectly. But the sergeant in charge flunked them, gave them an unsatisfactory. I asked him, "Why?" He replied, "Because they ran out of ammunition before they got to the end of the course." I said, "Well, what if they had ammunition left over?" He said, "That would have flunked them too." So what I am saying to you is that if you have rigid lesson plans and everybody's eyes are glazed over because they are bored to death, all sorts of strange excrescences occur in the system.

Morale was low. I, as an aside, asked the major generals running the training centers to stop doing all the dumb things and make whatever changes they wanted to make and then let me know it. Morale went up; everybody was happier. However, variations began to occur. The Chief of Staff of the Army viewed with alarm the deviations at the training centers and ordered that they be stamped out. I just wonder what kind of an institutional memory we have. It reminds me of the Russian system. I mean, if you got motivation, you got initiative. If you don't got motivation, you don't got nothing! I think that that is something we need to think about.

On schools, we sort of continued to march under the old regime until Paul Gorman arrived. He came up, as you may recall, from the Combat Arms Training Board in Fort Benning. He brought his apostles along and showered upon the Army a whole bag full of new ideas, which I guess can all be lumped under Performance Oriented Training: Tasks, Conditions, and Standards; Front-End Analysis; Instructional Systems Design; SQTs and soldiers' manuals; ARTEPs; Battalion Training Models; MILES; and TEC, etc. A lot for the Army to swallow in a short period of time. Schools had to be reorganized and there was plenty of blood on the floor.

Training Development changes were the toughest ones to impose because the theory of Training Development was that you cannot trust the instructors. You cannot trust the instructors because even in the colleges, it is well known, instructors teach what they know best—no mind what students need. That was the philosophy. So, at that time, the teachers were told they were no longer the guys who were going to design the instruction, but some other chaps would, disembodied spirits would go through the performance oriented training front-end analysis, and then teachers would teach what they were told to teach. That put more blood on the floor.

Training evaluation and analysis was of course, I think, nonexistent when I came here and barely alive when I left. Efforts to tie training costs and performance to battlefield performance was a goal during the four years I was here. My last official act was to get Rick Brown to set up a big study group to do that, but somehow or other, the focus of the study group drifted off that objective.

We had battles with simulators versus aviators, a perennial battle. We also saw the genesis of the National Training Center that sprung directly from the fertile mind of General Gorman, having experimented with MILES.

I thought that it would have been unthinkable to separate the generator from the engine; in other words, Gorman from the schools, particularly in the midst of this running gun fight. Since then, the performance-oriented training galaxy of theories, actions, devices, instruments, and products has gone through some ups and downs. Back a few years ago, I thought it was on a down trend. I think it is on an up trend now.

The toughest issue that we had to face eventually was doctrine. We started out ignoring it; it just was not an issue. One of the basic premises of combining CDC with the schools was the assumption that this would take care of doctrine. That doctrine then would be disciplined by the necessity of teaching it as well as designing it. And, of course, to some extent, that is correct. But doctrine was not, at the very beginning, much of an issue. It turned out, however, that this business of rubbing the schools together with the CD process did not automatically lead to doctrine nor necessarily to other beneficial results.

Now, there were at that time, it seems to me, several points of view about doctrine. One point of view was that doctrine is driven by weapons and weapons' capabilities and that was the point of view of the people who had to write O&O concepts from the weapons' developments. That was a CD point of view. There was a point of view that doctrine is driven by experience and accumulated wisdom, principles of war, and so on. That was the view at Fort Leavenworth in the Command and General Staff College. There was a point of view that doctrine provides operators manuals, which, therefore, become the basis for training developments: you cannot have an ARTEP unless first you have a doctrinal manual for the operator of a battalion. That was the point of view of the training establishment here.

Right about that time, the Yom Kippur war came along and woke up various elements of the Army in various ways. Some of us thought that the time had come to refocus from light infantry in Vietnam to heavy armored mechanized forces in Europe, that it was time to reorient on NATO; time to check our doctrine out to see if it was appropriate for that change in emphasis. So we started a process from the top to revise FM 100-5, which was going to be the keystone of a whole family of "How to Fight" manuals that would cascade from it. Gorman wanted "How to Fight" manuals as the necessary precondition for his tasks, conditions, and standards, so he asked for and took over the production mission within TRADOC. CD wanted a strong base for O&O concepts that could be related to weapon systems. Gorman wanted to see tasks, conditions, and standards jump out at him from doctrine. CD wanted O&O concepts to jump out at him. The Command and General Staff College wanted the principles of war to dominate the doctrine—accumulated wisdom. So we had a kind of donnybrook. (Incidentally, I suspect that curses of all of that still exist.)

In addition to these inherently different points of view, TRADOC Headquarters, represented to some extent by me, was also interested in trying to get our doctrine in synch with the Germans because we and the Germans had the two largest contingents in NATO. So, I was hoping that our 100-5 would bear some relationship, some compatible relationship, with their 100/100. Well, you know, Donn Starry created a doctrine shop in TRADOC because, I think, of the experiences we had with 100-5. That's when Don Morelli created AirLand Battle 2000.

The integrating centers were taken over in place. The Admin Center which you now call, I believe, the Soldiers' Support Center, had a very slow start because neither DCSPER nor the Adjutant General was really interested in it; they were actively hostile to it with respect to getting involved in current personnel operating procedures. They really didn't mind about a TO&E for a finance company or for an AG company, but when it got into the procedures of personnel management, it intruded upon the giants in the field. I don't know where the ball rests on that today, but I'm sure it's much more enlightened than it was in my day.

The Log Center also got off to a slow start. There wasn't any particular argument about the Log Center producing TO&Es for DISCOMs and COSCOMs but efforts to make it also the instrument of AMC (even though the AMC commanders and TRADOC commanders were close buddies) was only marginally prosperous. It's my impression that the Log Center is now up, running, and doing an excellent job.

CAC was and is a special case. To the best of my knowledge, no commander of TRADOC, and probably no Chief of Staff, has ever been very happy with CAC even though some of them worked there. It has nothing to do with the people at CAC. It has nothing to do with the quality of their minds. It probably has to do with the difficulty of the job. You see, CAC performs a function that lies very close to the heart of the function of the whole United States Army. In fact, if you look at the function of the Department: organize, train, and equip land forces so they can be turned over to the CINCs, you'll see also the mission of TRADOC. It's the mission of the Army and it's the mission of CAC. The center line. Heartland stuff. And it is difficult to do it right, to do it on time, and to influence the Washington management system.

Now, I want to get into CAC, CACDA, and the integrating function, but I want to remind you of two things. First is the functional organization of an AirLand Battle force in the field. Second is the functional organization of TRADOC. There is a similarity between the two. The only difference is that along the top, instead of vertical functions on the AirLand battlefield, we've now got schools (until you get over to cross-service support).

I want to say something about schools and about vertical functions. There was some question early on in TRADOC that may have even lasted well beyond my departure as to whether or not, for example, Don Infante, sitting down there, my buddy, was really responsible for the entire vertical air defense system. My answer to that is yes. He has to be because there isn't anybody else who can do it. He's the only man in TRADOC, and probably in the Army (with the possible exception of the air defense brigade commander in Europe) who can do it anyway: technically, tactically, qualified, and experienced.

All of those vertical systems have taken on a life of their own over time. I talked about the little parochial worlds in which the artillery was fighting artillery and tanks fighting tanks and infantry fighting infantry. That was one of the undesirable manifestations of the vertical mentality. Sixty percent of the Army or more is in the vertical systems other than maneuver. I was never able to understand how all of you guys who are in the vertical systems could have sat still and silently to AirLand Battle 2000, which more or less ignored you. The Army in general recognizes the branches of the vertical systems and their importance, but the Army has had a hang-up about synchronization.

In the functional organization of the AirLand Battle, synchronization is simply a maneuver commander with a concept of operation integrating or synchronizing the battlefield combat

functions of the vertical systems. In this functional organization of TRADOC, the same problem arises with different products. The integrating centers, and primarily CAC, at the brigade, division, and corps level, integrate all of the vertical functions. Instead of combined arms integration, it could just as well be the TO&Es and the doctrine for brigades, divisions, and corps.

I'll come to some of the implications of this in a moment, when I talk about the integration process because that is the tough job. And, by the way, gentlemen, that is the job that the Army says only the Army can do. The Air Force, given the differences in these charts, would say putting together wings and air forces is something only the Air Force can do. The Navy sure as hell will say putting together battle groups and fleets is something only the Navy can do. The process of integration, therefore, must be undertaken by the Department of the Army, and acting for it, TRADOC, and within TRADOC, CAC, and within CAC, CACDA. It cannot be performed elsewhere, at joint levels by defense bureaucracies by Departments of the Army, up there, etc. It is, in my opinion, the heart of the function and the mission and the process of the Department of the Army, and it lies within TRADOC, CAC, and CACDA.

I'm not in any way suggesting that the vertical systems are less important. They are, in fact, the building blocks upon which the integration takes place. I gave a talk last week at the Armed Forces Staff College and I do not believe that the people in Congress who drew up the Goldwater-Nichols legislation understand that the services are the geese that lay the golden eggs. I also have to tell you I'm not sure that the Department of the Army understands the centrality of that function and how it is lodged within the hierarchy of the department.

Now the branch schools produce functional building blocks, and within the vertical systems they produce battalion-level functional entities, by and large. CACDA, then, produces combined arms building blocks by integrating those functional battalions into brigades, divisions, and corps. The Deputy Chief of Staff for Operations in Washington, using the building blocks of force design, your function, assembles them into force structure. And the Office of the Chief of Staff, PA&E, looks at alternative structures, rates of modernization, and levels of readiness so that the Chief of Staff, the Secretary of the Army, and the Vice Chief of Staff can make decisions about the Army program which, in turn, must be responsive to the defense program, which, in turn is responsive now to the JCS and the CINCs. Let's talk about that function for just a moment.

I have tried to draw a picture (TAB C) of what I take to be Len Wishart's job. And what I show in the middle a Mix Master, which is the force design process. Remember, this is the magical process that is the exclusive franchise of the Army as opposed to the JCSs, as opposed to the CINCs, as opposed to the OSD staff, as opposed to the Commander in Chief in Europe, and so on.

In the middle you have the process, and you've got lots of inputs. On the upper right, you've got combined arms doctrine. It comes from the Command and General Staff College as far as I know, at the moment. You've got, the functional building blocks that come from the schools and the vertical systems that appear at all the echelons. Somebody's got to come up with alternative mixes of these functions—more armor and less artillery, more artillery and less mech, more command and control and less fire power, etc. Creative alternatives. Then you have to do some comparative analysis of the effectiveness of the different mixes. You've got to use some models that can, in fact, model these various mixes.

We used to have a thing called SCORES. I don't know whether SCORES still exists, but SCORES now better bloody well get the Good Housekeeping stamp of approval of the joint establishment. More and more you will have the joint establishment, both the JCS and the CINCs, tinkering at least around the edges of your force design. But you have input from the actual performance, training performance, of the Army: the battle command training program, what goes on at the NTC, how well exercises are conducted, command and staff simulators, lessons learned, the stuff Bill Mullen's doing. That's input to the Mix Master. You've also got Army program resource constraints. When you design a division, you're probably going to design it under a high, medium, and low manpower target.

Now what we have is a process. The CAC commander is responsible. The CACDA commander is probably his principal agent for running the Mix Master. I look at it, Len, in this way. Let's visualize one of those big companies that runs trucks around full of concrete for the building in northern Virginia. You are the CEO of that concrete manufacturing and distributing company. You've got to whip up customers, you've got to buy sand, you've got to buy cement and the machinery that mixes it, and *you*, you've got to be sure that the distribution works, and make all the management analyses so you can turn a profit. Now there's a guy who runs a mixing tower, that's Knudson's tower. He then puts the water together with the cement, the sand, and the gravel, and produces the various qualities of concrete, depending upon what your customers want. Now the problem with all of this is that you've got a big circle with 10 or 12 influences impinging upon it. There is no piece of machinery like that mixing tower out by Dulles Airport that I drive by so often in which somehow they do mix up the water and cement and sand and out comes concrete. Out of this thing has to come TO&Es (for brigades, divisions, and corps) and doctrine (because doctrine is an input and an output). There are a lot of implications to this.

You know, if I'm right that it's central to the Army mission, then it is imperative that the CAC commander control the vertical functions so he can integrate them. He has to perform the magic of the Mix Master. It seems to me that historically CAC has never had the time nor the strength to assume direct control and responsibility for the vertical systems, nor the talent. Not that they're dumb. They just barely have enough talent to do their own job, and that job has never been done yet to the satisfaction of the high command of the Army. But they need override authority—some form of command authority to make integration work, to intervene on the basis of a combined arms mission.

CACDA, in my opinion, is to the integration of the division or a corps what a commander is to the synchronization of a tactical force. And combined arms doctrine is the counterpart of the commander's concept. In fact, the commander's concept is simply the manifestation of the doctrine of the Army to which he belongs. Combined arms force design has to give the tactical commander a complete and balanced set of functional capabilities. Although doctrine is the starting point, both combined arms and joint, it is going to be conditioned by the decisions made as well as by the impact of the functional weapon capabilities. Again, doctrine is both an input and an output. That raises all sorts of interesting additional questions about Wayne: How you organize for combat, and how your division commander here supports you. It seems to me that the doctrinal hierarchy falls pretty much along these lines.

The lowest level is the most dynamic because it's tied to the weapons system and its operator doctrine. We used to call it crew drill. Whatever you want to call it, it's doctrine. The next level, which is very dynamic because it's still based on weapons systems changes and modernization

rates, is tactical employment doctrine. That's at the level of a battalion. And then, still very dynamic but not quite so, combined arms tactical doctrine, which is the Mix Master. And then, finally, not as dynamic on a periodic basis perhaps is operational and joint doctrine. And then last, our future concepts.

Now the fascinating and difficult interface, therefore, is between the combat development force design function, the executive agent probably being CACDA, and the larger responsibilities for doctrine, which still reside in the hands of the CAC commander. This is undoubtedly the most difficult interface in the system, loaded with difficult interfaces. It seems to me that future concepts need to be at TRADOC simply because they are so difficult, so enormous, so dangerous, and also periodic.

So the question as to how you manage the integration—I don't know. It's partly a collegial exercise, but it also has to take place in the head of the man in charge like a Knudson, like a Colin Powell, whom I remember in that job. My view is that there's considerable collegial assistance required, but at some point, you need a creative mind. Whether that creative mind appears in the form of the man in charge or one of his troops is very hard to forecast. But, without it, the function won't work.

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Excerpt from *An Oral History of Americans in Vietnam, 1945–1975*

GENERAL WILLIAM E. DePUY

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When I first arrived it wasn't so grim, or if it was I didn't know it. In April of 1964, Vietnam seemed peaceful. On the surface, very little was going on. The country and the U.S. program were trying to recover from the coup against Diem. The government was a shambles, a comic-opera kind of government, with coup after coup. I traveled all over the country. In that kind of a war, most of the time nothing is happening. It's just like today—the sun is shining, the birds are singing, the flowers are in bloom. There were some intelligence reports that things were beginning to stir, but the countryside was quiet. No North Vietnamese units had yet gone into combat. We weren't even sure there were any in the South. It was a small war, a guerrilla war with an occasional strike.

But all that changed in December of 1964, when the North Vietnamese, as we now know, ordered an offensive. It was launched by an attack against the Catholic strategic hamlet of Binh Gia in Phuoc Tuy province, just east of Saigon. The town was attacked by the 9th VC Division. That was a milestone, because the 9th was the first division to be formed by the other side in South Vietnam. It was formed first from two regiments that had been around for quite a while, the 272nd and the 273rd. A general was appointed, and he took them down from War Zone C to the coast. In Phuoc Tuy province they rendezvoused with a trawler from North Vietnam and got AK-47s, 80mm mortars, RPG-2s, radios, and so on. The third regiment in the division was then forming near Song Be.

One of the two regiments attacked Binh Gia, and the other ambushed all the likely landing zones around there. It was a classic. There were no ARVN troops at Binh Gia. None. There were Catholic popular forces, the village militia. They were no match for a regular VC regiment, so the first part was easy. Then the VC held the town for a while, just to show they could do it. When the ARVN started sending in reinforcements, they were ambushed. In the course of the battle the VC destroyed a marine battalion, beat up an airborne battalion very badly, and knocked off a couple of battalions from the regiment up at Xuan Loc.

Well, this terrified the Vietnamese government, and shocked MACV. We were shocked to find there was a division, which we learned from interrogating prisoners. And we were shocked that they had switched from hit-and-run to what we saw as a more serious effort to take a place, hold it, and then destroy the ARVN forces. We saw that as the beginning of a new, higher level of war.

The same VC division then picked up its third regiment. In June of '65 they attacked the Special Forces camp at Dong Xouai. There again, although they didn't hold the camp, they

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From Harry Maurer, *An Oral History of Americans in Vietnam, 1945–1975* (New York: Avon Books, 1989), 447–455. Copyright (c) 1989 by Harry Maurer.

destroyed it. They ambushed all around it and practically destroyed the 7th Regiment of the 5th ARVN Division. Two of its battalions were pretty much knocked out, plus an airborne battalion.

In between those two, there was another battle in Quang Ngai province, which was fought by the 1st and 2nd Viet Cong regiments. After taking the district town of Binh Ba, the two regiments ambushed all the routes that converged on it. They destroyed the 38th Ranger Battalion to the man and beat up a marine battalion badly, along with a couple of battalions from a regiment of the 2nd Division.

My job in those days was to allocate U.S. helicopters so the ARVN could use them for reinforcement. I went to the battles as a representative of General Westmoreland, so I know a lot about them. Matter of fact, the J-3 of the Vietnamese joint general staff and I found the 38th Ranger Battalion at Binh Ba. It went out of communication and nobody knew where it was. The VC had destroyed it and killed all the prisoners. There was a little circular mountain, a conical hill, that was terraced for rice paddies. As we flew over we looked down. They had arrayed all the bodies. They put the battalion commander and the American adviser at the very top, and laid the rest of the bodies out on each terrace all the way around like the spokes of a wheel. It was a vicious kind of thing.

I was in Vietnam during the whole controversy over whether to put in American troops. Out there it wasn't a controversy, because the Viet Cong were destroying ARVN battalions so fast. When I say destroyed, they weren't obliterated to the last man, but put out of action. They had to be rebuilt from the ground up. The VC got about four at Binh Gia. About four at Binh Ba in Quang Ngai. And three or four at Dong Xouai. Then there was Song Be, where they got about two, and Dau Tieng, the Michelin plantation, where they got two or three more. So the ARVN lost, let's say, fifteen or sixteen battalions in six months. That's big business.

In the spring, Westmoreland sent a message to Washington that said over the last few months we'd been losing almost a battalion a week, and a district town every month. He gave the government six months to live unless something was done. It was that opinion, and that sense of alarm, that underlay the deployment of U.S. combat troops.

From then on, there was escalation on both sides. The North Vietnamese Army was on the way south before we put the marines in, but we didn't really know that. Both sides were pursuing their own program. The North Vietnamese were going to send their armies south. It didn't make any difference whether we deployed or not—they were coming south. In Karnow's book there's a story about a North Vietnamese colonel who was sent south in 1964 to make a survey and see how the war was going. He reported back that they would never win the war in the South if they relied entirely on the Viet Cong. So they decided to send their troops south. And we were worried that South Vietnam would lose the war without us, so we sent in our troops. Both sides were worried about "their" South Vietnamese. Both sides thought they might lose. So we both went in.

There was very little dissent within MACV over bringing in the troops. I would say General Maxwell Taylor, the ambassador, was the only leading figure who was reluctant. But he eventually agreed we had to come in. He was faced with a horrible dilemma in the early part of '65. He didn't want to fight a land war in Asia. But he was also the godfather of counterinsurgency. I'm just guessing, but I always felt he couldn't bear the thought that the whole counterinsurgency effort was going to be a failure in Vietnam without our doing everything we could to salvage it. I don't remember any discussions within MACV about the disadvantages of bringing in a Western army. It's an admission against interest, but I think we were affected by already having advisers in every unit and in every province. In other words, there were a lot

of Americans already over there. It's sort of like being a little bit pregnant. There may have been some astute military men who argued and worried about it, but I wasn't one of them. I really wanted to see whether by bringing in American troops we could turn it around. We were totally preoccupied with the growing VC forces. From then on, pacification was secondary.

It seemed to me that we needed to get American forces in there and unshackle them so they could go to work against those VC main forces. That's an important point. In 1964, we had a project to strengthen the pacification effort in the city of Saigon and its immediate surrounds. It was called Hop Tac, which I think means "cooperation." I was involved in the planning. If you visualize a target with three rings, the center was downtown Saigon. That's the area where the Vietnamese police were supposed to be predominant. It was supposed to be mostly secure, with the police fighting problems of subversion and intelligence but not military actions. We called that process "securing." The next ring went to the fringes of Gia Dinh province and Long An province and so on. The idea was to use RF/PF and ARVN troops to get rid of Viet Cong district companies and village platoons. We called that "clearing." Then outside that, going as far as you want to go, was the area for search and destroy. I coined that term. It turned out to be infelicitous, because later when some marine was televised setting the roof of a native house on fire with his cigarette lighter, the commentator said, "Here's a marine company on search and destroy," and from then on a burning house was the "destroy" part of it.

But that had nothing to do with search and destroy. The idea at first was to take the better ARVN troops, like the airborne and the marines and the better battalions of the regular infantry, to search for and destroy the VC main forces. The VC would come in and try to take over a district town, kill all the local forces, and terrify everybody. They only had to do that once or twice a year, and it defeated any pacification effort. It convinced people that the government couldn't protect them and the VC were stronger. So this outer ring of Hop Tac was to be patrolled by the stronger ARVN units, to keep the VC troops out of the areas being cleared and secured.

When General Westmoreland asked for American troops, he intended for them to be involved in search and destroy. They would go after the VC main forces. In my area, when I commanded the 1st Division, it was the 9th Division, which operated in an arc north of Saigon. We were one-on-one with the 9th Division, so I got to know them quite well. My job was to keep them on the ropes and out of the populated areas. And we succeeded, by the way.

I have no apologies for that concept. It was right then, and it's right even in retrospect. Only the Vietnamese can handle the counterinsurgency job, and the American troops should defeat the main forces—keep them deep in the jungle so that pacification could proceed. The problem was that we didn't stick to fighting the enemy's main force.

We had some big victories over the main forces. That's what we did best, and what was needed most. As for having any luck against the guerrillas in my rear area, we weren't much better than anybody else, which was very poor indeed. I think the Phoenix program and the RF/PFs did a damn good job later, in the '70s. The problem was that it came too late. We were ready to pull out. And the North Vietnamese just kept coming.

It seems to me there were two driving circumstances in the war. The first was that the minute you bring in American troops, you concede to the other side a tremendous political advantage. And the Communists exploited that to the hilt. They were very clever at it. Along with that, we were slow in realizing that the North Vietnamese simply intended to win that war no matter what it cost. They'd send their whole army down if it was necessary, and as a matter of fact that's what they finally did. They sent seventeen divisions against Saigon in 1975. Whereas we went through a self-inflicted period of confusion, starting with counterinsurgency. We convinced

ourselves that if we did that right, the war wouldn't get any bigger. Well, it did get bigger. We didn't know how to do counterinsurgency very well, and we had white faces. Plus the North Vietnamese looked at Indochina as a whole. They didn't hesitate to use Laos and Cambodia. They looked at the whole mountain chain and the Ho Chi Minh Trail and the Mekong River as a single theater of war. We tried to keep Laos as a separate problem, Cambodia as another separate problem—South Vietnam as one theater and North Vietnam as another. Disastrous.

When the 1st Cavalry Division was deployed to South Vietnam, General Westmoreland and General Stilwell proposed that we ought to block the Ho Chi Minh Trail as an extension of the DMZ along Route 9, which goes from Dong Ha on the China Sea to Savannakhet in Laos. The Joint Chiefs of Staff recommended it, too. One of the plans was to put the 1st Cav on the Bolovens Plateau in southern Laos. It would operate against the Ho Chi Minh Trail from the west, and the 3rd Marine Division would operate from the east. It would have been a big fight, no question about that. The North Vietnamese might have thrown in their entire army eventually, and we would have needed more divisions. But at least it would have been a clearly defined major confrontation. They would have had to fight.

That was rejected—first of all because the ambassador in Laos said it was not warranted, and an intrusion into Laos was a violation of the Geneva Accords. The people in the State Department in Washington didn't think the situation warranted it. The CIA people who were doing pacification didn't think it was that kind of war; they thought it was an insurgency. We in the military didn't have good evidence of an invasion from the North. Maybe a regiment was coming down, but not the whole NVA. McNamara had a study made by systems analysis, and I think it showed that the VC consumption of war matériel in the South was fifteen tons a day in 1965. Fifteen tons is so little that there's no way you're going to stop it. You might stop 15,000 tons a day, but not fifteen. So blocking the trail, which meant escalating the war, to stop fifteen tons a day just didn't make sense. Well, the real figure wasn't fifteen tons a day, it was a lot more than that. But for all those reasons, the decision was made not to cut the trail.

There was also considerable discussion of invading the North Vietnamese panhandle, from Vinh south. I don't remember any serious talk of going to Hanoi with ground forces. The reason people wanted to go up to Vinh was they wanted to take the entrance to the Mughia Pass. All the supplies that came from North Vietnam and went over into Laos and down the trail moved through that pass. People wanted to go up there and shut off the flow. But that would have meant invading North Vietnam, which might have brought in the Chinese. After Korea, Washington was nervous about that.

When you operate on the borders of the Soviet Union or China, you ought to expect to get the same treatment from them that we would probably give if we had Chinese or Russians in Mexico. We don't like to think the world is like that, but it is. That means anytime you're close to one of the Communist giants, there are a lot of constraints. If you do enough to win the war against North Vietnam, you're apt to bring in one of the superpowers. They don't want an American victory on their doorstep, just like we don't want a Communist one in Mexico. We don't even want one in Nicaragua. But if you scale back below the level of provocation that would bring in the Chinese, you have a hell of a time ending the war.

Why didn't we object at the time? We were good soldier Schweiks. In a military organization, you have two personalities. One is your own opinion as to what's best. The other is the team player, doing what you're told. That's a precondition to playing the game. We should have fought a lot harder for cutting the Ho Chi Minh Trail. We should have seen more clearly that a

North Vietnam undefeated and a trail uncut would make it impossible to end the war. We should have been utterly frank about that.

However, we continued to hope that we could inflict such losses on the VC or the NVA that it would be more than they would be able to take. That's the alternative to cutting the trail. That's an attrition war. It's a dirty word now in military circles. I think the concept of attrition was an outgrowth of counterinsurgency—which, after all, is a form of attrition. So we fell into that trap. We thought, and I guess Mr. McNamara thought, and Mr. Rostow thought, and probably the President thought, and the JCS thought we were beating the hell out of 'em, and they couldn't take it forever. It turned out they controlled the tempo of the war better than we would admit. We beat the devil out of 'em time after time, and they just pulled off and waited and regained their strength until they could afford some more losses. Then they came back again. They took terrible losses at Tet, and even worse losses in the Easter offensive of 1972. It took them two years after that to gather together the forces they used at the end. But they controlled their own losses by the simple device of either fighting or not fighting. So we ended up with no operational plan that had the slightest chance of ending the war favorably.

We also didn't know about the redoubtable nature of the North Vietnamese regime. We didn't know what steadfast, stubborn, dedicated people they were. Their willingness to absorb losses compared with ours wasn't even in the same ball park. Way back at the beginning, when they attacked the destroyers in the Tonkin Gulf, we were doing what I call carefully controlled retaliation. Everybody thought, Oh, boy, we're sending American airplanes up and they'll bomb a couple of targets and the other side will be terrified. It was the notion of gradualism and retaliation, one more turn of the screw. I personally thought it would be a token of U.S. resolve, and a sample of what we could do. I really thought it would impress them. I now think it just infuriated them. And we just kept doing it. We did more and more and more and more, up until the Cambodia invasion and the mining of the harbors and the B-52s over Hanoi, and it was never enough. We never quite grasped the fact that the North Vietnamese intended to win. Regardless.

I figured out recently that if the North Vietnamese put up a memorial like the one we have on the Mall, and it was adjusted for the relative populations of our country and theirs, the one in Hanoi would have 7 million names on it. Just soldiers. Interesting, isn't it? The North Vietnamese lost about 500,000 dead, and the VC 300,000. That's 800,000. And we lost 58,000. Of course, the ARVN lost a lot, too. But the North Vietnamese main forces lost up to 40 percent of their troops every year. That's enormous. It's unbelievable. I didn't think they'd be able to keep their soldiers fighting, given the casualties we were inflicting. I should have known better. In World War II I fought in a unit with casualties like that. The 90th Division had 25,000 casualties in just eleven months, so I should have known.

When you're doing anything you think is important, there's a very high emotional content. It inhibits clear thinking—at least with me. When I was commanding the 1st Division, I was totally preoccupied with trying to find the 9th VC Division and the other main-force elements in my area. I was concerned about doing it better—more engagements, with more success and fewer casualties. It was a full-time job, learning how to do that. And you're very defensive. You only see the things you've been doing well, not the big mistakes you've made. We were all emotionally involved that way. We weren't as cool and detached as we should have been, and as we can be now. It's easy to be smart in retrospect. It's difficult to do it in the heat of the battle. I didn't do it too well. But I think I had a lot of company.

When you step back—and I didn't have these thoughts while I was there—you see the difference between a country that's fighting on its own terrain for its survival, and a country that's

sending its forces halfway around the world to "contain" Communism. We asked a lot of sophistication from our public and our troops—maybe more than the country was able to give. I don't think Americans can be expected to support a long, inconclusive war.

The reason I think about these things is that I wonder what would happen if we went to war in Iran. There are a lot of parallels to Vietnam. It's a long way away. There's no threat to our homeland. In an expanded war, we'd have to go to the draft immediately. That would bring out all the opposition, bring the children into the streets again, polarize the Congress. No doubt about it, all those things would happen. That's a sobering set of consequences. And if it's close to the Soviet or Chinese border, it would probably be long and inconclusive.

Or take El Salvador. I think we have been pretty smart there. I'm impressed by the fact that we keep only fifty advisers in the country. I don't think there's anything wrong with giving them support with money and training and communications and intelligence and engineering and all that, as long as we don't Americanize the war. As long as we stay below that magic threshold. Nobody knows exactly where it is. The point is that it's very low. And it's easy to step over it in the eyes of the natives. If they look around and see Americans everywhere, it's an American war. If you have GIs going into villages or barrios and trying to sort out friend from foe, that's a disaster. It gives the other side a precious asset—call it patriotism, xenophobia, or nationalism. And once that happens, God help you.

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For the Joint Specialist: Five Steep Hills to Climb

WILLIAM E. DePUY

Officers of the armed forces have been tendered a new and exciting career opportunity—that of becoming qualified and recognized as a Joint Specialty Officer. Those who choose to follow this route will be on the leading edge of a new wave. The opportunity has been fashioned by Congress. It is the product of long-festering congressional unhappiness about the state of joint affairs within the Department of Defense. Still beset by concerns over the outcome in Vietnam, Congress was irritated further by the *Mayaguez* incident of 1975[1] and especially by the failure at Desert One during the Iranian hostage rescue attempt of 1980. The momentum for reform within Congress was given a mighty twin boost by the bombing of the Marine barracks at the Beirut airport on 23 October 1983—241 Marines were killed and scores more wounded—followed only two days later by Urgent Fury, the Grenadan campaign marked by serious problems of joint execution.

In October 1985, the staff of the Senate Armed Services Committee issued a report[2] which became the inspiration for subsequent hearings resulting ultimately in the now-famous Goldwater-Nichols DOD Reorganization Act of 1986.[3] That act represents an astounding and historic intervention by Congress in the organization and internal operation of the Department of Defense.

Officers who contemplate following the new joint specialist path as a major career option should read the Senate staff report from cover to cover in order to understand the perspectives, motives, and objectives of Congress. The most zealous of such officers may also wish to study the transcripts of the hearings. The stilted language of the law itself does not convey the spirit and drive of its intent.

The basic theme of the new legislation is to strengthen the joint establishment vis-à-vis the service departments.[4] The most important aspects are these:

- The responsibilities and authorities of the Chairman of the Joint Chiefs of Staff are greatly increased. He is now the chief joint military adviser to the President, the Secretary of Defense, and the entire national security apparatus. He has clear control over the Joint Staff.
- A four-star Vice Chairman has been provided to assist the Chairman.
- Minutely detailed instructions are contained in the law regulating the selection, education, assignment, and promotion of Joint Speciality Officers.[5]
- The commanders of the unified commands (the CINCs) have been given increased authority over the service components of those commands and direct access to the programming and budgeting processes in the Office of the Secretary of Defense.
- The service departments have been reorganized to increase civilian control.

With respect to the distribution of power within the national security apparatus, there is the unmistakable presumption of a zero-sum game in the package as a whole. That is, Congress

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seemed to believe that strengthening the joint establishment required the weakening of the services. This is both unfortunate and unnecessary as we shall see. What is required is the strengthening of both.

Thus Joint Specialty Officers, and those who plan to become such, stand under the influence of this historic legislation, learning the ropes in respect to the organization, functions, and procedures of the reinforced and elevated joint establishment. In proceeding, it is wise to remember that it is the product, not the process, which counts and for which JSOs will be judged in the long run. The realization of the goals established in the new law and its implementing directives now passes to the hands and talents of a new generation. And full realization will take just that—generational change.

Let us now turn to five selected opportunities for improvement and innovation in the joint arena, five steep hills to climb:

- Raising the quality of joint military advice.
- Improving the track record in operational art.
- Determining joint force requirements.
- Providing joint command and control over joint collateral support operations.
- Creating the conditions required for the synchronization of cross-service support at the tactical level.

Hill One: Quality Advice

The government turns to the Joint Chiefs of Staff for military advice on a very wide range of national security issues and policies. There is no higher military authority and thus nowhere else to turn for such assistance. When the Joint Chiefs of Staff are responsive and useful and when the views of the incumbent administration and those of the Joint Chiefs are generally compatible, the relationship is healthy and productive. When either of these conditions is absent, there is a pattern of mistrust, rancor, and bad decisions. Therefore there is much at stake in these relationships, which are complex at best.

The environment in which military advice is rendered to the President, the Secretary of Defense, and the national security apparatus is interesting in an open democracy. Under the new law, it is the Chairman, JCS, who is personally responsible for advice to the government and is also responsible for strategic planning. This suggests the existence of a grand Clausewitzian design to which the Joint Chiefs of Staff can refer for answers to all the lesser included questions. It is not quite like that.

In the first place, historically in this pragmatic nation there has been no true codified national strategy within which the military strategy could fit as one of several components alongside an economic strategy, a political strategy, and perhaps social and technological strategies. Congress has been goading the executive branch to produce such a national strategy, and efforts have been made.

But the reality remains that the real US strategy consists of the whole loosely bound portfolio of current security policies dealing with individual problems and issues, both foreign and domestic, facing an administration. If a grand design were to be drafted which projected changes in current policies, it would have to be so closely held as to be ineffective as an instrument of government. Current policies are delicately balanced between opposing sets of pressures. Any prospects for future change announced publicly would produce a fire storm of contention within our political system and amongst our allies. And of course real national strategy requires public

and congressional support, so it cannot be closely held. Do not hold your breath for a grand design.

Military strategy is confined by the policies it serves. The real military strategy, therefore, is the compendium of plans, deployments, operations, and programs supporting the long list of national security policies, which range from the defense of NATO to the transfer of defense technology and the size of an advisory group in country X. There is of course a necessity to protect actual military operational plans and to protect from the eyes of our adversaries our priorities for the distribution of military resources across all the plans. This is the closest we come to a military strategy.

The business of military advice is booming. Always active whenever a new administration arrives, we now have the added dimension of the extreme turbulence generated by Gorbachev's initiatives, instability in China, and a roiling Middle Eastern scene. And this is not to mention the budget crunch in the United States and economic trauma in much of the Third World. It is unlikely that there are *any* policies not under some kind of review, and the former planning assumptions associated with a bipolar world are now all up in the air. Even before the congressional measures to strengthen the joint establishment have taken their full effect, the new system has been plunged into this maelstrom of activity. That condition may be expected to persist for a long time. And when policies change—military strategies must follow.

The perspectives of the Congress on JCS performance were downbeat in 1985 and 1986. In the Senate staff report two comments from former luminaries on the defense scene were quoted as follows:

Former Secretary of Defense James R. Schlesinger: "Advice proffered by the JCS was generally irrelevant, unread, and largely disregarded."

Former Chairman, JCS, General David Jones: "JCS advice was not crisp, timely, useful, or very influential."

What this means to the new joint specialist is that the Schlesinger-Jones assessments of the quality of military advice must be fully turned around—stood on their head so to speak. In short, military advice must be crisp, timely, useful, relevant, persuasive, intellectually rigorous, and logically compelling. That is a tall order. The joint establishment works in a highly competitive environment not all friendly. The other departments of government and other philosophies compete for influence and the same shrinking resources. It is not enough to be convinced of the virtues and rightness of one's positions. It is also necessary to win in the fierce competition within the government. We might add that there is no law which requires a president or his administration to accept military advice. History tells us that often they do not.

This is the environment into which joint specialists are moving. To the extent that they are professionally sound, completely candid and clear, and devoted to the best interests of their country in the broadest sense, they will have done their duty as the law and the people require.

Hill Two: Operational Art

If military strategy is the compendium of existing plans, then the quality of the strategy is the sum of the quality of those plans. At the joint level these are operational plans connected at the top with policy and at the bottom with the tactical employment of forces.

Recently there has been great emphasis on operational art throughout the structure of professional military education. Much of that study has been devoted to past masters, theorists, and campaigns. That is good, but since the advent of nuclear weapons and the appearance of limited wars, the criteria for victory have tended to change. It is wise, therefore, to study our

own experiences in the second half of the century from the operational perspective. The track record is spotty but illuminating. It seems to tell us that success is defined as the attainment of *political* objectives in a reasonable time, at bearable cost, and with public support until the end. These criteria have become the bottom line in our time. Any other outcome equates to failure. Failure is cruel. It ignores the elegance of tactical performance, the good intentions, and the devotion and sacrifice of individual members of the armed forces and their families throughout the country. Failure is corrosive. Success, then, is the business of today's joint specialist.

Let us review some of our recent military experiences from this perspective and while so doing pay special attention to the baleful consequences when policy and operations diverge or are otherwise disconnected.

Korea. When President Truman sent our enfeebled armed forces into Korea in 1950, at least the mission seemed clear—stop the North Koreans and protect the fledgling government in the South. But the outcome could have gone either way—as Wellington said after Waterloo, "It was a close run thing."

General MacArthur's brilliant operational stroke at Inchon cut the North Korean line of communications and collapsed the invasion by the already exhausted and overextended North Korean army encircling Pusan. Then General MacArthur sent his forces north in pursuit of a broken enemy. The debate continues as to whether he and his Washington superiors were in any kind of agreement on policy goals and objectives in respect to the North Korean government, people, and territory. It seems probable that MacArthur had run out ahead of Washington thinking—a disconnect which can probably be laid at the feet of the government, not the commander in the field, who naturally wished to finish the matter off once and for all.

In any event the Chinese came in, revealing the utter inadequacy of the policy and the forces available at the time. When MacArthur's army was back in the South, very precise policy instructions were issued to confine operations to the border area with a mission of preserving the political and territorial integrity of the South. The United Nations forces recovered and faithfully executed the new policy, driving the Chinese and North Koreans back to, and slightly beyond, the original demarcation.

But with the reins held so tightly, there was no leverage to end the war, which went on inconclusively at high cost, eventually losing the support of the people. There was no workable concept for ending the war militarily. Attrition warfare against China was unappealing. President Eisenhower broke the stalemate with a nuclear threat rendered via India, and we achieved an armistice which extends to this day. The nuclear option is probably no longer available, and we should be mindful that wars are easier to start than to stop.

Vietnam. An entirely different kind of war at the beginning, the Vietnam War came to resemble the Korean War at the end. Starting as a counterinsurgency in the South plus retaliatory air strikes in the North after the Tonkin Gulf affair in 1964, the war ended with massive bombing in the North and a full-fledged invasion of the South by a North Vietnamese army which threw five army corps, comprising 17 divisions, at Saigon in 1975.

US policy lagged behind the transitional realities throughout the war. Even after the North Vietnamese army began to arrive in the South in 1965, the policy remained one of counterinsurgency and attrition, while the bombing of the North—prior to the heavy bombing of 1972, which was simply too late—was used to send admonitory messages to Hanoi rather than to destroy its warmaking capabilities.

The command in Saigon and the Joint Chiefs of Staff both failed to persuade the Administration that the North Vietnamese line of communication (the Ho Chi Minh Trail) needed

to be cut and that the port of Haiphong needed to be mined. The Administration considered these measures inconsistent with the nature of the war, which it persisted in viewing as an insurgency. Washington was also afraid of a Korean-like Chinese intervention—indeed, Chinese air defense and supply troops were already in North Vietnam.[6]

So the war went on inconclusively and expensively, and the American people gradually withdrew their support. The American government was forced to withdraw its forces from Vietnam in an agonizing failure of both policy and operations.

Beirut. The mission of the Marines in Beirut in 1983 at the time of the bombing of their barracks was "peacekeeping." It was never quite clear what that meant. The Joint Chiefs of Staff and the Office of the Secretary of Defense opposed the deployment. There was never an operational plan. The Marines at the airport were just waiting. This tragic episode counsels us to beware of vague missions for which no discernible military operational plan seems relevant. Some say the Marines were a "presence." The Shiite factions were not impressed. Vague, exploratory deployments like "showing the flag" or "presence" are doubly dangerous because they permit incremental, flabby thinking in Washington. That is, little time or analysis is spent on the possible consequences of a contemplated action or the next steps to be taken should the first move prove to be ineffective or even disastrous.

Grenada. This was a success by all of our criteria—it was fast and relatively inexpensive, and the public had no time in which to become disaffected. On the other hand, execution was ragged. We seem to have a problem in organizing, training, and equipping joint headquarters before they are needed. They are therefore not always fully prepared for the complexities of modern joint operations. It is a problem worthy of the joint specialist'smost urgent attention.

Persian Gulf. The tanker escort mission was well done—no disconnects between policy and operations (with the exception of the Iranian airbus shoot-down, which was a tragic mistake)—and the means were adequate to the ends. However, let us suppose, hypothetically, that we had gone into Iran in pursuit of Silkworm missiles or earlier in accordance with the Carter doctrine. Would we have set ourselves up for the same dilemma that plagued us in Korea and Vietnam? If we had prosecuted a vigorous war against Iran, would it have brought in the Soviet Union directly or indirectly? And if we had held operations below the threshold of Soviet provocation, how would we ever have ended the war? The study of neither Clausewitz nor Napoleon reveals easy answers to this dimension of operational art in an era of limited wars and nuclear deterrence. It seems to be the classic operational trap of the last half of the 20th century. True, things went well with the Air Force and Navy's punitive airstrikes against Tripoli in 1986, when the means seemed to fit the ends. But the Sandinistas in Nicaragua and Noriega in Panama present us with different but no less vexing dilemmas as we approach the 1990s.

Hill Three: Joint Force Requirements

Disturbed by the service-centered promotion of the 600-ship Navy, the Army's light divisions, and the Air Force plan to substitute F-16s for the aging A-10s as the preferred close air support platform, Congress wants force requirements to be derived in the future from the war plans of the combatant commanders—the CINCs.

However, it is not that simple. There are four essential participants in this centrally important function. The resource availabilities are set forth by the Office of the Secretary of Defense; the Joint Chiefs of Staff provide strategic plans and direction; the CINCs draw up the war plans; and the services develop the forces.

None of these functions is transferable. No one but the Navy can organize, train, and equip carrier battle groups; the Army—corps and divisions; the Air Force—wings and squadrons; and the Marines—amphibious forces. The force development process is therefore circular, iterative, interactive, and complex. It represents a vast sharing of responsibility across several huge bureaucratic institutions. It does no good to simplify it on paper. It won't simplify.

The pendulum of influence should swing toward the joint establishment, but not too far. Congress doesn't seem fully aware of the seminal contribution of the services in combining technology and tactics within fighting organizations and in training individuals and units up to high performance in the employment of those forces.

To some extent the shift from service dominance to joint participation is a cultural process. It may also be generational. That points to the emergence of the joint specialist.

Hill Four: Joint Control of Collateral Operations

In 1944 the Allies conducted a collateral deception operation which kept the German 15th Army pinned in the area of Calais waiting for the "real" invasion. Even after seven weeks of combat in Normandy, the Germans kept one eye on the Pas de Calais. Had it been otherwise the invasion might not have prospered. The deception operation was run directly out of the headquarters of the Supreme Allied Commander. In 1985 the Israelis wished to invade Lebanon to force out the PLO. But the Syrian air defenses would have made it difficult to provide adequate air support to the Israeli army. After performing a protracted joint intelligence operation, which mapped the Syrian air defenses down to precise locations and communications links, nodes, and frequencies, the Israelis conducted a preliminary set of collateral operations. Drones activated the defenses; aircraft, artillery, and electronic warfare measures attacked the system simultaneously; fighters shot down the reacting Syrian air force; and commandos knocked out the central control headquarters. Then, and only then, did the Israeli army begin to roll. This preliminary set of collateral operations was controlled by the chief of staff of the Israeli air force.

It seems certain that US joint commanders will wish to conduct similar collateral operations at their level in support of their joint concepts of operations. Over time, they might include any or all of the following candidates: joint intelligence; joint deception; joint command, control, and communications countermeasures; joint suppression of enemy air defenses; joint special operations; joint counterfire; joint regional air defense; joint special logistics; joint deep attack (FOFA); and others.

Each requires a commander, a concept of operations, a task organization, specified command relationships, and a qualified and seasoned joint staff. At the present time only special operations have such staffs and headquarters. For the others there are none, and in most cases such command arrangements have not even been conceptualized. This is exactly the kind of problem the joint specialist will wish to take on.

Hill Five: Synchronizing Cross-Service Support to the Tactical Level

The several armed services are specialized around the mediums in which they operate—land, sea, air, space, etc. But some of their specialties are also required by the other services. The organizational dilemma has always been whether to duplicate functions or share them. Sharing is the heart of jointness.

The Army has always been the leading proponent of jointness—not because it is more earnest or altruistic, but because it is massively dependent upon the other services. The Army can neither

deploy nor fight exclusively with its own resources. In fact, there is cross-service involvement in every single Army combat and support function.

The Army deploys by air or sea. Army intelligence operations depend upon cross-service surveillance, reconnaissance, electronic intelligence, target acquisition, and help in intelligence fusion. Fire support always includes close air support and battlefield air interdiction—and sometimes naval gunfire support. Tactical maneuver may involve airborne or amphibious operations which depend upon Air Force or Navy support. Army and Air Force electronic warfare efforts are joint. Joint air defense is commanded by an Air Force officer. The Army depends constantly on air and sea lines of communication, including air delivery to forward units of critical munitions and repair parts. The Army in the field is a joint force.

The Joint Surveillance and Target Acquisition Radar System (JSTARS) is simply an extreme example. JSTARS, which is operated by the Air Force, is to the Army what the AWACS is to the Air Force itself. By locating and tracking the movement of enemy ground forces, JSTARS provides the real-time information required by corps, division, and brigade commanders to maneuver their forces and target the enemy. It is therefore at the heart of Army tactical operations. It is not just nice to have—it is indispensable.[7]

On the basis of JSTARS information, the Army corps, division, and brigade commanders rapidly develop their concepts of operations, which key all the battlefield functions to the support of maneuver. This is the way a commander concentrates combat power against the enemy in decisive bursts of intensity to win battles. Obviously, this process of synchronization must embrace the now integrated and essential cross-service support. Seizing the initiative in battle requires not only precision, but also very rapid synchronization. For this purpose command relationships must be tight, effective, and thoroughly understood. There is a certain looseness in the system today which can and should be tightened up. The term *support* is the key. It is not sensible to even think about attaching elements of the fleet to an Army corps for naval gunfire support nor extending the command authority of an Army division commander over the air bases from which his close air support is launched. But at the same time it is no longer tolerable to even think about withdrawing the Air Force JSTARS from support of an Army corps in action.

The modalities of support developed over the last century which regulate the command relationship between artillery and maneuver within the Army may have broader application to these increasingly intimate and time-sensitive cross-service relationships. For example JSTARS sorties could be placed in direct support of a corps—meaning that would not be withdrawn except in the most extreme and unusual emergencies. The divisions and brigades would receive a continuous stream of information on the location and movement of enemy forces. And yet JSTARS would remain unequivocally under Air Force command and control.

Close air support and battlefield air interdiction could be placed in general support, reinforcing the fire support of a particular corps but not necessarily in support of each division at all times. It would continue to operate within the Air Force tactical air command and control system. Deep air interdiction could be placed in general support of the Army group or joint task force.

These modest adjustments to command relationships across service lines in the tactical arena might be beneficial and clarifying. They give a richer meaning to the term *support*. Just leaving everything up to the day-by-day or even minute-by-minute determination of a remote joint commander—the current practice—is not conducive to fast, effective synchronization of joint combat power and is not consistent with the degree of cross-service dependency which has arisen over the years.

Concluding Thought

How far the impetus of the Goldwater-Nichols legislation will carry the joint specialist up these five hills and many others only time will tell. We may find there are natural limits to the scope and utility of tactical jointness. But we most certainly have not even closely approached them thus far. Over the years ahead, the Joint Specialty Officer will need to introduce many changes in the joint establishment and in how it operates. He will bring a fresh generational viewpoint to the task, and that is exactly what is now needed.

NOTES

1. On 14 May 1975, 250 US Marines were landed on Koh Tang Island off the coast of Cambodia to rescue the 39 crew members of the SS *Mayaguez;* which had been seized along with its crew by a Cambodian gunboat. It turned out that the crew was not on the island chosen for assault, and the Marines, who encountered heavy Cambodian resistance, themselves had to be evacuated under fire. The operation resulted in 38 US dead, 50 wounded, and three missing. Although the *Mayaguez* itself was recaptured, the Cambodian government had already announced the release of the ship and crew when the attack began. See John E. Jessup, *A Chronology of Conflict and Resolution, 1945-1985* (New York: Greenwood Press, 1989), p. 534.

2. US Congress, Senate, Committee on Armed Services, Staff Report, "Defense Reorganization: The Need for Change" (Washington: GPO, October 1985).

3. Public Law 99-433.

4. For an excellent discussion of the Goldwater-Nichols Act, see Don M. Snider, "DOD Reorganization: Part I, New Imperatives," *Parameters*, 17 (September 1987), 88-100; and "DOD Reorganization: Part II, New Opportunities," *Parameters,* (17 December 1987), 49-58. The joint specialty for officers is discussed in Part I, pp. 94-96.

5. Pursuant to the Goldwater-Nichols legislation, the Secretary of Defense was to determine the number of joint duty positions within the defense establishment. The presently determined figure is 8300 (Rick Maze, "Services Blasted Again for Handling of Joint-Duty Posts," *Army Times*, 29 May 1989, p. 4). The Secretary is required to designate 1000 of these slots as "critical," meaning they must be filled with a JSO. The law further states that approximately half of the joint duty positions must at any one time be filled with an officer who is or has been nominated as a JSO, with this half including the 1000 "critical" JSO-required slots. To educate JSOs, the Skelton Panel has recommended a two-phase process. Phase I would be taught at the intermediate or senior service colleges; Phase II would be presented in a TDY status at the Armed Forces Staff College, *following* graduation from the intermediate or senior service colleges, to JSO-nominees en route to a joint-duty assignment (see US Congress, House, Committee on Armed Services, Report of the Panel on Military Education, 101st Cong., 1st sess., Committee Print 4 [Washington: GPO, 1989], pp. 3-4 and chap. III).

6. See "China Admits Combat in Vietnam War," *The Washington Post*, 17 May 1989, p. A31.

7. For the details of JSTARS, see Robert S. Dudney, "The Battle Vision of Joint STARS," *Air Force,* June 1989, pp. 42-45.

26

Infantry Combat

GENERAL WILLIAM E. DePUY, U.S. Army, Retired

On the premise that it is easier to work your way into the future if you know where you've been in the past, I'm going to talk about infantry combat as it has developed in the 20th century. Obviously, I'm a voice out of the past and whether what I have to say to you today has any relevance to the world in which you live, and to your jobs as you see them, you'll have to decide.

Before I talk about infantry tactics and their evolution, I want to put my remarks in an operational context, because I think that if you just do a bottoms up look at it there's always something missing. I'm going to start with a proposition that will run through my comments. It's a little above your present rank level, but it's going to affect your lives and I want you to grasp its significance.

That proposition is this: that the purpose of offensive operations—tactical offensive operations—is to achieve freedom of operational maneuver toward strategically important operational objectives. That's a big mouthful. What it means, though, is that just attacking isn't the objective of the exercise. The object of the attack is to break through the defense or go around it so you can move to important objectives. Conversely, then, and obviously, the purpose of the defense is to prevent the enemy from doing that to you—to prevent him from breaking or circumventing your defense, achieving operational freedom of maneuver, and moving toward the objectives you don't want him to have. (In NATO, that is not too difficult to visualize.) All else is secondary. Raids, special operations, and so on, are all important, but they're all secondary.

EXAMPLES

Now let me further explain this—still in an operational context—with some examples from this century. Then I'll go back to the nuts and bolts of the infantry business.

In World War I—none of us in this room were alive then—the German Army outflanked the French Army by going through Belgium, which was neutral. The Germans were going around the flank to get behind the French Army and destroy it and, incidentally, to get Paris, which was the hub of France.

For a little over a month at the beginning of the war, the Germans achieved freedom of operational maneuver. But they ran out of steam in the First Battle of the Marne when their infantry was exhausted and the French mounted a counterthrust. Then both the British and the French on the one hand and the Germans on the other tried to outflank one another in what was later called a race for the sea, and they extended their northern flanks all the way to the English Channel. When they arrived at the Channel, linear warfare descended on the military scene for the first time in history. And we have much of it with us today, although we are now in a transition back toward non-linearity, the mode familiar to Napoleon, Wellington, and Lee.

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After these opening moves and the race to the sea, and after there were no more open flanks, the French and the British were unable to expel the German Army, which went on a strategic defensive in the west while it tried to finish the Russians off on the east. So for four years, the western Allies tried, but failed, to break through and chase the Germans out, and they lost a generation of young men trying. For example, the British lost 60,000 in the first day of the Battle of Somme in 1916.

In 1917 the Russians were defeated and had a revolution. The Germans then redeployed their army from the east back into France—they wanted to finish the war before the U.S. Army arrived in strength. To just give you a feel for that, in July 1918 alone (one month) 600,000 American soldiers arrived in France. So the Germans were in a hurry.

They had a general named Oskar von Hutier, who at Riga in September 1917 had successfully infiltrated his army deep into the rear of the Russians. General Erich Ludendorff, who was fascinated by Hutier tactics, re-organized and retrained the whole German Army in a period of about three or four months to use those tactics against the British and the French.

In March 1918 the Germans attacked the British 5th Army under General Hubert Gough and destroyed it. They actually advanced 50 miles, which was unheard of in the era of trench warfare, and nearly got to Amiens, a road hub that would have split the British from the French. But they had no operational mobility. Everything was horse drawn. And that was the way the war ended—mutual exhaustion.

From that experience, the Germans learned that they needed operational as well as tactical mobility, and they went to tracked vehicles. Twenty years later, the system they developed was called Blitzkrieg.

In 1940 the Germans attacked through the Ardennes. In this case there was no open flank, but the Ardennes at that time was a weak spot. They gained freedom of operational maneuver as soon as they crossed the Meuse River, and they split the French from the British just as they had tried to do in 1918. The British were evacuated at Dunkirk, and the Germans turned south and rolled up the French Army. Thus, in 1940 they did precisely what they had failed to do in 1918. In 1940, they had the mobility and knew how to use it.

In 1944 the Germans threw a linear defense around the Allied beachhead in Normandy, and the Allies' efforts to break out of that defense failed during seven weeks of attrition warfare. Then, at the end of July, with the help of well over 1,000 heavy bombers, the American forces broke out at St. Lo, moved into Brittany, shrugged off a counterattack at Mortain, trapped remnants of the German Army at Falaise, and moved on into Holland, Belgium, the Rhineland, and Lorraine. For a month and a half, the Allied forces had freedom of operational maneuver, but they ran out of gas (literally), the Germans rallied, and the war returned to the attrition mode.

I want to make a point here. People talk a lot about attrition versus maneuver. This is not an intellectual choice. The same generals who so brilliantly dashed across France were suddenly forced back into conducting attrition warfare. Nobody doubts that General George Patton preferred maneuver, but maneuver warfare is not a doctrinal choice; it is an earned benefit.

The efforts to break through and obtain operational maneuver in the Fall of 1944 at Arnhem, with the great air-ground operation called Market Garden, failed; the attacks through Huertgen and Aachen were bloody and indecisive, and the attack by the Third Army across the Saar bogged down. In a last operational effort in the middle of December—three months later—the German Army once more sought freedom of maneuver through the Ardennes.

The Germans enjoyed another tactical success. They penetrated about 75 miles to the west, but they never could turn north toward Liege and Antwerp, which were their operational

objectives. They were stopped by the flexibility and mobility of the U.S. Army. That, by the way, was the first and only time in the history of the U.S. Army that it faced a breakthrough armored attack of the kind we have been preparing for in NATO for many years.

If the Germans had had a couple of second-echelon armies then like the Russians have today, the Battle of the Bulge might have turned out quite differently.

After that battle, the Allies gnawed their way through the remnants of the German Army, went to the Rhine and the Elbe, to Czechoslovakia, and to the end of the war. For the last two months of the war, they again had freedom of maneuver. That means they had a total of three and one-half months of freedom of operational maneuver out of 11 months of combat. They wanted it 100 percent of the time; they were able to achieve it less than 33 percent of the time.

After Stalingrad, the Russians developed the breakthrough operation into a brutal art. They broke through at Stalingrad, on the Don, the Donets, the Dneiper, the Vistula, the Oder, and each time surged forward 100 miles or more.

The two Soviet army fronts, which we would call army groups, that were involved in the breakthrough on the Vistula were commanded by Georgi Zhukov and Ivan Koniev, the Ukranian and Belorussian fronts. Those two fronts alone comprised 2,200,000 men, 7,000 tanks, and 46,000 artillery pieces, which in the breakthrough area amounted to 460 artillery tubes per kilometer of front. They broke through in a week, went on to the Oder at about 35 kilometers a day, and were stopped there on the last German defensive position in front of Berlin.

Korea was a linear war. The North Koreans started out with freedom of operational maneuver, which culminated at Pusan where the South Koreans and the United Nations troops, mostly Americans, threw up a linear defense around the city. At Inchon the Allies gained freedom of operational maneuver. Some of their elements got all the way to Yalu, but then the Chinese in turn pushed the UN forces back south of Seoul. The war then deteriorated into a battle of attrition, which President Eisenhower ended with a nuclear threat.

In Vietnam, we, the United States, never decided firmly and collectively on operational objectives. And without operational objectives we went on and fought hundreds of successful tactical operations. We inflicted 800,000 KIA on the North Vietnamese and the Viet Cong and wounded a million, to no good end. We never achieved freedom of operational maneuver simply because we never decided which objectives we needed to take, and many of them were in North Vietnam.

Grenada was a non-linear war like the Falklands campaign of the British. The operational objectives were all within reach of the tactical forces from the first day.

Now, you can say, what does all this mean to you, the commanders at the tactical level? Well, it means in the first place that you are going to be executing tactical missions that are part of an operational commander's concept—operational commanders, army group joint commanders, and the like.

If the commander's mission is strategic defense as in NATO and his purpose is to deny freedom of maneuver to the Russians, then of course there are certain defensive and counteroffensive operations you may be asked to undertake. The NATO commander has to maintain the forward defense and break the enemy attack. According to AirLand Battle doctrine, you could have the mission of blocking, delaying, counterattacking, spoiling by deep maneuver, or attacking deep with the fires of rockets, missiles, or TACAIR. Or you could be part of a deep operational counterstroke.

Now, which of these missions you receive depends on the whole set of concepts, all the way from the joint commander at the top, down through the corps, divisions, brigades, battalions, and

down to you. Make no mistake about this—in all cases, you're going to be told what to do as the company commander. In most cases, you will be permitted and required to decide how to do it.

INFANTRY EVOLUTION

With that in mind, I want to go back to the infantry evolution over this same period. Now we're in the meat and potatoes part.

World War I was an infantry-artillery war. The standard offensive tactic was to fire an incredible amount of ammunition over a very long period of time, followed by an assault of long lines of infantry, supported by other long lines of infantry, trying to follow close behind the grinding, slow moving artillery barrages.

The German defenses were deep and elastic, layered, dug in; machinegun crews came out of deep bunkers when the artillery lifted. The machineguns were generally devastating against the long lines of exposed infantry trying to move through wire, shell holes, mud, and churned terrain. After the machineguns did their deadly work, the remnants of the attacking force, which by then had fallen behind the rolling barrages, were almost automatically counterattacked by division-sized elements. And the defending artillery, of course, fired very effectively on pre-registered concentrations and barrages.

Indirect fire suppression turned out to be inadequate during that entire four years, during which time one generation of Frenchmen, one generation of Britons, and one generation of Germans all went down.

The direct fire that came from the lines of skirmishers turned out also to be inadequate; moving skirmishers could not develop enough rifle fire to suppress the enemy machineguns. And by virtue of their linearity they masked their own machineguns. So, all in all, World War I was an operational and tactical failure, except that at the very end the Germany Army—the German nation—was simply worn out. The French were also staggering at the time, as indeed were the British. The fresh American Army was coming on strong. But the American Army also failed to solve the problem of the trenches and the machineguns and operational mobility. So it ended almost with a whimper instead of a shout.

When World War II came along, we found we hadn't learned much, while the Germans had. Our infantry went into World War II just about the way it had come out of World War I. Suppression was done primarily by artillery. And although the troops were told in all the manuals published here at Fort Benning between the wars that open warfare by skirmishers was the way to go and that fire suppression had to be achieved by the infantry itself, it was rarely tried and more rarely accomplished.

In Normandy in 1944, it was standard practice to fire mortars at the first hedgerow, where the first layer of German defenders were, 105mm howitzers at the second hedgerow, 155mm howitzers at the third, and then (you guessed it) to line up the infantry and assault straight forward into the killing zone.

In its six weeks in Normandy, the division to which I was assigned lost 48 percent of its rifle platoon leaders each week. That means the on-the-job time for a lieutenant was two weeks plus a day or two and the losses were 300 percent in six weeks. The end effect, of course, was that few were seasoned and few were around long enough to learn how to fight.

In the face of these kinds of problems, some units resorted to marching fire to fill the gap between the lifting of the indirect fire and the arrival of the assault line at the enemy position. In marching fire the soldiers simply fired a round every few steps, aimed or from the hip, to try to

retain fire superiority while moving. The anomaly was, of course, that when they needed fire superiority most, they rose from their positions behind the hedgerow and lost most of it. And generally they were masking their own machineguns. This, incidentally is a problem you have today.

LONG HISTORY

There's a long history with respect to direct fire suppression, and not all of it in the U.S. Army. I know you have solved a lot of these problems, but I doubt that you have solved all of them.

I suppose most of you have read General Erwin Rommel's book *Infantry Attacks*, and you may remember that he had the same problem with the Italians and the Rumanians, in the Carpathians and the Alps. He was in that unusual battalion that had three, four, five machinegun companies and a lot of rifle companies, and he personally positioned all the machineguns and gave them targets. After shutting down all enemy fire, he then penetrated on about a one-squad front—brought his reserves through personally and operated in the enemy's rear. That is probably the most difficult task—tactical technique or task—that one could devise. But it's just about the only way you can get through a linear defense frontally with acceptable casualties (acceptable means very low).

I know you practice that some of the time. That means that instead of two up and one back, you've got one up and five back, or one up and three back. In other words, the bulk of the force is shooting. The greatest part of the force is involved in firepower and the smallest part is involved in maneuver in that particular technique. I know that is counter-intuitive in an Army that favors *maneuver*—but think about it.

The Israelis solve the problem by dropping into a base of fire position any element that initially receives fire from an enemy trench line or a bunker or an airfield defense, and bringing armored vehicles up to augment the base of fire. Then they go around the flank and work down the trench line with rifles and hand grenades.

About halfway through World War II, the U.S. Army began to learn how to do that. The first signs of wisdom are enshrined in a statement that became popular: "Pin 'em down and go around 'em." That is good sound tactics.

Armored combat commanders, much like you have in your mech and tank task forces, from the very beginning learned how to suppress with all the firepower of the armored task force. The first time I ever saw that happen I was awestruck. I saw a tank-infantry task force of the 4th Armored Division going by the edge of a forest. On the way by, they turned every gun they had toward the woods. They called it reconnaissance by fire in those days, but what it was was suppression. They put so much fire on the woodline no one ever knew if there was anything in the woods.

Mechanized infantry today has the same opportunity. Ninety percent of the firepower of the mechanized platoon is in its armored vehicles and others of the task force, and only a small amount with the dismounted infantry. Obviously, you're not going to put the 15 to 20 men in the rifle platoon in a killing zone unsupported. So you're going to have to shut the enemy down.

That is a short story of the evolution of infantry tactics. It connects what you're doing with what people learned the hard way a long time ago.

I want to talk to you now about another dimension of these problems that I call the baleful influence of boundaries. In World War I, such great men as George Marshall, who was then G-3 of the 1st Division and then G-3 of an army, became famous for moving masses of troops around and squeezing them into very narrow zones of attack. For example, in the Meuse-Argonne some

of the American division sectors or zones were only three kilometers wide, and these were divisions of 27,000 men. Now that, gentlemen, is why the whole idea of two up and one back became ingrained—embedded in the doctrine and the consciousness of western armies. It was the way to crowd a lot of troops into a very small area. But, obviously, the effect of that was that they all attacked straight ahead.

Unfortunately, the two up and one back technique—which was invented for control purposes, a way to squeeze a lot of people into a small area—was adopted by our World War II amateur army (that was what it was) as a concept of operations. I would say that half of our battalion commanders in World War II thought that two up and one back was a concept of operation instead of just a formation. The very first attack I participated in in Normandy as a battalion S-3, we did exactly that—two up and one back right into the killing zone. It accounted for the kinds of casualties we suffered.

It has also been devastating at the operational level. When you look back and wonder why, for example, the U.S. Army ever attacked in the Huertgen Forest, the answer is obvious. The forest was straight in front of the VII Corps of the First Army—and everybody just went straight ahead.

Now, in most cases, it's not just a formation, but two up and one back is, of course, the worst possible thing to do. I know none of you would do that, but there are plenty of people who still do it. If you know where the enemy is, then you certainly won't put two of your three combat elements in his killing zone. And if you *don't* know where the enemy is, you aren't going to put two of your elements forward where they might stumble into his killing zone.

LEADERSHIP COP-OUT

Anyhow, using formations instead of concepts of operation is simply a leadership cop-out. The Russians call them corridor commanders—commanders who simply take their mission, divide it up among their subordinates, and sit back and wait for the bad news.

In my discussions earlier this morning with some of you, and in the read-ahead material I was sent earlier, I found and we discussed some questions about decentralized versus centralized control, and we talked about attrition versus maneuver. I want to say to you that none of these theological debates get you very far. The fact of the matter is that when you get in your companies and battalions you're going to be executing concepts of operation cooked up by your next higher commander, and it will inhibit you to some extent. His concept—his order—will tell you exactly what to do, where to do it, and when to do it. You can look on that as being restrictive and counterproductive, but let me tell you that if your superior commanders do not have a concept of operation and if that concept is not dominating the battle you are in, your side is losing. You may have all the freedom you want, but you're also going to have the freedom to lose. You need to put yourself in that context.

What is left for you to do, and how do you do it? There's often a discussion of whether synchronization is incompatible with maneuver, but that's a dumb way to look at it. Synchronization is not just a complicated word. Synchronization is combining the arms within some kind of operational concept in a particular engagement or battle. You should be horrified, each of you, if your battalion staff, brigade staff, and division and corps staffs are not synchronizing all the combat support they can get their hands on in behalf of their concept and your lesser included role within it.

Synchronization is not a bad word. The name of the game, the formula to be followed, is that you should get all the synchronization that time and good judgement will allow.

I want to end up by saying that although we don't like rules, we do like principles. But it seems to me that there's a rule we learned in World War I, in World War II, in Korea, and in Vietnam that really ought to be elevated to the status of a principle. That rule or principle is "Never fight a battle—any battle, in the offense or defense—the way the other guy wants you to fight it." He wants you in his killing zones. He wants you to get mousetrapped, and then destroyed by a counterattack. He wants you to be two up and one back.

So the name of the game is never to do that, but to use your head to figure out some way to handle the other guy in a way he doesn't want, doesn't like, doesn't expect, and can't handle.

I'll just give you a few of the things we discovered along the way, some of which are applicable to you and some of which may be chiefly of historical interest. The repertoire of alternatives to ploughing into the enemy's killing zones arise out of the conviction that almost anything is better than that.

The easiest solution, and the one that armored divisions in World War II used, was encapsulated in that somewhat rude statement—"Bypass, haul ass, and call for the frigging infantry." That is, just leave the problem behind. One problem is that we now have armored forces, but no infantry divisions following along to do the dishes. So just bypassing the enemy and leaving him there is not always permissible. But when you get to exploitation and operational maneuver, it's exactly the thing to do. Just let him stay back there hopelessly and uselessly behind.

The second best solution, we thought, was to find a gap and slip through it with a battalion (usually a whole battalion) often single file, often at night, and sit down on a piece of terrain behind the enemy that he couldn't afford to let us have—a piece of terrain that once we were on it he had to come after us or abandon the entire position.

Then the enemy has to attack you and you're down and waiting and he's up and moving and, gentlemen, no matter how romantic you may be about the attack being the preferred method, my preferred method is staying alive while killing the enemy. The aim is to get him up and moving while you're down and waiting. That doesn't mean you don't go on the offense. But if you can sit down on a piece of terrain right behind his front, in the middle of his airfield or whatever, and he has to come to you, that's what you constantly seek once you become a seasoned soldier.

If you can't find a flank or a gap, the third solution that we learned to prefer was simply to infiltrate through him, at night, using very small units (squads, maybe platoons) right to the final objective.

That is not the way the enemy wants to fight the war. He doesn't want somebody infiltrating through him. He wants them to come in by platoons and companies and issue orders and talk on the radio and call artillery and to keep trying it again and again. All of this, of course, he wants to take place on the terrain he has selected. Infiltration, then, is a superior solution.

The fourth is to pin him down with very heavy suppression and go around him and attack him on the flank or the rear. That is, I would say, sort of the classic solution, right? That's a sort of drill that we go through, and the drill the Israelis go through all the time.

And the fifth solution, the toughest of all, is to do a Rommel. You ought to be able to do a Rommel in your light infantry company or your battalion, but you won't be able to do one unless you practice it a lot.

I would say that if you become professional at your job, whether you're in a mechanized company or in a Ranger company, whether you're going on a raid, whether you're fighting in Europe or in a light battalion in Central America, you're going to come up against all of the problems I've been discussing. They are eternal infantry problems.

In other words, you will find yourself having to attack an enemy position to accomplish a mission. Wherever it may be, you're going to find out that the defender has a lot of advantages that you will have to avoid or overcome. The time to think about all those things is now.

When I commanded the 1st Infantry Division in Vietnam, we received hundreds of lieutenants from Fort Benning and OCS, and I have to tell you that almost without exception—this was in 1966 or 1967—these platoon leaders would, if not otherwise instructed, almost automatically proceed in a column and deploy into a line when the first shots were fired and assault into the enemy position as a sort of puberty rite, a test of manhood.

Instead, a platoon leader should always think of the leading element as being on a reconnaissance mission for the company commander and the battalion commander so he's out there to find out where the enemy is, try to figure out the enemy strength so that the company and battalion commanders can make decisions. That's the professional way to fight a war.

It just so happens that the Viet Cong very often did it right. Our companies or battalions would be probed a few times by their reconnaissance elements and then sometimes nothing more would happen. We had to conclude that they took a look at us and decided it was a bad show and they would wait until another day. The U.S. Army seldom does that. There's some kind of an automatic exhilaration that takes place when the first rounds are fired. We have a very strong tendency then to charge.

I know that the lessons I have been talking about were primarily learned in World War I, learned again in World War II and Korea, and learned again the hard way in Vietnam, in Grenada, and probably in Panama. They have not gone away. They are classic infantry problems that you, too, will face. The thing to do now is to think them out ahead of time and practice ways to avoid repeating the U.S. Army's bloody initiation rites during almost all of its wars.

Good luck!

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[H.A.S.C. No. 101-57]

CRISIS IN THE PERSIAN GULF: SANCTIONS, DIPLOMACY AND WAR

HEARINGS

BEFORE THE

COMMITTEE ON ARMED SERVICES
HOUSE OF REPRESENTATIVES

ONE HUNDRED FIRST CONGRESS

SECOND SESSION

HEARINGS HELD
DECEMBER 4, 5, 6, 12, 13, 14, 17, 19, AND 20, 1990

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STATEMENT OF GEN. WILLIAM E. DePUY, USA (RET.),
FORMER COMMANDER, U.S. ARMY TRAINING AND DOCTRINE COMMAND

General DePUY. As you know, Mr. Chairman, I attended the session this morning, and I am glad I did. Among other things, it caused me to tear up my notes, and so I am going to extemporize this afternoon. If I may respectfully suggest that a couple of things may make your enterprise easier, may help you go where I think you are trying to go, and they have to do with the fact that during the morning session, time and time again either members of the panel or Members of your committee talked about going to the air war solution.

I submit to you that that is a shorthand solution to the problem, but it is not the kind of terminology that I think will communicate well between your committee and, say, the Pentagon and General Schwarzkopf and the joint establishment.

Let me try to explain what I mean by that. I think instead of talking about the air war and the ground war, what we are really talking about is a joint operation. You can call it an air-land war, but that is not very good because you have got maritime forces involved, so you are really talking about a joint operation.

Let me use the example of the Israeli attack that preceded their operation that they call "Peace for Galilee." You may remember that. Now, that was a classic. I would call it a front-end operation.

Let me refresh your memory about it, because I think that is the kind of thing that we have been talking about here this morning, but we haven't been focused on it correctly. The problem was that the Israelis didn't want to send their armor into Lebanon without air support. That is almost an article of faith with them, but they were concerned about the extent of the Syrian air defense and, indeed, the Syrian air force, and so they put on what I would call a preliminary set of operations.

They were in fact put together by the Chief of Staff of the Israeli Air Force. His job was to eliminate the Syrian air defense system because once that air defense system was eliminated, then the Israeli Air Force would have freedom of movement over Lebanon, and they could let the tanks roll.

Let me remind you of the kinds of things that were involved in that operation. The first thing was that they mounted an intelligence-collection operation over a period of several months ahead of time. You don't always have several months, but they located every Syrian missile, all the loading facilities, all the communications, the frequencies and call signs of the communications links. In other words, they knew everything about it. Then they sent some drones up to activate the system, and then they used a whole variety of capabilities.

For example, they put in an EW jamming operation, which shut down not just the air defenses, which was done by the Israeli Air Force, but also the command and control links of the air defense system. They put in a special operation raid on the main command and control facility of the Syrians. They went in and just took it out with special operations. They put a lot of fighters in the air, and I don't remember—maybe you do, Chuck. They shot down some incredible number of Syrian aircraft in the first 6 hours. I mean, it was like 1980.

Now, what they were doing was they were creating the conditions that they had to in order to operate, in order to move and maneuver into Lebanon, and in order to get freedom of what I would call operational maneuvers, so that they could go up into the Beirut area and into the Bekaa Valley.

I think what we have all been talking about this morning and what I have been eavesdropping on, is a lot of operations that have to be undertaken in modern warfare at the front end, and we have been calling it the air war.

I submit to you, Mr. Chairman, that it will involve at the front end perhaps mostly air. I don't doubt that because many of the things that have to be done can only be done by air. It might involve a lot of C-3CM operations involving the Army as well as the Air Force. It may well involve some special operations. It probably will involve counter-missile and offensive counter-air operations, and then at some point you can begin to do other things. You can begin to use the rest of the force safely at a lower level of casualties. I suspect that that is what we have been talking about.

In other words, I don't think you have been talking about an air war versus a ground war. I think you have been talking about the configuration, size, sequencing, and objectives of a whole series of these—call them whatever you want to—collateral operations, joint supporting operations.

I cannot imagine that Schwarzkopf will not have a whole series of similar things. I am not going to try to second guess him because I don't have the intelligence, but I strongly suspect that he will be doing a lot of the kind of things that the Israelis did so that he can fight the war smart at the lowest casualties and get the job done.

Now, the thing that tells you what needs to be done is not that we are going to fight an air war and that the Chief of Staff of the Air Force, for example, is going to run it. It is a joint operation. He has to come up with a concept of operations. I am sure he has one. We just don't know about it, and I don't think we ought to know about it, frankly. But his concept of operations will undoubtedly have things like that in it at the front end. It may have, for example, some heavy bombardment of deep targets, I don't know, but it will be his best judgment drawn up in conjunction with his commanders as to how to get the job done.

Trevor Dupuy this morning—I agreed with him completely. He talked about, yeah, you are going to have a big air operation at the front end. He even said that might be enough. Well, if it is enough, you can break out the champagne and everybody can go home. That is the best possible outcome. But Schwarzkopf's concept of operation, which has to do with shutting down the air defenses, taking care of his missiles, taking care of his air defenses, is all part of his scheme.

Now, we are probably going to hear some more schemes here today that may or may not bear any relationship to this, but may be, say, perhaps similar. In no case do I think you are talking about a choice between a ground war and an air war.

That is my chief recommendation to you. I think you will do a better job of communicating with the Pentagon and with the people in charge if you will accept the fact that there is no simple choice before them, but that a lot of what you have talked about is important and relevant. So I offer that to you respectfully for whatever it is worth.

Now, I would like to go into one other matter, which is the relationship between interdiction and maneuver, because that also lies at the heart of what we are talking about here.

There is a lot of history available, and we can consult our own experiences in this connection, and I think that this committee ought to reflect upon what we can learn from that.

Let me use the example first of Normandy. Before the landing in Normandy, there was an air operation. Part of the objective was to isolate the battlefield by knocking out French communications, railroads, roads, bridges and so on, even locomotives, and that that worked. The French communications were shut down at great cost in civilian casualties and so on, but

back in the bend between the Loire and the Seine also were the German Panzer reserves hiding. The tanks were tucked in French villages and barns and so on, and they remained untouched.

Now, then, all of a sudden the landing took place. That was maneuver. The minute the landing took place, the German Panzer reserves, you have no doubt read about this, there were lots of arguments in the German army between the Russian generals and Rommel, the German Panzers began to stream toward the beachhead.

In other words, they came out of hiding. They exposed themselves, and the U.S. Air Force and the RAF ate them up. It was a magnificent operation. I was there in Normandy in a very minor capacity in an infantry regiment. I can tell you that I honestly believe that if the air interdiction program hadn't worked, and I don't think it would have worked had the Germans not been flushed by the necessity posed by the landing in Normandy, we could have lost that one.

Let me go to the folly which took place at the end of the Normandy experience, when after a lot of hard and bitter fighting the Germans began to stream out of Normandy on their way back toward Germany. They were moving over essentially one road, but the artillery and the air were having a very hard time exacting a heavy level of casualties on them until the single road was cut. The minute the single road was cut, the U.S. Air Force and the RAF created a holocaust.

Anybody who has ever seen the pictures or who has been there will recognize it was one of the great triumphs of tactical air. It worked because of the constructive relationship between interdiction and maneuver.

Let me give you one more. In Vietnam in 1972 at Easter, Harry, I think you were there in Vietnam at the time? The North Vietnamese got greedy. They didn't wait until we were all gone; the U.S. Army was out, but the Air Force was still there. Fritz Kroesen, I believe, was up in I Corps, were you not, Fritz?

General KROESEN: Yes, I was.

General DePUY. As the advisor to the corps commander there, these two gentlemen were right in the middle of that.

Now, during the long years and months of the war in Vietnam, if you add up all of the sorties flown and divide them by the number of casualties inflicted, you get about one KIA per sortie, including B-52s, OK? If you want to talk about cost effectiveness, there is one you can nibble on.

Now, what happened at Easter, however, was that the North Vietnamese Army—by that time most of the VC had been converted into North Vietnamese—came out of their sanctuaries, and they attacked Pu Hue and Dong Hoi and I guess Da Nang, Kontum, and An Loc. They came out and exposed themselves because they had to reach what were their operational objectives. They felt that if they took those cities, the Government of South Vietnam would collapse.

John Evoten was over there running the Air Force. The Air Force and the Vietnamese had no help from the U.S. Army except the good help of advisors like Fritz. The U.S. Air Force went in there, and the Vietnamese will admit to you to this day, if you can find one who was there, that the U.S. Air Force made a lot of difference, some of them will say made the difference.

So it wasn't the U.S. Army working, but it was the Vietnamese Army. It was a maneuver force that occupied critical terrain that the enemy had to have. This, then, created the conditions in which tactical air forces—I am not talking strategic—reach a very high level of effectiveness.

I think, Mr. Chairman, that that relationship is an important one for your committee to think about. It is another reason for not fighting an air war or a ground war. It is a reason for fighting an air/land war, which is integrated, synchronized, sequenced, et cetera. I brought the second one up because I thought it was a logical extension of the first point I have made with you.

Now, having torn up my other notes, and having gone extempore, I will subside now and take any questions which may arise later.

EXTRACT FROM TESTIMONY

The CHAIRMAN: Let me go to General DuPuy [DePuy] there for just a second, sir, if you can talk to the mike.

I am trying to understand a little bit about how you differed from the folks talking this morning. I take it you are talking about the extent to which air power works, that in the examples that you used, you need to get the forces up and maneuvering, in order to make them vulnerable to air power. Is that your point?

General DePUY. Well—

The CHAIRMAN. The enemy forces, for example, how the Germans were vulnerable when they came out of their hiding and began to attack the landing forces.

Landing forces—the point is that sometimes that in order for the air force to be effective, or the forces to be effective in attacking those units, they have to be out and in some kind of a maneuver fashion.

General DePUY. What I was trying to say is that there is a constructive relationship between maneuver and tactical error [air], DAI [BAI] interdiction, whatever, but we are mostly talking about interdiction here. The problems for interdiction in the past—and perhaps these have been solved by high technology—have always been finding targets, out in an area where nobody was pushing the enemy around, like on the Ho Chi Minh trail or hiding in the bushes in Vietnam or hiding in the French farm houses.

The cooperative, constructive relationship between the maneuvering forces and the interdicting air forces is a positive joint venture in which the total is worth more than its parts. It is a synergistic symbiotic kind of a relationship, and it has been proved over and over again. I just gave two or three little examples in which that has been the case.

So rather than talk about fighting an air war, I am suggesting that we put the forces over there that we need to execute Schwarzkopf's concept of operation, and it will include a lot of air. I would be very surprised if most of that air isn't used very early on doing the kinds of things that the Israelis did.

See, there are a lot of other things that he is going to want to do. Deception, counter C-3, special operations, et cetera, to satisfy specific problems of execution of his total plan. Some of those will be done by Marines, some of them by the Navy, some of them by the Air Force, some of them by Army helicopters. The planners that [Jim] Blackwell was talking about are going to pick the best solution to the problem from the warehouse of units that are being deployed over there.

Now I think that is reality. I think it is quite a different reality than arguing about whether we are going to fight a ground war or an air war.

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Highfield
Box 29
Delaplane, VA 22025
26 September 1991

General Colin L. Powell
Chairman of the Joint Chiefs of Staff,
The Joint Staff
Washington, DC 20301

Dear Colin:

I have thought a great deal about DESERT STORM, what it means to the country, and what it must mean to you. You have an unprecedented opportunity: the American public has never been more fully informed on military affairs, nor more receptive to sound military proposals, and the Congress has finally witnessed the operational jointness it has long advocated.

I have assumed that among your many duties and responsibilities, you accord high priority to readying the U.S. armed forces for the inevitable challenges of the kinds of wars or near wars that will occur at the turn of the century. Presumptuous as it may be, I would like to offer you some advice on how the joint establishment might improve its effectiveness in meeting those challenges. The five propositions set forth below constitute a central set of concepts for guiding joint doctrine, the key to training for heightened performance against any enemy, and elements of a distinctive American style of joint warfare.

First, as a nation we must resolve once and for all the question of air wars and ground wars. The very way that we talked about military operations in Southwest Asia during DESERT SHIELD/STORM reinforced the misperception that the President, the Congress, or the American people could choose between conducting one or the other. There was no such choice. The fact is, to the contrary, that military operations such as the President directed, to forestall an aggressor's extending control over land and people, and ultimately, to destroy his army, must involve AirLand Warfare, that is, the employment of air forces and ground forces in concert, drawing upon the whole panoply of U.S. forces, from all of the armed services. The time has come for the joint establishment to embrace without reservation the doctrinal principles for cooperation among aviation and ground formations that the Air Force and the Army have adopted in recent years, and that have long underwritten Marine Corps doctrine.

I suspect that you're fed up to the gills with all that, but you're the only person who could write a book on the issues without referring to notes, and I have a strong feeling that you may be the only really senior military chap with the authority, the instincts, and the perceptiveness to lead all of us to proper understanding.

Second, as a vital corollary of the first proposition, it is one function of air forces—the aviation of all services—to gain and to maintain freedom of operational maneuver for ground forces. I fully recognize that there [are] other important jobs for aviation, but their decisive contribution

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to DESERT STORM was to ensure the swift, deadly, and unprecedentedly efficient advance overland by the combined allied forces. I suspect that in future wars their decisive contribution will be the same. In the joint scheme of things, I would not be surprised should you find it wise simply to announce arbitrarily that the function of providing for freedom of operational maneuver on land is the primary mission of aviation elements of joint forces within a theater of operations.

Third, consistent with the thrust of the first two propositions, it should be the function of U.S. maritime forces to gain and to maintain access to critical theaters or sub-theaters of operation. I am well aware that the regional CINCs employ supplementary means—such as international exercises, combined base development schemes, prepositioning of equipment and supplies, and the like—but for the foreseeable future, access from the sea will be essential to deploying and supporting joint forces for combat. As the aviation within joint forces will provide for freedom of operational maneuver, so maritime elements of joint forces will provide for freedom of strategic maneuver.

Fourth, all historically important armed forces have developed their own distinctive operational style. For example, historians agree that the Roman style of warfare fitted well the objectives of the Senate and the People of Rome, and of the Roman emperors. The Romans' habit of encamping at the end of each day's operations, and then of connecting their camps with high speed roads, enhanced freedom of both operational and strategic maneuver. Their was nothing casual about the Roman military style. The Roman commanders all understood it, and so did their adversaries. And the Romans almost always won.

There is emerging a distinctive American style of war, a style that is essentially joint, drawing on the unique capabilities of each service via centralized planning and decentralized execution. This jointness, plus an amalgam of surprise, discriminate use of overwhelming force, high operating tempo, and exploitation of advanced technology, has led to a whole new order of military effectiveness. This is the "revolution in military affairs" that certainly figured in the Soviet decision to end the Cold War. You might find it useful to ask your staff to lay out for you all the elements of this distinctive American style, and to consider using that analysis as a point of departure for the further development of joint doctrine.

Fifth, doctrine is pointless unless it leads to consensus within the armed forces. You know better than most that the surest way to lend substance to joint doctrine is through tough, realistic joint training. I believe that you should lead the way to put a joint overlay on the ongoing separate-service training activities in the Southwestern United States, to set up a continuously-operating, surrogate "theater of war"—much as General Marshall did there during World War II, and for the same purposes of developing joint proficiency—wherein forces of all four services can train the way they will fight: under a joint command, exploiting jointly collected and analyzed intelligence, and drawing upon each other's strengths to enhance their tactics and techniques.

Colin, I am not writing a book or otherwise considering publication. My interests in all of this is only to see if I can help. Nor am I asking for your endorsement of the foregoing ideas. You can either use them, or discard them. I suppose that you have a stable of bright young men and women to whom you might turn to vet all of this, and if so, and they think there might be some value in these ideas, I would be very happy to elaborate, to talk to them about the conceptual underpinnings. But I know you are very busy, and there may be no time for you to pursue these matters. If so, I will understand completely.

My best wishes to you, and to your colleagues of the JCS, in all your undertakings.

William E. DePuy
General, U.S. Army (Retired)

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Joint Operations — An Anatomy of Functions.

The anatomy of warfare in the 20th Century has changed radically and will continue to change. In a few short years, the media focus on air wars and ground wars in the Gulf will seem as archaic as trench warfare. As we look to the future, there appears to be a set of essential, interdependent functions that might usefully serve as the basis for our strategic, operational and tactical evolution as we turn the corner on the next millennium. Many of these were hard at work in the Gulf, but not necessarily as "joint" functions. These elements of the "operational anatomy" are at the center of what we must design,organize, equip and train our forces to accomplish.

I would note that central to this thesis is a shift from "means" to "ends" — i.e., the functions that must be performed to achieve victory and not the Service-defined means of participation. My list of ends should make clear the point::

1. Gain and maintain Access to the Critical Theaters of Operation

   This essential function recognizes the necessity to be able to project power in sufficient quantity and in sufficient time to assure success of military operations.

2. Gain and Maintain Freedom of Operational Maneuver

   - Maritime Operations
   - AirLand Operations
   - Deep Bombardment of Key Opposing Military Forces

   This essential "umbrella" function recognizes the necessity for sea, air, space and land forces to maneuver independently or jointly within a theater of operation under a single chain of command, in order to maximize the combat potential of all forces to achieve joint operational objectives.

3 Gain and Maintain Freedom of Logistical Maneuver

   This essential function recognizes the necessity to sustain joint forces in combat or in preparation for combat within a theater of operation for whatever period is necessary to achieve joint operational objectives.

4. Gain and maintain Freedom of Access to National Targets

   This essential function recognizes the necessity to destroy, neutralize, or otherwise remove enemy "national level" targets from positions of real or potential warmaking capability or sustainability.

Fragment of work being down by General DePuy at the time of his final illness. fragment provided by William E. DePuy, Jr.

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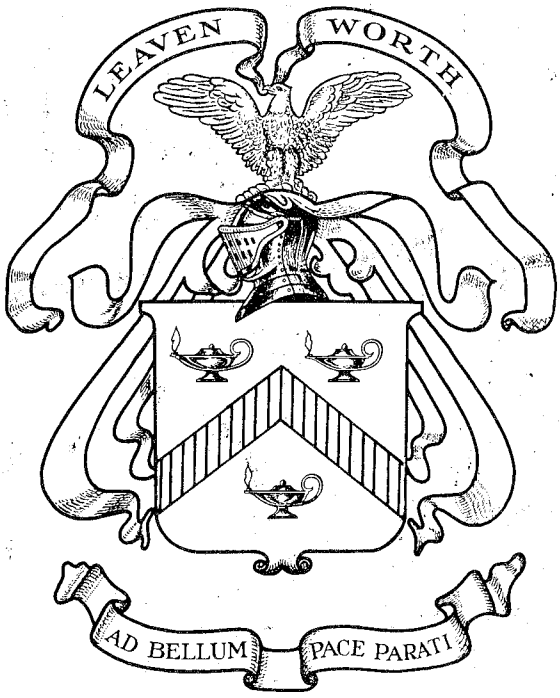
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NOTE: The author-compiler, Colonel Richard M. Swain, is the former director, Combat Studies Institute, Fort Leavenworth, Kansas


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