

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

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

24 April 1975

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

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

25 April 1975

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/Panzergranadier 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

- 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.

29 April 1975

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

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

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.

12 May 1975

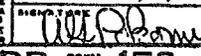
- The Army needs the XM-1 tank with its much better armor and other improvements.
- We must expect that the Soviet Army will soon field improved armor.

Warmly,

W. E. DePUY
General, United States Army
Commanding

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

Message, 16 December 1975, Subject: Infantry fighting Positions

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SUBJECT: Infantry Fighting Positions									
<p>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.</p> <p>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</p>									
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<p style="text-align: center;">FROM: 7</p> <p style="text-align: center;">TO:</p> <p>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.</p> <p>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 J</p>									
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<p>FROM:</p> <p>TO:</p> <p>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.</p> <p>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.</p> <p>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.</p> <p>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</p>								
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<p>FROM:</p> <p>TO:</p> <p>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.</p> <p>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.</p> <p>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:</p> <p style="margin-left: 40px;">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.</p> <p style="margin-left: 40px;">b. The farther forward the soldier can fire while remaining</p>									
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<p style="text-align: center;">FROM:</p> <p style="text-align: center;">TO:</p> <p>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.</p> <p>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.</p> <p>10. All TRADOC Commanders must give this their personal attention.</p>								
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GPO: 1975 765-275/500

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.

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.

18 February 1976

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

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

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<p>FROM: GEN DePUY, CDR TRADOC, FT MONROE, VA 7</p> <p>TO: LTG STARRY, CDR V CORPS, USAREUR</p> <p>CONFIDENTIAL MRD <u>0958</u> EYES ONLY <i>Dispatched 26 May</i></p> <p>SUBJECT: PROGRESS REPORT AND OTHER MATTERS</p> <p>CITE: YOUR FKT 0592 EYES ONLY</p> <p>1. MY REACTION TO YOUR MESSAGE IS RELIEF THAT YOU ARE "ON STATION."</p> <p>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.</p> <p>3. WE WILL SEND YOU THE LEAVENMORTH DATA (ASPR) ON TARGET SERVICING BY SPECIAL AIR MAIL.</p> <p>4. BENNING IS NOW FULLY ABOARD ON MECHANIZED INFANTRY. THEY HAVE A GOOD ROAD SHOW. I WILL SEND IT TO YOU.</p> <p>5. 100-5 IS IN PRINTER. 71-2 LOOKS GOOD.</p> <p>6. KEEP UP GOOD WORK, CHIN, ^{UP}STIFF UPPER LIP AND ALL THAT. MORE LATER.</p> <p>WARMLY. J</p>										
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Message to Lieutenant General Donn A. Starry from General DePuy,
15 June 1976, Subject: Concepts and Plans

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<p>FROM: GEN DePUY, CDR, TRADOC, FT MONROE VA 7</p> <p>TO: LTC STARRY, CDR, V CORPS, USAREUR APO NY 09079</p> <p>CONFIDENTIAL MRO <u>1107</u> EYES ONLY</p> <p>SUBJECT: CONCEPTS AND PLANS</p> <p>CITE CONFIDENTIAL FRANKFURT 681 EYES ONLY</p> <p>1. DELIGHTED THAT YOU WERE ABLE TO LIMIT THE DAMAGE ON THE 14 JUNE MEETING WITH THE BUNDESWEHR.</p> <p>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.</p> <p>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.</p> <p>4. YOU REFER TO A STRONGPOINT AS A TANK, A HOUSE, ETC. THE STRONG- POINT CONCEPT IN 100-5 IS SOMEWHAT DIFFERENT IN SCOPE. LET ME</p>							
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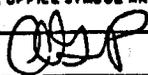
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<p style="text-align: center;">FROM: 7</p> <p style="text-align: center;">TO:</p> <p>EXPLAIN THIS WAY:</p> <p style="margin-left: 40px;">a. A COMPANY OR BATTALION OCCUPYING BATTLE POSITION 1 COULD BE TOLD BY THE BATTALION OR BRIGADE COMMANDER TO INFLICT 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.</p> <p style="margin-left: 40px;">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.</p> <p style="margin-left: 40px;">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 J</p>											
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<p>FROM: _____</p> <p>TO: _____</p> <p>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.</p> <p>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.</p> <p>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</p>									
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<p>FROM:</p> <p>TO:</p> <p>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. <i>CHEERS.</i></p>									
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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

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.

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.

18 August 1976

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

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 Rafal 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 Judaeon 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:

	<u>BASIC</u>	<u>DRIVER/LOADER/GUNNER</u>	<u>TC</u>	<u>LT</u>	<u>TOTAL</u>	
					<u>NCO</u>	<u>OFF</u>
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 obscurity, 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

18 August 1976

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

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

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.

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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

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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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

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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27 April 1977

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

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

	<u>British/US</u>	<u>*German/US</u>	<u>**Israeli/US</u>
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 equivalent to Armor Basic at Knox.

** Includes enlisted and officer institutional training but does not include unit training.

*** Not identifiable, integrated in other subjects.

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?

10 May 1977

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

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, OFTCO 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

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.

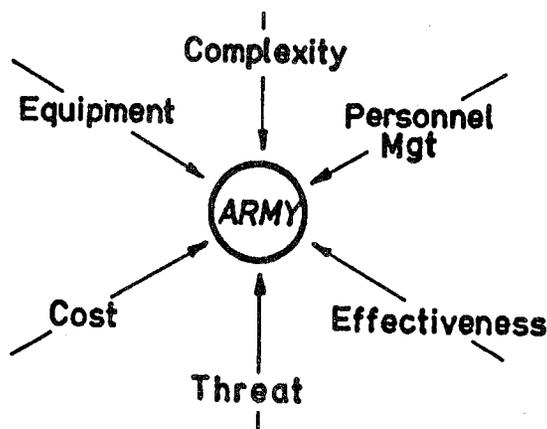
I recently read a speech which General Kroesen gave extemporaneously at the Command and General Staff College. In it he made the statement that we are interested in individual training, collective training, and the spirit of the Army. He said that he thought that if we could emphasize spirit first and 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.

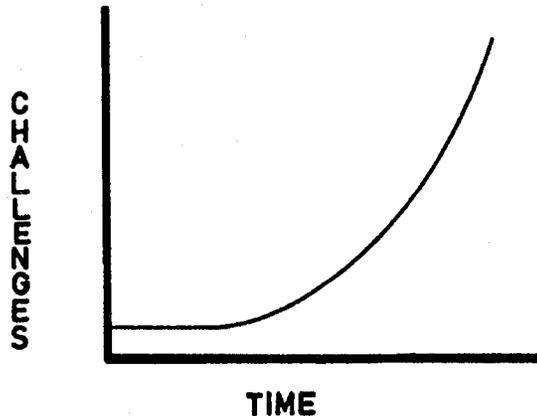
I am only going to draw two pictures. Here is the first:



* 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 you 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 clique 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.

* 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). BNCO 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.

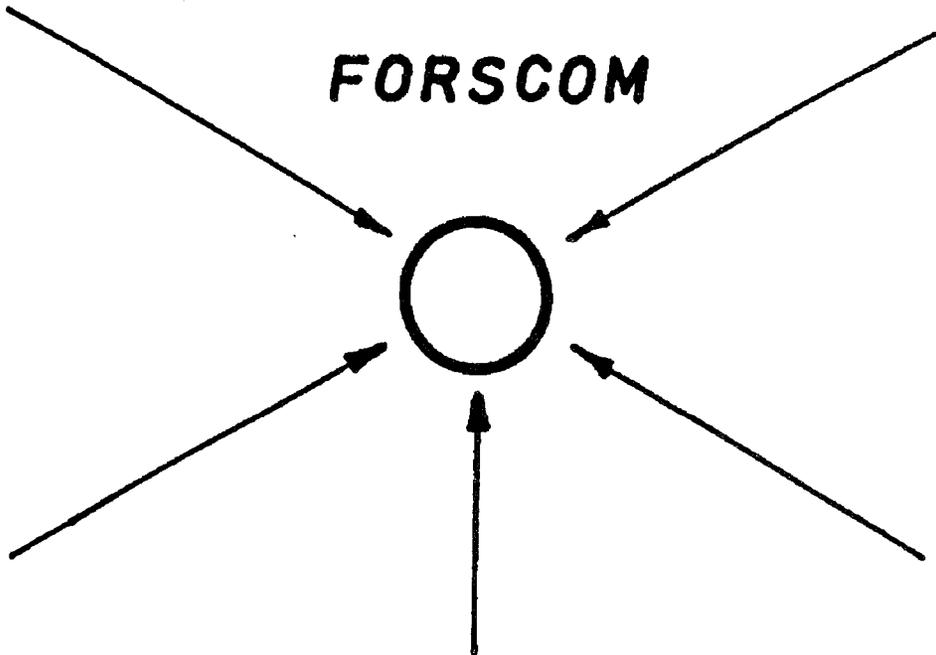
Let me end by saying I know the Army can adapt to solve these problems. We must adapt! This is the number one problem facing the Army with the single exception of being ready for war tomorrow morning. But the problem of adapting is a thornier one than readiness. One of its dimensions is that as we begin 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

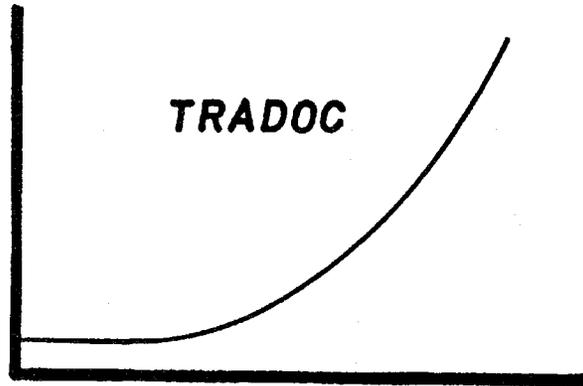
extent. If you go to any Air Force base, it is inspiring to see a sergeant get up all by himself with no first sergeant telling him what to do. At 3 o'clock in the morning he goes down to the snack bar and has a cup of coffee and then goes out on the flight line and works on his F-15 from 4 o'clock in 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.

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.

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 why 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 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.

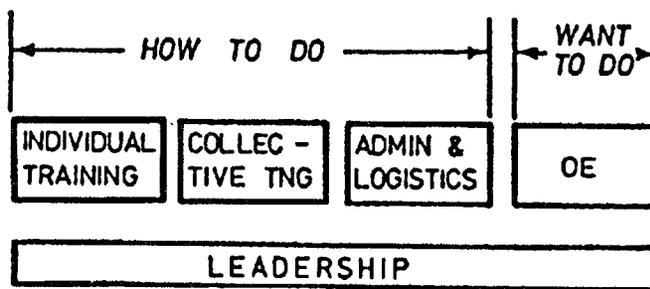
+ MG Charles C. Rogers, DCSROTC, TRADOC.

++ 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:



SKILL LEVEL 3
 2 ARTEP
 1

* 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 MOSSs 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.

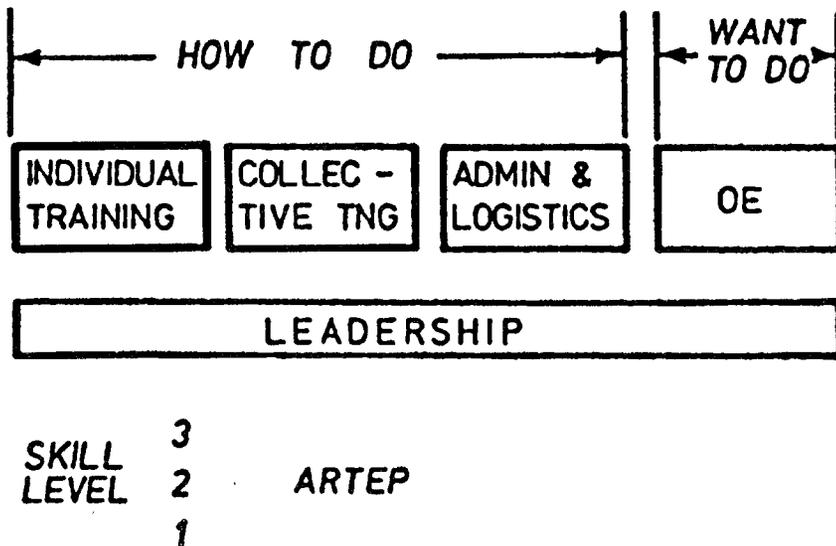
+ MG John R. Thurman, III, Commander, Combined Arms Center, Ft Leavenworth, KS.

++ 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.

* 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 pronency 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, avionics 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 not 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's 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.

* Combat Developments Experimentation Command, Fort Ord, CA.

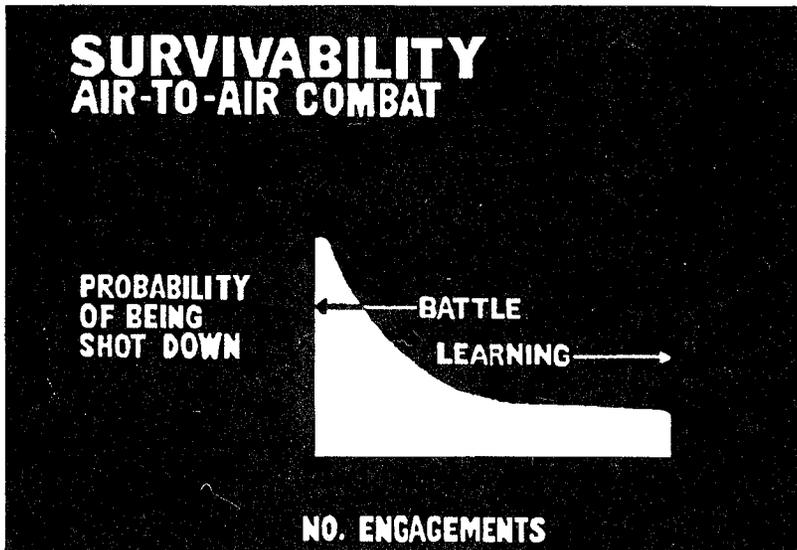
** MG Glen K. Otis, DCG, USA Combined Arms Combat Developments Activity, Ft Leavenworth, KS.

+ 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 that 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.

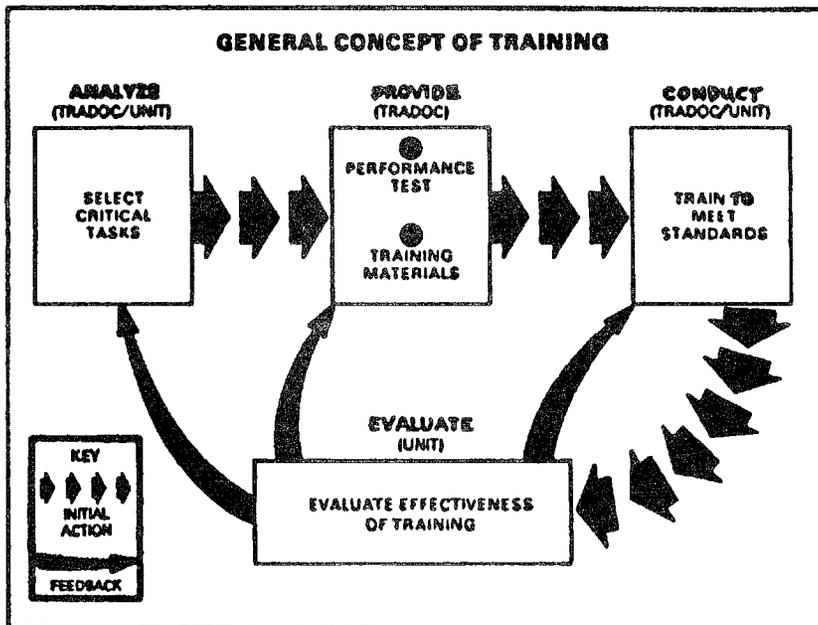
Take CABL.* We're moving a lot of administration out of the company up to the battalion. You know we really need to know with hard, objective data how much better this system will be, how much it costs, and so on.

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 because. 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 how much 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 not 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.

