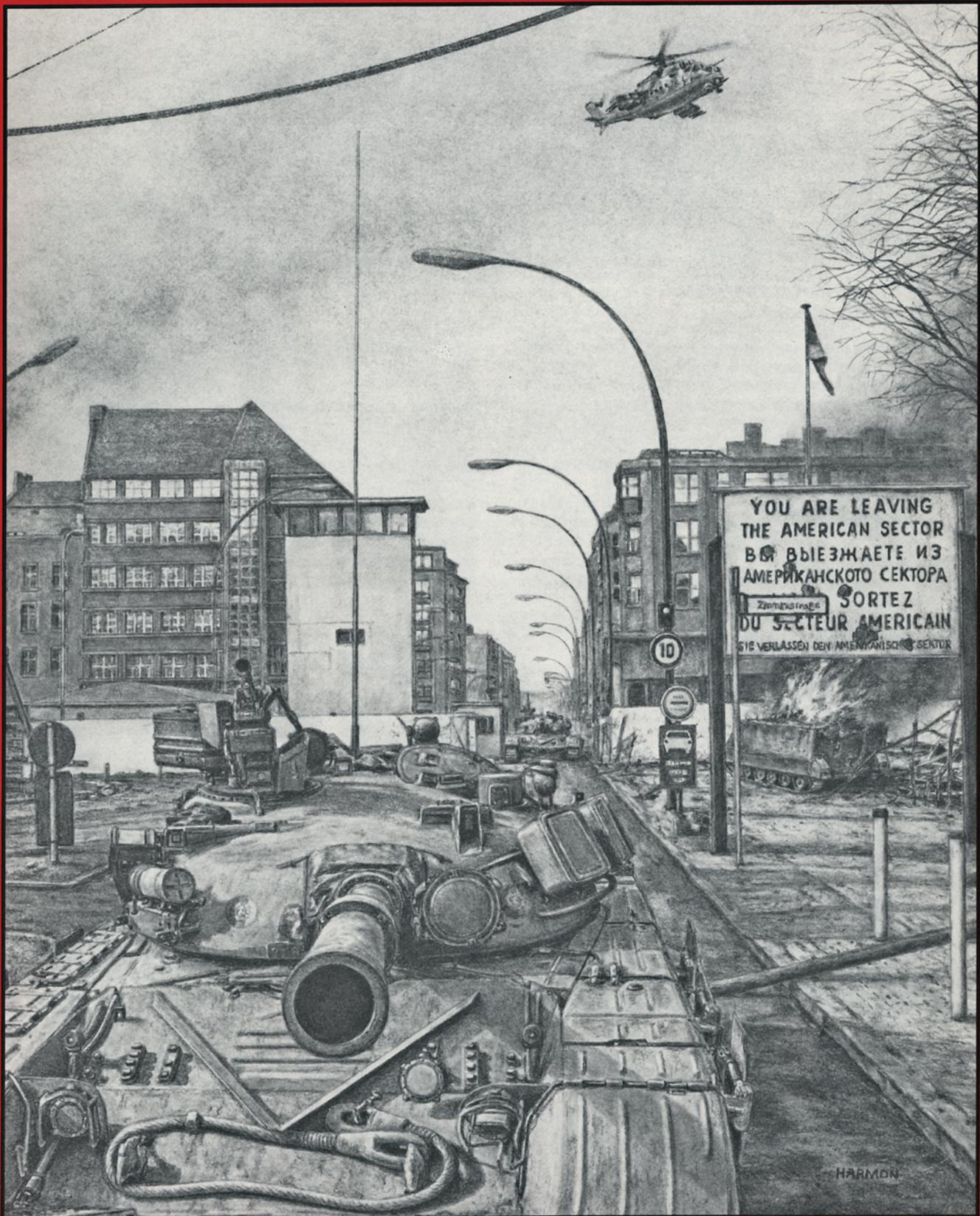


ARMOR



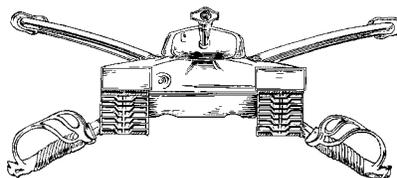
How the Soviets Planned to Take Berlin



First With The Most

Too bad American forces haven't been flying commercial the past few years, for our soldiers would have accumulated some serious frequent-flyer miles. Last year saw infantry and light cavalry forces trying to restore order in Somalia, and in this issue as well as the last, ARMOR covered those operations. It's beginning to look as if we learned some expensive lessons about the role of armor in support of Operations Other Than War (OOTW). I certainly hope so, for at press time we find U.S. forces once again on foreign soil. This time it's Haiti, and the thugs who have been displaced from power down there have got to feel rather foolish. A year ago they jumped up and down along the dock, fired their weapons in the air, and turned back a ship containing some two-hundred U.S. personnel offering humanitarian assistance. A year later we came back with 20,000 and we didn't wait for an invitation.

One thing that seems to the outside observer to be different about this operation is the presence of M551 Sheridans rumbling through the streets of Port-au-Prince. I don't recall seeing such a visible, active mechanized force in the Somalia operation, and I must admit that to a former member of that Sheridan battalion, those old track-slappers look pretty good. When the evening news offers a glimpse of the vehicles, I find myself straining to spot my old track from Charlie company (I wonder if they ever got the fan-tower problems solved?).



While the military police probably face the greatest challenge in Haiti — that of maintaining order without turning into the local sheriff — I strongly suspect, though they might not admit it to a tanker, that those MPs and infantrymen are comforted by the clatter of track and the presence of big guns... just in case. Although the armor threat in Haiti has proven to be little more than a reinforced 4x4 (less the spotlights and winch), one thing is clear. The presence of mechanized forces has discouraged bravado, and that may prove to save American lives. For there is just something about armor rolling along in column that makes a thug with a handgun feel weaker than a teabag in the Mississippi River. Our Sheridans overwatching infantrymen in a clearing operation — like a big brother observing a schoolyard altercation — make the bully think twice about throwing the first punch. Sometimes the best defense is obtained without firing a shot. To that extent, those old Sheridans—the vehicles we were talking about scrapping back in 1979 — have more than earned their keep. Like an old cavalry steed that some outpost trooper can't bear to put out to pasture, we keep mounting up on those 551s for "one more ride." And maybe it's just me, but those old campaign horses seemed to brighten up and regain their spirit when they sensed the smell of powder and the roar of a main gun.

— J.D. Brewer

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ARMOR

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LETTERS

The Real Issue is Wargaming

Dear Sir:

I enjoyed nearly every article in the July-August issue of *ARMOR*. I especially enjoyed the articles on digitization and synchronization. If your readers have not already done so, I strongly recommend the book *Hammer's Slammers* to them. It is about a mercenary armored regiment in the far future, a completely digitized and lethal force. It is written by David Drake, a member of the 11th ACR in Vietnam.

Synchronization is a hard subject to discuss, and even harder to train and execute. Too much of the synchronization process occurs on those charts hanging around the TOC and they (I suspect) are frequently thrown out or put away because no one has the time to digest the plethora of paperwork higher-level staffs throw at people. As I have stated before, a properly written Commander's Intent and Concept of the Operation will show how the commander expects the battle to be synchronized. The real issue, as I see it, and MAJ Cloy alludes to this, is wargaming.

Many officers do not know how to properly wargame, and that is why the prob-

lems that surface during rehearsals are found there instead of during the wargame. More than a few that I have met refuse to wargame a course of action. To run a wargame requires an eye for the map, an understanding of the friendly force, the enemy force, and the capabilities of all the weapons and other support systems that the battalion task force employs or gets information from. To learn to do this takes time and training that the young officers who are S3-airs or brigade planning officers frequently do not have. Many planners evaluate courses of action on "gut feel." I know, because as the brigade S4 at an NTC rotation, I lost patience with our plans officer.

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Then, I took over the planning session to show how to run a wargame (to the amazement of the O/Cs and my XO's amusement).

Ideally, you should be able to imagine, without the use of a map, the ebb and flow of the battle and the effects of, at least, major weapons and supporting systems. Then, with the use of a map or terrain model, refine that picture. How, then, can we obtain this training and use it on the battlefield?

First, officers should play wargames. How many of us will spend hours playing Trivial Pursuit or watching a football game and never think to play a wargame? In my years of service, when I mentioned that I played wargames to my commander or peers, I invariably received a response of "You do what?" However, I believe that wargaming enables me to understand terrain, friendly and enemy units, and weapons effects. There are several commercial board games that portray an accurate representation of the battlefield, such as GDW's *Sands of War*.

Second, we have several computer wargames in the inventory that allow us to wargame courses of action. The Brigade/Battalion Battle Simulation (BBS) and JANUS immediately come to mind. These simulations allow us to rapidly play (and replay) several courses of action and evaluate them. It is probably seldom used for this, and in preparing for an NTC rotation it would be of limited use because we cannot take all the equipment with us. Still, for the first mission a brigade could actually fight through several courses of action in a day and use that in its staff process. It must be emphasized that a success in a simulated battle does not necessarily equal a success on the battlefield. For the simulation to have any hope of portraying a possible result on the battlefield, the OPFOR must be thoroughly professional and trained in OPFOR doctrine and tactics.

This lack of portability drives a requirement for a simple, easy-to-use computer simulation. It should fit into one to four linked laptop/notebook computers that would enable a staff to input their information and rapidly play out different courses of action. Currently, there are no military simulations that are capable of this. No commercial game I have evaluated does, either. There are some new ones coming onto the market that may start to meet the requirement. Currently, commercial games do not support actual terrain in the detail we require, but I see this changing.

In the meantime, break out the board games and adapt them to your training areas by using clear hex sheets over the map. Use BBS as a training tool for staffs to evaluate courses of action, and perhaps even sponsor some wargame tournaments in your units.

MICHAEL K. ROBEL
MAJ, Armor, USAR
Birmingham, Ala.

British Mark VII Tank — First in Flight

Dear Sir:

In reference to the interesting article, "When Tanks Took Wings," by Colonel Raymond Battreall in the May-June 1994 issue, this was not "the first combat-operational airlift of tanks in the history of warfare" as claimed. British Mark VII Light Tanks, Tetrarch, were carried in Hamilcar gliders to Normandy on June 6, 1944. About half-a-dozen tanks were involved, including one that was reported to have fallen through the nose of its glider over the English Channel. Some of the Tetrarch guns were fitted with the coned-bore Littlejohn muzzle adapter which, firing special projectiles, doubled the armor penetration performance, but I do not know if any of those tanks taken to Normandy were fitted in this manner.

While on the subject of Normandy and D-Day, some American authors were critical of the Sherman DD (Duplex Drive) tanks because nearly all of those launched at Omaha Beach "sank like stones." Although the idea was to save tank landing craft from the risks involved close to shore, in the prevailing rough sea they should not have been launched 6,000 yards out. According to "Armoured Fighting Vehicles in Profile, Vol. 3" (1976), at Utah Beach 30 DD tanks of the 70th Tank Battalion were launched at 3,000 yards from shore with almost all reaching the beach. Although the rough sea delayed their arrival until after the infantry had landed, they did give vital support.

Certainly, the invasion demonstrated that armor is essential to effective infantry operations, but armor itself needs support vehicles. Reportedly, General Bradley was offered specialized armored vehicles by the British, but he declined to accept them. These vehicles, which included crab flail tanks (minesweeping tanks) and Crocodile flame-thrower tanks, were used effectively by the British and Canadians and would probably have reduced the casualties sustained by the Americans at their beaches. In the end, of course, it was the courage and determination of the Allied fighting men that carried the day, in spite of all the unforeseen adverse situations.

LEONARD E. CAPON
Mesa, Ariz.

More on MILES as IFF

Dear Sir:

It was with amazement that I read 1SG Hecht's letter about using MILES sensors as a part of an IFF system (July-August 1994 *ARMOR*). I had just that day spent a

great deal of time discussing the same idea with a colleague at work. I applaud the thought that has gone into this; however, I would like to make some modifications to 1SG Hecht's suggestions.

First of all, when I was involved with the OT III testing of MILES in Germany in 1979, I knew in my heart that this system was going to be an integral part of any Army training program in the future. If this was going to be the case, then why not integrate this into all vehicles produced for the field? Operationally, it doesn't detract from the vehicle, except when the laser systems are installed. Additionally, having the system integral to the vehicle would save on maintenance by not having to install and remove the system every time the unit went to the field for training (especially the onerous task of always having to reapply the Velcro to the vehicle!). Finally, the crew would be as familiar with the MILES system as they were with the vehicle itself, and would know how to fight their vehicle with either MILES or live ammo.

As for how to integrate this into an effective IFF system, this would involve several items:

First, all laser designator systems would have to have a basic IFF code integrated into them. There also would need to be another programmable code integrated into the system. This programmable code would be changed on a periodic basis and passed through IVIS or VINSON channels. The purpose of this additional code is that, should the base code be compromised (which given sufficient time will be, by either analysis or OPSEC violation), friendly vehicles could still be differentiated from enemy ones that might be able to detect and react to being lased. Also, for units operating on the flanks of divisional or higher units (where most fratricide incidents occur) some type of identification response would be received from these vehicles.

Second, a transponder would be required, either a return laser signal or a digital radio burst on a set frequency. In the first case, this could be done as an addition to the crosswind sensor and would consist of a rotating mirror synchronized to a laser that would pulse when the mirror was oriented in the direction that the original laser came from. In the second case, this would require either a separate system or integration into the IVIS network, with a separate protocol established within the system to handle this information.

With either of the systems, the operational scenario would be as follows:

The firing tank acquires the target and the TC initiates the fire command. The gunner lases to the target. The TC must acknowledge and enter the range. If the target is a friendly that has both the base and programmable codes, it responds to the lasing with a proper coded laser or radio burst. A RED light would then show on the

Continued on Page 50

*MG Larry R. Jordan
Commanding General
U.S. Army Armor Center*



Tank 1,080: Follow-on to M1A2

The introduction of the M1A2 tank and other digitized weapons platforms such as PALADIN has heralded the arrival of Information Age warfare and the first equipment fielded for Force XXI. The Abrams M1A2 is a vast quantitative and qualitative improvement in lethality. The addition of the Commander's Independent Thermal Viewer and other fire control enhancements make it a much more capable fighting machine than the combat proven M1A1. Survivability enhancements provide it the capability to carry out its mission in the most dangerous of environments.

Perhaps the most significant enhancements come in the form of battle command improvements. POSNAV and steer-to capability provide the crew unprecedented ability to precisely maneuver. The situational awareness, reporting, orders issuance, and graphics capabilities provided by IVIS enable leaders to exercise battle command in a manner and to a degree never before possible. In the hands of well-trained soldiers, it is the world's best main battle tank. In the hands of competent and adaptive leaders, it is a tremendous 21st Century command and control enhancement that can fundamentally alter our ability to dominate land combat. The United States is building and fielding 1,079 of these superb tanks.

The technology that enabled us to build the Abrams M1A2 continues to move forward and is increasingly available around the world. The current spread and pace of technological advances, coupled with the increasing development and proliferation of explosive reactive armor, means that the M1A2's qualitative advantage over potential adversaries could be at risk by the time tank #1,079 is produced and fielded in the middle of the next decade. That sobering thought caused me several months ago to ask the question, "What should tank #1,080 be like?"

Conceptually, Tank 1,080 is the vehicle that will provide the combat power and technical superiority between the fielding of the M1A2 and the eventual fielding of the Future Main Battle Tank. The potential capabilities we will face in the middle of the next decade require significant enhancements in lethality, target acquisition, crew protection, system survivability, sustainability, decision support tools, and information management. Tank 1,080 will incorporate emerging technologies to enhance the fightability of the current Abrams variant, and spearhead their inclusion in the Future Main Battle Tank, anticipated by the 2015 time frame.

Combat developers are exploring many possible features for inclusion on

Tank 1,080. While many of these efforts are classified, the general areas of concentration are not. Tank 1,080 will have armament enhancements in terms of main gun and other weapons. Research is varied and ranges from improved penetrators and warheads to electric gun technology. To capitalize on these improvements, we will use technological advancements in sensors and processors to automate some of our target acquisition and fire control functions. These improvements will significantly contribute to a high and accurate rate of fire, and extend our engagement ranges. Similar work is ongoing in ballistic protection. Coupled with signature reduction efforts to reduce detection by thermal imagery, radar, aural, magnetic, or visual means, this effort should produce dramatic improvements in hit avoidance and survivability. Suites of sensors and active countermeasures round out Tank 1,080's ability to prevail on the future battlefield. Less glamorous but equally as important are efforts to provide advanced propulsion systems and both embedded training and diagnostics.

Tank 1,080 will be an impressive and very necessary follow-on to the M1A2. It will point the way for mobile protected firepower far into the 21 Century.

CSM Ronnie W. Davis
Command Sergeant Major
U.S. Army Armor Center



It's Your Career, What Are You Going To Do About It?

All soldiers adhere to guidelines from their technical manuals to prevent their vehicles from becoming deadlined. Doesn't your career deserve the same level of attention? The Army is preparing to publish in FY95 the NCO Professional Development Guide, DA PAM 600-25, which will become a 'TM' for your career.

DA PAM 600-25 will be the enlisted companion to existing DA PAM 600-3, the Officer Professional Guide. The focus of the guide is to provide enlisted soldiers with a reference manual to guide them through their careers. It will have seven introductory chapters providing an overall philosophy of enlisted career management, leader management, education, promotion, and evaluations. In addition, it will have a chapter specifically devoted to Reserve Component NCO development.

The remainder of the pamphlet consists of individual chapters devoted to each career management field (CMF). The focus for the Armor soldier will be in chapter 8, CMF19. The Armor Chapter provides the soldier with a definition of success for each rank in terms of the key leadership assignments, NCOES training, and self-development. In addition, it speci-

fies the key indicators that separate the 'exceptionally' qualified soldier from his peers. The ideas that DA PAM 600-25 presents are not new, but the fact that they are specifically outlined in a Department of the Army pamphlet that will provide guidance to Armor soldiers and their leaders is new.



Soldiers shouldn't stop at DA PAM 600-25. There are numerous sources available to assist soldiers in planning their careers:

- Armor officers and senior NCOs
- The Armor Enlisted Professional Development Guide (Published by

Office, Mounted Battlespace Integration at Ft. Knox)

- Installation Education Center
- Career Advisors in Armor Branch, PERSCOM

While you can rely on the great wealth of knowledge available from a wide range of sources, the central focus of any career planning effort is you. Take the initiative to become actively involved in the career path you choose. Give your career the same attention and effort you give to your vehicle. Ensure that you...

- Work in your PMOS
- Seek challenging assignments
- Attend the NCOES course at your first opportunity
- Review/update your official military personnel file
- Attend civilian education classes.

Most important, don't be a casual observer; actively plan your career. Don't become 'deadlined' because you didn't follow the preventive maintenance checks and services required for your career.

East German Plans for the Conquest and Occupation of West Berlin

by Dr. Otto Wenzel, translated by Douglas Peifer



Author's Note

A tendency is emerging in Germany of downplaying the very real dangers that existed in the Cold War in the interest of national and international reconciliation. Members of the former East German Nationale Volksarmee (NVA) publicly claim that their military, just like that of West Germany, served the interest of peace by promoting a continental balance of power.¹ At a Christmas service in the Berlin Cathedral last December, members of the French, British, American, and Russian forces were all thanked for their contributions to peace over the last 40 years.² Wary of aggravating the wounds left by the Cold War, some seek to claim that NATO and the Warsaw Pact were mirror images of each other, equally dangerous and yet equally stabilizing.

While the details of NATO's war plans remain shrouded in official secrecy, it is now possible to reconstruct many of the plans of the Warsaw Pact. Among the most interesting of these were the continually updated plans of the East German government regarding how West Berlin would be occupied and administered. Berlin had long been a bone in the throat of the East German government, and the records reveal that plans for its conquest were being maintained well into the 1980s. The latest East German plans for Berlin's occupation can be reconstructed from existing exercise documents of the NVA,³ the statements of former NVA officers, and the files of the Ministry for State Security.

Border's Edge 86

The Border's Edge (Bordkante) series of exercises held by the staffs of the NVA, the East German Frontier Troops, and the Soviet Group of Forces in Germany between 1985 and 1988 dealt with operations against a major urban area. While a cover identity was presented in each case (Border's Edge 1985 and 1986 dealt with operations in the East German city of Magdeburg while Border's Edge 1987 and 1988 concerned operations in Leipzig), the real focus of all exercises was West Berlin.⁴ This becomes clear if one studies the records. A glimpse at the files of the exercise from which the most documents remain, Border's Edge 86, substantiates that Berlin was the real focus of the exercise and illustrates exactly how Berlin was to be occupied.

Border's Edge (Bordkante) 86 was held between 30 June and 2 July 1986. The purpose of the exercise was to improve the "decision-making, planning, and organization of mixed assault formations engaged in joint operations against a major urban area... causing a collapse of enemy resistance through the occupation of urban districts, important facilities, and the city center."⁵ Documents from the exercise allude to the capture of Magdeburg, a regional capital in the Western portion of the German Democratic Republic. The accompanying map of Magdeburg indicates that it was defended by an American, a British, and a French brigade. The locations of the Allied Kommandatura, the headquarters of the Social Democratic Party of Germany and the Free Democratic Party, the Abgeordnetenhaus, the Regierender Bürgermeister; and border crossing checkpoints were also marked⁶ — the exercise certainly concerned West Berlin rather than Magdeburg.

The scenario at the commencement of the exercise was described as follows: "Western provocations cause increasing tensions in the international sphere. NATO utilizes the cover of large-scale exercises scheduled for mid-June in order to rapidly expand its forces in Europe. A "Basic Alarm" order is issued [by NATO] on the evening of the 28th June. Steps are taken to reinforce the troops in Magdeburg... with additional forces."⁷

"Eastern" forces number 35,000 men. These consist of the NVA's 1st Motorized Rifle Division — composed of three motorized infantry regiments, an armored regiment, and an artillery regiment — the Soviet 6th Independent Motorized Rifle Brigade stationed in East Berlin, nine regiments of East German Frontier Troops, a paratroop battalion, an additional artillery regiment, a mortar section, a fighter-bomber squadron, a transport helicopter squadron, three helicopter sections, two reconnaissance airplanes, an assault engineer battalion, a bridge-laying battalion, and three "People's Police Alert Units" (each equivalent to an infantry battalion). These units as a whole were termed the "Special Group" which was to be protected from aerial assault by a SAM brigade and fighter aircraft.⁸ Total hardware consisted of 334 tanks, 186 armored personnel carriers, 36 MiG-21 bombers, 2 reconnaissance airplanes, 52 helicopters, 354 guns and mortars above 82mm, and 189 antitank pieces.⁹

The fighter-bomber squadron would initiate combat operations with a 9-minute strike against Allied command posts, communication facilities, and the airport. This would be followed by three artillery bombardments of 11, 8, and 16 minutes. The goal of the artillery bombardments would be the destruction of enemy artillery and mortar batteries, antitank and antiair units, and

the tactical nuclear weapons assumed to be stationed in the city. Follow-on tasking included containing Allied breakout attempts. The helicopter and fixed wing transports would land and supply airborne troops, as well as conduct aerial reconnaissance and artillery spotting tasks.¹⁰

Ground forces were to move along eight different routes to their jumping off positions. The timetable allotted seven hours for troop movement from assembly areas to the line of departure. Another three hours were set aside for final preparations. In order to maintain secrecy, the line of departure was at least 1 to 3 kilometers from the East German-“Magdeburg” frontier.¹¹

Twenty-nine minutes before the start of the operation, combat engineers would ready border crossing points and conduct breaches through border installations. On Day 1 and Day 2 of the assault, the “Special Group” would split “Magdeburg’s” defenders into two groups. Defending units that continued to resist would be destroyed on Day 3 and 4, and the entire city would be occupied. An order of the commander of the “Special Group” instructed that the National Library, the Museum, the Cathedral, and the State Library should be regarded as cultural treasures whose destruction should be avoided if combat operations permitted.¹²

The division of enemy forces was the primary task of the first day of operations. The primary assault, intended to drive a wedge between the British and American brigades, was entrusted to the First Motorized Rifle Division, its armored regiment, and a regiment of Frontier Troops. Once the British and American brigades were divided, they were to be subjected to a second blow designed to shatter resistance. Assessments of enemy capabilities judged that “Western” forces in “Magdeburg” would only be able to “build up a hasty and provisional system of strongpoints. A withdrawal of enemy forces from peripheral defenses into the city center was to be prevented. Bloody house-by-house combat was to be avoided by skillful application of force.”¹³

The role of the various Politorgans (Political Organs) in the conquest of West Berlin is especially interesting. One of their primary missions was to weaken the resolve of the enemy Allied soldiers and West German police in



“Magdeburg,” who were to be convinced that it was futile to “sacrifice their lives in a hopeless struggle.” French soldiers were to be persuaded that they were defending American rather than French interests, a task unworthy of them. The British were likewise to be induced against forfeiting their lives for American war goals. Americans were to be reminded that their forces had never triumphed over socialist forces.¹⁴

The Politorgans also planned to manipulate the German civilian population, encouraging both active and passive resistance to a bloody and prolonged defense of the city. A propaganda section — complete with mobile printing-press, editorial facilities, and a pamphlet mortar for “agitation grenades” — would be responsible for radio and loudspeaker announcements and leaflet distribution. Leaflets would also be distributed by aircraft. The political departments were to have over 70,000 safe-passage passes ready for distribution. Another 90,000 instruction sheets were to be on hand, providing guidance to the civilian population pertaining to conduct in war zones and behavior toward the troops of the GDR and Soviet Union.

The third task of the Politorgans would be to encourage NVA troops in the performance of their soldierly duties. The commander of the First Front, a Soviet general, would issue an appeal to the troops which would be recorded on 50 tapes and played to all elements of the assault force. Lest motivation degenerate into rampage, 10,000 handbills were to be prepared and distributed concerning “Conduct toward the Civilian Population of the Enemy.”¹⁵

The preceding summary of Border’s Edge (Bordkante) 86 is illustrative of the various exercises focusing on the capture of West Berlin. While the exercises in 1985 and 1986 allegedly concerned the capture of Magdeburg, and those of 1987 and 1988 the occupation of Leipzig, an analysis of “enemy” forces, the layout of the city, and government structures reveals that Berlin

was the focus of the entire Border’s Edge series of exercises. Another Border’s Edge exercise was to have been staged in late October 1989. As in the previous two years, the focus of operations centered on the capture of “Leipzig.” NATO forces consisted of the 28th U.S. Infantry Division and elements of the 194th Armored Brigade of the I U.S. Army Corps. Following the containment of a NATO attack, these forces were to be encircled and captured.¹⁶ While a staff exercise was held between the 17th and 18th of May 1989, the exercise itself was never staged. The tumultuous chain of events that led to German unification, in late 1989 and the first half of 1990, ensured that no further Border’s Edge exercises were staged.

The Destroyed Operational Plans

The scenario envisioned in the exercise Border’s Edge 86 closely resembled the concrete operational plans for the conquest of West Berlin. The written documents concerning these plans were destroyed in 1990 as unification loomed closer, but several former officers of the NVA have been willing to discuss the actual plan of operation.¹⁷

The operational plan was code named “THRUST” (German: STOSS). It concerned the occupation of West Berlin “within the scope of preventive actions following prior aggression by NATO outside the Central European area, for example an attack by Turkey on Bulgaria.” Berlin was to be occupied “while NATO was transporting its reinforcements from overseas and before the opening of military operations” along the intra-German and Czechoslovakian-German borders.¹⁸ In 1987, following the introduction of the new Soviet military doctrine, certain changes were made. The plan was renamed “CENTER” (German: ZENTRUM), and West Berlin was now to be occupied only “following NATO aggression resulting in the violation of state [East Germany] borders.”¹⁹



Following the political decision to occupy West Berlin, a “Berlin Group” field command would be formed out of the East German Army High Command, located in Wildpark West near Potsdam.²⁰ The “Berlin Group” command was to direct over 32,000 East German and Soviet troops in operations against an estimated 12,000 Allied troops and 6,000 West Berlin policemen. The equipment levels used in Border’s Edge 86 would be significantly raised in real operations — approximately 390 tanks, 450 guns and mortars, 400 antitank units, and 400 armored personnel carriers would be committed.²¹

The plans envisioned splitting West Berlin into two sectors. The sector boundary ran from Konradshöhe in the northwest along the Autobahn ring road from Charlottenburg to Schöneberg, ending at Lichtenrade in the south. The area to the west of the divide was designated as Sector I, while that to the east was Sector II. These sectors did not correspond to, and should not be

confused with, the British, French, and American occupation sectors.

The occupation of Sector I was to be the task of the NVA’s 1st Motorized Rifle Division (minus its 1st Regiment), the 5th Regiment of Frontier Command North, the 34th and 44th Regiments of Frontier Command Central,²² an assault engineer battalion of the 2d Engineer Brigade, and four battalions of Potsdam’s paramilitary “Combat Groups of the Working Class.”²³ The 3d Regiment of the 1st Motorized Rifle Division, flanked by the 5th Frontier Troop Regiment to its left, was to push from the west along Bundesstraße 5 toward Spandau, where the majority of the British Brigade’s facilities were located. The 34th Frontier Troop Regiment would move out of Kladow in the west toward the British military airport at Gatow. In the southwest, the 44th Frontier Regiment was to roll along Bundesstraße 1, penetrating the American sector at Zehlendorf, while the 1st Armored Regiment thrust directly toward the city center. The 2d Regiment of the 1st Motorized Rifle Division was to move out of Teltow in the south toward Steglitz, thereby completing the occupation of Sector I.

Sector II, the eastern portion of West Berlin, would be occupied as follows: The Soviet 6th Independent Motorized Rifle Brigade, part of the Soviet Group of Forces in Germany, would roll past the Brandenburger Gate, proceed down the Avenue of the 17th of June to Ernst Reuter Plaza, and continue down Bismarck Street until it reached the Kaiserdamm Bridge. The 18th People’s Police Alert Unit and the 33d Frontier Troop Regiment were to provide flank protection. The 1st Regiment of the 1st Motorized Rifle Division would assault out of Pankow toward Tegel International airport, while the 38th and 40th Frontier Troop Regiments occupied Reinickendorf, part of the French sector. The 35th, 39th, and 42d Frontier Troop Regiments would close in on Neukölln and Kreuzberg, areas within the American sector. Support for these assaults would be provided by the 40th Artillery Brigade, an assault engineer battalion of the 2d Engineer Brigade, and propaganda detachments.

The two major assault thrusts, one from the east and one from the west, were to meet at the Kaiserdamm Bridge near Radio Free Berlin, thereby cutting the city in two. Tegel airport, in the French sector, was to be captured by two airborne companies while Tem-

pelhof Airport in the American sector was to be captured by another. The 1st Battalion of the 40th Air Assault Regiment and parts of 34th Helicopter Transport Squadron would provide the necessary forces. Reserve forces included the 40th Security Battalion, the

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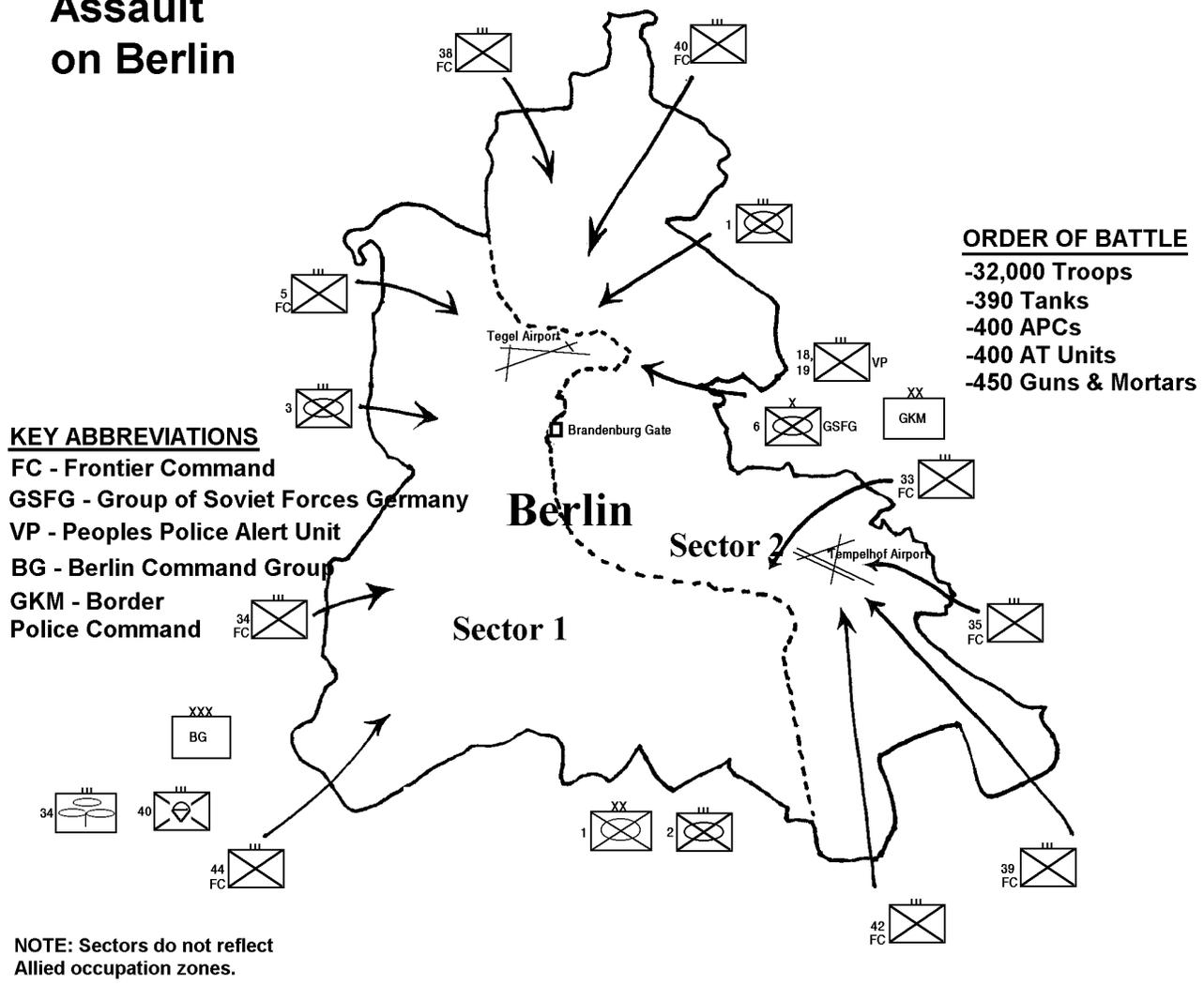
19th People’s Police Alert Unit, and four battalions of the (East) Berlin “Combat Groups of the Working Class.” The 40th Signal Battalion was tasked with providing reserve assets for all communication requirements.

Any military worth its salt has prepared contingency plans for operations following the outbreak of war. The Soviet Union and its satellites always claimed that both the structure and planning of the Warsaw Pact revolved around a commitment to defeat the enemy on his own territory *following* enemy aggression. The initial scenario in the Border’s Edge exercises postulated aggression by NATO, provoking a countermeasure by the Warsaw Pact. Former NVA officers stand by the essentially defensive nature of Pact offensive plans. Yet oddly, little attention is paid to containing and defeating NATO offenses. In fact, East German intelligence evaluations concluded that NATO forces in West Germany lacked the structure and equipment for deep offensive operations in the eastern direction.²⁴ In short, taken at face value, the NVA laid meticulous plans for execution of an operation for which the officially proclaimed premise, aggression by NATO, was evaluated as unlikely at best.

Ministry of State Security’s Role

A clear picture can be reconstructed of how the NVA intended to subdue Berlin. The procedures to be carried out following occupation of the city are of equal interest and can be found in the files of the former East German

Assault on Berlin



Ministry of State Security, or “Stasi.”²⁵ These files show that the Ministry had prepared a comprehensive blueprint for the communist takeover of power in West Berlin.

A report by the XVth (Intelligence) Department of the [East] Berlin District Area of the ministry (dated 5 May 1978) listed 170 West Berlin facilities that were to be occupied by the Stasi during or immediately after the conquest of the city. The list was detailed and specific, as the following summation for the American sector indicates. In Zehlendorf, the following American facilities were to be occupied as soon as possible: the U.S. Brigade’s Head-

quarters and Staff Buildings at Clayallee, the Turner Barracks (Armored elements of U.S. Brigade) and the ammo dumps at Holzungsweg, Hüttenweg, Grunewald Jagen 73, Stahnsdorfer Damm and Potsdamer Chaussee. In Steglitz, the McNair, Andrews, and Roosevelt Barracks were to be occupied, as well as the ammo and fuel dump at Goerzallee, the fuel dump at Dahlemer Weg, and the freight railroad station at Lichterfelde West.

Planning for the occupation of West Berlin continued into the period of détente, indeed becoming more elaborate and detailed. A two-page report signed by the District Leader of the

Berlin Area of the Ministry of State Security, Lieutenant-General Wolfgang Schwanitz,²⁶ on 5 August 1985 elaborates exactly how the Stasi would deal with the challenges of occupation.

Schwanitz ordered that after commencement of operations all “significant enemy centers” would be occupied. These specifically included intelligence and counterintelligence facilities, police stations, archives, and staff/planning centers such as “state offices, research centers (academies and universities), company headquarters, party offices, organization centers, headquarters of anti-communist organizations, and data banks.” It is of inter-

est that the various facilities of the Allied Brigades in Berlin were not on this list — they presumably would be occupied by the Soviets, the NVA, or the Frontier Troops rather than by the Ministry for State Security.

From the very first, the Stasi's most important assignment was to be the arrest and detention of "enemy persons." A former Stasi lieutenant, Werner Stiller, has indicated that the Ministry of State Security had compiled "extensive files on West German citizens, which would have been of special interest during selection procedures."²⁷ The Schwanitz Report suggests that detainees would include members of the intelligence communities, leaders of anti-communist organizations, senior police officials, leading politicians, senior civil servants, and persons suspected of having knowledge of business, scientific, or technical secrets. Journalists known to have anti-leftist leanings would also be arrested. Detainees were to be brought to internment camps for immediate questioning. The information gained from these hearings would be used to build up an "effective locating program" aimed at "rendering enemy persons who had gone underground ineffective."

Offices of the Ministry for State Security were to ensure the continued operation of all vital services and the most important production facilities. Special attention was to be directed to securing all supply warehouses and reserve depots, essential service facilities (electricity, gas, and water), the postal, communication, and transportation systems, and radio and television stations. Important centers of production, especially those "sabotage-sensitive," were to receive attention. Banks, stock and security centers of deposit, technical and scientific record collections, business account repositories, the federal printing office, museums, galleries, and libraries were all to be secured against theft, destruction, plunder and fraud.

All weapons, ammunition, and explosives which had escaped confiscation by the military were to be seized by the Ministry of State Security. Handguns, hunting rifles and shotguns, industrial explosives and poisons were all to be turned over to the Stasi.

Political resistance was anticipated and would be countered. The Stasi's unofficial assistants²⁸ in East and West Berlin were to "infiltrate... enemy forces" and neutralize them. A list

specifies activities that would be confronted: "Espionage, sabotage, diversion, [acts of] terror, propaganda, underground political activity, rumor-mongering, and false reporting leading to unrest, plundering, strikes, and riots." Based on the above quotations, it is reasonable to conclude that the West Berlin media would be subjected to rigorous censorship.

Naturally, a communist administration would be set up immediately. The Stasi would be responsible for selecting and controlling the leadership and personnel of this "democratic organ." Members of the communist administration were to be protected from "enemy defamation" and "terrorist attacks." Border installations were also to be safeguarded, indicating that the wall dividing East and West Germany was to remain in place, even after a communist takeover.

The structure of the Stasi organization in West Berlin was also set forth. A central "Leadership Group for the West Berlin Operational Area" and local offices for each of Berlin's 12 boroughs would be set up. Stasi bureaucrats planned for every contingency. The planned vacancies in West Berlin were to be filled by 604 members of the Ministry of State Security. Stasi workers would be provided with military ranks and designations.

The Leadership Group, headed by a colonel, would exercise control over the Stasi organization in West Berlin. This organization would consist of the colonel and his staff, five operational groups, three working groups, a cryptography/postal/courier group, and guard/security forces. The operational groups corresponded to the "field" departments within the Ministry for State Security. These were Field II (Counter-espionage), VII (Protection of the Organs of the Ministry of the Interior), XVIII (Protection of the Economy), XIX (Protection of the Transportation System), and XX (Defense against "political-ideological diversions" and "underground political activities").

Sixty-five of the 80 billets within the "Leadership Group" were already filled when Schwanitz authorized the report in August 1985. The manpower plan listed billet, rank, first and last name, and personal identification number.

The 12 borough offices (one for each West Berlin borough) would each be manned with between 42 and 47 per-

sonnel. A lieutenant colonel would head the office in larger boroughs such as Reinickendorf and Neukölln, while in smaller boroughs a major would be designated as the commanding officer. In addition to the commander and deputy commander, each office had an ex-

All weapons, ammunition, and explosives which had escaped confiscation by the military were to be seized by the Ministry of State Security. Handguns, hunting rifles and shotguns, industrial explosives and poisons were all to be turned over to the Stasi.

pert for Information and Analysis, the Armed Forces, Economic Affairs, and Internal Security. Each borough office also had communication and cryptography specialists, as well as a watch and security detachment. The expert for Armed Forces probably would have served as a liaison between the Soviet and East German forces. Plans for manning the borough offices were not as developed as those for the "Leadership Group" — only six billets within each borough office were already filled.

It should be noted that the names entered beside the various billets in the manpower plans were not fictitious names entered for training purposes, but were the names of actual Ministry for State Security personnel. The officer who would have been appointed in charge of the Charlottenburg (West Berlin) borough office of the Ministry for State Security, a certain Major Zeiseweis, had been the head of the Stasi's Treptow (East Berlin) borough office in 1985 before his promotion to lieutenant-colonel and designation as deputy to the Stasi's District Leader for the Berlin Area in 1986. He recently participated in a broadcast focusing on topics related to the former German Democratic Republic (Ostdeutsche Rundfunks Brandenburg, 31 January and 15 February 1994), but made no mention about his planned function following an East German occupation of West Berlin. His superior, Lieutenant General Schwanitz, was more candid during a speech before the study group "Zwiegespräch" (Dialogue) on 20 May 1992, when he passingly noted that among the tasks of the Berlin District Area office of the Ministry for State



Security were “measures supporting the occupation of West Berlin in the event of an aggression directed against the German Democratic Republic.”²⁹

Conclusion

The detailed and specific plans of the NVA and the Ministry for State Security for the occupation of West Berlin were never executed. Does this bear out claims that these plans were merely defensive contingencies, similar in nature to the operational plans laid by NATO during the same time period? At least in the case of the Berlin operation, one thing stands clear: all records and statements indicate that no serious offensive on the part of the French, British, and American brigades in Berlin was anticipated. Instead, NVA and Soviet units anticipated cutting the city in two in one day and completing occupation by the end of the third day. It is highly questionable to claim now that such planning contributed to the peace and stability of Berlin and Europe.

East German plans concerning the occupation of West Berlin must be evaluated in context with higher-level Warsaw Pact plans pertaining to the Federal Republic of Germany and Western Europe in general. The operational plans remain tightly classified secrets of the Russian Defense Ministry, yet reports of various exercises give an indication of what was envisioned. On July 1, 1983, East German Minister of Defense Hoffmann made a report to the National Defense Council of the German Democratic Republic regard-

ing the upper-level Warsaw Pact staff exercise “SOJUS-83.” The task assigned to the players representing the Unified Forces of the Warsaw Pact was the conquest of the Federal Republic of Germany, Denmark, Belgium, the Netherlands, and France within a period of 35 to 40 days from start of operations.³⁰

NATO and West German officials were unwilling to make any comments about their knowledge and evaluation of Warsaw Pact operational plans. Western intelligence reports regarding the various Border’s Edge (Bordkante) exercises remain inaccessible. The extent to which East German operational plans were known to the West, as well as the defensive planning of Allied and West Berlin forces, remains currently classified.

The East German leadership believed that the occupation of West Berlin was a serious possibility well into the 1980s, as is made apparent by the enormous material and human resources that were devoted to the planning of such occupation. Every conceivable preparation was made. Three examples illustrate this. On the 23d of June 1980, the National Defense Council ordered that 4.9 billion DM of GDR currency (emission 1955) be stored as “military money” to be used as “a secondary currency valid in the territory of the enemy and equivalent its currency.”³¹ On the 25th of January 1985, the National Defense Council ordered that a new medal for bravery in war be designed (the Blücher Medal for Bravery), of which 8,000 were to be minted immediately.³² Last, new regulations for “warfront reporting” were issued on 5

December 1986.³³ Until the very last session of the National Defense Council on the 16th of June 1989, all East German ministers, as well as the chairmen of the 15 “District Defense Boards,”³⁴ had to submit reports attesting to the war readiness of their ministries or districts. Party Chairman and Head of State Erich Honecker continually reminded both military and civilian organizations to maintain a “wartime state-of-mind.”³⁵

The final decision to launch an invasion of West Berlin never lay in the hands of East Germany, but always depended on Soviet approval and support. The party chairmen and leaders of the Soviet Union, who controlled the Warsaw Pact and who would have had to issue the necessary orders for an assault, were not reckless gamblers. “Stalin and all his successors would have preferred to achieve their aims — the supposedly inevitable spread of Socialism to the rest of the globe, according to Marxist-Leninist teaching — by political/economic means alone.”³⁶ Their alternate plan, a military solution to the East-West global competition, consumed immense amounts of treasure, talent, and attention, but was never executed. The precondition of a successful offensive war, a decisive edge in the military balance, could never be attained. The catastrophic conditions of the communist economies, coupled with an escalation in the cost and technological level of the arms race, caused the Soviet leadership to finally cast aside an offensive conception of warfare in 1987.

Notes

¹Statement by a former NVA colonel at the first Commander Meeting of the new Bundeswehr East Command, 10 October 1990. The Bundeswehr East Command was the compromise solution reached regarding German unification and the military question in Germany: the Bundeswehr was to assume response for the defense of East German territory but the facilities and personnel in the new territories were to remain outside the NATO structure. See Otto Wenzel’s “So sollte in West-Berlin einmarschiert werden,” *Berliner Morgenpost*, 18 April 1993.

²Bishop Dr. Martin Kruse, Advent Service at the Berlin Dom, 9 December 1993.

³The operational plans of the Warsaw Pact were destroyed or turned over to the Soviets during the period prior to German unification,

yet the other records of the NVA, including exercise and training records, became property of the West German government. Many of the NVA's records are now open to public scrutiny at the Militärarchiv-Bundesarchiv, Abteilung Potsdam (formerly the Militärarchiv der DDR). Footnote 25 discusses the files of the Ministry for State Security, which became the property of the West German government. The latest English-language study of the NVA was published prior to the collapse of the GDR — see Thomas M. Forster, *The East German Army: The Second Power in the Warsaw Pact* (London: Allen & Unwin, 1980).

⁴Federal Archive - Military Archive, Potsdam Section (hereafter cited as BA-MAP), VA-10-20750, VA-10-22942, VA-10-22939 and VA-10-23894.

⁵BA-MAP, VA-10-22942, pp. 14, 295. See also Otto Wenzel, "Der Tag X. Wie West-Berlin erobert wurde," *Deutschland Archiv*, 12/1993, pp. 1364-1367.

⁶The names of these institutions and organizations apply specifically to West Berlin institutions and are not used in other German cities: for example, only in West Berlin is the Municipal Assembly termed the *Abgeordnetenhaus* and the Mayoralty the *Regierender Bürgermeister*. The map and exercise plans are found in BA-MAP, VA-10-22942. Map Nr. 282.

⁷BA-MAP, VA-10-22942, p. 297.

⁸*Ibid.*, pp. 15, 39.

⁹*Ibid.*, pp. 17, 20, 45.

¹⁰*Ibid.*, pp. 68, 89, 91.

¹¹*Ibid.*, p. 305.

¹²*Ibid.*, pp. 19, 85, 91, 272, 309.

¹³*Ibid.*, pp. 307, 310, 311.

¹⁴*Ibid.*, pp. 56, 123.

¹⁵*Ibid.*, p. 58.

¹⁶BA-MAP, VA-10-25911, pp. 1, 14-.

¹⁷The former officers of the NVA who have assisted Dr. Wenzel in his research wish to remain anonymous for personal reasons. See also Wenzel, "Der Tag X," *Deutschland Archiv*, 12/1993, p. 1362, and "Die Eroberung West-Berlins," *Berlin '93. Das Jahr im Rückspiegel* (Berlin: Ullstein, 1993), pp. 152-157 and Helmut Göpel, "Die Berlin-Operation," *Die NVA - Anspruch und Wirklichkeit nach ausgewählten Dokumenten*, Ed. Klaus Naumann (Berlin/Bonn/Herford: E.S. Mittler & Sohn, 1993), pp. 286-299.

¹⁸Göpel, pp. 289-95.

¹⁹Göpel, pp. 287, 293.

²⁰An alternate headquarters would be situated in a bunker in the area of Blankenfelde to the south of Berlin.

²¹Göpel, "Die Berlin-Operation," p. 289.

²²A Frontier Command of the East German Frontier Troops was comparable to a division; it was commanded by a major-general.

²³The mechanized battalions of the "Fighting Groups of the Working Class" were equipped with armored personnel carriers, artillery, anti-air, and antitank weapons (Fiftieth Meeting of the National Defense Council of the GDR, 18 November 1976. See Microfilm BA-MAP, VA-01/39495, p. 271).

²⁴Walter Jablonsky, "Die NVA im Staat der SED," *Die NVA*, Ed. Klaus Naumann, p. 56. In short, while publicly maintaining that NATO was preparing for a war of aggression against the nations of the Warsaw Pact, the East German Politburo understood that NATO's plans of forward defense and engagement of the "follow-on-forces" were not equivalent to offensive war planning.

²⁵These files are currently being evaluated by the West German "Federal Commission for the Files of the Ministry of Security of the former German Democratic Republic" usually simply referred to as the "Gauck Commission" after the name of its chairman. Copies of these files are in the possession of Dr. Wenzel.

²⁶Between 1986 and 1989, Schwanitz was one of four deputies for the Minister of State Security, General Erich Mielke, a member of the Politburo of the SED. The last communist head of government of the GDR, Hans Modrow, appointed Schwanitz Director of the Office of National Security, a cabinet-level position.

²⁷Stiller was a lieutenant in the Ministry of State Security who defected to the West in 1979. As a protective measure, he was provided with an alternate identity and resided in the United States for ten years. Werner Stiller, *Im Zentrum der Spionage*, 5th ed. (Mainz: Haase, 1986), p. 158.

²⁸German: *Inoffizielle Mitarbeiter*, abbreviated IM.

²⁹*Zwie Gespräch 9. Beiträge zur Aufarbeitung der Staatssicherheits-Vergangenheit*, (Berlin: 1992), p. 12.

³⁰The National Defense Council of the German Democratic Republic was headed by Chairman of the SED party and Head of State Erich Honecker and at that time consisted of 10 members of the Politburo of East Germany. See records of the 67th session of the National Defense Council, BA-MAP, VA-01/39528, p. 77.

³¹61st session of the National Defense Council, BA-MAP, VA-01/39522, p. 69-.

³²69th session of the National Defense Council, BA-MAP, VA-01/39530, p. 161-. *Berliner Morgenpost*, 17 November 1991.

³³73d session of the National Defense Council, BA-MAP, VA-01/39534, p. 4.

³⁴The German term, "*Bezirkseinsatzleitungen*," has no English equivalent. A *Bezirkseinsatzleitungen* consisted of the district party chairman, the commander of the military district, the leader of the district Ministry for State Security office, commander of the district People's Police organization, the district council

chairman, and the leader of the SED party's security division.

³⁵66th session of the National Defense Council on 17 September 1982, BA-MAP, VA 01/39527, p. 70.

³⁶Beatrice Heuser, "Warsaw Pact Military Doctrines in the 70s and 80s: Findings in the East German Archives," *Comparative Strategy*, Nr.4/Vol. 12 (November 1993).

Otto Wenzel was awarded a Ph.D. from the Free University of Berlin in 1955 for his dissertation on "The German Communist Party in 1923." He pursued a career in education, serving as the director of a secondary school from 1966 to 1970, and until 1985 headed the department for schools and culture for the Wedding borough of Berlin. He has instructed political science at the Technische Fachhochschule Berlin since 1986. His publications about communist society have appeared in numerous German periodicals and newspapers since 1954. Since 1991, he has researched Warsaw Pact planning, especially East German plans regarding operations against West Berlin. He is preparing an upcoming publication about the East German National Defense Council.

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The Medieval Irony of Modern Battle

by Harry F. Noyes III

“Lieutenant Carlson’s platoon established a stronghold around a farmhouse overlooking a sunken road. Around nightfall the unit underwent a brief mortar barrage with no losses. Just before midnight, without artillery preparation, an enemy force estimated at company strength launched a ground assault from the cover of the sunken road. The attack was repulsed with grenades and small-arms fire after a sharp half-hour firefight. In the morning, the platoon counted four enemy bodies left behind around its position. There was no further contact, and the platoon withdrew on company order at 1430.”

“The enemy attempted a local counterattack at 0130, with approximately a battalion of infantry supported by three or four tanks and an equal number of assault guns. The assembly was spotted by a recon patrol from A Company, and pre-planned artillery fires were called in with devastating effect. The disorganized foe withdrew without launching the attack.”

“Three enemy tanks with infantry on board succeeded in infiltrating the battalion’s lines under cover of darkness and a diversionary artillery barrage on B Company’s exposed position. Reports of an enemy armored breakthrough, considerably exaggerated in the retelling, sparked a hasty displacement of the battalion command post. Shortly after dawn, an artillery spotter plane discovered the hostile tanks concealed under trees beside a farm road 600 meters behind our forward positions. The spotter plane directed a fighter-bomber strike that destroyed all three tanks. Later that morning battalion outposts made four prisoners among enemy survivors trying to exfiltrate on foot.”

“Sergeant Smith’s cavalry vehicle entered the town unhindered at 0845.

After weeks of bitter battle for the approaches, the objective had ‘fallen’ with barely a whimper. Smith’s men set up a stronghold at the battered railroad station, covering the main road junction, and radioed that reinforcements could enter the town by District Road 17. By 1100 two companies had followed and cleared the town without encountering any real opposition aside from scattered sniper fire. Two American soldiers and three enemy troops were killed in a cops-and-robbers type shootout when an element of C Company stumbled across a party of enemy stragglers trying to leave town with a handcart full of foodstuffs. The town was declared secure at 1800. Its new U.S. garrison went to sleep to the tune of heavy small-arms fire from the continuing struggle for Hill 232 four kilometers away.”

The above vignettes are fictionalized, but not unrealistic, composites of actions one can read about in any number of after-action reports and official histories from recent American wars.

The striking thing about reports from the down-and-dirty “sharp end” of war is how casual, even trivial, they often sound.

Where is the clash of mighty armies, the fierce unyielding fury of divisions and corps locked in death struggles, the sweep of the 1,000-kilometer front? Tactical reports often sound more like police blotters than classical battle narratives.



Indeed, experts stress that much of what goes on in low-intensity military actions — peacekeeping, guerrilla conflicts, and the sort — really is police work: ferreting out an enemy cadre in one village, uncovering an “arms cache” with two rifles and 20 rounds in another, guarding a medical clinic in a third.

But the vignettes above are not based on low-intensity conflicts. They are based on “conventional” experience in World War II’s European Theater and in the Korean War, as related in official Army reports (see, for example, the St. Lo campaign book) and Brig. Gen. S.L.A. Marshall’s interview-based histories.

The old TV series “Combat” was sometimes humorously described as “An Account of the Role of the Independent Rifle Squad in the European Theater of Operations.” Reading after-action reports, one wonders if that is really off the mark. If not squad level,

the war seems to have been fought not much above company level.

What, then, is the role of higher echelons? Without trying to define words like “tactics” and “operational art,” we might say that higher echelons move and sustain forces. War is “maneuvered” at higher levels, but the experience of “fighting” is usually — not always — a company/platoon/squad-level experience, with the battalion level joining or dropping out of that array, depending on the nature of the war and local circumstances.

But, one might protest, what is the current relevance of all this? With the Soviet threat converted to a mere political and economic-development challenge, how likely are we to fight World War II again? And if we will only face low-intensity conflicts in the foreseeable future, isn't this just rehashing the obvious? Why debate the primacy of small units in small-scale operations when everybody already knows that will be the decisive level?

Yet the future is never clear or certain. While it may seem silly to predict that we will fight World War III soon, it is suicidal to assume we might not. It only took six years (1933-1939) for Hitler to turn an age that seemed more peaceful than ours into a wholesale calamity. It took only a couple of days for Saddam Hussein to catapult us unexpectedly into what was, in terms of troops engaged, one of the biggest wars we ever fought.

Battle accounts of the Korean War — still a viable candidate for a sequel, unfortunately — show the same pattern as World War II reports. See Marshall's *The River and the Gauntlet*.

Anecdotes from the Gulf War show that even its glorious image as a bumper-to-bumper charge by thousands of armored vehicles — under the best possible conditions for division-and corps-level fighting — cannot completely withstand close examination.

There were times when our ballyhooed technology went on the fritz or got shot up, people got lost, communications failed, and individual platoons and even single vehicles fought a lonely war in which victory rode on who shot first in a Dodge City showdown. It would be foolhardy to think we might not face such a war again. If we do, our soldiers must understand

that, while they may start into battle looking like a mighty host, they must be prepared to end up fighting like a SWAT team.

AirLand Battle doctrine, developed to defend NATO against a Warsaw Pact attack, recognized this. It rightly envisioned battle as whirling, swirling, helter-skelter, pulsing turmoil.

Unfortunately, there appears to be a real danger that we may lose this battle-winning, life-saving insight.

There is a lot of loose talk about “new-age” or “Third Wave” warfare and a “digitized” Army in which

“...Based on history, we must assume enemies will find ways to lock us in bitter battles decided at foxhole level, despite our technology.”

every soldier will see the overall battle situation through electronic links to high-speed battle-management computers of awesome power. Everyone will know the position of every vehicle at all times, we are told.

Perhaps. No one doubts technology will give us a big edge over less-sophisticated foes. Perhaps technology will indeed restore the elegance of 18th-century war, when a general standing on a hill could see his whole army and guide it from afar.

Yet, somehow, I doubt it. I cannot help remembering that smoke obscured those 18th-century battlefields after the first volley, the bad guys had a habit of appearing from hidden places behind hills, and the French and Indians liked to hide in forests.

Today's high-tech promises will probably go the way of those made by 19th-century machine gun advocates, who said machine guns would make war impossible by inflicting 100-percent casualties.

Soldiers are tough and smart. The enemy will find a way to blunt our technology. He will develop new, cheap, effective ways to jam our electronic links (smoke up the battlefield).

It will still be harder to see at night than in day. Clouds and fog will still hamper operations. Maps will still be misread. Machines will still break. Combat will still isolate small units.

The enemy will find tactics to cope with our technology (i.e., he will find a way to hide in the forests, so to speak).

He may break into small units disguised as civilian traffic. Don't mistake this for guerrilla warfare. A true guerrilla war is a slow-percolating political revolution run by military amateurs who use guns mainly for advertising, not to destroy enemies in battle. It is tricky to fight, but low-intensity and slow-paced. Counter guerrilla forces have time to develop responses.

What we are discussing here is something quite different: the use of guerrilla-like concealment tactics by a highly trained, professional enemy to launch devastating attacks designed to win the old-fashioned way, by shattering our forces in battle. Their approach might look like the gathering of the flock at Woodstock, but the fighting might well resemble the Battle of the Bulge.

This is not an essay on future warfare, however. Predicting how an enemy might fight our “digital” Army is beyond the scope of this article. We address the point only to stress that, based on history, we must assume enemies will find ways to lock us in bitter battles decided at foxhole level, despite our technology.

Such battles look neat on theater-level maps, where linear fronts are drawn and inconvenient gaps smoothed out. At grunt level, they are hard to visualize. Good tactical maps show that the “linear” front is really a jagged series of isolated company, platoon and even squad positions. That “bold thrust” portrayed by a big arrow on the map at the theater press camp turns out, on close inspection, to be one platoon surrounded on a hilltop (probably the wrong hill), all alone, hungry and thirsty, tired, and wishing with all its heart it were back at Fort Hood.

Neither of these versions is wrong. The tactical maps just show how elusive the “big picture” can be at the grunt level.

The foxhole soldier is like a waterbug trying to relate to a map of the Mississippi River. The map is accurate in a strategic way. The river really follows that course, and the map is useful to a boat captain (general). But it means little to the waterbug (captain, lieutenant, or sergeant), whose tactical

problem is coping with local ripples and eddies caused by a passing boat.

“Uh, well, there was a lot of shooting and when it was over, it seemed we had won,” sums up the waterbug-level view of a big battle about as accurately as can be done.

The general and his staff stitch all these confusing little pictures together into a big picture so that they can plan future actions and give upbeat briefings to civilian leaders, media, and public. (Ironically, the closest front-line fighters may come to the “big picture” is seeing it in civilian and military media.)

Modern soldiers — forced to disperse by the range, power, and firing rate of modern weapons — rarely can see more than a few of their fellow soldiers, even before shooting breaks out. Almost everything that affects them goes on beyond their sight.

For the sake of generals and privates alike, the U.S. Army is striving mightily to counter this with modern technology — with navigation technology to fix the positions of even the smallest units, surveillance technology to fix enemy units, computers to keep everything straight, and communication links to let everyone supply little-picture inputs and see big-picture outputs.

Yet, the changes that may really help the most in battle are the ones designed to make small units and soldiers *less* dependent on higher-level guidance: better unit cohesion, more realistic combat training, enhanced professionalism of soldiers at all grade levels, and continued emphasis on troop initiative and communication of intent through mission-type orders.

Ironically, modernity is bringing battle full circle. In medieval times, due to indiscipline rather than technology, commanders also tended to lose control over battle once they had delivered their troops to the point of contact.

Battles broke down into a series of man-to-man fights, with the outcome dependent on the cumulative effects of the quality of the individuals’ fitness, training, and courage.

Today, the fighting is usually small-unit to small-unit, and there is an effort to harness it to a larger scheme. But the general tenor is remarkably like those long-ago days. Modern battle is a soldier’s battle, from private to perhaps captain, or occasionally lieutenant colonel.

This implies that the general’s most important duties come before contact — training, informing, motivating troops; supplying and positioning units; etc. When the bullets fly, he can help with his reserves, artillery, supplies, aviation, etc., but the battle is basically in the soldiers’ hands.

Two of the first and greatest modern generals knew this. Napoleon said sometimes you just have to give battle and see what happens. Robert E. Lee said he tried to get his army to the battlefield in the most favorable possible circumstances and then trusted in God and his subordinates. Nothing has happened in this century, or is likely to happen in the next, to change that.

It is vital, but not sufficient, for generals to understand this. Individual soldiers must also recognize their pivotal role and how much their actions can matter *even when they don’t know what’s happening*.

They must be self-conscious about their decisiveness. They must know that they can help win the war — even when they feel most “out of it,” most isolated, most forgotten, most vulnerable, most unimportant. They must take to heart British Maj. Gen. J.F.C. Fuller’s vivid maxim: “When in doubt, hit out.”

That doesn’t mean to act blindly. One should always gather all the information one can with one’s own resources and within the time available before acting. However, having done that, one should act, even if the rest of the situation is hopelessly muddled. Do *something* to the enemy. Sometimes seemingly trivial action can unexpectedly exert decisive leverage against the foe.

Some fine examples come from the Battle of the Bulge, where numerous tiny, isolated, unsupported American units, led by junior officers and sergeants, battled hugely superior German forces and disrupted the timetable on which German victory depended.

There was Capt. Charles MacDonald’s I Company, which held out in a bitter forest fight longer than anyone expected. Finally, it ran for dear life, and MacDonald was sure he had failed. In fact, his small fight had bought vital time for higher-ups to move other units into deeper blocking positions.

Then there was 291st Engineer Combat Battalion. In isolated penny packets independently led by lieutenants and sergeants, these 600 relatively green troops stood up to the superior armored force of Jochen Peiper’s SS *Kampfgruppe*. Sometimes fighting, sometimes blowing bridges in Peiper’s face, they brought his dangerous thrust to a whimpering, inglorious end.

There is no way these men could have known how vital their actions would be. But they knew to act, and the results exceeded what anyone could have asked or expected. In other circumstances, their deeds might have been less decisive, but the point is that, in battle, one often can learn where the greatest leverage lies only by trying. “When in doubt, hit out!”

If each unit fights its own lonely little fight — however trivial it seems at the time — energetically, aggressively, and as smartly as it can, the cumulative effect at the “big picture” level will be victory. Then, when all is over, the soldiers can stand up and say wonderingly, as soldiers always have, “There was a lot of shooting and when it was over, it seemed we had won.”

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Future Command and Control Systems

IVIS and B²C² Only Scratch the Surface

by Major Timothy D. Cherry

Last April, we witnessed in NTC Rotation 94-07 the most significant experiment the Army has conducted since the Louisiana Maneuvers in 1940. Most first-hand observers will agree that the experiment was a success and digitization is here to stay. The need for visual, real-time information-sharing on the battlefield is critical to successful mission accomplishment at minimum cost to soldiers and equipment.

One of the NTC's charters during this experiment was to identify what the future digital "end-product" should look like and be capable of. To accomplish that and help facilitate the experiment, many of us received hands-on training at Fort Knox on both the Intervehicular Information System (IVIS) and Brigade and Below Command and Control (B²C²) computer systems to better understand their capabilities and limitations. Throughout this training and experiment, I analyzed these systems and developed a list of capabilities that must be incorporated in future digital C² systems. I based my observations on



Photo by Greg Stewart

my experience with the Army's premier "digital" system — the NTC Instrumentation System (NTC-IS) and its subsystems. In this article, I will identify the capabilities future C² systems should have and discuss how these systems could help the commander "visualize the battlefield."

In order to better understand the capabilities future C² systems must have, I will briefly explain the NTC-IS. The NTC-IS is composed of six major subsystems. The capabilities of two of these subsystems, the Core Instrumentation Subsystem (CIS) and the Range Data

Measurement Subsystem (RDMS), could be applied to future digital systems. The CIS is the networked computer system that performs real-time data processing, including position location, direct fire event pairing, and indirect fire processing. The distinguishing characteristic of CIS is its real-time interactive software. The software contains map control, graphic control measures, OPFOR and BLUEFOR symbology, audio control, and E-mail capability. The RDMS provides position location and firing data that includes player unit identification, location in UTM grid coordinates, aircraft altitude, and time of a position fix for each player unit. These two subsystems are the backbone of the NTC-IS and enable the observer controller to rapidly analyze the cause and effect of each battle and provide near real-time feedback to the player unit leaders.

To revolutionize the way we plan and prepare for missions on the future battlefield, we must eliminate the time-consuming way we pass out information from higher to lower with paper copy OPORDs and acetate graphics. Our future C² system must be powerful enough to accomplish this. It must have a map capability that can be updated for any location in the world, include standard Army map scales from 1:25,000 to 1:250,000, be able to zoom in and out from 1X to 8X, and include both grid and contour lines (Figure 1). The future system should have a limited word processing and E-mail capability to send messages, standard reports, and OPORDs/FRAGOs/WAR-

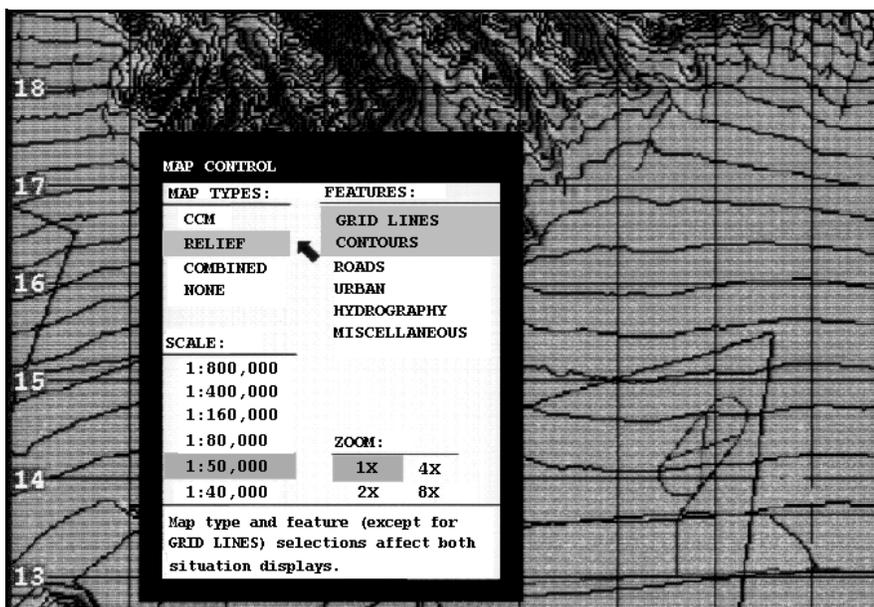


Figure 1. Map Control function allows operators to select map type, scale, feature and zoom.

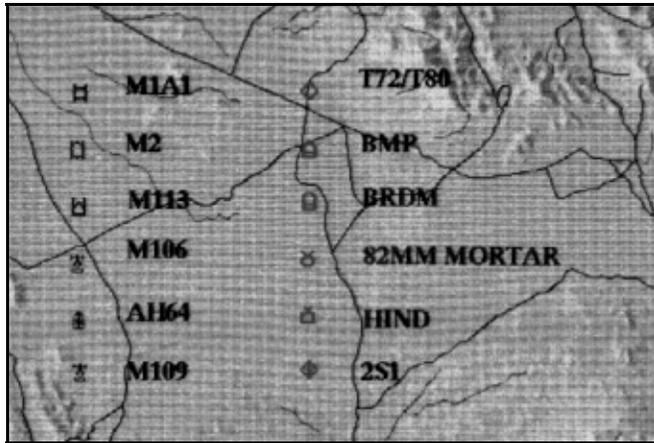


Figure 2. Symbols and graphics show up on the screen just as they appear in our current doctrinal manuals.

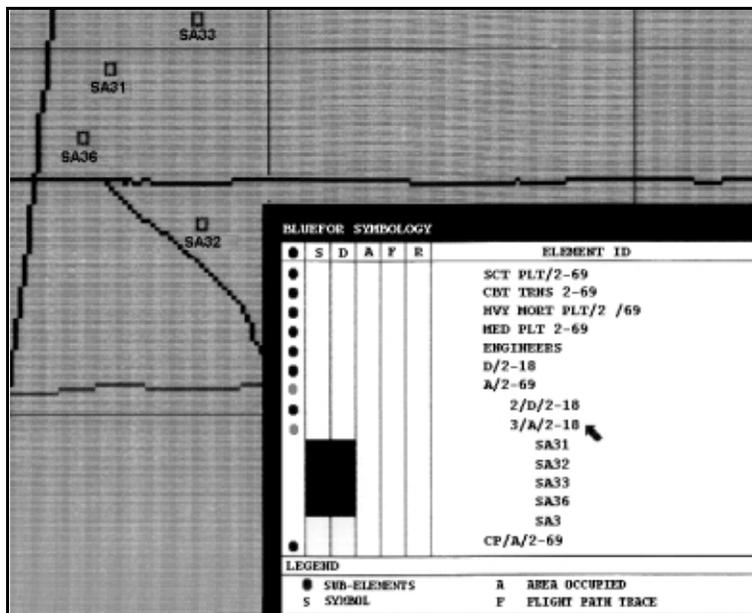


Figure 3. BLUEFOR symbology function allows operators to selectively display any or all friendly vehicles.

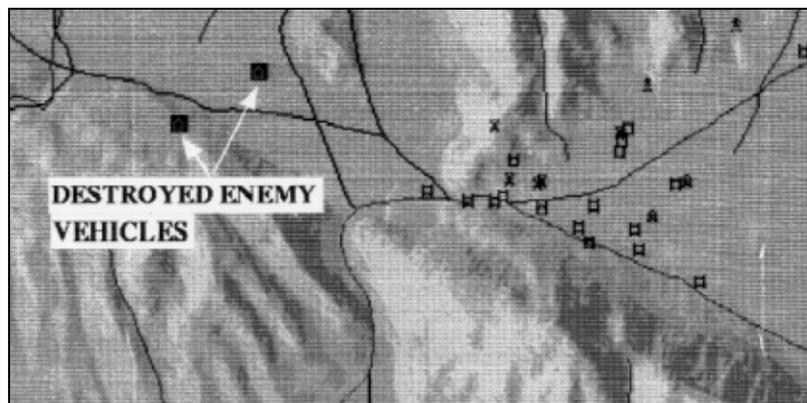


Figure 4. Vehicle and aircraft commanders can "blackbox" enemy vehicles that are destroyed to visually display battle damage assessment (BDA).

NOs. The system should include a full complement of graphic symbols straight from FM 101-5-1 (both enemy and friendly) (Figure 2). Graphics should be entered into the system at the appropriate level from top to bottom and must allow a unit/vehicle to display any BLUEFOR graphics in the file. A free-draw light pen capability would allow the user to enter graphics quickly and accurately.

All combat vehicles and aircraft should have a GPS-initialized, POSNAV-fed position locator that is tracked by satellites or mobile locator stations through triangulation. These stations could be mounted in either airborne or vehicular platforms. For situational awareness, each unit/vehicle should be able to selectively display any or all friendly vehicles and aircraft from platoon to corps level (Figure 3). Each combat vehicle and aircraft should also display a "firing vector" when firing to allow the commander and staff to observe the volume of fire in their unit. Units must also have the capability to "blackbox" friendly vehicles once destroyed by the enemy to visually show current strength. Enemy vehicles should be in two colors, yellow for templated and red for actual/confirmed locations. The G2/S2 at each level prepares a situation template in yellow and once confirmed by our intelligence systems, the G2/S2 changes the color of enemy vehicles to red and this appears on every computer screen instantly. The system on our direct fire vehicles and aircraft (tanks, IFVs, attack helos) should have a laser capability like IVIS with one improvement. Once an enemy vehicle is lased, the TC/BC should be able to select an enemy icon (T72, BMP, BRDM, etc.) to appear in red on the computer screen. Vehicle/aircraft commanders must also be able to blackbox enemy vehicles that are destroyed (Figure 4). The G2/S2 can use this to determine BDA, confirm the sittemp, determine enemy courses of action, and thus advise the commander better.

There are several hardware requirements needed for our future C² system. There are two types of computer systems: one basic system for combat vehicles and aircraft that is hardened, has a small screen, and does not have a print capability; and one advanced system for command and control elements that has a big screen (30" or larger), a small color printer, and a large color printer (3' x 5'). Combat vehicles should also have a flat panel computer display that is movable and allows the

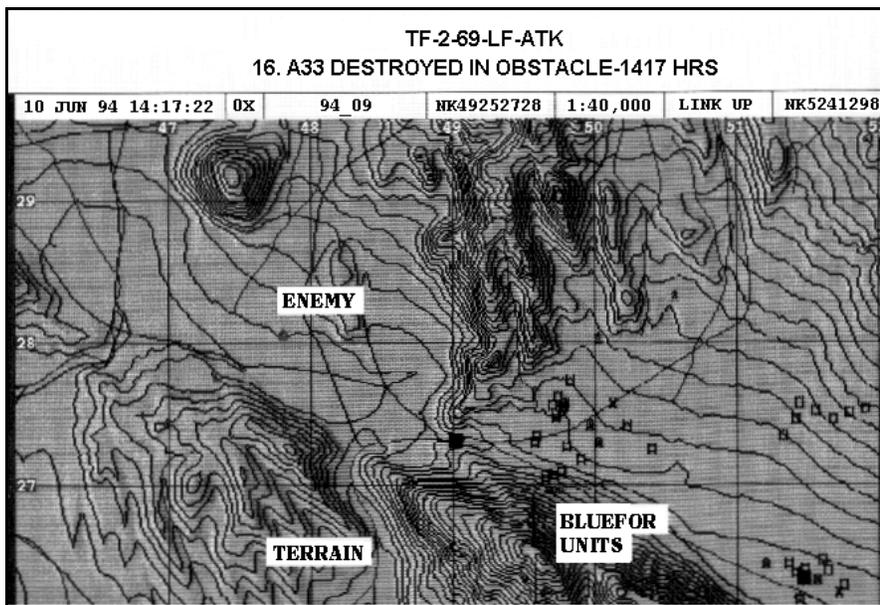


Figure 5. Commanders at all levels will be able to see the enemy, the terrain, and their unit, and the relationship of all three.

vehicle commander to view the screen while fighting from outside his turret. Finally, all of the digital information must be sent and received using a separate digital radio that does not interfere with voice traffic. With advances in technology come changes in organizations and tactics, techniques, and procedures. This new capability forces us to look at new ways to operate. Every combat vehicle (to include scout, ADA, engineer, artillery, mortar, chemical, etc.) should have a basic computer system. The TF TOC should have three advanced computer systems (S3, S2, FSE). The CTCP and field trains CP should also each have an advanced computer system. Each staff section would display the graphics and symbols necessary to track its part of the battle. During battles, each would track the battle "real-time" without the need for maps, acetate overlays, and having to move map symbols. The staff could then analyze the battle from their BOS perspective to help the commander "visualize the battlefield." The commander can fight out of his tank/IFV or a BCV-type command and control vehicle. This dynamic system will automatically update its screen with new friendly and enemy information, allowing the commander to see the enemy, the terrain, and his unit, and the relationship of all three at the same time (Figure 5). This type of accurate visual information will enable the commander to make the right decision with regard to maneuver, fire distribution, commitment of forces, and use of combat multipliers — and he can access this information from his computer without hav-

ing to talk to any of his subordinate commanders or staff (he does not have to ask for anything!).

The future C² system will enhance the way we conduct our orders process. For example, brigade would call the task force to tell them that brigade graphics and OPORD are in the computer. The TF TOC would display the brigade graphics and print out a large graphic picture in color and the OPORD on 8½ x 11" paper minutes later. The staff would use the large picture with brigade graphics (to include intel, fire support, engineer, and CSS) to conduct mission analysis, COA development, and wargaming. Once the commander decides on a course of action, the staff would complete the OPORD, input the TF graphics and OPORD into the computer, and notify co/tms and slice. Co/tms and slice would display the TF graphics, print out the OPORD, and begin their orders process. Co/tm and slice commanders will still go to the TOC for OPORD briefings and face-to-face guidance, while their XOs plan concurrently. With this technology, the staff and commanders will be able to access higher echelon plans and orders, giving them the ability to conduct concurrent planning at all levels. One change this future C² system requires is that the co/tm XOs can no longer fight from a combat vehicle. They must process information and run the co/tm command post (CP) as they do in cavalry troops. Co/tm and slice CPs would have an advanced computer system, along with both a large and small printer. Once the

co/tm OPORD and graphics are complete, the XO inputs them into the computer. OPORD/overlay distribution is simplified at all levels because graphic pictures and OPORDs can be printed for each leader in the unit, quickly and accurately. Leaders can use this graphic picture (showing friendly graphics, enemy sittemp, indirect fire plan, engineer obstacles, and CSS plan) for planning and rehearsals. This also eliminates the need for manual production and distribution of OPORDs and acetate graphics.

I have only scratched the surface with the capabilities a future C² system like the one I have described can provide to BOS synchronization during all phases of mission planning, preparation, and execution. I have described the capabilities our future digital command and control systems should have. Our current C² systems are cumbersome, and fail at their primary task — to help the commander "visualize the battlefield." Future systems must help the commander see the enemy, see the terrain, and see his unit at critical points during the battle so he can make the right decision to positively influence the outcome of the battle. As witnessed during Rotation 94-07, IVIS and B²C² are a step in the right direction, but our future digital systems must be improved to truly revolutionize the way we fight.

Major Tim Cherry was commissioned in Air Defense Artillery from Florida State University in 1979. A graduate of ADOBC, AOAC, and CGSC, he served as a SHORAD platoon leader, XO, asst. S3, and C Battery commander with 1-59 ADA; as asst. S3, adjutant, B Troop commander, and regimental asst. S3 with 3d ACR; as brigade asst. S3 with 5th ID and squadron S3 with 2d Squadron, 1st Cavalry; and most recently as the senior battle staff analyst for the Armor Task Force Training Team (COBRAs) at the National Training Center. He is currently the XO/CSS trainer for the Armor Task Force Training Team.

Auftragstaktik:

It's More Than Just a Word

by Captain Ronald J. Bashista

Auftragstaktik is a German term used quite freely in our army, particularly in the armor/mech community, as a description of how we do business. But what, exactly, does this word mean? To many, it means nothing more than its rough, literal translation — “mission-type orders,” or orders giving great latitude to subordinates in regard to mission accomplishment. The subordinate is given a mission, and left to his own initiative in its execution and accomplishment. But a closer examination may reveal that this is an imprecise and incomplete understanding.

The most reliable source for an explanation of *auftragstaktik*, would be the originators of the term — the German Army. During a recent staff ride conducted with the Bundeswehr, German officers gave the following explanation to a group of American officers about the German concept of the term: *Auftragstaktik* is comprised of four essential elements — obedience, proficiency, independence of action, and self-esteem. In order for *auftragstaktik* to exist, all four elements must be present.

Obedience. In the framework of *auftragstaktik*, obedience refers to strict adherence to the intent of the higher commander, expressed in terms of purpose, method, and endstate. The method will probably be the least specific of the three, giving subordinates the maximum opportunity to exercise initiative in pursuit of the endstate. The subordinate ensures that any initiative he exercises adheres to and supports the commander's intent.

Proficiency refers to technical and tactical competence on the part of leaders at all levels. In order for *auftragstaktik* to work, leaders must be well grounded in their profession, understanding not only their own branch's capabilities, but also the capabilities of other branches. They must understand the application of all battlefield operating systems and be able to synchronize all available combat multipliers. The educational system of the Army must foster this. Training must focus on combined arms. Proficiency builds outside the school system and unit with a rigorous program of professional self-development. The end result is a leader capable of taking broad guidance and exercising initiative in an intelligent, effective manner, reflecting the intent of the higher commander.

Independence of action. The four elements which comprise *auftragstaktik* are equally important, but if one element is at the “heart” of the term, it would be independence of action. The higher commander allows his subordinate a great deal of latitude in the execution of a mission, allowing the subordinate to seize the initiative as it presents itself. This necessitates leader presence forward, at the decisive place on the battlefield. From this vantage point, he can exercise the freedom he has been given to influence the battle, tailoring the actions of his unit to take advantage of the tactical situation he sees.

Self-esteem. The subordinate leader must possess a high degree of self-confidence, and he must feel that his superiors have an equal degree of confidence in his abilities. This develops through training. During training exercises, superiors encourage the subordinate leader to exercise initiative in the execution of a mission, and he is not penalized if his initiative fails. He is not made to feel that he personally is a failure. Leaders analyze his actions, identify his shortcomings, and from this, a lesson is learned. Honest mis-

takes are survivable and accepted as part of leader development. This is crucial if subordinates are expected to exercise initiative.

This explanation makes it clear that *Auftragstaktik* is not simply a term describing a method of operating as a unit. It is a culture. Taken in its purest form, as it was originally conceived, the word describes a

culture within the profession of arms. We cannot wake up one morning and decide we are going to practice mission-type orders that day. Cultures develop over long periods of time, and if not practiced are soon extinct. We must practice mission-type orders every day, in everything we do as an Army.

Our present educational system fulfills the elements of proficiency and obedience. Young officers receive a thorough grounding in the technical aspects of their branch in the Basic Course. When they graduate, they are reasonably proficient in the basic skills of their trade, and additional proficiency comes with experience at their first duty station. Branch advanced courses bring a greater understanding and appreciation of the commander's intent, which is addressed as the focal point for all tactical and operational planning. At this point, we have an officer who knows how best to employ his weapon systems to achieve the desired endstate of his superior commander.

The final elements necessary to practice the culture of mission-type orders are the most difficult to develop. The desire to succeed tends to quell our willingness to allow subordinates independence of action. The old maxim — about wanting something done right and doing it ourselves — trips us up every time. We feel that by controlling every aspect of what our subordinates do, our intent will be more readily accomplished, but in doing this, we fail to develop our subordinate leaders. We must allow subordinates to develop their own methods to accomplish given missions. When they fail, we must allow them to survive and learn from their mistakes. We must continue to develop them without crushing their self-esteem and willingness to take risks.

Auftragstaktik works, and is borne out by historical examples ranging from Napoleon's marshals to the German storm troop detachments of the World War I. Well-trained small unit leaders, accustomed to seizing the initiative and exploiting it, are the keys to successful military operations, and in the fast-paced world of armor-mechanized operations, such leaders are crucial. Given this, we must fully understand and correctly implement the mission-type order culture that we are so quick to embrace as our way of doing business. We must practice it on a daily basis. We must discipline ourselves against the tendency to micro-manage. In our subordinates, we must foster the willingness to take calculated risks. Then we must take the time to evaluate their successes and mistakes, and develop them accordingly. When we do this in our regular course of business, then we have truly understood and adopted the mission-type order culture. The dividends which will follow on future battlefields will be well worth the effort.

Captain Ronald J. Bashista received his Regular Army commission in Armor as a 1989 Distinguished Military Graduate of Western New England College ROTC. He served as a tank platoon leader in DESERT STORM with 1-35 Armor, 1st AD. He has also served as a scout platoon leader, tank company executive officer, HHC executive officer, and battalion motor officer. He is a graduate of AOBC, BMOC, AOAC and FAOAC. While attending AOAC, he participated in the Huertgen Forest Staff Ride with the Bundeswehr. He currently serves as the adjutant for 3-8 Cavalry, 1st CD.



Running Checkpoints Was a New Mission for The 10th Mountain Division's 3-17 Cavalry, But Such Missions May Become Common



Ground Cavalry Checkpoint Operations In Somalia

by First Lieutenant John Williamson



The announcement that the 10th Mountain Division had been selected to deploy to Somalia came as a surprise. Although we are a rapid deployment contingency force, our focus had been toward fighting dismounted light infantry in a constricted environment. Even though specific units beyond the division ready force (DRF) Infantry Battalion had not been designated to deploy, all units began preparations, including the divisional cavalry squadron, the 3d Squadron, 17th Cavalry, which redeployed from a field training exercise on 2 December 1992.

Upon notification of deployment for Operation RESTORE HOPE, A Troop/3-17 Cavalry, the organization's ground troop, began preparing for the potential missions we might be called upon to execute. Focusing on the Somalia mission as a humanitarian/peacekeeping operation, special attention was paid to training for checkpoint operations. This task was not included in our Mission Essential Tasks List, and consequently had not been previously trained. Drawing on the ex-

perience of our DESERT STORM veterans, FM 7-98 (*Operations in a Low-Intensity Conflict*), the initial plan of the 10th Mountain Division's Second Brigade, and the principles of METT-T, A Troop established an SOP for conducting checkpoints.

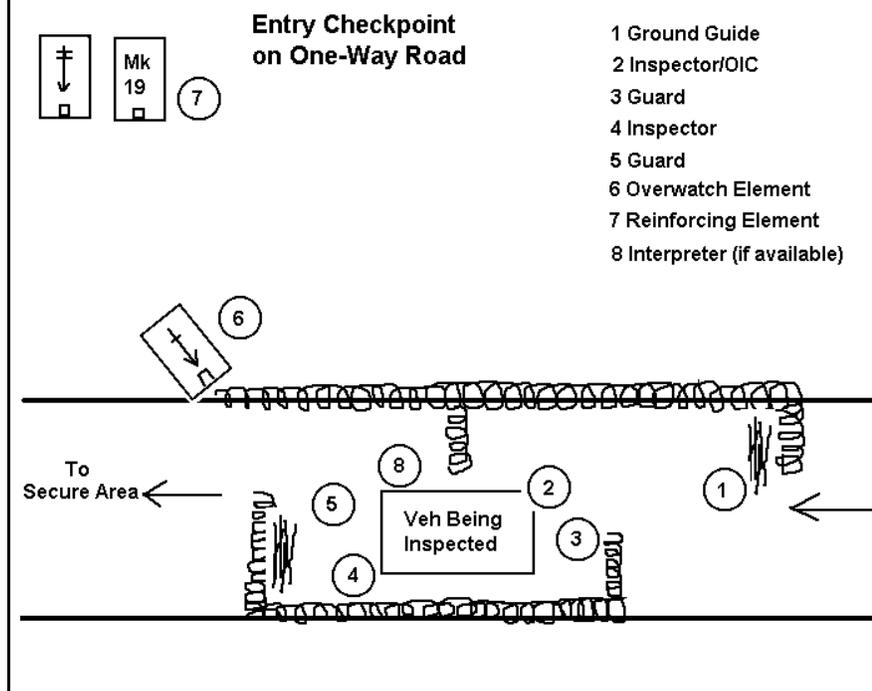
A Troop deployed at approximately 60 percent strength. This reduced us from our authorized 18-man, 6-HMMWV platoons to 12-man, 4-HMMWV platoons. Our vehicles were armed with TOW 2 missile systems, MK 19 grenade launchers, M2 .50 caliber and M60 machine guns. The TOW system could be dual mounted with an M60.

Our initial threat analysis was very limited. The Marines had experienced only light resistance in their occupation of Mogadishu, and we expected to encounter even less in the rural environments we were to operate in. However, the potential for strong opposition was always present. Thus, we planned for the greatest amount of control and security possible with our limited manning strength.

With the initial intent of securing humanitarian relief organizations, rather than actively pursuing unlawful elements, we anticipated that our checkpoints would be set up on a one-way road, such as the entrance to an assembly area or feeding center. We also anticipated that the checkpoints would be in built-up areas during daylight. Our plan called for the use of available barrier materials — concertina wire, logs, rocks, and debris — to slow and channel vehicles into an inspection zone (Figure 1).

A minimum of six personnel, or a scout section, would operate the checkpoint. After guiding the vehicle to the proper location, a four-man inspection team would search the vehicle and its occupants. Two members of the team would conduct the actual inspection (Figure 1, items 2 and 4), while the other two provided close support with M16 rifles (items 3 and 5). A crew-served weapon mounted on a HMMWV positioned at the exit of the checkpoint would provide a show of force and added firepower. The other

Figure 1.



section of the scout platoon would be some distance away, ready to double the strength at the checkpoint, if needed. Our manning strategy allowed for a 12-man platoon to conduct a checkpoint for approximately 12 to 18 hours. As a final precaution, we planned to dig shoulder-depth bunkers within the checkpoint area to protect dismounted personnel if an intense firefight erupted. If available, we would emplace claymore mines as a last resort. Fortunately, the troop had over three weeks to train before deployment, exercising our checkpoint SOP numerous times.

When A Troop arrived in Somalia on 7 January 1994, we immediately began conducting convoy security and zone reconnaissance missions out of the brigade assembly area at Bale Dogle, an old Soviet air base 70 miles west of Mogadishu. In mid-January, the troop deployed to a rural area southwest of Mogadishu to participate in a week-long squadron zone reconnaissance. The area was flat, with scattered villages, each ranging in population from 50 to 5,000. Our primary objective was to display a military presence within the sector in order to frustrate the movements of unlawful elements and discourage banditry. A major north-south MSR passed through the sector,

and it was believed that bandits used it at night to harass the local villages and to travel to and from Mogadishu. In addition to its other missions, A Troop was ordered to establish checkpoints along this route. The commander's rotational schedule called for two platoons conducting reconnaissance missions during the day with the third platoon executing a checkpoint along the MSR at night.

As with all missions, the factors of METT-T influenced our execution, and adjustments to our plan had to be made. The mission did not call for controlling access to a fixed base, but rather inspecting all civilian traffic for weapons, obtaining human intelligence and discouraging bandit movement.

At this point, our threat analysis had developed into a clearer picture. There had been very little violent activity outside of the population centers of Mogadishu and Kismayu. The incidents that had occurred in the rural areas had been between local civilians. There had been no coordinated or even random violent acts directed toward U.S. forces in the troop sector. On the contrary, the vast majority of Somalis had been extremely friendly and receptive to our presence.

In planning for the checkpoint, one of the most significant concerns was expeditiously processing vehicles. Many Somali trucks carried as many as 20 to 30 passengers and the process of unloading, inspecting, and releasing a vehicle could take considerable time. Therefore, we attempted to develop a faster system.

Another unexpected development was that we were not establishing the checkpoints in a built-up area, as we had planned. Nor was the road the one-way street we had expected. Furthermore, the road was so deteriorated that, during daylight hours, vehicles would travel on improvised "camel paths" several meters to each side of the main thoroughfare. These factors made it difficult to channel traffic. The limited barrier materials available, and the temporary duration of the checkpoints, restricted us to the use of concertina wire and our HMMWVs to channel the vehicles into the inspection area.

Although we had planned for it, we had not anticipated conducting checkpoints at night. The issue of effective observation for our overwatch elements was critical due to our limited night vision capabilities. The troop was equipped with only PVS-5s and PVS-2s.

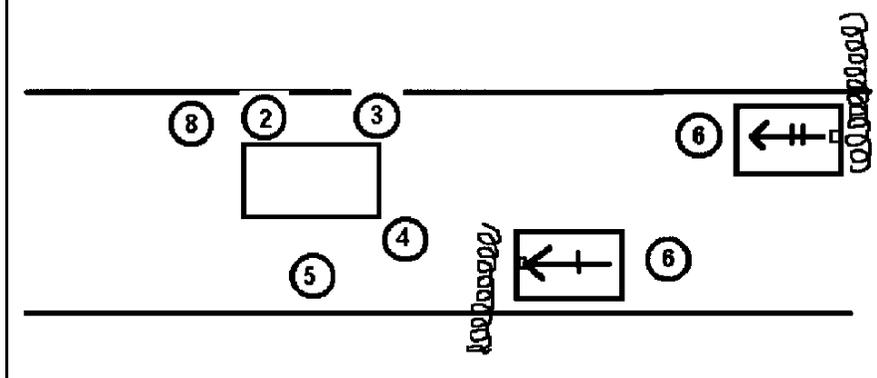
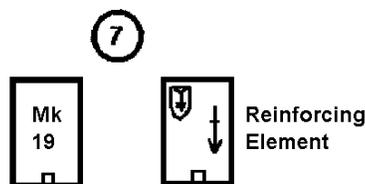
In executing our night checkpoints, we stuck with our basic plan — one section conducted the search and provided close support while the other provided additional overwatch and reinforcement. We selected checkpoint locations away from population centers to reduce civilian foot traffic. Next, we tied in our positions with natural barriers, such as irrigation canals, in order to restrict the movement of vehicles off the road. Finally, to counteract limited visibility, we improvised, using vehicle headlights to control traffic and TOW missile thermal sights to provide effective overwatch.

The section conducting the checkpoint would stagger two HMMWVs on the road, oriented in opposite directions (Figure 2). These HMMWVs would mount an M60 machine gun and an M2 .50 cal respectively. This configuration provided headlight illumination in both directions and provided over-

Figure 2.

Checkpoint on Two-Way Road

- 1 Ground Guide
- 2 Inspector/OIC
- 3 Guard
- 4 Inspector
- 5 Guard
- 6 Overwatch Element
- 7 Reinforcing Element
- 8 Interpreter (if available)



watch and immediate suppressive fires from both weapon systems, regardless of the direction of approaching traffic.

The section would maintain strict light discipline until a vehicle approached to within about 25 to 50 meters. Then the OIC would direct the vehicle headlights to be turned on and an interpreter gave instructions to the vehicle occupants. This inevitably caught the approaching traffic by surprise and brought it to a halt. While the crew-served weapons provided overwatch, the inspection teams approached the vehicles and searched them. As rehearsed, each inspector had an M16 armed guard. The inspectors carried 9-mm pistols to allow more freedom of movement and to reduce the risk of a hostile Somali seizing a rifle when in close contact.

The TOW missile thermal sights provided an unanticipated advantage. Set approximately 100 meters off the road, the reinforcing section was positioned

with a TOW missile thermal sight and a Mark 19 grenade launcher. The grenade launcher provided extra punch for any long range contacts, while the TOW sights acted as the eyes of the overwatch element, allowing it to gain detailed information about approaching traffic. Before a vehicle came within 2,000 meters, the inspection team knew the type of vehicle and the number of occupants to expect. A proficient TOW gunner could even determine the load being carried in a farm produce truck.

Interpreters were of immeasurable value at our checkpoints. A counter-intelligence team of two personnel and one Somali interpreter was usually attached to each platoon when conducting missions. The interpreter generally accompanied the checkpoint OIC and interrogated the vehicle occupants while other inspection team members searched the vehicle. A close working relationship developed with the more reliable interpreters. Although A Troop could have conducted checkpoints

without the interpreters' assistance, we would have obtained much less human intelligence, given our limited language skills.

Upon redeployment, A Troop revised the Mission Essential Tasks List to incorporate lessons learned in Somalia, to include checkpoint operations. Although a keen eye will be able to discern several weaknesses, A Troop's checkpoints were successful and the mission was accomplished.

A cavalry scout platoon operating in a more hostile or constrictive environment would undoubtedly need further adjustments. Ultimately, A Troop executed numerous day and night checkpoints, resulting in the seizure of several weapons and the gathering of critical human intelligence regarding bandit activity. Human intelligence gathered from a checkpoint operated by A Troop led to the discovery on the following day of one of the largest weapons caches seized during Operation RESTORE HOPE.

Ground components of A Troop, 3/17 Cav recently deployed to Haiti and were stationed in Port-au-Prince as this issue neared publication.

First Lieutenant John Williamson received his ROTC commission from Dartmouth College in 1990. He holds a BA degree in Government. A graduate of Armor Officer Basic Course, Scout Platoon Leader Course, Junior Maintenance Officer Course, and Airborne School, he served as platoon leader of 2d Platoon, A Troop, 3-17 Cavalry from Jan 92 to Jan 94, and as squadron maintenance officer (BMO) from Jan 94 to the present.

Armor in Support of OMFTS

by Major R.W. Lamont

The term Operational Maneuver From the Sea (OMFTS) is new to most soldiers. A wargame at the Marine Corps Combat Development Center, in Quantico, Virginia, tested this warfighting concept in December 1992. In analyzing power projection issues, the game players emphasized the need for flexibility, tactical surprise, and speed relative to the enemy.¹ The purpose of this article is to discuss the role of the Army's Armor Force in OMFTS and its ability to contribute to battlespace dominance in the littoral regions.

Armor has traditionally played a supporting role in amphibious operations. However, the scope of these operations has ranged across the full operational spectrum. In World War II, the center task force that seized Oran, Algiers, included the 1st Infantry and 1st Armored Divisions. The tactical scheme involved a double envelopment of the city, with the infantry on the inner ring and the armor on the outer ring. This effort placed 3,245 vehicles ashore and covered an area 70 miles wide by 15 deep.² By present standards, this landing was a herculean effort.

As the armed forces continue to draw down, each component will find itself facing new and expanding duties to meet national strategy commitments. The requirement for the Army to provide heavy forces in the conduct of OMFTS is real. A recent memorandum of understanding between the Army and the Marine Corps highlights the tasks ahead needed to ensure a power projection capability

consistent with the operational demands of an uncertain world.

The Nature of Maritime Campaigns

In the past, the focus of an amphibious assault was the Force Beachhead Line (FBHL). The intent of such an operation was to gain a lodgement area of sufficient size to ensure unencumbered unloading of combat power

mand that ground combat power only be employed against high-value objectives. A digitized battlefield is used only to focus on the enemy and mass the effects of combat power to disrupt his operational tempo. Sensors are fused onto a common battlefield picture that guides decentralized execution by combat forces ashore and afloat. These actions are consistent with the commander's intent, as they are based on a common command architecture.

OMFTS envisions avoiding enemy combat strength while destroying the political, military, and economic sources of such strength.

As with airborne operations, combat power during OMFTS must be built up from zero. The projection of ground combat power is directly tied to the ship-to-shore movement. This process is, in turn, linked to the characteristics of the landing craft that move the troops and their associated equipment to the beach. The interactions between these craft and the unique environmental setting

of a scenario drive the feasible operational schemes open to a commander.

Figure 1 outlines the build-up of combat power ashore over time. The transition has two phases. In the surge phase, the early part of the landing, assault assets are moved ashore as rapidly as possible. In this phase, limits on landing craft, both surface and air, coupled with the queuing dynamics of assault shipping, constrain the ability of the commander to place combat power ashore. Following the initial surge, landing assets that will complete the transfer of combat and



ashore. This approach is passive in execution if the landing force looks inward toward geographical objectives that fail to meet the operational demands of the campaign. The Anzio landing is an example of the stagnation that can result from turning inward.

OMFTS envisions a disconnected and non-linear battlefield. The principal defeat mechanism of the landing force is coherent maneuver against the opponent's center of gravity. The limitations of constrained shipping de-

Build-up of Combat Power Ashore Over Time

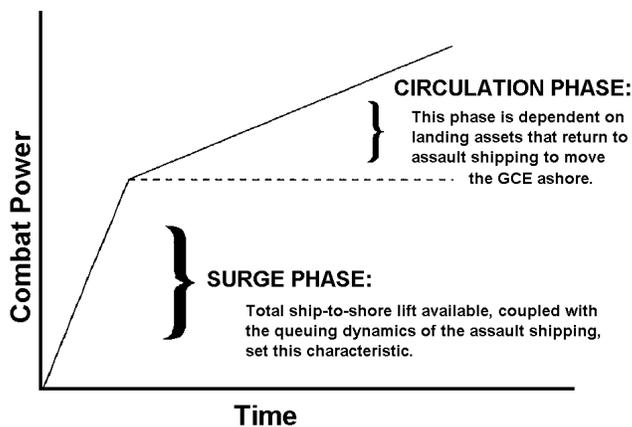


Figure 1

supporting units circulate between the transport shipping and the landing sites.

The Role of Marine Armor

Three types of Marine armor play a key role in the surge phase. The first is the Light Armored Reconnaissance (LAR) unit, a combined arms formation built around the Piranha family of wheeled fighting vehicles. They can move ashore by helicopter or Landing Craft Air Cushioned (LCAC). These units perform cavalry functions, and serve as an advanced force shaping the battlefield for the heavier forces that follow. They use speed and their ability to call in massed indirect fire from aviation and Naval Surface Fire Support to offset their light weight and relatively few numbers.

The second player in the surge period is the Assault Amphibious Vehicle (AAV), a tracked APC unique to the Marine Corps that serves to move infantry directly across the beach and into the zone of action. These vehicles are attached to infantry units to form mechanized infantry capable of keeping pace with the other mounted players on the battlefield. Tanks, combat engineers, and other arms are task-organized into the habitual combined arms teams built around these mechanized infantry formations. AAVs require no lift assets to make their ship-to-shore movement, so they contribute directly to the large spike of combat power during the surge phase.

Finally, Marine tanks move ashore on LCACs to support and maneuver with the other players in the Marine Air/Ground Task Force. These M1A1s

have communication packages that allow the tank company commander to call for the massive volumes of supporting fires needed to ensure maneuver in the face of superior numbers ashore. Their ability to dominate the direct-fire envelope ensures the MAGTF commander will present his enemy with expanding tactical threats that are difficult to counter.

One key to Marine armored warfare during OMFTS is the combined arms nature of its organization and operations. The LAR unit provides the timely information fast-paced operations demand. Combined arms teams, backed by a full array of indirect fire systems, are able to mass and strike enemy weakness. They then disperse before presenting a high-value target to the opponent's fires. Habitual relationships, forged during deployments and combined arms exercises, provide the glue needed to hold these forma-

tions together in the chaos of the early hours ashore.

The Role of Army Armor

Under the Army and the Marine Corps memorandum of understanding, the Army will provide additional armor to support OMFTS. Since the Marine Corps has organic armor battalions, the Army will normally be providing a brigade-size force OP-CON to the MEF commander. It is envisioned that the armor brigade will not make amphibious assaults, but will fight inland as part of the expeditionary campaign. This approach is consistent with the Army's experience in World War II. During the Sicily landing, a brigade of the 2d Armored Division was held off Licata as the floating reserve for the 3d Infantry Division.³ It is expected that the armor brigade will transition ashore during the circulation phase of the landing process. Finally, this brigade will not subdivide its units, except engineer and field artillery, during operations inland.

Three OMFTS principles are directly supported by the capabilities of the armor brigade: exploiting gaps, flexibility, and momentum. The notion of exploiting a gap is not new to Army operations. In the past, these gaps have been largely geographical and physical in nature. The armor brigade is able to push through or around an enemy that has been fixed in position. Further, it has the mobility to carry the battle deep beyond the ground striking range of some MEF assets.



Photo courtesy of General Dynamics

But exploiting gaps is not limited to the context of time and space. There may be exploitable gaps in the enemy's warfighting ability — perhaps a weakness in his night fighting capability or an overly centralized command and control system — that may be targets for the armor brigade.

OMFTS demands flexibility to provide the commander a wide range of tactical options. Increasing the availability of armor-protected, highly maneuverable, and hard-hitting units supports battlefield dominance by giving the ground commander a wide array of options to throw at, and around, the enemy. This in turn complicates the enemy's dispositions, since he can never be certain which course of action his opponent will execute.

Momentum is improved since the armor brigade is adept at concentrating combat power at the decisive point in the battle. Its actions fix, confuse, and neutralize the enemy by integrating fires and maneuver at a tempo the enemy will find hard to counter. In addition, Marine ANGLICO (Air and Naval Gunfire Liaison Company) detachments can provide the means for the armor brigade to tap naval fire support and further improve the weight and momentum of the brigade's blows.

The interactions between the armor brigade and the Marine Ground Combat Element (GCE) can force the enemy into a dilemma: if he concentrates his combat power to face the full weight of the armor brigade, he will have to uncover areas along the shore, opening gaps that Marine units can exploit, either operating from the sea or in a shore-to-shore mode, to strike at his rear areas. Conversely, if he disperses to cover the seaward approaches, the armor brigade is presented an opportunity to overwhelm or bypass his defenses and crush him against the beach.

If, during the surge phase of the operation, a port is captured intact, conditions may allow integration of the Army's PREPO Afloat brigade directly into the ongoing OMFTS scheme. This approach is potentially the quickest way to counter an armor-heavy threat operating in the littoral of interest. Once ashore, this joint force is able to conduct a series of operations intended to strike overland at the enemy's key centers of gravity

while being supported by a full range of naval power offshore.

Conclusions

Seafaring nations have always profited by exploiting the inherent strategic mobility afforded them by using the sea as an avenue of approach. The ability to dominate the land and strike the enemy's center of gravity is contingent on projecting a GCE with the prerequisite strength and mobility at the decisive moment. Some scenarios will require the Army to provide additional armor support to the Marine Corps to achieve this battlespace dominance.

The roles and requirements demanded of Marine and Army armor, within the context of OMFTS, are different and unique. Each is a key player in the various phases of power projection into the littoral regions of the Third World. This difference is reflected in the dynamics of our simple combat power build-up model and in the way these forces are trained, equipped, and organized. These subtle differences in operational characteristics must not be lost as we restructure our armor forces for the way ahead.

The inherent capabilities of the armor brigade are consistent with the principles of OMFTS. The potential role of the armor brigade to exploit or open gaps in the enemy's defense can ensure conflict termination on our terms. The flexibility and momentum that an armor brigade brings to the littoral region are an important step toward battlespace dominance in the expanded operating area envisioned with OMFTS. This increases in relevance if the enemy has mechanized formations that can oppose the maneuver of the GCE.

In future operations, all services must seek ways to support the national strategy and maximize their contribution to the joint battlefield. OMFTS is a concept that calls for the integration of all services in the littoral region to achieve battlespace dominance and victory. One of the key players on this future battlefield is the Army's armor brigade, supporting the dynamic operations which are launched "...from the sea."

Notes

¹"Operational Maneuver From The Sea 29 Nov-4 Dec 92," Studies and Analysis Division, MCCDC, Feb 1992, p. ii.

²Howe, G.F., *Old Ironsides*, Combat Forces Press, Washington, D.C., 1954, pp. 21-47.

³D'este, Carlo, *Bitter Victory*, New York, N.Y., Harper Collins, 1988, p. 146.

Major R.W. Lamont, a 1978 graduate of the United States Naval Academy, was commissioned a 2LT in the USMC. After completing The Basic School at Quantico, Virginia, he attended a similar program at Fort Knox, was designated a tank officer, and was assigned to the 3d Tank Battalion, Twentynine Palms, Calif. He served as a tank platoon leader and XO for both a tank and headquarters company, and participated in the formation of the Near Term Preposition Ship (NTPS) program and Mechanized Test Phase IV, which demonstrated the Marine Corps' ability to conduct large-scale mounted operations. He also served as Marine Detachment executive/guard officer on the USS CONSTELLATION (CV-64), and was combat cargo officer on the USS CLEVELAND (LPD-7), involved in 31 amphibious landings. In August 1985, he returned to the 3d Tank Battalion as the assistant operations officer and tank company commander. He returned to Fort Knox as an instructor for the Armor Officer Basic Course, then the Armor Officer Advanced Course. After receiving his Master of Science Degree at the Naval Postgraduate School, he was assigned to the Studies and Analysis Division of the Marine Corps Combat Development Command. He currently is the lead Marine analyst supporting the Joint Air Defense Operations/Joint Engagement Zone Test Team (JADO/ JEZ).

Clearing the Defile: A Doctrinal Discussion

by Captain John W. Miller III

SSG Hughes did not like what he was seeing. His infantry squad was pinned down, and he no longer had communications with the vehicles. The enemy small arms fire that kept his element suppressed was the least of SSG Hughes's worries. The BMP overwatching the trail was his biggest concern because he had no way to warn the approaching Bradleys of the danger — the company had changed frequencies and the RTO didn't have the new one. One more time, SSG Hughes swore at his element for leaving the antiarmor weapons on the Bradleys. If they had their Dragons, or even the AT-4s, that BMP would not be a threat to the rest of his platoon. His thoughts of improving the PCIs and rehearsals were interrupted by the all-too-familiar sound of an M-2 moving deeper into the defile and the sight of the BMP as it opened fire...

This event has not occurred in combat yet, but it does occur monthly at the National Training Center. Operational results indicate that there is a lack of understanding throughout the Army about how to execute this mission. This article provides the company/team commander with tactics, techniques, and procedures to successfully attack a defile defended by an enemy force. It is not the only way to accomplish this mission, but it will serve as a primer until you develop tactics and techniques you are comfortable with.

Defiles and their impact on company/team operations are often ignored unless the commander conducts a thorough mission analysis. Once this analysis is complete, and the commander determines he has the mission to clear a defile, he must accomplish several steps prior to crossing the line of departure. The first of these is the analysis of the situation.

Analyze the Situation

Few leaders would argue the importance of an intelligence preparation of the battlefield (IPB) when planning an operation. An equal number will also tell you there is not enough time to do everything required. It does take time to do a detailed IPB, but it is time well spent. With practice and the use of field manuals, you can complete your analysis fairly quickly. Focus your effort on the terrain, weather, and enemy, emphasizing their effects on the operation.

Terrain and Weather

The defile drill is required because terrain has so limited your actions that you must completely change movement formations, techniques, battle drills — virtually all aspects of how you plan to fight. It only makes sense that a mission so dominated by terrain would focus on terrain analysis. When conducting your analysis, focus on the military aspects of terrain by using OCOKA, considering these things that are unique to defiles.

Observation and fields of fire favor the enemy. You must neutralize this advantage.

- Identify deadspace where the enemy cannot see or engage you with direct fire.
- Template overwatch positions where you can place forces to support maneuver (this is critical because reaction time is decreased and our weapons standoff is nullified in the defile).

Cover and concealment

- Cover and concealment are normally abundant for infantry but scarce for trail bound vehicles.



- Lack of vehicle cover makes them excellent ATGM targets.
- Available cover often precludes enemy engineer survivability effort. These assets can be used elsewhere.

Obstacles

- Both man-made and natural obstacles influence the maneuver of any element entering the defile.
- Obstacles will reduce your ability to maneuver, improve the enemy's ability to engage your element, and will assist any enemy withdrawal.



- Defiles can be easily reinforced with wire, mines, and log cribs.
- Defiles occurring in ridges or rock formations may have bedrock floors, preventing effective use of ditches and craters.

Key terrain

- Terrain that dominates, controls, or influences avenues of approach.
- The defile you have been tasked to clear is higher headquarters key terrain.

- Focus on terrain that affects the fight in the defile.
- Consider terrain overlooking approaches to the defile and terrain that dominates the defile exit.

Avenues of approach

- Evaluate to determine degree of canalization, trafficability, and amount of maneuver space in the defile.
- Conduct an analysis of time and space factors, determine the length of the defile and how long it will take to clear.

- Determine slow-go and no-go terrain — this helps you determine what type of force leads and when (infantry vs. vehicles).

Detailed terrain analysis requires time to consider each of these factors and is essential to mission success. The commander suddenly issued a FRAGO to clear a defile may not have the time required to thoroughly analyze all aspects of the terrain. There are some aspects of OCOKA that are more pertinent when planning to clear a defile than others. It is criti-

cal that the commander have a detailed understanding of the avenues of approach leading to, through, and exiting the defile to ensure he properly sequences his forces into the fight.

He must also understand which terrain is key, i.e., the terrain that controls or dominates the fight in the defile. This will provide terrain-oriented objectives for subordinate units to seize, facilitating clearance of the defile. Finally, focus your analysis on the identification of man-made and natural obstacles. This is vital information when developing your scheme of maneuver and establishing the conditions that must be set prior to breaching obstacles in the defile. When conducting the analysis of the situation, consider the effects of weather and its influence on your operation. Consider the trafficability along avenues of approach and in the defile itself, for both mounted and dismounted forces. Analyze visibility to determine how obscurants will perform and the effects on optics (i.e., binoculars, day sights, etc.). Will thermals be required for vehicles, and if so, what about night vision devices for soldiers and small arms? How long will NBC agents be effective? You must consider the effects on your soldiers. What will the temperature be? Will you need more water or a warming plan? What MOPP is required, and how long can troops fight in MOPP IV? Also consider the effects on equipment, especially in extreme conditions. Do weapons require special lubricants? What is the temperature and barometric pressure? And is there a plan for periodic updates? It is not enough to publish information on wind speed and light data without telling your units the effect of the weather on the operation.

Enemy Situation

Complete the analysis of the situation with a thorough study of the enemy forces, focusing on composition, strength, disposition, capabilities, and courses of action. Decide what the enemy can do to you and determine how you can best react to his actions. Use the task force S2's situational template, his analysis (paragraph 2 of the OPOD), and subsequent intelligence updates to accomplish this.

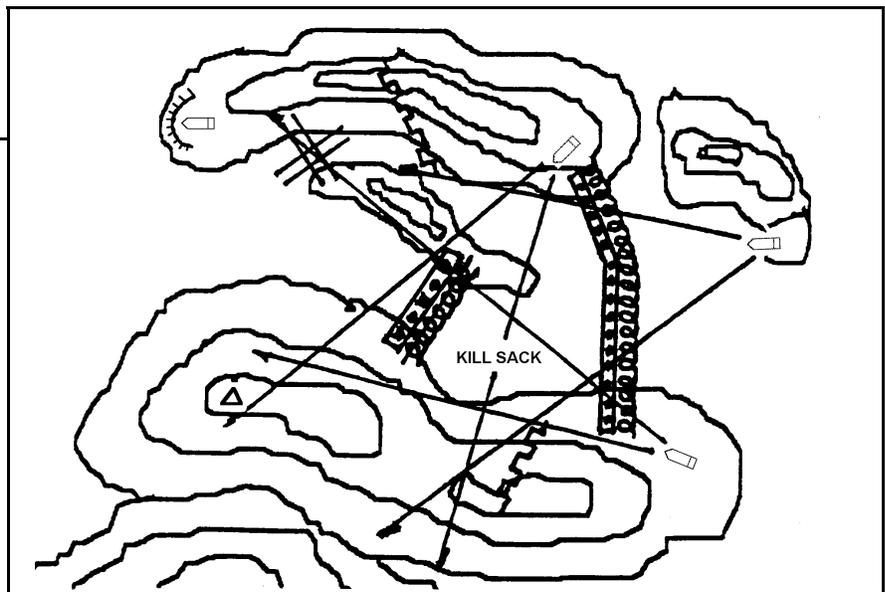


Figure 1. Example of a SITEMP for a defile clearing operation.

Composition and Strength

- Determine what type of force you are facing and what type of equipment they have.
- Determine the number and types of vehicles and personnel in your area of operation.
- Identify the type of reserve available.

Disposition

- Template enemy positions down to vehicle/key weapon level.
- Determine locations of kill sacks and subsequent positions.
- Identify type and location of OP/CSOP.

Capabilities

- How much artillery is in support and where will he employ it?
- Does the enemy have NBC, and will he use it?
- Can he reinforce his defense of the defile?

Now that you have answered these questions, you can start to figure out how the enemy will conduct the defense. Initially, focus your effort on what he will most likely do. Find out what the enemy wants to do and how he will accomplish it, given his doctrine. From this you can depict how he would position his forces without regard to terrain. Ask yourself what he is most likely to do, based on doctrinal norms. Where will he position his weapon systems, and why? Is he part of a security zone or the main belt, and how does this affect his actions? Once this thought process is

complete, you have essentially developed a doctrinal template. Modify this template, based on the enemy's strength and the terrain to develop a situational template that you can graphically depict and hand to your subordinate leaders (Fig. 1).

The situational template focuses your forces and graphically depicts where they should look for enemy positions while avoiding his kill sack. It provides the basis for your observation and direct fire plans and also provides requirements for indirect fire planning. Leaders at all levels must confirm or deny the situational template quickly in order to change or adjust the plan as required.

You must also determine the enemy's most dangerous course of action. This will depict your worst case scenario and will allow you to develop a plan in case the enemy is uncooperative and does not do what you expect. Ideally, your scheme of maneuver will be able to defeat both enemy courses of action. You must evaluate the chances of the enemy conducting what you consider to be the most dangerous course — the higher this percentage, the more your scheme of maneuver must focus on defeating this COA.

Normally, a comparison of own troops available with the enemy's composition and strength provides the commander with an accurate force ratio. But typical force ratios may not be as significant when fighting in the defile. You want a 3:1 force ratio dur-

ing attacks against a defending enemy, but terrain in the defile will limit the size of the force you can introduce at any given time. Terrain is neutral, however, and will also limit the defender from employing all of his assets against you.

Plan to utilize available combat multipliers to isolate enemy formations. Set conditions for assaults against portions of the defending force, ensuring that other enemy positions are isolated by effective suppression and/or obscuration, or masked by intervening terrain. Determining how you can obtain an advantageous force ratio brings us back to the importance of terrain analysis and detailed depiction of the enemy situation. These efforts will provide you with enough information to develop a scheme of maneuver that masses your combat power and destroys isolated enemy positions until he is forced to withdraw or die in the defile.

Fundamentals for Clearing a Defile

The actual business of clearing the defile is time-consuming and resource-intensive. There are certain fundamentals that optimize the chances of success. The three phases of the operation are shown below with the tasks to be accomplished and the conditions that should be set before starting the next phase.

Phase 1 - Approach

- Establish support-by-fire to suppress or destroy enemy forces.
- Position infantry to clear the defile.
- Secure a foothold, and begin clearing operation.

Phase 2 - Clear

- Infantry conducts movement to contact to make contact or seize objectives.
- Mounted/dismounted integration develops the situation.
- Clear defile of all enemy and bypass or create lanes through all obstacles.

Phase 3 - Secure

- Establish support-by-fire positions on far side to:
 - Defeat enemy counterattack.
 - Protect obstacle reduction effort.
 - Support continuation of TF attack.

- Hand over battle to task force.
- Continue the mission.

Phase 1 focuses on getting combat power into the defile and postured to begin clearing operations. The commander must first establish overwatch and destroy or suppress any known enemy positions to allow forces to approach the defile unimpeded. Artillery and smoke can be used with great effect to assist this effort. Determine what element will lead your movement, based on the enemy situation. Plan for dismount points, ensuring that your force is covered by direct fire as it moves to these points. Dismount the infantry and get them oriented to the ground as the Bradleys provide cover. This dismount point should be in a position that will secure a foothold for the company/team to continue the attack to seize the defile. The first phase of the operation is complete once the infantry is prepared to conduct the movement to contact.

The second phase of the operation, the actual clearing of the defile, begins as quickly as the first phase ends. The dismounted infantry moves forward on both sides of the defile high up on the walls. This provides them with excellent visibility and prevents the enemy from firing down on your infantry, and possibly pinning them down. It is also easier to clear from top to bottom than the other way around.

Assign the dismounted element the task of seizing objectives at the far end of the defile. They then conduct a movement to contact to clear the defile, which should be cleared once the objectives are seized. The dismounts conduct the clearing operation, maintaining communications with the

Bradleys. As the infantry comes to a bend in the trail, or a terrain feature that would provide cover, they call the vehicles forward. This variation of bounding overwatch should continue until the defile is clear or contact is made (Fig. 2).

Phase lines can be used to control the movements. The key is to clear with infantry, the smallest element making contact first, and then bringing the Bradley into the fight as needed. Upon

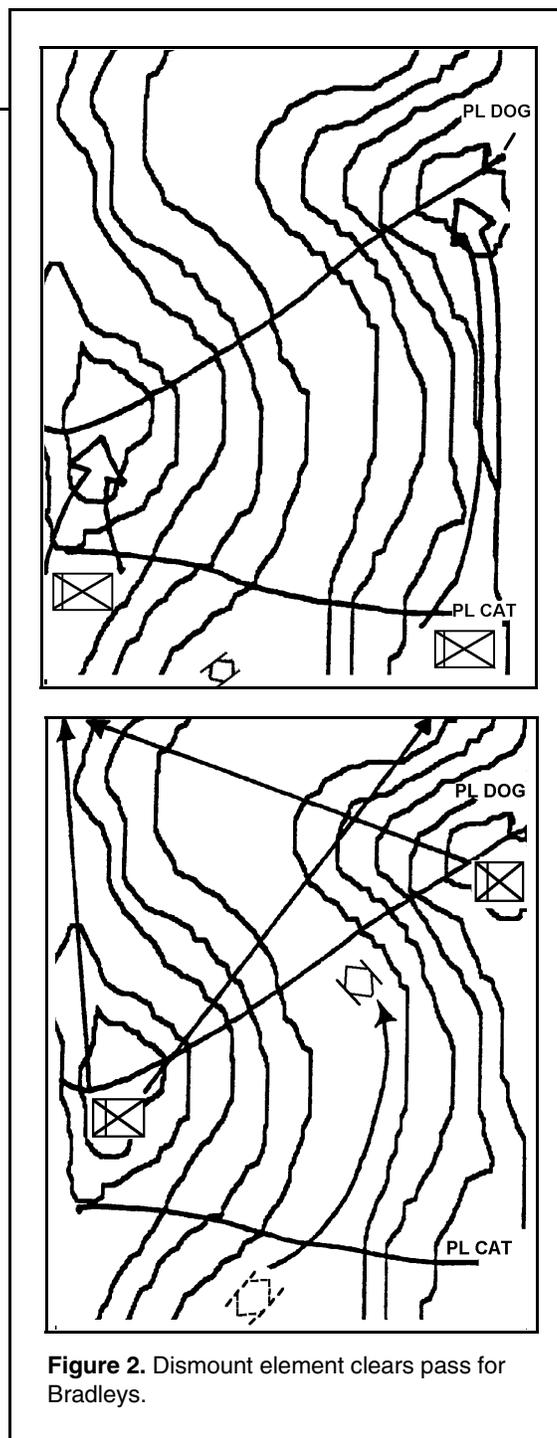


Figure 2. Dismount element clears pass for Bradleys.

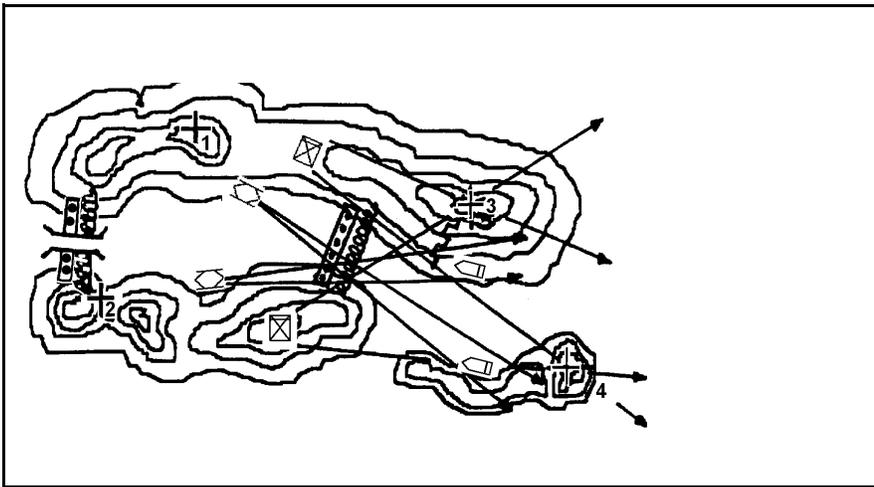


Figure 3. Dismounted Infantry and BFVs work together to clear the defile.

making contact, the dismounted leader must assess whether he can destroy or force the withdrawal of the enemy force. The commander must commit the Bradleys to support the clearing operation if he cannot. This requires crosstalk between mounted and dismounted elements.

The Bradley will be entering the fight without an exact location of the enemy and is relying on the dismounts to point them out. This must be done through spot reports based on planned graphic control measures or identifiable terrain features. The dismounted leader has to quickly orient the BFV because exposure increases vulnerability. The dismounts provide suppression as the BFV attempts to destroy the enemy position (Fig. 3).

The commander will normally have some form of indirect fire at his disposal but must consider the effects of these systems in constricted terrain.

Dismounted and mounted infantry must be mutually supporting and should have, as much as possible, equal capabilities. Dismounted soldiers should have antiarmor weapons and sufficient class V to sustain the fight and provide suppression to allow the mounted element to acquire and engage enemy vehicles. They should have a forward observer and the ability to breach wire and mine obstacles.

It is a good technique to dismount an engineer squad with sufficient demolitions to clear several obstacles, using the infantry to provide suppression, obscuration, and security as the engineers breach and reduce the obstacle.

The third phase of this operation is to secure the far end of the pass until the task force can pass through and pick up the fight. The company/team must posture itself to defeat a possible enemy counterattack, protect the reduction of the obstacles in the pass to allow the TF unimpeded movement, and support the continuation of the TF attack with direct and indirect fires. The commander must develop control measures to orient his platoons as they exit the pass. The dismounts should move to a position that allows long-range observation and where they can provide early warning of an enemy counterattack. The Bradleys occupy support-by-fire positions with designated sectors of fire. The tank platoon exits the pass to occupy a support-by-fire position and is prepared to provide security for the rest of the company/team as the infantry begins to reorganize and consolidate.

The commander has to ensure that he can defeat an enemy counterattack and support the continuation of the task force attack while preparing to follow on in support of the task force, as required (Fig. 4).

Tactics and Techniques

The defile drill requires a great deal of centralized planning and execution. The commander should determine his critical tasks and assign these to each subordinate element. Determine the critical event, and assign this as the primary task and purpose to the platoon that will be your main effort. Once this is decided, it is relatively easy to determine the primary task and purpose for the other elements to support the main effort's mission.

As a general rule of thumb, tanks should initially provide overwatch to allow infantry to enter the defiles. They should also be prepared to assault an objective on the far side to secure the defile or defeat an enemy counterattack. Infantry should always be considered as two distinct maneuver elements, one mounted, the other dismounted. Dismounted infantry is best while on the ground, clearing the defile to allow unimpeded movement for vehicles. Bradleys provide greater firepower and protection against small arms and indirect fires in the defile and are better equipped to continue the fight on the far side. They should be used to support the dismounted

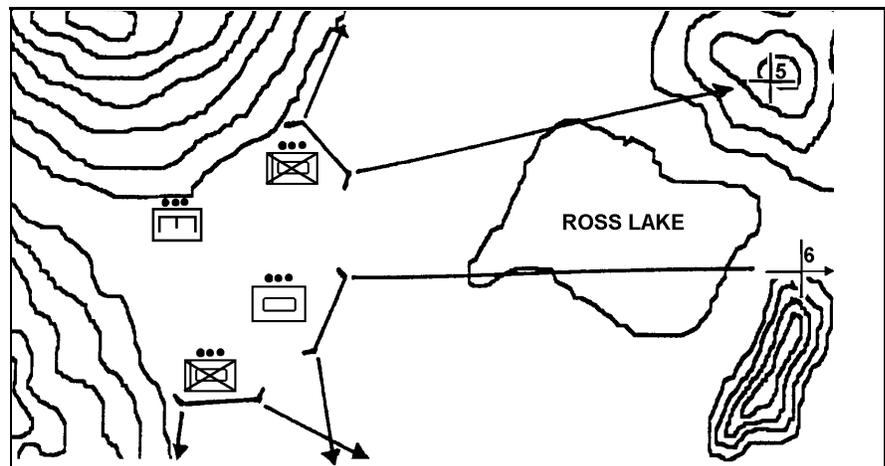


Figure 4. The defile is clear and the co/tm is postured to continue the mission.

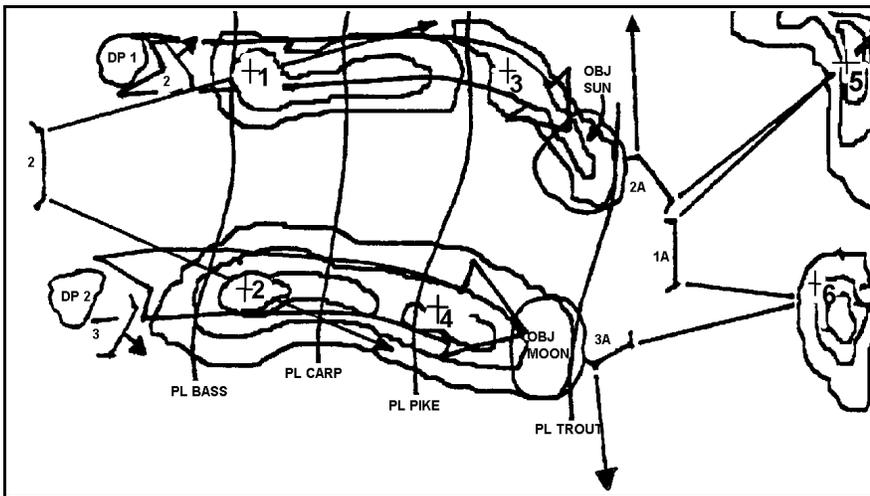


Figure 5. Graphics illustrate the plan and aid understanding during all phases of the operation.

troops, as required, and to provide the basis for the initial support-by-fire positions as the company/team exits the defile. The company/team commander will have a command and control nightmare if he does not plan the operation adequately and redundantly. This type of operation is best executed when centrally controlled. There are many systems moving and shooting in a small area. Additionally, there will probably be engineers with demolitions or a Combat Engineer Vehicle that can further complicate the operation. The fratricide risk is high, and only increases if the operation is not controlled by one person. Assigning task and purpose goes a long way towards clear understanding of commander's intent. The commander should receive briefbacks from subordinates upon completion of the operations order to show they understand the plan and their responsibilities. He should periodically check on the development of platoon orders to ensure his intent is being met. Another effective C² tool is a set of complete and detailed graphics that are drawn and issued as part of the order. Each leader should enter every fight with a set of maneuver graphics, enemy situation template, fire support overlay, and CSS graphics. These graphics should extend down to the Bradley commander and dismounted squad leader level. A properly prepared set of graphics provides guidance and illustrates the commander's plan better than words in an operations order standing alone (Fig. 5). The graphic control measures will vary by operation, but should include whatever will ensure execution of the plan as intended. Ensure that support-by-fire

positions are established throughout the zone of attack. These may move once the position is occupied or observed. Subordinate units must understand that the intent is to put effective suppressive fire on the enemy. Subordinate leaders must understand they can move to accomplish this, if required. Phase lines are used to control movement and fires. Fratricide risks are decreased if the dismounts understand that they are to clear up to PL Carp and the FSO knows that artillery fires cannot land short of PL Pike.

Dismount points designate where the dismounting infantry will get off the vehicles and start to lead the movement. This is developed using the situation template and terrain analysis, and obviously does not prevent the infantry from dismounting sooner. The commander can also establish objectives and an axis of advance to orient and direct the infantry clearing operation. He must also develop direct fire control measures that will allow him to lift, shift, distribute, and mass direct fires throughout the zone of attack.

No discussion on command and control would be complete without talking about communications. Every element must be able to talk to the other. The commander must ensure all systems are operating either secure or non-secure, but not a mixture of both. Every leader and RTO should have complete SOI information for the current and subsequent time periods. The company/team is operating in a pass, and the topography may affect radio operations. The commander must plan for redundant communications, the most common method being the use

of pyrotechnic signals. A colored star or parachute flare can signal that a lane is established as easily as a radio transmission. In fact, the pyro signal can inform everyone of a specific event if they know what the signals mean. Colored smoke and VS-17 panels are other methods of communication; you are limited only by what is available.

PCIs and Rehearsals

The importance of proper pre-combat inspections (PCIs) is illustrated over and over again at the NTC. It is critical that leaders check soldiers and equipment. This sounds rational, and most leaders would agree, but one of the first events to go out the window during a time crunch is the PCI. The commander must provide guidance for the PCI by establishing what should be inspected, who will inspect, and when inspections will be complete. A prioritized, comprehensive list will assist the conduct of a PCI and standardize what is checked for each mission. PCI checks should include, but are not limited to, some of the following items:

- Dismounted breach kits (ensure kits are man-packable and include smoke pots)
- Radio checks and SOI data
- Boresights/zeros on all weapon systems
- Uniform common to all
- Graphics and maps
- Demolitions and engineer equipment
- Night observation devices
- Vehicle tow hooks, pintles, pins, tow bars, and cables

Rehearsals are based on the time available. There is no substitute for a rehearsal, especially if units are not used to working with each other (newly attached engineers, for example). Focus the rehearsal on key events and tasks, consider the enemy's course of action, and incorporate combat multipliers that are available to you. The commander will have to determine what type of rehearsal he will be able to conduct, but he should use an actions and orders format. This format develops the situation and enables leaders to issue their orders based on that development. Rehearse the criti-

cal event, even if that is all you have time for. It is detrimental to mission success to have the movement to the L/D well rehearsed but not the actions on the objective. Never assume that the enemy will do what you have planned, and rehearse contingencies to increase your flexibility to respond to a new development. Leaders at the platoon level should rehearse "full-up" as much as possible to discover problems early on. Commanders can facilitate this by setting out a priority of work in the warning order that focuses the dismounts in the proper direction. Dismounted infantry can practice movement techniques, actions on contact, and breach drills. FM 7-7J has several battle drills that are applicable to actions that platoons can expect to execute in a defile. Dismounted leaders ensure each soldier rehearses dismounting with required equipment and weapons. Bradleys rehearse, as a minimum, dismounted/mounted integration (for example, dismounts calling forward vehicles and orienting them to a specific target), direct fire control, actions in support-by-fire positions, and actions on contact.

Logistic Considerations

There are some unique considerations when planning to support a defile-clearing operation that may require additional assets from higher headquarters. Identify these early, and submit requests so the affected agencies can respond in time. A chief concern in a defile is medical evacuation of wounded soldiers, a problem compounded by inaccessibility and the fact that traffic is one-way until the task force has cleared the restricted terrain. Logistics planners have to develop an evacuation plan. A good technique is to request additional ambulance support from the task force and establish a casualty collection point (CCP) as close to the mouth of the pass as possible, while still allowing vehicular movement to the rear. Provide lead elements with medics and litters, establish litter teams, and evacuate casualties that require immediate evacuation back to the CCP. Combat lifesavers must be trained and

equipped with their bags to provide immediate attention, and the medics should stay forward as long as possible to sustain medical support. If possible, organize litter teams from sources other than dismounted infantry or vehicle crewmen.

Recovery is another concern based on trafficability. You don't really want to recover for maintenance reasons, but you do want to be able to pull a vehicle blocking the lane out of the way. It is not feasible to bring an M-88 up to recover a disabled or damaged vehicle, so you have to plan for

The integration between infantry and infantry fighting vehicles is not something that can be achieved the day prior to leaving the L/D. Commanders must fully develop this critical cohesion as soon as possible.

like-vehicle recovery. Ensure that each vehicle has toe pintles and hooks mounted prior to the operation and has tow cables readily accessible. Crews have to be proficient in hooking vehicles up and quickly pulling them out of the way. These vehicles, once out of the way, can later be recovered by maintenance assets. They also make a good covered position to place less critically wounded personnel awaited evacuation. Plan as well for emergency resupply of both Class III and V. The dismounts may require resupply while in the pass, while the Bradleys probably won't need it until they are through the pass. Depending on the time it takes to clear the pass, tanks will probably only require fuel.

Small arms resupply should be configured for use, not given to dismounts while still in the shipping crates. Plan to cross-level ammunition as soon as possible to continue the mission on the far side of the pass. This will sustain your operation if the fuel and cargo HEMTTs are bumped by combat vehicles coming through the pass.

Bradleys will require an HE-IT heavy mix of 25mm Class V when conducting defile clearing operations. Dismounted infantry will need addi-

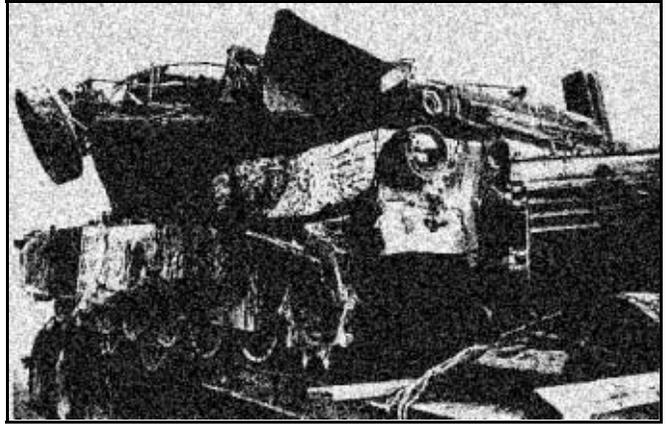
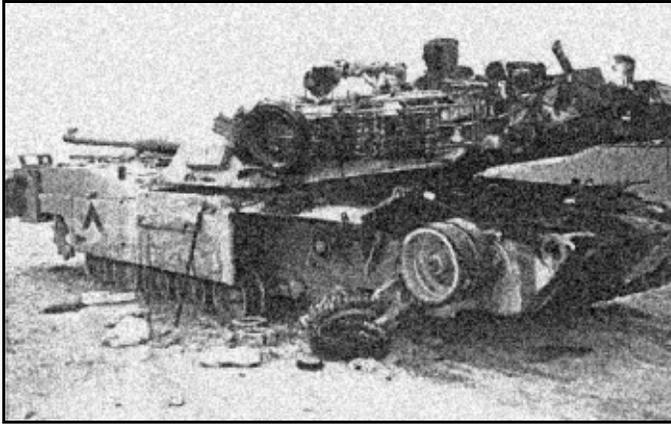
tional hand grenades, M203 rounds, and plenty of SAW/M60 ammunition. One way to resupply infantry forward is to use empty litters to transport Class V. Two men bearing a litter can carry more ammo than two men with their hands and this gets two needed assets forward, the Class V and the litter.

Conclusion

Understanding the terrain and enemy situation and applying the fundamentals of defile clearing will go a long way towards ensuring your unit doesn't end up like SSG Hughes's. This mission, like any other, requires focused planning and detailed preparation. Company/team commanders must ensure they enter a defile with a well-thought-out plan, supported by graphic control measures. The integration between infantry and infantry fighting vehicles is not something that can be achieved the day prior to leaving the L/D.

Commanders must fully develop this critical cohesion as soon as possible. The proper employment of the correct tactics, techniques, and procedures during planning, preparation, and execution will maximize your ability to defeat the enemy while protecting your men and equipment. They are the keys to mission accomplishment.

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It's Time to Include Friendly Target Panels in Tank Tables VII and VIII

Training Target Confirmation

by Captain Robert S. Langol

Since Operation DESERT STORM, the subject of fratricide has been discussed nearly constantly. Much of the discussion has centered on recommended technological solutions to the problem.

The generally accepted view is that the majority of the fratricide incidents during DESERT STORM resulted from a disparity between the range of modern weapons systems and the resolution of our optical and thermal sighting technology. The implication is that most of the tank-initiated fratricide during DESERT STORM occurred because tank commanders and gunners engaged targets which they were unable to positively identify as enemy. My own experience, however, leads me to believe that at least some of the tank-initiated fratricide during that war occurred at ranges close enough to allow positive identification of vehicle by type. I feel that at least some fratricide incidents were the result of our own tank gunnery training methodology. If we want to reduce the incidence of fratricide in future conflicts, we must improve the way we conduct tank gunnery training. Specifically, we need to include friendly target arrays in the intermediate tank gunnery tables.

The Nature of the Problem

It is a cliché to describe the operation of a fully-trained tank crew as a

“well-oiled machine.” The cliché is useful, however, for understanding the need to change our gunnery tables. The correct method for firing the tank is set forth in our gunnery manuals, and has been developed into a standard drill. The “well-oiled machine” is the tank crew that, through use of drill, has reached the level at which engaging a target is a nearly reflexive process. Through repetition and incentives, crew members develop conditioned responses, such as reaction to a fire command. This level of conditioning is seen as protection against the fear and confusion of combat.

FM 17-12-1-1, 19 March 1993, *Tank Gunnery (Abrams) Volume 1*, describes accepted principles of target acquisition and correct techniques for initiating direct fire at the tank crew level. Chapter 6 describes the six steps of the target acquisition process: crew search, detection, location, identification, classification, and confirmation. Identification is defined as “the friendly, hostile, or neutral character of a detected potential target determined by its physical traits (such as size, shape, functional characteristics).”¹ Crews rely upon their ability to recognize armored fighting vehicles and aircraft in order to identify the specific type of target, or at least to “identify friend, foe, or neutral.”²

The ability of a crew member to perform this step properly depends

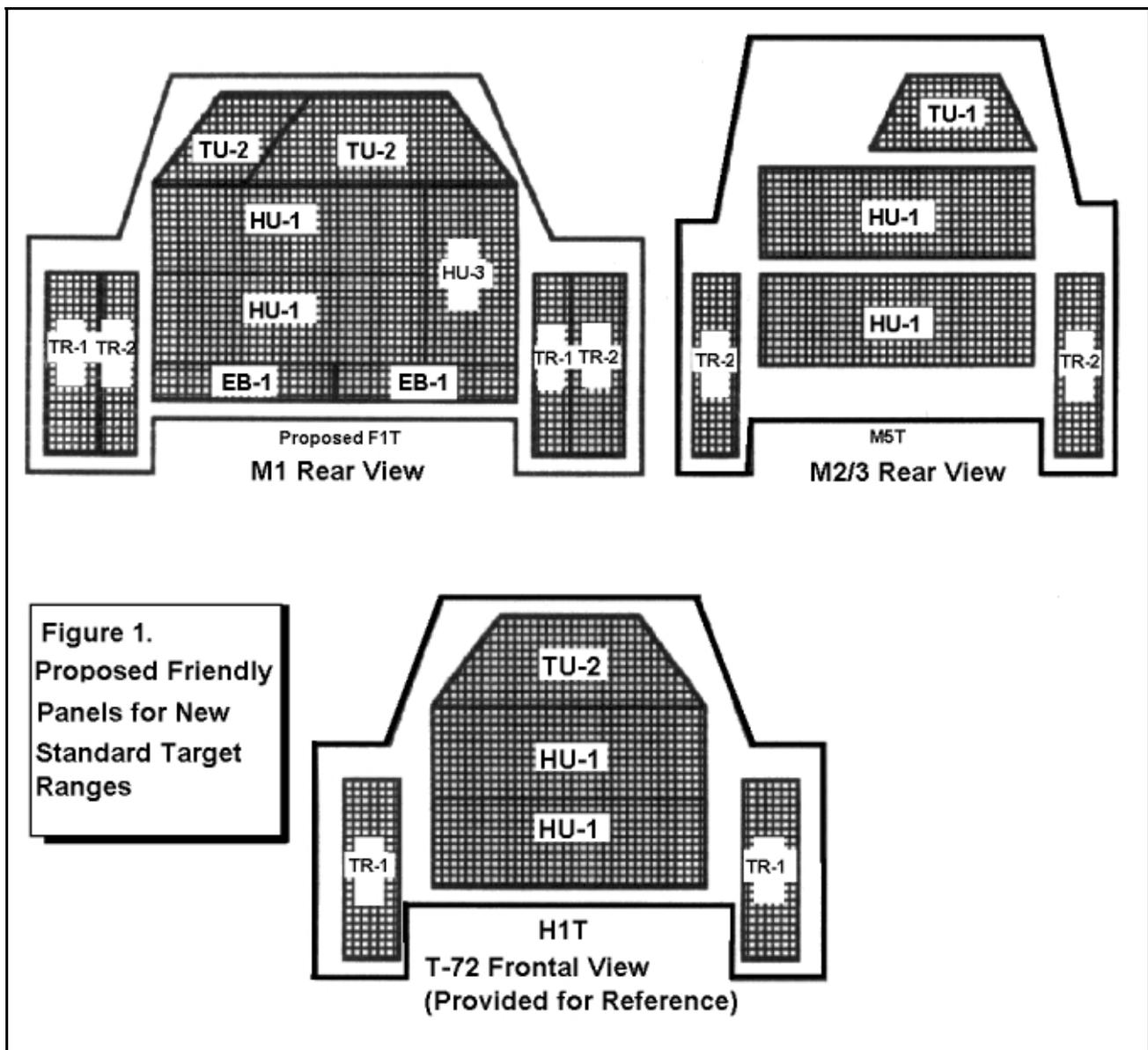
upon his individual armored fighting vehicle and aircraft recognition skills. This step is conducted prior to the conduct of fire; that is, before the initial fire command is given.

The final step of the target acquisition process is target confirmation. This step is conducted during the conduct of fire, or after the initial elements of the fire command but before the command of execution. It is defined as “the rapid verification of the initial identification and classification of the target,” and it is conducted by both the TC and the gunner.³

The complete target acquisition and engagement process for a precision main gun engagement usually follows this pattern: search, detection, location, identification, classification, initiation of the fire command (alert, ammunition, description), confirmation, command of execution. This process includes two steps — identification and confirmation — which should prevent engagement of friendly vehicles or troops.

Effective tank gunnery training is designed to translate this process, including these two critical steps, into the series of conditioned responses described above.

Our tank gunnery manuals and Army regulations ensure a minimum standard for tank crew proficiency throughout the armor force. They also have the effect of establishing



performance during tank gunnery as the common yardstick by which tank crews and units are measured and compared. For example, no sane member of the armor force should suggest that as much emphasis is placed on UCOFT as on Tank Table VIII.

Although there is often institutional pressure to reach a certain reticle aim level, few battalion or brigade commanders have the time to watch each of their crews every time they fire a UCOFT exercise. The point is that, since the live fire training is performed under great scrutiny, any lessons learned on the range are likely to have a greater impact on the crew than those learned elsewhere.

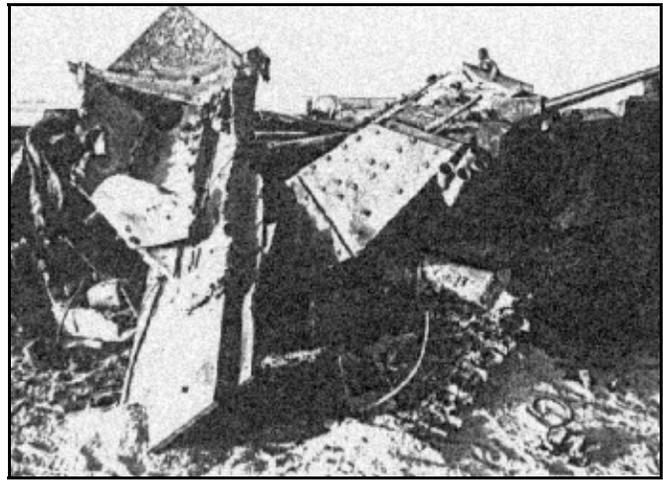
Currently, our intermediate tank gunnery tables do not contain friendly

target arrays. Our crews learn armored fighting vehicle identification (AFVID) in garrison and are tested on it during the Tank Crew Gunnery Skills Test (TCGST). Tank commanders and gunners also train the entire acquisition and engagement process in the UCOFT. However, these training events don't carry the same weight as live fire training. As we don't present friendly target arrays on individual tank crew ranges, we don't force crews to practice target confirmation. Furthermore, scoring is based on a combination of time and target hits (with adjustments for safety, proper procedures, etc). In short, during the culminating event of all tank gunnery training, when the pressure is really on, we teach tankers to shoot the first big hot spot down range.

Recommended Solution

We fight as we train. It is unreasonable to expect a tank commander or gunner in combat to remember to take an extra second to confirm his target if his training never before required him to do so. If we want our tank crews to perform target confirmation, we should test whether or not they do so during the intermediate tank gunnery tables.

I propose that friendly target arrays be presented during Tank Tables VII and VIII. I believe that friendly panels should be raised in addition to the enemy target panels during the existing tasks. Including a friendly vehicle panel as a separate task (as is done in UCOFT exercises) would allow crews to stop confirming targets



after completing the “friendly task,” and would be rendered useless if a distinct scenario cue were read. However, if friendly vehicle panels were presented at the same time as the enemy on all or some of the engagements, then the tank commander and gunner would have to confirm each target before firing. Engagement of a friendly panel would be a crew duty failure, resulting in a thirty point crew cut.⁴

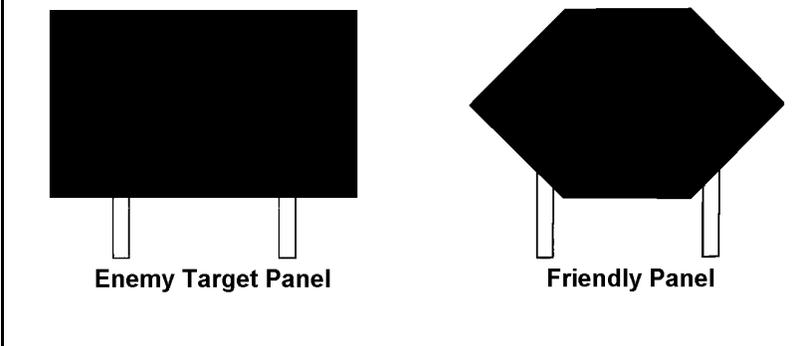
Creation of friendly panels would be a relatively simple task. Panels would not have to be perfect replicas of friendly vehicles. It would suffice to have panels with distinctly different shapes and thermal signatures than those being used as enemy targets. The cost of procuring friendly (or enemy) panels sufficiently detailed for target **identification** training would probably be cost prohibitive. Remember, the TCGST certifies a crew member’s AFVID skills, and passing the TCGST is a prerequisite for participating in live-fire training. Tank commanders and gunners with weak AFVID skills should never be allowed to fire live rounds. The purpose of adding friendly panels is to reinforce target **confirmation** as an essential element of the acquisition and engagement process.

Friendly panels for ranges equipped with New Standard Targets could be designed as shown in Figure 1.⁵ The M1A1 panel is taller and wider than the T72, and displays a larger, angular turret. It would require the devel-

opment of a new thermal panel for the turret, unless two TU-2 panels could be overlapped. The M2/M3 panel uses the M5 BTR panel, but displays the turret off-set to the right.

perfect, and even an electrical firing inhibitor can be overridden. By emphasizing the importance of target confirmation during tank gunnery qualification, we can significantly decrease the risk of fratricide in future conflicts.

Figure 2. Friendly and Enemy Panels



Ranges equipped with older target panels could also present panels to replicate friendly vehicles. If, for instance, enemy vehicles were represented by rectangular panels, then friendly vehicles could be octagonal panels (see Figure 2). The exact shape used for friendly and enemy panels is irrelevant. As long as friendly panels can be distinguished from enemy, tank commanders and gunners presented with both will be forced to perform target confirmation.

Conclusion

As armor leaders, we must be certain we are not taking the easy way out by accepting technology as the solution to the fratricide problem. The world may not wait for us to develop and field such a system before our tanks once again board fast ships. Furthermore, no new system is

Notes

¹FM 17-12-1-1, *Tank Gunnery (Abrams) Volume I*, 19 March 1993, p. 6-1.

²FM 17-12-1-1, p. 6-22.

³FM 17-12-1-1, p. 6-25.

⁴Crew duties penalty points are listed in FM 17-12-1-2, *Tank Gunnery (Abrams) Volume II*, 19 March 1993, pp. 16-13 and 16-14.

⁵New Standard Targets are depicted in FM 17-12-7, *Tank Combat Training Devices*, 11 March 1992, pp. 3-4 through 3-23.

Captain Bob Langol was commissioned through Duquesne University Army ROTC in 1989. He served as a tank platoon leader and tank company XO in 2-66 Armor, 2AD (FWD), and as mortar platoon leader in 1-70 (CATF), 194th SAB. A graduate of the Armor Officer Basic and Advanced Courses, he is currently assigned to A Troop, 3/16 Cavalry, Ft. Knox, Ky.

The Task Force Staff Ride: Enhancing Professional Development at the Battalion Level

by Lieutenant Colonel Guy C. Swan III and Captain Neal D. Norman

The staff ride has been used for many years as a teaching vehicle within the Army's professional military school system. Some readers may have participated in a staff ride while attending a branch school advanced course or at Command and Staff

College and know that a well-executed staff ride requires a good deal of individual study, preparation, and logistical support, all of which are available within the Army school system. Outside the "schoolhouse," the overhead required to conduct a good staff ride may appear too extensive and time-consuming to commanders of units with ongoing operational or training missions. But the "schoolhouse" need not be the only place for the staff ride. It can be tailored to meet the needs of leaders in companies, battalions, and brigades in the field as an integral part of a unit's Officer Professional Development (OPD) Program. The purpose of this article is to show how one battalion/task force (Task Force 4-64 Armor (TF TUSKER)) used the staff ride concept to enhance its OPD program and generate participant interest in using military history as a professional development aid.

During the planning for BRIGHT STAR '94, a biannual combined exercise with the Egyptian Army, leaders of the 4th Battalion, 64th Armor Regiment recognized that the force-on-force maneuver area was located near El Alamein, site of the decisive battle of World War II's North African Theater of Operations during the fall of 1942. What a great opportunity for a tank battalion/task force to be able to stand on the ground where mobile armored warfare was practiced to per-



TF 4-64 Armor, gathered for a staff ride at Alam Halfa Ridge in Egypt.

fection by Rommel, Montgomery, Bayerlein, and others! In considering how to take advantage of this opportunity, we selected the staff ride to glean lessons of desert warfare that might apply to our own training mission in BRIGHT STAR '94. Further, to narrow the scope of a staff ride to a manageable and meaningful exercise for the junior officers of a battalion-size unit, we settled on the Battle of Alam Halfa Ridge, one of the series of preliminary actions that set the conditions for the decisive El Alamein campaign. Rather than focusing on strategic and operational issues, Alam Halfa would allow us to study tactical-level operations on the same ground we would have to "fight" on in our own training exercise. We would be able to examine operations below the division level, where we could readily grasp the lessons learned by soldiers like ourselves who fought there over 50 years ago.

Our primary reference for planning and conducting the staff ride, and in writing much of this article, was the U.S. Army Center for Military History's brochure, "The Staff Ride," by Dr. William G. Robertson. This booklet outlines the fundamentals of planning, preparation, and execution of a staff ride, and is required reading for any unit or class planning one.

To better understand how TF TUSKER conducted its staff ride, we will begin with some background and a brief discussion of the battle. Then,

we will define the staff ride, discuss our objectives, the importance of the site/battle selection, why we chose Alam Halfa, and how we conducted the three principal phases of the staff ride.

Background

In March 1941, after the Germans intervened in North Africa to prevent an Italian defeat by British forces, German and Italian forces under the command of Field Marshal Erwin Rommel began a protracted and successful campaign against the British Eighth Army. With wide flanking maneuvers and surprising counterattacks, Rommel pushed the Eighth Army to a defensive line at El Alamein by June 1942. At El Alamein, he was only 60 miles from his objective, the port of Alexandria. From there, Rommel planned to drive to the heart of the Middle East — the Nile Valley, Cairo, and the Suez Canal.

Axis forces tested the Alamein line from June to August 1942 with little success. British defenses grew stronger with each passing day while both Churchill and Hitler urged their commanders to attack. It was during this period that Churchill placed Bernard Law Montgomery in command of the Eighth Army. Shortly after assuming command, Montgomery and the Eighth Army fought the battle some historians call the "beginning of the end" for Rommel in Africa.

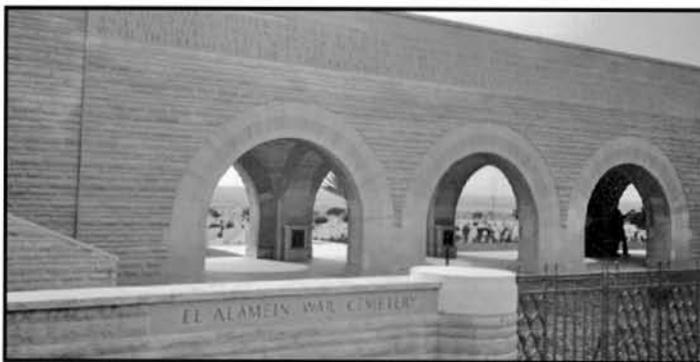
The Battle of Alam Halfa

By August 1942, Montgomery's Eighth Army occupied a defensive line from the small trading post of El Alamein on the Mediterranean Sea





Above, LTC Swan and several other members of his unit visit the El Alamein Military Museum, where they met LTC El Khoney, the museum curator. Above right, the graceful arches at the entrance to the war cemetery near the battle site. At right, Swan and CPT Norman prepare to brief other unit members at one of the instructional points on Alam Halfa Ridge.



mel conducted a phased retrograde while receiving only limited attacks from Allied ground forces. Montgomery attacked the retreating Germans, mainly with artillery and air, while conserving his ground forces for a later offensive.

The Staff Ride

Although the conduct of the staff ride has evolved since its inception in the mid-nineteenth century, the concept has remained basically the same — to place students on terrain, confront them with a situation, and stimulate them to reach conclusions from the historical perspective. This methodology differs significantly from two other teaching vehicles, the tactical exercise without troops (TEWT) and the historical battlefield tour.

A staff ride uses the historical scenario as the principal teaching tool. Set on the specific terrain on which that scenario took place, a staff ride also involves a significant degree of preparatory study to fully draw out the lessons learned from an historical action. A TEWT, on the other hand, uses terrain as its focus, combining doctrine and a hypothetical scenario to develop its lessons. While also fo-

cused on terrain, historical battlefield tours do not usually involve systematic study and preparation. These visits will often stimulate thoughtful discussion, but the objectives of such a tour are much simpler than for either a staff ride or TEWT.

A staff ride consists of the systematic preliminary study of a selected campaign or battle, followed by an extensive visit to the actual battlefield. It concludes with an opportunity to integrate the lessons derived from the home-study and on-the-ground experiences. It envisions maximum student involvement before visiting the battlefield to guarantee thoughtful analysis and discussion at the site, as well as during the later integration phase.

The staff ride can be easily tailored to focus on the training objectives set by the command. It is a versatile process that allows the participants to orchestrate the event to account for limited available study time or other competing training requirements. For example, our objectives for the Alam Halfa staff ride were:

- To take advantage of a unique opportunity to visit the site of one of the most crucial mechanized battles fought in the North Africa theater of operations during World War II.

- To better understand the human dimension of desert warfare operations.

- To review the lessons of WWII desert operations and compare with current U.S. Army doctrine and lessons learned at the NTC and during DESERT STORM.

- To show the effects of terrain on plans and their execution.

- To provide a case study in how logistics operations affect tactical operations.

- To encourage the officers of TF TUSKER to study their profession through the use of military history.

Selecting a Battle

Since each battlefield or campaign offers its own lessons, there are several factors involved in selecting the staff ride battle. These are additional reasons we chose Alam Halfa:

- **Access.** TF TUSKER's deployment to Egypt gave us access to a battlefield with historical significance.

- **Echelon of Command.** The echelon of command we studied (brigade and division) corresponded favorably with the experience level of the task force officers. This is an important factor to keep in mind. Select

a battle, or aspects of a battle, that are appropriate for the target audience.

● **Type of Terrain.** Select battles that occurred on the type of ground on which your unit may be called to fight. The Egyptian desert supported our objectives nicely as our unit is focused on the Southwest Asia AOR.

● **Type of Unit.** Most battlefields can support the training objectives of any type of unit — combat, combat support, or combat services support. Our focus was on mechanized operations, but we also learned significant lessons in each of the battlefield operating systems.

● **Integrity of Historical Setting.** Battlefields range from totally undisturbed and well-preserved to nearly obliterated by urbanization or other factors. The Egyptian desert offered us the chance to see a relatively unchanged battlefield. Though time and weather had covered the holes, old fighting positions and trench lines were clearly visible. Memorabilia like rusty disintegrating fuel cans and even half of a British helmet found by a soldier added to the excitement of the staff ride! We were, however, slightly limited in our exploration of the battlefield because we could not enter certain areas. As many as a half mil-

lion mines laid on the Alamein defensive line were never cleared.

● **Source Availability.** Staff rides require some research and reading by all participants. This is necessary even in a unit-run staff ride so that instructors, students, and role players can adequately prepare for the field study phase. Sources can include history books, biographies, journals, documentary videos or films, newspaper articles (microfiche) or interviews, and should address not only the chronology of the battle, but contemporary doctrine and equipment. With assistance of the Combat Studies Institute at Fort Leavenworth and the British Armor School at Bovington, our project officer found adequate material on Alam Halfa to help us prepare at Fort Stewart. We also distributed photographs, diagrams, and characteristics of the armored vehicles used in the battle to provide additional context and frames of reference.

Preliminary Study Phase

Preliminary study at home station prepares the participants for the field study phase. Otherwise, the staff ride becomes little more than a battlefield

tour if the participants are not prepared. And in the case of TF TUSKER, that battlefield tour would have degenerated into a useless walk in the desert. We used a combination of selected readings, group lectures, and OPD-type seminars beginning eight weeks prior to our deployment. The battalion commander designated four company commanders as principal role players for Rommel, Montgomery, Roberts, and Colonel Fritz Bayerlein, Chief of Staff of the DAK who commanded the DAK during the battle. During this phase the battalion commander facilitated discussion on topics concentrating on:

● Order of Battle. Unit sizes, designations, armament, previous experience, qualitative advantages/disadvantages.

● Main weapon characteristics.

● Biographical background of key leaders (role players).

● Doctrine and tactics of opposing forces.

● Terrain analysis of the area of operations.

● Weather and light data for the campaign.

● Chronology of the campaign events leading up to the battle of Alam Halfa.

● Opposing commanders' intents, objectives, and goals of the opposing forces, and end state sought by both sides.

● Role and influence of allies.

● Service support considerations and logistics.

A variety of audio-visual training aids can make the field study phase of the staff ride more interesting, adding a sense of realism. Period maps, photographs, drawings, newspaper headlines/articles, tape recordings, and terrain boards help to augment the readings assigned in the preliminary study phase.

TF TUSKER was to operate in the same area during BRIGHT STAR, so we had our own exercise map sheets as visual aids for the Alam Halfa battlefield. And while history books also provide a good source of maps or sketches, "GI-issue" military maps, overlaid with operational graphics, unit locations, and other designations significantly enhance the picture for the participants. Our project officer went so far as to convert the historical maps of Rommel's and Roberts' battle plans to acetate overlays. When placed over the exercise maps, the time-space aspects of the battle of

Lieutenant Colonel Guy C. Swan III was commissioned in Armor upon graduation from the U.S. Military Academy in 1976. He served as a tank platoon leader in 1st Bn, 72d Armor, 2ID in Korea; as a cav platoon leader, troop XO, and adjutant for 3d Sqdn, 3d ACR; as commander A Co, 2d Bn, 77th Armor, and as aide-de-camp to the CG, 9th ID (Motorized) at Ft. Lewis, Wash.; and as an Armor Branch assignment officer at MILPERCEN. His more recent assignments include chief, G3 Plans, 1AD, Ansbach, Germany, and 1AD deputy G3 in Southwest Asia during DESERT STORM; XO, 1st Sqdn, 11th ACR, Fulda, Germany; and regimental XO, 11th ACR. He is currently the commander of 4th Bn, 64th Armor, 24th ID (M) in Ft. Stewart, Ga. He is a graduate of AOBC, IOAC, Ranger School, CGSC, AOAC, Field Artillery Officer Advanced Course, the Air and Staff College, and the Defense Strategy Course. He holds a Master of Arts degree in National Security Studies from Georgetown University and a Master of Military Art and Science degree from the School of Advanced Military Studies.

Captain Neal Douglas Norman was commissioned as a Distinguished Military Graduate from George Mason University in 1987. After completing the Military Intelligence Officer Basic Course, he was assigned as a detachment commander, USASSD, Aberdeen Proving Ground, Md. He served as electronic warfare platoon leader and company XO with Co C, 102d MI Battalion, and then as battalion assistant S3. After completing the Military Intelligence Officer Advanced Course, he served as 1st Bde assistant S2 until assuming his current position as battalion S2 for 4th Bn, 64th Armor.

Alam Halfa became instantly real to all participants.

Field Study Phase

After arriving in Egypt, TF TUSKER divided the field study phase into six segments.

- At Stand 1, on the hill where the 22nd Brigade actually defended, "Colonel Roberts" and "General Montgomery" led a discussion of the British tactical scheme. The stand was reconnoitered in advance by the battalion scout platoon and the 22nd's subunit battle positions staked out.

- The German attack plan was briefed by "Field Marshal Rommel" and "Colonel Bayerlein" at Stand 2, in the vicinity of the DAK penetration of the Alamein defensive line.

- Travelling in HMMWVs over the DAK attack route to Deir el Ragil (where the Afrika Korps turned north toward Alam Halfa) gave participants appreciation for the difficult trafficability facing the German advance.

- A follow-up discussion by role players on the situation half-way through the battle from British and German perspectives took place at Stand 3, near the 22nd Brigade's battle position.

- Another HMMWV ride over the DAK attack route to the position south of the ridge took us to the point where the German advance was stopped.

- A final group discussion of lessons learned, conducted from Stand 4 at a vantage point atop Alam Halfa Ridge, concluded the field study phase of the staff ride.

At each opportunity, the role players discussed the battle from their perspective and read selected passages from memoirs and unit journals to further illustrate the commanders' plans and concerns on the battlefield.

During this phase, task force officers specifically addressed the chronology of the battle, as well as the role of fire support (artillery and air), obstacles and barriers, defensive theory versus the offense, the role of intelligence and reconnaissance, and the effects of morale and human factors on the opposing forces.

Integration Phase

Integration allows all participants to review the experience together. We

had our final staff ride session after returning to Fort Stewart. At this point, we concentrated on tactical-operational-strategic linkages, lessons learned from both forces by BOS, and the conduct of combined arms operations in a desert environment. We also took the opportunity at this session to solicit comments from the participants on the actual conduct of the staff ride and suggestions for future staff rides.

The Battle of Alam Halfa staff ride was a great learning and team-building event, and we had fun in the process. Each officer in the group had positive comments and expressed appreciation for the lessons learned. We kept our slice elements involved from the beginning and their participation helped solidify our unit relationships.

Our goal was not to create a group of military historians, but to learn from history and apply the lessons to our profession.

The next TF TUSKER staff ride is now in the early planning stages and because our experience in Egypt was so successful, several officers have already volunteered to assist in the planning and execution of our next staff ride. Drawing upon the historical battle experiences of others is crucial in the development of professional soldiers, particularly for those with little or no combat experience. The staff ride offers a unique, rewarding, and fun way to apply military history to a unit Officer Professional Development Program.

Office, Mounted Battlespace Integration (OMBI)

Effective immediately the Office of the Chief of Armor (OCA) is subsumed within the Office, Mounted Battlespace Integration (OMBI). This change is designed to better fulfill CG TRADOC intent for the United States Army Armor Center (USAARMC) to be the doctrine, training, leadership, organization, materiel, and soldier integrator for mounted warfare and mounted battlespace.

OMBI is responsible for several functions. Foremost, it serves as the primary point of contact and principal entry point into USAARMC for coordination of mounted issues that cut across proponent or functional lines. However, agencies external to Fort Knox are still encouraged to coordinate directly with Directorate of Combat Developments (DCD), Mounted Warfighting Battlespace Lab (MWBL), TRADOC System Manager-Abrams/Armored Gun System (TSM-ABRAMS/AGS), and the Armor School on issues within their specific areas of responsibility.

OMBI contains the USAARMC Battle Lab Support Element (BLSE) within the Mounted Battlespace Initiatives Division to coordinate support to other TRADOC battle labs, the Armor Proponency Division continues fulfilling AR 600-3 and AR 5-22 responsibilities, and the ARMOR Magazine.

COL Gary Krueger is Chief, Office of Mounted Battlespace Integration (OMBI). File symbol remains ATZK-AR. DSN 464-7809/1961/5155.

In conjunction with the organization of this new office, USAARMC has activated a Mounted Battlespace Integration Bulletin Board. This BBS has been set up as a computer assisted information tool to support the Mounted Force as it moves into the 21st Century. It has been established by the Chief of Armor to provide a central automated information collection and dissemination point for people throughout the Mounted Force. Users of this board will be able to:

- Download professional files such as:
 - The Armor Enlisted Professional Development Guide
 - The Excellence in Armor Guide
 - The Officer Professional Development Guide
- Download information papers that the Chief of Armor publishes.
- Interact with others through information forums (message bases).

To access the office of Mounted Battlespace Integration BBS:

- Set your modem to 8-N-1.
- Dial commercial 1-502-624-3305 or DSN 464-3305.

MILES Warfare with the Yugoslavian M84 Tank and the Russian BMP-2

by Staff Sergeant (P) Earl Barner and Chief Warrant Officer Two Bryan Jay Hinkel

During the month of September 1993, the Kuwaiti 8th Tank Battalion, 35th 'Al Shaheed' Brigade, and American Task Force 2-37, 3d Brigade, 3d Infantry Division, conducted joint training maneuvers during Exercise INTRINSIC ACTION 3-93. Part of INTRINSIC ACTION was four days of 'force-on-force' where American M1A1/Bradley company teams attacked Kuwaiti company teams equipped with Yugoslavian M84 tanks (a T-72 variant) and BMP-2s in the defense. In order to make the exercise as realistic as possible, we installed MILES gear on both the American and Kuwaiti armored vehicles.

The task of adapting U.S. MILES belts to Soviet bloc armored vehicles fell to the Special Forces teams working with the Kuwaiti 8th Tank Battalion. Along with SSG Lenny Miles and Mr. Rick Harmon, MILES Training Director, Europe, we spent many long hours tracing the wiring systems in the M84 and the BMP-2, and redesigned the MILES belts so that they would work on these two vehicles. We came up with a method to operate the M84 and the BMP-2 with MILES. In the course of our investigation, we also discovered a much more stable installation for the MILES tank transmitter that can be adapted to the U.S. M1- or M60-series tanks.

The current method of installing the MILES transmitter in American tanks is a multi-part system that mounts the laser transmitter in the breech assembly. This mounting allows the system to vibrate, and it will lose its zero after even a short movement by the tank. Currently, tankers wedge pieces of cardboard in and around the mount in order to hold it securely in the breech.

Instead, we mounted the transmitters on "aft caps," the stub bases of main gun cartridges that are left after firing a round. We used a 125-mm aft cap for the M84, and a 120-mm aft cap for the M1A1.



Prior to the Gulf War, Kuwait purchased a fleet of Yugoslavian M-84s, a variant of the T-72. They were adapted to use the MILES system for greater realism in a recent exercise in Kuwait with TF 2-37, 3d Brigade, 3d ID.

In developing a mount to install the main gun/coax laser transmitter into the breech of the 125-mm main gun used by the M84, we were using the M60A1/A3 MILES system. The transmitter and retainer assembly would not fit into the breech, so we took a 125-mm aft cap and modified it to mount the main gun/coax laser transmitter inside.

We drilled the base of the aft cap around the primer to $5\frac{5}{16}$ " in order to secure the laser transmitter inside. We drilled and tapped holes into the casing to firmly secure the transmitter. Finally, we made a 2" x $\frac{1}{2}$ " weld at the bottom rear of the aft cap. With this system installed, the breech is easily closed by hand, resting on the weld at the bottom. This holds the transmitter solidly in the breech assembly.

We installed the Hoffman device on the barrel of the main gun, and secured the Atwess light on the left

front of the turret using existing attachment points.

The detector belt fits the turret the same way it does on an American tank. We glued Velcro tape around the turret and adjusted the belts to fit.

The BMP-2 presented a completely different problem: the electrical power circuit for the BMP-2 is different than the Bradley and it was only after considerable research and testing that we were able to install the Bradley MILES on the BMP-2.

To accommodate the laser transmitter designed for the 25-mm Bradley main gun in the BMP2's larger 30-mm main gun, we removed the small securing blocks on the laser transmitter and the Atwess light and wrapped pieces of rubber inner tube around the transmitter to secure it in the larger barrel.

The detector belts fit the BMP-2 as they do on the Bradley, with the TOW

belt going across the top of the turret and in front of the TC/gunner hatch.

Power for the MILES transmitter came from the BMP-2 turret power fuse box in the back of the turret compartment. The 50 amp fuse was the only one that would not blow when we hooked up the MILES gear.

For easy access and less wiring, we used the BMP-2's coax trigger power to fire the main gun MILES transmitter. Since the voltage from the coax trigger on the BMP-2 was 24.32 volts (2 amps), and the voltage from the Bradley computer to fire the main gun/coax transmitter is only 9 volts (2 amps), we reduced the voltage by using 5 watt 120 ohm resistors in a series circuit.

Because of time restraints, we did not hook up the missile system for the BMP-2. Given more time, we are sure that it can be done (for INTRINSIC ACTION, the observer/controllers used their controller guns to determine ATGM hits).

With the proper equipment and more testing, the Bradley MILES system will adapt and work on the BMP-2 using all weapons systems and the intercom to fight or defend in a tactical battle using the MILES system. The system we have developed will enable the BMP-2 to engage targets with MILES using its 30-mm main gun and register hits.

For INTRINSIC ACTION 1-94, the Special Forces team working with the Kuwaiti 15th Brigade will use our design for the M84 MILES to equip that unit with MILES. We have also submitted the complete design for the M84/T72, the M1A1, and the BMP-2 to the Army suggestion program in order to improve the MILES hardware currently being used.

Comments, suggestions, and requests for the complete write-up on how to mount the MILES gear in these vehicles is available by writing my detachment at:

Commander SFODA 576
A Co, 3d Bn, 5th SFG(A)
ATTN: SSG Earl Barner [MILES Gear]
Fort Campbell, KY 42223-5000

Our final product was a MILES system that worked with the Kuwaiti armored vehicles and enabled them to conduct realistic training with TF 2-37 during INTRINSIC ACTION 3-93. The Kuwaitis loved the MILES gear and truly enjoyed the chance to pit

SSG(P) Earl Barner is a Special Forces Engineer assigned to ODA 576, A Co, 3d Bn, 5th Special Forces Group (Airborne), Fort Campbell, Ky. He and the 5th Special Forces Group trained with the Kuwaitis during DESERT SHIELD, fought with them during DESERT STORM, and have been conducting an ongoing training program with the Kuwaitis for the past 3 years. In addition to his training as a Special Forces Engineer, SSG Barner has received extensive armor training from the Kentucky National Guard, the 100th Division (Tng) AR at Fort Campbell, and from the Armor School at Fort Knox, Ky. His previous assignments include 3d Bn, 75th Infantry Ranger Regiment and the 197th Mechanized Infantry Brigade.

CW2 Bryan Jay Hinkel is currently assigned to Co A, 3d Bn, 5th Special Forces Group (Airborne) as the SF Technician for ODA 576. Over the course of the last 11 years with the 5th 'Legion,' he has worked as a detachment commander on an A Team, as an operations sergeant and communications supervisor on a B Team, and performed the duties of operations sergeant, intelligence sergeant, communications supervisor and heavy weapons sergeant on an A Team. His armor experience includes working with the Kuwaiti 7th and 8th Tank Battalions, 35th Brigade last summer and with the Egyptian 4th Armor Division during Operations DESERT SHIELD and DESERT STORM.

themselves against the American M1A1. Without the MILES, I am sure that the Kuwaitis would have never approached this joint training with the motivation and enthusiasm they had.

As an Added Benefit, Auxiliary Power Units Reduce Tank Thermal Signature, Tests Show

Auxiliary Power Units (APUs) now under development for the M1A2 tank were supposed to save fuel and reduce maintenance, saving an estimated \$167 million a year. But tests are showing an added, unexpected benefit: running the tank on its APU, rather than its main engine, reduces its thermal signature, making the tank much less vulnerable to detection by thermal imagers and destruction by a new generation of smart weapons.

The original concept of the APU was to allow shutdown of the main engine while the tank was not moving, so as to supply the crew's power needs, radios, and computers while saving fuel. Current research and development could lead to adoption of the units as early as 1995.

The "thermal cloaking" discovery grew out of experiments at Eglin AFB, Fla., where research was underway to teach new smart weapons to recognize various thermal signatures. Tanks running on their main engines emit a heat plume several stories high, creating a vulnerability to heat-seeking armaments. Armored vehicles running on their APUs were almost thermally undetectable.

-Adopted from Inside the Turret, the Fort Knox weekly newspaper.

Armor School Essay Contest Draws 44 Entries Probing Effect of the Information Age

The recent Armor School Essay Contest on the subject "What Does the Information Age Mean to Armored Warfare" drew 44 entries.

The winner in the officer category was LTC Mark P. Hertling, commander of 1-16 CAV. The NCO category was submitted by a group, Alpha Section of 1st Platoon, ANCOG Class 94-1D, who will share their prize. The third \$100 winner was Mr. Michael O. Kelley, chief of the Combined Arms Training Division, 16th CAV, Fort Knox. Copies of all entries were reviewed and evaluated for useful ideas by several post directorates and the deputy CG, BG Lon E. Maggart.

Now, Where Do We Put It?



by Major Michael Mergens
and Captain William K. Weldon

In the beginning, there was the Soldier and his "stuff," and this was good.

Then there was the vehicle, and the vehicle could carry the Soldier and his "stuff," and that too, was good.

When it was found that the vehicle could carry the Soldier and his "stuff," the Engineer quoth, "Give to the Soldier camouflage nets, poles, picks, shovels, mines, stakes, and wire with which to protect himself, and all manner of detectors to find those mines which would do him harm."

The Logistician quoth, "Give to the Soldier oil, grease, hydraulic fluid, track blocks, road wheels, center guides, end connectors, and endless number of tools with which to care for the vehicle, along with food and water with which to sustain himself."

The Chemical Guru quoth, "Give to the Soldier all manner of detectors and accessories to protect him from the harmful vapors and chemicals to be found in the hands of our enemies."

And, yea, verily, it was good to have said equipment to protect life and limb and to provide sustenance for the Soldier.

Finally, the Commander said, "You shall carry all these things and your "stuff" upon your vehicle and you shall do so in a secure and orderly manner, so as to please the Sergeants Major and the First Sergeants by its appearance."

The Soldier looked upon the prodigious pile of things given unto him, his "stuff," and his vehicle, and wailed, "There ain't no \$#^%\$ way!!."*

Thus was born the Bustle Rack.

The foregoing is a somewhat humorous and simplistic view of a major problem that has faced the mounted warrior since the beginning of the Armored Force. As technology expands and the capability of the soldier increases, so does the amount of equipment required to accomplish the mission, and this all has to be carried somewhere in order to be available for use when needed.

The problem facing the mounted soldier of today is, where do I put it?

The obvious answer is to carry it somewhere on the tank or BFV. However, almost every vehicle produced over the history of armored warfare has not had built into it the capacity to store everything that is added on the vehicle by and for the crew.

Granted, there is a place for everything associated with the vehicle's Basic Issue Items (BII), and these are integrated into the design of the vehicle. But, those items such as CTA 50-900

and personal gear, as well as the items mentioned in our small parable, are obviously not fully integrated into the system.

A classic example of this is the M1. When first fielded, the M1 had an angled slope to the rear of the turret. On this slope were numerous "footloop" fastening locations for a net-like covering that was supposed to act like a bustle rack. Gone, too, were the familiar sponson boxes that lined the sides of the M60-series vehicles then in service. However, the amount of equipment wasn't reduced one bit.

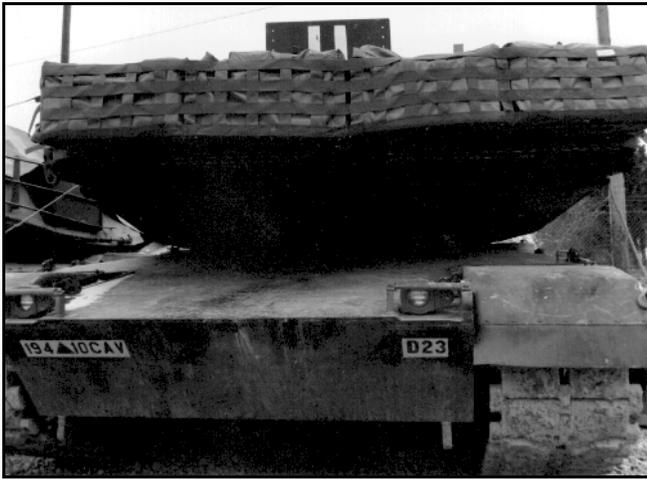
Nor is the M1 unique in this regard. A look back shows that the M47 was one of the first vehicles to have a dedicated storage area built on to the rear of the turret. And like the crews of today, crews then solved the problem by improvising storage schemes and load plans. The resultant "gypsy caravan" look of armored columns is one that has persisted throughout the

world. The alternative to carrying all this equipment was that items perceived as having limited use usually became "combat losses," sometimes weeks prior to any actual combat!

Vehicles currently in development, such as the AGS and LOSAT, also suffer from this problem. Current configurations of AGS do not have any type of bustle rack, and there appears to be a similar approach to external stowage as was originally placed on the M1.

LOSAT's design precludes any external stowage at all, yet has a three-man crew. The pop-up design of the launcher will not allow the storage of anything on top of the vehicle. As with all Bradley chassis-based designs, anything carried on the front of the vehicle interferes with accessibility to the engine compartment and possibly blocks the driver's vision.

In order to have a feel for the size of the problem, consider the amount of



Above, an M1A1 Abrams with the Abrams Bustle Rack Extension mounted to the fixed bustle rack.



Individual crewman's equipment bags provide greater protection and easier access than does the current duffle bag.

“stuff” a typical M1 crew has to carry. According to the M1A1 Combat Load Plan, ST 17-184-1A1, dated November 1987, each crewmember is allotted for their CTA 50-900 and personal items 1 each, ALICE Pack, duffle bag, and flight helmet bag. In most instances, the flight helmet bag is carried inside the vehicle and doesn't enter into this discussion.

The approximate dimensions of the duffle bag are 14" in diameter and 38" tall for a volume of about 5,850 cubic inches or 3.4 cubic feet. The ALICE Pack is about 14" x 10" x 28", 3,920 cubic inches or 2.3 cubic feet. Therefore, a crew of four needs 4 x 5.7 cubic feet or 22.8 cubic feet of total storage for personal gear. The current bustle rack is about 15" x 14" x 112" for an available volume of 13.6 cubic feet; which translates to a 10.1 cubic foot shortfall! Crews have solved this by standing the duffle bags up inside the bustle rack and attaching the ALICE Packs to the outside.

An alternative is to have the company trains carry the extra duffle bags and to have the first sergeant bring them forward when needed. For a typical company this would require 56 duffle bags or 190 cubic feet of storage volume. A typical 2½ ton (M35 series) has a carrying volume of 444 cubic feet, which would mean one half of the truck would be filled with duffle bags. How many company commanders have this much excess carrying capacity in their company trains?

The loading scenario described above, along with the stacking of items and tying them down to the turret roof, etc., has an added effect of

blocking the view of the TC and loader, both in the open hatch and closed hatch configurations. This has obvious implications in safely operating the vehicle and in the operational effectiveness of the crew. Another safety-related problem with this manner of stowage is the obstruction of the ammunition compartment blowout panels and crosswind sensor.

Nor is the storage area of the bustle rack sacrosanct. Presently the External Auxiliary Power Unit (EAPU) is designed to reside in the bustle rack. This unit takes up approximately 11.3 cubic feet (although it extends about 11" above the bustle rack, for an effective loss of 6.25 cubic feet).

Any type of system that is designed to alleviate this storage problem has several key requirements. First, it must be strong enough to carry a significant load, 400 to 500 lbs typically. It also has to be strong enough to withstand additional loads induced by shock while driving over rough terrain. This shock loading can be three to four times as great as the static load, or about 1,500 lbs.

Second, it must be large enough that it significantly increases the amount of storage volume. Ammo cans and locally produced brackets, although cheap, do not increase the storage volume more than 10 percent. Any system must increase the volume at a minimum of 75 percent, preferably 150 percent.

Any type of storage system must itself be able to be stored or removed when not being used for its intended purpose. This feature facilitates the loading of vehicles in confined spaces

for deployment, such as ships or aircraft. It also remains out of the way during routine maintenance operations while not in the field or being used.

Finally, any system must be easily installed and not require major modifications to the vehicle. Extensive use must be made of all available hardware and existing features of the vehicle as attachment points. These attachments must also be strong enough to carry the load and secure the device during rough maneuvering.

Although there is little that can be done with regard to lessening the number of items to be carried, there have been several attempts at solving this problem that range from locally produced brackets to specially designed carriers.

The Israeli Defense Force (IDF) has built several different types of vehicle racks. One type hangs off the sides of the M113 and significantly increases the amount of material that can be carried. The MERKAVA's specially designed hammock-type arrangement has a hinged bottom that drops the rucksacks of the infantry once they deploy from the vehicle.

These designs are tailored to the requirements of the IDF in that they extend beyond the sides of the vehicles and are constructed of metal. For areas in which the IDF operates — desert, sparse vegetation, and urban terrains — this is acceptable. However, the U.S. Army requires that we also operate in close vegetation, such as forests and thick brush.

In this environment, a rigid system, or one that extends beyond the sides of the vehicle, are prone to being

snagged and damaged, especially when the driver of the vehicle is unsure of the location of his fenders and the TC/BC is occupied in navigating and directing the vehicle. A prime example of what can happen is evidenced by the large number of reports of survey and statements of charges for lost tanker's rolls and rucksacks snatched from bustle racks while moving along tree lines during exercises such as past REFORGERS.

One system specifically designed for the M1, and in development, is the Abrams Bustle Rack Extension (ABRE). This is a system made of durable webbing, capable of supporting 3,000 lbs/web and attaches directly to the top rail of the existing bustle rack. It also attaches to the bottom and sides for stability during maneuvering.

The device includes four 27" x 14" x 14" individual equipment storage bags. A piece of $\frac{3}{8}$ "-thick fabric-reinforced rubber forms the bottom of the compartment, gives shape to the device, and prevents it from sagging below the bottom of the bustle rack and interfering with the operation of the turret.

Being made of rubber and fabric, the device is designed to resist damage when caught on trees or brush, or through contact with more solid objects. If damaged, repairs are much simpler than they would be for an all-metal device.

For the protection of the individual crewmember's personal items, a waterproof/NBC protective bag is available. This bag is made of butyl-coated nylon, the same material found in

Captain William K. Weldon was commissioned in 1985 from the U.S. Military Academy at West Point, N.Y. He has served in a number of Armor positions, including tank platoon leader, support platoon leader, and company executive officer while at Fort Polk, La. He was then assigned to Camp Casey, Korea where he served as battalion supply officer and later commander of C Company, 1-72 Armor. He recently served as the Materiel Branch Chief of the Directorate of Combat Developments at the Armor Center, Ft. Knox, Ky. He is currently an advisor for the 3-116 Cavalry (ARNG) in La Grande, Oregon.

Major Michael E. Mergens was commissioned through ROTC at Texas A&M University with a degree in Mechanical Engineering. He has served in a number of Armor positions including platoon leader, scout platoon leader, headquarters company commander, tank company commander, asst. brigade S3, and S3 air, and brigade S1. He is currently a member of the Texas Army National Guard serving as the operations chief, G-2 Section, 49th AD. In his civilian capacity, he works for Oceaneering Space Systems (OSS) as a design and project engineer on the International Space Station Alpha refrigerator/freezer project. He is also the senior project engineer for Armored Vehicle Habitability Upgrades for OSS.

camouflage covers, and is designed to be removed from the device for individual packing and storage. Two straps secure each bag to the device. Rucksacks can be attached to the exterior of the device, as is currently done in most unit load plans.

Placing mostly personal gear in the stowage device frees up space in the bustle rack for heavier items. These heavier items then would not have to be stored on top of the blowout panels, increasing the safety of the crew. This would also lower the profile of stored items and allow the crew better all-around observation.

The entire device weighs only about 40 lbs and can be attached in about five minutes by a single crewman. The primary means of attachment is by hooks that go over the top rail and secure with a ring.

The device is laterally secured by means of adjustable side straps and hook straps on the bottom that attach to existing eyes welded to the bottom of the bustle rack to prevent the device from bouncing off. These bottom straps are loosened when the device is folded flat against the bustle rack for storage.

Velcro along the entire bottom of the device facilitates the mounting of the rear turret belt for MILES. Also, mounting points can be added for vehicle identification signs, gunnery lights, etc. This basic design can be adapted to any number of vehicles. A prototype was developed for the LAV-25, while concepts for the Bradley and AGS are currently being developed.

The system is an inexpensive solution to an age-old problem. Any number of load plans cannot escape the simple fact that there is just too much "stuff" and nowhere to put it. Future systems **have** to be designed with the simple fact in mind that the soldier and his noncombat equipment must be carried by the vehicle because it is his home. The logistics system is stretched to its limits just providing fuel, ammo, and food for the soldier, let alone dragging his clothes around.

The ABRE, as designed and developed by Oceaneering Space Systems of Houston, Texas, could be procured as early as 1995, if funds were available.

The focal point for the identification of all support items for the Mounted Combat Soldier is:

Materiel Branch, Soldier Support Division
Director of Combat Developments
U.S. Army Armor Center
Fort Knox, KY 40121

For further information and technical details about the ABRE, other similar stowage systems, or soldier-related support items, please contact the branch chief at (502) 624-1750, DSN 464-1750.

Resident Training Detachment: A Captain's Perspective — Two Years Hence

by Captain (P) Leon I. Smith IV

*"The deployment requirements of the modern Army mean that we have fully integrated force packages, each containing high priority Reserve Components (RC) units. We must tailor our training and readiness policies to prepare the Total Force to meet these new requirements. Bold Shift is the vehicle to accomplish this most important task."*¹

The phone rings in my office (it's March, 1992), and it's Armor Branch... it's the captain's assignment officer, who gives me a WARNORD for my next assignment. I'm informed that my next assignment is in support of a congressionally mandated Active Component full-time support to ARNG (Army National Guard) as part of the

Bold Shift initiative. My mission will be to advise and assist the commander to implement training programs that will maximize the use of limited time available to enhance pre-mobilization training readiness.

"The Bold Shift effort is a top priority throughout the Total Army. Its intent is to design those policies, procedures and execution techniques that will ensure high levels of training and readiness. The year 1992 is a pilot year in which selected high priority Reserve Component units, at least one ARNG unit per state and one USAR unit per Major U.S. Army Reserve Command (MUSARC), will participate in Bold Shift. We will then assess performance and develop a formal concept and implementation action plan that will produce and sustain

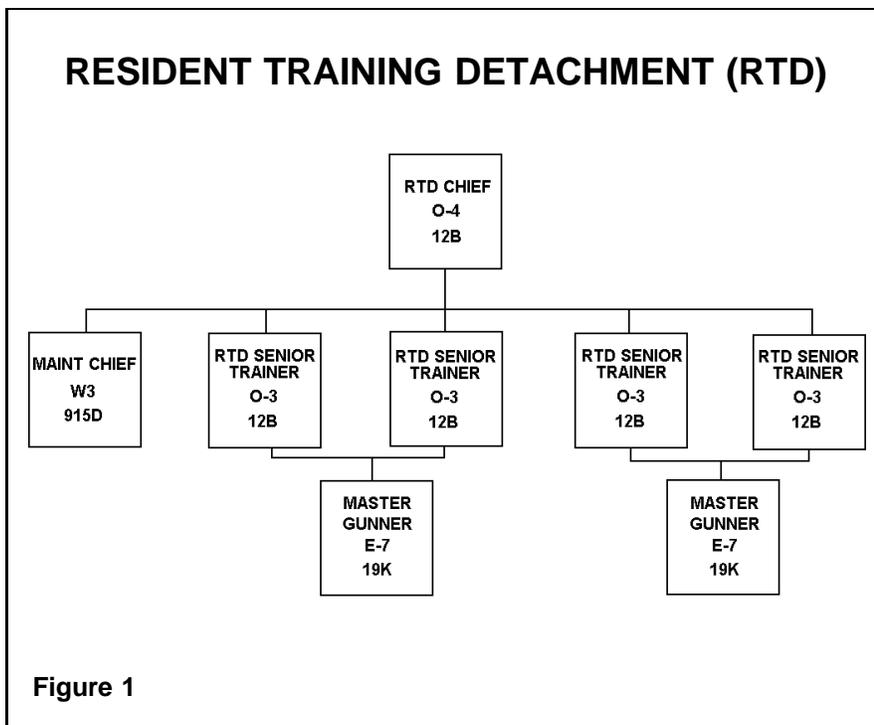
these higher levels of training and readiness."²

September 1992, I PCS to become a "Resident Training Detachment (RTD) Senior Trainer" for an M1A1 tank battalion. Because this is a pilot program, I begin to lay the groundwork for the implementation of the Bold Shift initiative. I write my duty description:

Senior Army Company Trainer for a Roundout MTO&E M1A1 tank battalion assigned to 1st ID(M). Responsible for planning, conducting, and evaluating pre-mobilization tasks for a tank company, battalion mortar platoon, and the battalion S3 section. Assists in identifying and defining training goals and ensures the training principles found in FM 25-100/101 are instilled and utilized. Ensures technical and tactical proficiency of leaders at all levels is met through rigorous training exercise and AARs. Upon mobilization, assist in post-mobilization and deployment of unit.

I list my performance objectives:

- Be the expert on FM 25-100/101.
- Assist in developing soldier, leader, collective, and battle staff training.
- Assist in the preparation and execution of collective training with emphasis on tank platoons and crews.
- Teach leaders how to identify individual and collective tasks and integrate them into training.
- Assist in the development of the company METL and training strategy based on last year's Annual Training TAM results.
- Be able to support and observe training and deliver an effective AAR.



RTD RATING SCHEME (FOR THIS UNIT ONLY)

	RATER	INTERMEDIATE RATER	SENIOR RATER
RTD CHIEF, MAJOR	RTD CDR LTC	*LETTER INPUT GUARD BN CDR	ADC(M) BG
RTD SENIOR TRAINER, CPT	RTD CHIEF MAJ	N/A	RTD CDR LTC
MAINT OFFICER, W-3	RTD CHIEF MAJ	N/A	RTD CDR LTC
MASTER GUNNER, E-7	RTD SR. TRAINER CPT	N/A	RTD SR. TRAINER CPT

*Letter input may be provided to Senior Rater by individuals holding position as RTD Chief.

Figure 2

- Prepare tank gunnery in the conduct of tank maneuver/gunnery simulation training.
- Plan for exercising mobilization plans and assist in mobilization review.
- Assist in coordinating and certifying gunnery-related matters.
- Ensure gunnery training follows the guidelines IAW 17-12-RC (Reserve Component Tank Gunnery Training Program).
- Assist to make all Operational Readiness Evaluations (OREs) successful.
- Assist the battalion commander and staff in functional and tactical training.
- Plan, evaluate and assess "Platoon Lanes" for the armor platoons and the battalion mortar platoon.
- Assist in the implementation of all MCOFT/UCOFT training programs.
- Plan and write MOIs for the tank platoons and mortar platoon.
- Ensure training is always done to standard.
- Ensure training meetings are conducted IAW TC 25-30 "A Leader's Guide To Company Training Meetings."

Initially, the RTD was a skeleton detachment. After six months, our manning distribution to support the Guard battalion is pictured in Figure 1 and our rating scheme in Figure 2.

To avoid confusion and lack of information throughout the Active

Army, let me explain the RTD role (from a captain's standpoint), as I know it.

First, an RTD quickly learns the RC acronyms and the RC guidance and directives described in FMs 25-100/101. Initially, I reviewed the assessment of the previous year's training and the existing year's training calendar with the battalion. Most of the METL tasks were assessed as a "P."

The yearly training calendar is shown in Figure 3.

Expectations:

You will be assigned specifically to train one or two tank companies and, possibly, one of the special platoons in the HHC Company. Additionally, you can be expected to assist the bat-

talion commander in the battle staff training areas of emphasis.

Expect to train anyone from the company commander down to the lowest private in the company. Plan to train more than one level down and evaluate two levels down. Prepare yourself to train company commanders, XO's, PL's, PSG's, TC's, and privates. At the same time, prepare yourself to assist in evaluating tank crews during TCGST, TCPC, STX's, etc. You will be asked to demonstrate your skills to anyone and everyone in the company. The skill level of the soldiers varies greatly and is not always dependent on their grade. Some of the areas in which you may be expected to train and/or evaluate are:

- Plan for an STX (Co Cdrs, PL's, PSG's, and TC's)
- Write OPORD's (Co Cdrs and PL's)
- How to tank (everyone in the company, i.e. boresighting, maneuver techniques, radio procedures, map reading)
- How to prepare for an inspection (full-time personnel).

Do not expect to be an advisor to the unit. Keep in mind the word "advisor" is no longer a word used by the RTD.

Yearly Training Calendar			
1st Qtr	2d Qtr	3d Qtr	4th Qtr
100% Small Arms Qual	ORE	APFT (Record)	Annual Training (Ft. Stewart)
	MCOFT	TCPC	Post AT Inventory
APFT (Diagnostic)	Legal Briefs	AAC	Plt STXs (Ft. Stewart)
Maint Training	Conduct of Fire Classes	TTV	
	Tgt Acq Drills	TTVIII Rock Drills	SIMNET Exercise
	TCGST Train-up		
	TCGST	Load for Annual Tng	

Figure 3

As an RTD, the staff will quickly learn to use the word "assist" in lieu of the old cliché "advisor." You are the person who has the expertise! You have the answers to assist leaders and soldiers in the entire company. You can help the company or platoon in the planning phase, which will aid in their Inactive Duty Training (IDT) weekend. By providing your hands-on knowledge from your previous assignments, you can enhance the goals and accomplishments of the Guard. For example, you can demonstrate the effective use of rehearsals and rock drills, which allows soldiers to increase their chance of success during the initial iteration of a collective task.

Plan on being the "battalion commander, company commander, platoon leader, supply sergeant, IG...etc." You will wear many hats during your time in an RTD. Don't get tunnel vision and cause yourself to miss implied tasks! Remember, you are the expert when you arrive at this assignment; thus, the unit will expect you to provide them with the correct answers.

Start preparing yourself now. You want to be the guy who can walk a tank crew through the TTVIII Rock Drills IAW 17-12-RC. Know the Reserve/Guard roles and standards in conjunction with Army Regulations.

Be prepared to plan and execute an event in 1-2 months. There will be times when you have limited resources, but must help plan a task to be executed the following month. Expect to represent the "Senior Leadership" during many of the weekend drills. You will be writing many AARs during your tour, as you observe training. Periodically, your input will be orally briefed to the Brigade commander. The brigade commander may expect you to be his "eyes and ears" for training, as well as giving him a pulse reading sometime during the training year.

One thing will always remain the same. Don't ever lower the standards adopted for the training event (i.e. state or Army regulation). Maintain focus, direction, and vision in everything you do as an RTD and don't allow anyone to use shortcuts. Always be the leader and mentor to those who expect nothing but the best from you. Remember, you represent the qualifications of a typical active duty armor

captain in the U.S. Army. "The role of the RTD is to enhance the chain of command, not replace it, and building a strong leader training program is the key to building strong units."³

Accomplishments:

They will be small. Small accomplishments are your best measure for your success; don't expect to change everything. If you can improve planning areas, i.e. leaders use "TC 25-30," then you are on the right track for success. Never allow a training event to be trained without a measurable standard. Enforce task, conditions, and standards and don't allow soldiers to be satisfied with marginal "Go's." If you accept this, you will be allowing soldiers to train to die in combat.

Work on soldier and junior leader development. Take the time to show the company commanders how to train their platoon leaders. This is where you can make a difference. You may see inexperienced company commanders; but remember, no one took the time to train them. Do not be afraid to train the company commander on the duties. The commander may be too shy to ask you openly for assistance, so take the initiative and fix the problem.

As I depart my two years as an RTD captain with a Guard tank battalion, I think of my significant contributions (remembering my small accomplishments are sometimes the biggest to conquer). Some of my small accomplishments are:

- Teaching company-level junior leaders how to execute training meetings IAW TC 25-30.
- Enforcement of FMs 25-100/101 during the year.
- Pushing leaders to have physical training during every drill weekend.
- Providing a basic background to leaders on tactics, techniques, and procedures.
- Executing training to standard, the way it was planned.
- Flexibility as changes occur.

Your assignment will be rewarding. Small accomplishments are RTD achievable; don't try to defeat the

world. Leave with a feeling of accomplishment. There will be soldiers who will maintain those skills passed down by you. Someday, when the RTD goes away, our job will not be left behind. There will be RC/Guard soldiers assisting the Army as part of a fully integrated force package.

Notes

¹Memorandum for Total Army Commanders, Subject: BOLD SHIFT Information letter, para. 4, dated 10 August 1992, written by GEN Edwin H. Burba, Jr., former FORSCOM commander.

²Ibid., para. 5.

³Active Army Orientation Course, Booklet H, Resident Training Detachment Information Packet, National Guard Education Center, MOI, Subject: RTD, dated 20 July 1992, p. 2, written by COL Michael G. Jones, CofS, 4th ID(M).

Captain (P) Leon I. Smith IV was commissioned in 1983 through Officer Candidate School and has attended AOBC, JOMC, Airborne, AOAC, and CAS³. He holds a BS Degree in management from the University of South Carolina and a MA Degree in management from Webster University. He served with 1st Squadron, 11th ACR as a tank platoon leader, scout platoon leader, and company XO; commanded a tank company with 4-40 (now 2-35) Armor, 4th ID(M); was a tactics instructor for the Engineer Officer Advanced Course; and served as a tactical advisor for 3d Army for breaching operations during DESERT SHIELD/DESERT STORM. He recently served as an RTD for 1st ID(M) with 218th SHB(M). He is currently attending the Command and General Staff College.

LETTERS (Continued from Page 3)

laser rangefinder and lock out the firing tank's firing controls. A manual override would bypass this lockout in case the TC could positively identify the target. If the target vehicle was friendly but didn't have a programmable code, the laser rangefinder would show an AMBER light, but not lock out the fire controls. If the target vehicle was in fact enemy, A GREEN light would be displayed and the rest would be, "FIRE!" "ON THE WAY" "TARGET, CEASE FIRE, DRIVER MOVE OUT."

1SG Hecht's suggestion of a tone generated in the CVCs of the targeted crew is an excellent one and could very easily be integrated into the system proposed here.

I'm sure that there are many other scenarios possible with the technology available today, but if we wait to evaluate all of them, we will probably lose more good tankers to fratricide. We have the technology. Let's finally put this problem behind us and concentrate on our real business, that of being prepared to close with and destroy the enemy by means of fire and maneuver and shock action.

MICHAEL MERGENS
MAJ, Armor, TXARNG
HQ, 49th Armored Division

More on "Champagne Campaign"

Dear Sir:

I am interested to see that my "11th Panzers in the Defense, 1944" (March-April 1994 issue) has generated additional information about the 1944 campaigns, and I am gratified that several veterans have expressed an interest in contacting their foes of half a century ago.

It should be emphasized, however, that the article is not a detailed study of the various specific engagements, but rather an account of how the 11th Panzer Division attempted to carry out its missions under generally adverse conditions. There are a number of detailed studies for the Lorraine Campaign, especially Hugh M. Cole's outstanding official U.S. Army history *Lorraine Campaign*, published in 1950. But many readers may not be familiar with the recently published official history volume on the Rhône Valley campaign, Jeffrey J. Clarke and Robert Ross Smith, *Riviera to the Rhine* (Center of Military History, 1993).

Regarding the Meximieux fight on 1 September 1944, for example, (Clarke and Smith p. 177) list casualties for both sides, including 185 Americans "missing and probably captured," this referring to F Company, 2d Bn, 179th Regt (my p. 29); and that the 11th Panzer thrust did "disrupt preparations" for a 179th Infantry attack, which "was von Wietersheim's primary mission."

On 3 September at Montrevel, Troops A and B of the 117th Cav put up a coura-

geous fight, but lost 35 vehicles and 126 men captured (Clarke and Smith p. 180). VI Corps commander Major General Lucian Truscott was later critical of the cav squadron, but this was unjustified; he had simply assigned missions "that were beyond its capabilities," and his criticism may reflect his frustration at finding his flanking moves constantly thwarted. The official history notes that the 11th Panzer's "primary mission, protecting the retreating army's flank, had thus been accomplished" (p. 180), though it also was taking losses.

Nothing but credit is due the GIs and Germans who fought these stiff clashes up the Rhône Valley 50 years ago this autumn.

A. HARDING GANZ
Ohio State University,
Newark Campus

Post-Mobilization TTVIII Would Lower Standards

Dear Sir:

Recently, I was able to see a partial after-action review for the 1st Army Armor Conference. One of the issues that was contained in the review had to do with the proposal of the National Guard Bureau to postpone Tank Table VIII to post-mobilization. This is disturbing because as it stands now, Reserve Component tank crews and platoons are supposed to maintain a crew level of proficiency at gunnery (TTVIII) and sustain the ability to fight/maneuver as a platoon. This has been reinforced by maneuver lanes training and the requirement to qualify tank crews at TTVIII every other year. By postponing crew-level qualification to post-mobilization, we lower the training standards and deviate from the "Band of Excellence" in accordance with FM 25-100.

If anything, we should try to make a platoon-level gunnery a requirement for those RC tank platoons. It could be done via subcal fire, MILES, or, for those lucky few, by SIMNET. A live-fire TTXI or TTXII is probably not feasible with current budget restraints. This would allow post-mobilization training to progress further and shorten times to deploy should that become necessary. We need to maintain ourselves at a higher level of proficiency if the Total Force is to be a reality.

Crew-level proficiency is a must, and lanes training is an excellent training tool for platoons for gunnery and maneuver. Let us keep up that level of training and even improve it by having tank platoons showing up at mobilization stations fully ready to move on with training.

JEFF M. ALSTON
2LT, Armor
Wisconsin ARNG

What Can We Do About the Vulnerable Antenna?

Dear Sir:

I continue to read about all the amazing things digitalization of the battlefield will do for the Armored Force, but we seem to have forgotten the oldest, most poorly-protected component in this whole marvelous system — the antenna.

All those boxes full of state-of-the-art electronics and those advanced, multi-color display screens will be useless when the antennas get blown off the outside of the vehicle! One accurate and cheap artillery airburst can neutralize a million dollars in gizmos in the blink of an eye.

With all the portable telephones, transmitters and remote speaker systems that are available today on the commercial market, there must be some kind of unbreakable antenna out there that can be easily converted to military use.

Or, would it be possible to make the antenna(e) part of the vehicle/turret structure?

Could it be made retractable? It would unreel from its stowage area for burst transmission, and then go to minimum extension for reception.

A tank is only as good as its tracks, gun, and radios. If the radios can't send and receive because the antenna is easily damaged or destroyed, then digitalization is a waste of money.

GREGORY J. SAMSON
Clinton TWP, Mich.

Bring Back the Blues

Dear Sir:

Captain Barber's article, "Bring Back the Blues" (Jan-Feb 93 issue), hit a spark in my spurs, so to speak. I had to convey my thoughts on this crucial reconnaissance subject. You see, it is not an emotional plea on my part for the past, but it was a reality for me back in June 88-June 90. I was a squad leader with a long-range reconnaissance platoon assigned to HHT 1/9th U.S. Cavalry, 9th ID (Motorized), Ft. Lewis, Wash. Our MTOE consisted of a 28+1-man platoon with equipment varying from three cargo Hummers, one armored Hummer, six UH1Hs, and 24 250cc motorcycles. This platoon was a squadron reconnaissance asset, sometimes used by the brigade. The missions and capabilities of the platoon would cover all types of reconnaissance, to limited raids and ambushes of high priority targets deep across the FLOT.

The platoon in general would operate 5-15 kilometers across the FLOT with 24-hours active reconnaissance, unlike avia-

Battalion Motor Officer Course Prepares Officers For Unit-Level Maintenance Positions

tion aircraft which are limited by weather, pilot fatigue, and the increasing cost of maintenance. This platoon allowed the squadron and brigade commander to develop a mission plan much faster, with accurate intel being updated by the minute, and painted a more accurate picture of the situation developing. This intel update was not possible with the LRSD teams because they worked for the MI battalion which, in turn, updated the division commander. The division cavalry needs that intel first, being the most forward combat unit in the division. Our brigade commander, COL Crews, saw this need, as did our squadron commander, LTC Tadonnio. This superb leadership started at the platoon level with 1LT Johnson and later 1LT Barber, both Ranger qualified. Our PSG, SFC Lincoln, 1SG Kaminski, and CPT Drumm allowed us to grow militarily, by far the best chain of command anyone would envy.

I am not trying to plug these men, but saying that it was this ideal command climate that allowed SGT Johnson and me to train our men to standard. Even knowing we were 19Ds, we lived by the Ranger Handbook and related publications. With the MTOE the way it was, our platoon did not have to beg for support from other units, such as our helicopter support. Our platoon used this asset for 85 percent of all our insertions; this would not have been possible if not organic to our squadron. Our pilots were so good that a CW4 with some engineering background fabricated mounts on the birds to carry two motorcycles on each aircraft. This gave each OP team a fast, mounted reconnaissance asset to recon all NAls. With this well-proven concept, the 3d Brigade and Task Force Saber deployed to the NTC and, as noted from the OPFOR command general, did to the OPFOR what the OPFOR reconnaissance has been doing to the Blue Forces for years.

As far as the men go, we could not find more than 20 or so troopers who could keep up with the high state of physical fitness necessary to perform our mission. The training was constantly demanding, with PT runs exceeding six miles daily and never-ending road marches. All this was necessary, given the extreme distance and loads we had to carry. I do not understand why the Army has not kept this organization alive in the division cavalry. In my experience, this asset is not only needed, but required in today's cavalry. I do wait with excitement to the day the Army realizes its mistake and brings back the blues. This SSG stands by with a 4187 in hand for another chance to do it all over again. "Scouts Out."

SSG CHRISTOPHER AUDETTE
Cavalry Scout
Korea

The Battalion Motor Officer Course (BMOC) is designed for Active Army, Reserve Component, and National Guard units. The primary students are CPTs and LTs who have completed the Officer Basic Course and have been in the field for more than six months, warrant officers, and allied nations officers. BMOC is designed to prepare these officers for maintenance positions at the unit (battalion and below) level, with emphasis on management and supervisory operations.

The compact four-week, two-day course is designed to give incentive to commanders to allow the Active and Reserve Component officers attending BMOC on TDY status to complete the course. Many commanders are hesitant to release officers for a nine- or six-week course, but are more willing to let them attend a four-week course. The new, shorter course will also help RC and NG officers who must leave a full-time job to attend, because many civilian employers also find it difficult to release employees for the longer courses.

The BMOC is now starting its 30th year of operation. The Organizational Maintenance Officer Course #1 was held in 1964. This course was an outgrowth of the Armor Maintenance Officer Course, which was revised to create a course geared to all maintenance officers, regardless of branch. In January 1972, the course became the Motor Officer Course. It was shortened to four weeks and two days in 1992.

The BMOC course currently consists of 160 hours of instruction, and is divided into two areas: 104 hours of classroom instruction and 44 hours of specific instruction on five different vehicles. Students receive training based on the type of vehicle at their assigned unit. The five vehicles used in training are the M1A1 Abrams tank, the M2/3 Bradley Fighting Vehicle, the M113 Armored Personnel Carrier, the M977 Heavy Expanded Mobility Tactical Truck (HEMTT), and the M998 High Mobility Multi-Purpose Wheeled Vehicle (HMMWV). The program of instruction emphasizes the use of hands-on training and practical exercises. Classroom lectures are used to teach the proper maintenance procedures and the use of standard Army forms, but most learning occurs in the maintenance bays on actual vehicles.

The main topics covered in classroom instruction are: Army Maintenance System, operations records and dispatch procedures, maintenance records, maintenance publications, Materiel Condition Status Report, repair parts supply, tool and TMDE equipment, light schedule service, heavy schedule service, preventive maintenance indicators, hazardous materials, automotive electrical systems, safety, Unit Level Logistics System (ULLS), direct vehicle recovery, and power plant troubleshooting.

CLASS	REPORT	START	END
05-95	23 Jan 95	24 Jan 95	23 Feb 95
06-95	14 Feb 95	15 Feb 95	17 Mar 95
07-95	6 Mar 95	7 Mar 95	5 Apr 95
08-95	27 Mar 95	28 Mar 95	26 Apr 95
09-95	11 Apr 95	12 Apr 95	11 May 95
10-95	4 May 95	5 May 95	6 Jun 95
11-95	30 May 95	31 May 95	29 Jun 95
12-95	19 Jun 95	20 Jun 95	21 Jul 95
13-95	10 Jul 95	11 Jul 95	9 Aug 95
14-95	31 Jul 95	1 Aug 95	30 Aug 95
15-95	21 Aug 95	22 Aug 95	21 Sep 95
01-96	4 Oct 95	5 Oct 95	3 Nov 95
02-96	25 Oct 95	26 Oct 95	24 Nov 95
03-96	13 Nov 95	14 Nov 95	15 Dec 95

For more information, call BMOC CW3 Peyton or SFC Snyder at DSN 464-8119/7756 or (502)624-8119/7756.

BOOKS

Moving Bradleys, Beans, and Bullets to the Gulf

Moving Mountains: Lessons in Leadership and Logistics from the Gulf War by William G. Pagonis and Jeffrey L. Cruikshank. Harvard School of Business, Boston. 1992, 248 pages, \$24.95.

Lieutenant General William "Gus" Pagonis, one of the U.S. Army's main architects of victory during DESERT SHIELD/DESERT STORM, has written a masterful account of the war from the viewpoint of a logistician. As is often the case, both the generals who fought the war and the military historians who analyze the conflict tend to concentrate on strategy, tactics, and equipment, often ignoring or downplaying the role of logistics or the personnel that played an equal role. Pagonis's *Moving Mountains*, however, examines the role of logistics by incorporating all of these categories into a single, highly readable volume. The book likewise attempts to illustrate how the techniques used to manage the rapid influx of materiel into the Persian Gulf can have civilian applications. The author specifically examines the logistical aspects of the Gulf War from three distinct phases which includes DESERT SHIELD (August 7, 1990-January 15, 1991), DESERT STORM (January 15-March 4, 1991), and DESERT FAREWELL (March-December 1991). General Pagonis explains that each phase had its unique aspects and problems, and he illustrates their interrelationship throughout the Gulf War and its immediate aftermath. This interrelationship is best understood by the comment General H. Norman Schwarzkopf made while briefing journalists on February 27, 1991: "...And I can't give credit enough to the logisticians and the transporters who were able to pull this [the famous 'End Run'] off.

Pagonis's journey to command of the 22 Support Command began with his commissioning in the Transportation Corps in 1964, a move that he had some misgivings about, but nonetheless accepted. The early years of General Pagonis's career molded his concept of logistics and, above all else, leadership. Pagonis claims that these same principles enabled him to undertake the task of managing DESERT SHIELD and DESERT STORM 26 years later. The author presents a convincing case for this last statement. Throughout General Pagonis's early climb up the chain of command, a theme that is constantly repeated is "leadership by example." Willingness to take risks early on provided Pagonis with the motivation and desire to remain in the Army despite his own periods of doubt as to whether or not to remain. He illustrates this last point by recalling an incident shortly after his return from Vietnam in the



APCs unloading at a railhead in the Bremerhaven Terminal near Carl Shurz Kaserne were part of hundreds of tracked and wheeled vehicles loaded aboard ships for transport to Southwest Asia.

Photo by SFC Dana Jacson

mid-1970s when he served as a Congressional liaison officer. After heading a study that saved the XM1 (later M1 Abrams), the general turned down what was then an extremely lucrative offer to remain in Washington D.C. as a lobbyist for one of the Big Three automakers. He decided instead to remain in the Army.

General Pagonis, from the mid-1970s until 1988 when he was assigned to U.S. Forces Command (FORSCOM), served in a variety of assignments, all preparing him for his role in DESERT SHIELD/DESERT STORM. The general wrote that the two most important assignments were his time at Division Support Command at Fort Carson, Colorado (DISCOM), and at the 21st Support Command (SUPCOM) at Kaiserslautern, Germany. Pagonis wrote that these two assignments, more than any others, prepared him for the herculean tasks that awaited him during the Gulf War. The general states that while commanding DISCOM, he was able to learn the intricacies of desert warfare and the problems associated with supplying forces engaged in desert warfare at the National Training Center at Fort Irwin, California. The author writes: "This gave me a thorough understanding of how things operated in the desert, and of how the desert challenges soldiers and their equipment." After leaving DISCOM, Pagonis served as special assistant to the deputy commanding general (DCG), and later as deputy commanding general of the 21st SUPCOM, where he was involved in several REFORGER exercises. In these, he gained valuable experience not only in utilizing host-nation resources, but in negotiating with local contractors. These were skills extensively utilized during his 18-month stay in Saudi Arabia.

The importance attached to General Pagonis's experience as DCG with the 21st SUPCOM is enhanced by military analyst John A. Warden, who wrote in his book *The Air Campaign: Planning For Combat* that the U.S. Armed Forces were better prepared for the Gulf War due to the level

and amount of training they participated in between 1973 and 1990. Warden added: "The efficiency, camaraderie, and personal relationships built by such exercises contribute immensely to combined combat effectiveness when the forces are later merged during a crisis or war. Even the logistics of moving a corps out of one theater and into another are practiced in the annual REFORGER exercise, a capability that proved crucial to the deployment of VII Corps from Europe to Saudi Arabia in forty-five days."

One of the book's major shortcomings is in failing to discuss the creation of the fleet of Near Term Prepositioned Shipping in the early 1970s. Pagonis makes only a vague reference to the creation of the vital NTPS program, a critical omission since NTPS was the forerunner of the Maritime Pre-Positioning Shipping program that made DESERT SHIELD/DESERT STORM the success that it was. The author likewise fails to discuss the reorientation of U.S. strategy during the late 1970s from one of a land-based, Europe-first strategy to that of a maritime strategy. Historian Allan R. Millet wrote in *Semper Fidelis* that the emphasis on a maritime strategy gave the United States the necessary "flexibility and strategic mobility" to respond to a variety of threats and crises outside of the NATO context. General Pagonis makes it sound as if MPS was a new concept when the Rapid Deployment Joint Task Force was first formed in 1980. In fact, it dates back to 1970.

When Pagonis was assigned to the Office of the Deputy Chief of Staff for Logistics as the Director of Plans and Operations he became involved in contingency planning for a possible Soviet invasion of Southwest Asia. OPLAN 1002-90: *The Defense of the Arabian Peninsula*, had been authored by General Schwarzkopf. He was then transferred to U.S. Forces Command (FORSCOM), at Fort McPherson, Georgia. While at FORSCOM General Pagonis served as the J4-Director of Logistics. Little did he re-

alize at the time that the experience gained at the 21st SUPCOM, Office of the Deputy Chief of Staff, and FORSCOM would all come into play when Saddam Hussein invaded neighboring Kuwait on August 1, 1990.

Moving Mountains provides an excellent overview of those first few hectic days when the United States course of action was still uncertain. Pagonis provides some little-known details of the confusion that reigned in both the White House and within General Schwarzkopf's headquarters as to what, if any, response the United States would make. When the U.S. decided to intervene militarily, Pagonis and his boss, Lieutenant General John Yeosock, were tasked by Central Command (CINCCENT) to come up with a "shopping list" of materiel that any U.S. force would require if "invited in" by the Saudi government. Pagonis wrote that it was a "shopping list" fit for a king. Prior to General Yeosock's departure for the desert kingdom, Pagonis was instructed to begin preparing his command to move large quantities of supplies in a hurry. It is here that military analysts and historians will look back with pride upon the creation of the NTPS/MPS program. Pagonis writes that if any one factor contributed to victory in the Persian Gulf, it was the availability of these ships, which had been stationed in the Indian Ocean (Diego Garcia), Somalia, and the Philippines.

General Pagonis provides an excellent overview of the planning and deployment of the tens of thousands of American soldiers to Saudi Arabia during the first months of DESERT SHIELD. He skillfully illustrates how he built a logistics infrastructure with both active duty and reserve personnel. Pagonis lavishes praise on the Army's Total Force Concept, which provided so many personnel from the Army Reserve side of the house, but he contends that, while this system worked extremely well during the war in the Persian Gulf, some of the more important elements of the Army's Combat Service Support (CSS) capability should be put back into the active Army. This reviewer disagrees. It must be remembered that any future conflict will be what Pagonis calls "a come-as-you-are party," denying the Army its critical CSS capability due to the legal ramifications of activating the Reserves. In this age of sudden mid- to low-intensity conflicts, the reserves of all services will serve as an important "pool" for the active side to draw upon, as was seen during DESERT SHIELD/DESERT STORM. This alone should guide future Army contingency planning by forcing Army planners to ask the critical question, "What role will the reserves play, if any?"

General Pagonis's *Moving Mountains* represents perhaps one of the better books on the Gulf War since it blends the logistical element into the strategic, operational, and tactical concerns faced by men who planned the successful ground war. Despite

this, the book remains too parochial; it tends to concentrate on the Army's role and ignores the other services and members of the Allied coalition who played just as critical a role. For instance, little mention is made of either the U.S. Marine Corps' unmet needs for JP4 fuel for its LAVs and Amphibious Assault Vehicles (AAVs) and the constraints that were placed on it just as the ground war was about to commence. General Pagonis likewise makes little mention of the shortage of spare parts that occurred as a result of the centralization of the logistics effort in Southwest Asia. The issue of logistics in any future war will require addressing in this era of jointness. As one Marine Corps study states, "Had Iraqi military forces been more aggressive in their defense, the lack of equipment, spare parts, and the frequent need to improvise modifications on their armored vehicles would have held disastrous consequences for Marine armored units." *Moving Mountains* does mention that the Air Force came with its own support infrastructure during the Gulf War because its logistical needs are different than that of the Army or Marines. Despite this, however, the book could have been more specific on the problems associated with having three air forces in the theater of operations, each with its own unique requirements.

For the military historian and analyst, however, General Pagonis's book provides a vast historical perspective that clearly emphasizes the importance of logistics in warfare. The general is lavish in his praise of Alexander the Great and of the British 8th Army during its desert campaign of World War II. General Pagonis notes, for instance, that he utilized the precedent established by Field Marshal Montgomery, famed commander of the British 8th Army, in the creation of mobile supply depots. As the 8th Army advanced, so did the supplies necessary for sustainment in the desert. The general admits that "The notion of stripped-down, movable logistical bases was a compelling one, much more compelling, for example, than the fire bases of Vietnam." Pagonis says that perhaps the most significant book he read while preparing the U.S. Army for battle in the Persian Gulf was Donald E. Engels's masterful book, *Alexander the Great and the Logistics of the Macedonian Army*. What impressed him the most, he says, was the simple fact that supply was the basis of Alexander's strategy and tactics. Pagonis's astute knowledge of military history enabled him to organize and build the type of logistics system necessary to fit Schwarzkopf's "End Run."

General Pagonis's chapter on DESERT STORM, however, is one of the weaker chapters of an otherwise informative book. The general's overall conclusion is that the system worked with minimal problems, but as Marines and other Coalition members now admit, the logistics effort was not without its problems.

Military analyst Bruce H. Watson wrote in his *Military Lessons of the Gulf War* that, "Logisticians certainly provided Coalition forces with the sustainability necessary to achieve a quick and decisive victory..." Watson, however, points out one noticeable omission from *Moving Mountains* in that its author fails to discuss the "what-ifs" had Saddam Hussein's forces had been able to utilize their tactical air power or their SCUD missiles more effectively against the American logistical bases. Watson adds: "If the air situation had been one in which the Coalition did not enjoy air supremacy, then the Allies might have had problems. Certainly, they would not have enjoyed the luxury of dispatching long columns of nose-to-tail vehicles to travel along in daylight."

Moving Mountains, written under the auspices of the Harvard School of Business, is a book that does not confine itself to purely military matters. While it is not a book that can assist in the increase of sales or widen a company's existing market, it does, however, outline the basic principles of sound management and leadership that every manager and student enrolled in a Masters of Business Administration program should be familiar with.

Moving Mountains, however, is a book that all in the military and in the field of military history should read. Pagonis's book, like Martin Van Creveld's *Supplying War*, brings to the forefront the problem of creating a logistical system to suit the operational-strategic goals of a commander. The general's book does an excellent job in providing both an operational and historical context from which an officer can best determine his or her needs for a forthcoming operation. Besides being a "must read" for those individuals at the various Command and Staff Colleges, Pagonis's book should be read by officers and staff noncommissioned officers alike before going to the National Training Center or the Marine Corps equivalent at Twentynine Palms, California. *Moving Mountains*, similar in approach and content with that of James R. McDonough's *Defense of Hill 781*, is a book that transcends any one service and holds lessons for all to learn and put into practice.

SSG LEO DAUGHERTY III
The History Department
Ohio State University
Columbus, Ohio

Ordering Information for Fields of Armor

To order the **Fields of Armor** video tape, reviewed in the July-August 1994 issue, phone 1-800-635-6400.

Colonel Ira C. Welborn, Medal of Honor Recipient and Tank Corps Pioneer, Honored in Memorial Day Ceremony

by Captain (Major-Select), W. P. McLaughlin, USMC

Recently, I had the honor of attending a Memorial Day ceremony that highlighted a Medal of Honor recipient who is also a prominent figure in Armor history.

As an active duty advisor to a Marine Reserve unit in Gulfport, Mississippi, my mission is not only to train Reserve Marines for combat mobilization, but also to maintain a rapport with the local community. This is how I learned of Colonel Welborn's resting place here on the Gulf Coast.

My commanding general, Major General James E. Livingston USMC, was the guest speaker for the Biloxi, Mississippi Veterans Administration Hospital and National Cemetery complex's 1994 Memorial Day Remembrance.

General Livingston is an Infantry officer and a Medal of Honor recipient from the Vietnam War. As Commanding General, Marine Reserve Forces, headquartered in New Orleans, La., he was invited to speak at this occasion, honoring the dedication of a new headstone for a distinguished Army Medal of Honor recipient, Colonel Ira Clinton Welborn, Infantry, U.S. Army.

Local press commented:

"The ceremony singled out Col. Ira Clinton Welborn of Section 12, row 4, grave 12 as one of the nation's highest military honorees for valor during the Battle of San Juan Hill on July 2, 1898. On Monday (30 May 1994) there were no flags or floral arrangements atop his grave, but there was a new marker bearing a small gold replica of the Medal of Honor. (Author's note: This was written prior to Senator Cochran and Mrs. Elizabeth B. Welborn, daughter-in-law paying their respects at the grave. The national colors were placed to honor Colonel Welborn).

"Officials learned in the last year that he received the Medal of Honor during a distinguished military career that ended in 1932."

Colonel Welborn was a member of the West Point Class of 1898. Assigned to the U.S. 9th Infantry Regiment, as an Infantry company commander, 2LT Welborn participated in the Santiago Campaign, the Battle of San Juan. He was also recommended for two brevets for gallantry in the Battle of San Juan, July 1-2, 1898. During this battle, 2LT Welborn voluntarily left shelter and went under fire to the aid of a private of his company who was wounded. For this action, he was awarded the Congressional Medal of Honor.

Colonel Welborn's later military career included further combat in the Philippine Insurrection. Although not as well known as other pioneers, his influence was profound in the infant stages of the Tank Corps.

"...On 5 March [1918] the Secretary of War appointed LTC Ira C. Welborn, an Infantry officer awarded the Medal of Honor during the Spanish-American War, to serve as director of the Tank Service in the United States."¹

As a mentor to a young Army officer, Dwight D. Eisenhower, Colonel Welborn also had a profound impact on another generation of fighting men in the Second World War.

Colonel Welborn, as a combat experienced officer, gave the administrative oversight to produce tanks and train young soldiers to fight in France. He also had the foresight to believe that this new technological invention, would require technically competent officers. He endorsed the commissioning of Tank Corps enlisted soldiers into the



officer ranks to provide young, proficient, bold leaders with firsthand experience.²

Although Colonel Welborn eventually returned to the Infantry, his impact on the "young Turks" of the World War I Tank Corps was felt for years to come.

Endnotes

¹ *Treat 'Em Rough, The Birth of American Armor 1917-20* by Dale E. Wilson, 1990, Presidio Press, p. 31.

² *Ibid.*, pp. 64-69, 82, 209, 217.

I would like to credit the following individuals: Mr. Charlie Byrd, National Cemetery, Biloxi, Miss.; Mr. Scott Taylor, ACAP, Ft. Knox, Ky., coordinator for dedication of Welborn Hall 1992; and CWO4 Weisneck, USMCR, Marine Reserve Forces, Public Affairs Office, New Orleans, La.

Captain (P) William P. McLaughlin was commissioned through the NROTC program at The Citadel in 1983. He served in 2d Marine Division (MD) as a plt. cdr. and S-3A to include a deployment as the assault amphibian vehicle plt. cdr. for Marine Detachment, United American States XXVII to South America. He served as a rifle plt. cdr. for Fleet Anti-Terrorist Security Team Company and later as its XO and weapons plt. cdr., completing his tour at Marine Corps Security Force Battalion as the Security Force Training Center's training and operations officer. After completion of AOAC at Ft. Knox, he served as CO, D Co., 2d Assault Amphibian Battalion, 2d MD. He deployed with his company to Southwest Asia and supported the 6th and 8th Marines, and also 2d Tank Battalion during the ground offensive. He also served as a U.N. Observer in the Western Sahara. He also served as the CO of HQSVC Co. and is presently the inspector-instructor for 4th Plt. (Rein.) Co. A(-) 4th AA BN, 4th MD, FMF, USMCR. He has been selected to attend the Marine Corps Command and Staff College in 1995.