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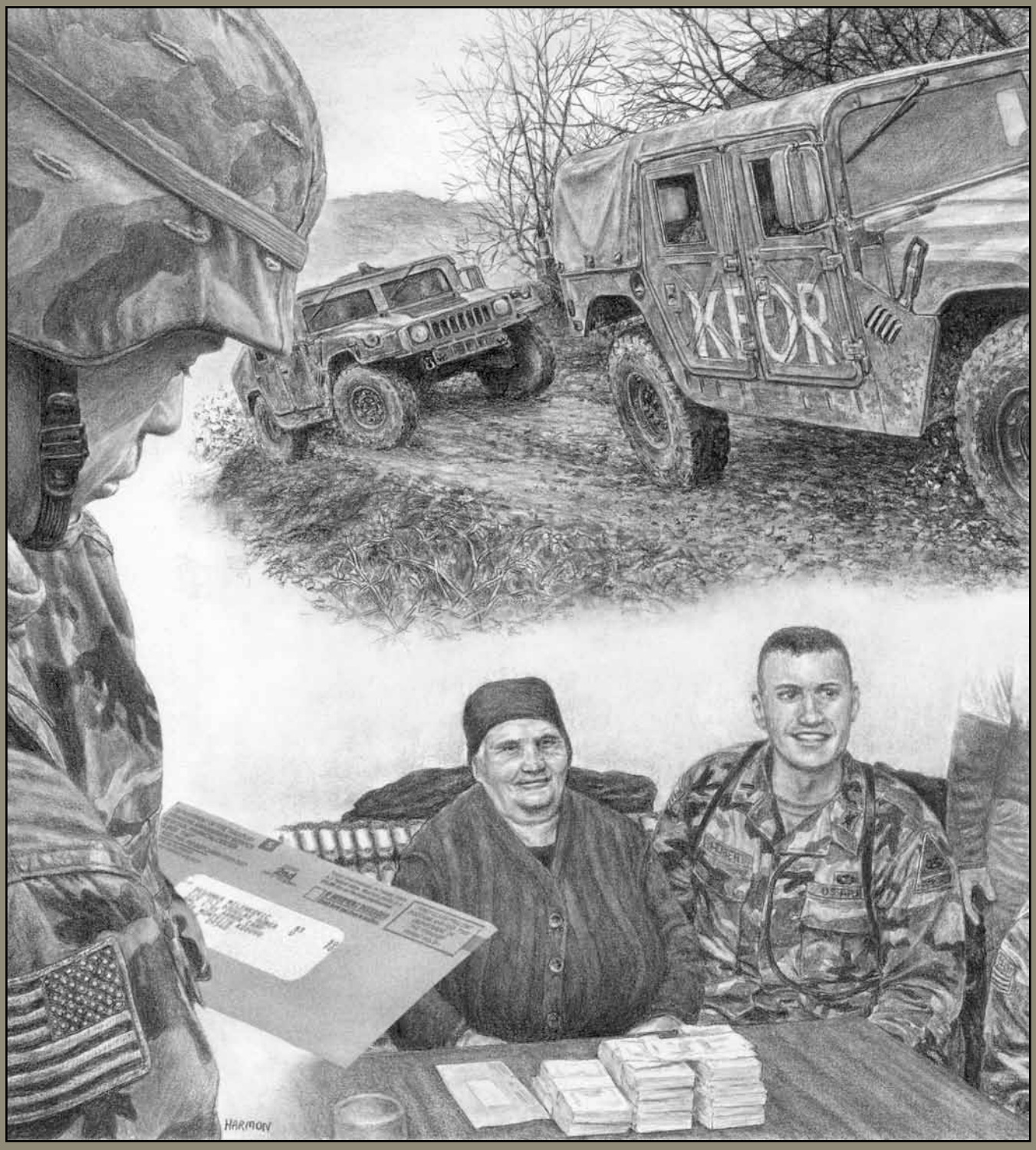

Mission to Boljevce: ***The Check Was in the Mail...*** *See Page 7*

PB 17-01-3 ***May-June 2001***

Saddle Up... Tonight We Ride

"Behold the brown-faced men, each group, each person a picture, the negligent rest on the saddles...." from *Cavalry Crossing a Ford* by Walt Whitman

Our last issue reported the jumping of our TOC, "*ARMOR* Magazine to Move Across Post." Jon Clemens noted that our previous home, the John Lannen House, was named for the 3rd Cavalry sergeant who posed for Frederic Remington's sketch of a mounted cavalry trooper, circa 1898. However, I suspect most mounted warriors know John Lannen better by his alias, "Old Bill," and while most of us know well Old Bill's visage, few know the story behind the famous image, or much about the man.

LTC William Gardner Bell, former *ARMOR* editor and historian, wrote, "Of the fine artists who turned their talents to painting the Great American West, Frederic Remington comes perhaps closest to being the United States Cavalry's own." The mounted fraternity recognized this kinship and made the artist a life member of the U.S. Cavalry Association, predecessor to the current U.S. Armor Association. Remington was also a close friend of Captain F. H. Hardie, who commanded G Troop of the 3rd Cavalry Regiment. Remington visited Hardie and his troop near Tampa, Florida in 1898, when the troop was preparing for movement. The Spanish-American War had begun, and G Troop was to take part in the Santiago campaign in eastern Cuba. Also heading that way was Remington, who would draw scenes of the war for *Harper's Weekly*.

During his visit, Remington was struck by the sight of the mounted John Lannen, an NCO from G Troop. "...Remington noted the ease and grace with which Sergeant Lannen rode and selected him as the most perfect type of the American Cavalryman he had ever seen. At this time Sergeant Lannen's hair and mustache were white. He had blue eyes and a dark, ruddy complexion. He was a superb horseman. His horse was his friend and comrade," said Lieutenant Colonel F.H. Hardie in a letter to the Editor of the *Cavalry Journal* in 1911. From Remington's rough sketches of Lannen in Florida, two finished works were produced and presented to the *Cavalry Journal* in 1902. The first, a sketch of a frontier cavalryman, appeared on the front cover of the Journal in 1903 and would ride in that position for another 40 years. The second sketch depicted the rear view of a cavalryman riding away and appeared on the magazine's back cover for many years.

I'm not sure how Remington's depiction of John Lannen became known as "Old Bill." One theory is that "Old Bill" was actually Lannen's horse. Others argue the horse's name was "Scout." I'm not sure of this either, but that's a great name for that particular horse! Not so, says Major William K. Emerson in his 1978 *ARMOR* article. Emerson's research reveals that John or "Jack" Lannen was an alias for Canadian William Carroll, who borrowed his mother's maiden name when he enlisted in the Army. Emerson adds that the use of an alias to enlist was common in the late 19th century when many considered Army service undesirable and immigrants filled the ranks. Lannen was an immigrant, too, having migrated from Prince Edward Island, where he had been a carpenter. He enlisted in New York City.

Most telling about John Lannen/Old Bill are the words of his former commander, Captain Hardie:

"Aside from his horsemanship Lannen's most marked characteristics were his loyalty to his organization and his unfailing good humor under trying conditions. Ordinarily a stern disciplinarian, he was always ready with a smile and a jest when roads were muddy, skins damp and cold, and rations low. He accepted hardships as part of his day's work. There are too few of his kind. He was the epitome of soldier and cavalryman."

I imagine that Lannen, a.k.a. Old Bill, was both a good man to ride with and to share hard times with; certainly he is someone well suited to symbolize our heritage of mounted warfighting. Like hundreds of other soldiers in that fight, Sergeant Lannen contracted yellow fever and died at Santiago in 1898 after spending almost thirty years faithfully serving his country. Lannen's memory and legacy as a mounted warrior ride on.

I'm certain others can furnish varying accounts and tales of Old Bill, but I'm not certain there will ever be a complete, definitive history, and perhaps that's as it should be. Myths and mysteries should not be too specific, after all.

— D2

Our thanks to several authors who documented the Old Bill/John Lannen saga and thus passed on his legacy over the course of ARMOR's 113 years — Colonel C.A Seoane, William K. Emerson, Lieutenant Colonel William Bell Gardner, and Lieutenant Colonel F.H. Hardie — Ed.

By Order of the Secretary of the Army:

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Chief of Staff

Official:

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Secretary of the Army

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LETTERS

Book Was a "Rough Draft" of a Much-Needed Capability

Dear Sir:

We appreciate LTC Eden's effort in reviewing our book, *Air-Mech Strike: 3-Dimensional Phalanx* in the March-April edition of *ARMOR.* Being simple soldiers and not English majors, we did the best we could in a very short period of time, and we apologize to readers for any shortcomings in style and editing. LTC Eden got the important point. Air mechanization is an approach to land warfare that we have ignored too long. While we may not have the ultimate solution for equipping, organizing, and fighting the air-mech team, we did collect what we determined to be the best ideas available on the topic today. And we did demonstrate how we could achieve this capability in the short run.

At the time we wrote the book, many issues regarding the interim force were still unsettled and there may still be enough flexibility to influence the interim force approaches to the 82nd and 101st Airborne Divisions. We definitely would like to influence decisions about the "objective force" and the Future Combat System (FCS). We felt it was important to gather the air-mech history and background in one book. We looked at how other armies have approached the concept, and we have laid out some thoughts on how to proceed in the near term.

Much has happened since we wrote the book. The Army has been experimenting with air mechanization in its futures war games. Objective Force brigades and divisions in the Army's up-coming VIGILANT WARRIORS 01 exercise, set in 2015, have air mechanized capabilities. They will deploy rapidly by C-17 and wide-bodied jets as well as high-speed, shallow-draft shipping and vessels. The Future Combat System will have air-mech capabilities and will conduct vertical envelopments with brigade and division-sized forces. There is a growing acceptance of the fundamental reason for air mechanization. Future interventions will begin with offensive operations and operational maneuver from a continent away. Entry will be difficult, but it will need to be rapid and not limited to predictable points of entry and terrain choke points. Those in the Army and outside who have war-gamed and analyzed the tactics and concepts of employment of the Interim Brigade Combat Teams in a Kosovo terrain scenario know the challenges of limited narrow valley approaches. We believe we really have no choice but to pursue this capability if we are to remain a relevant force.

We know that there will be challenges. Armored warfare also faced challenges. The officers of Armor branch solved those over time. There are many who will point to the cost and dangers of air-mech operations. If, in the late 1930s the U.S. had conducted a study of tank attacks against integrated anti-tank defenses, we would never have formed armored divisions. Air-mech is nothing more than continuing the lead of the maneuver warfare prophets by integrating vertical envelopments into large-scale maneuver that includes heavy ground maneuver forces.

We encourage the readers of *ARMOR* to watch for a series of articles [in *Army* in April, May, June; the March *Armed Forces Journal International* ("Full Spectrum Transformation - Now"); and the April *Military Review*] by two members of our group, BG (Ret.) Wass de Czege and BG (Ret.) David Grange. BG Wass de Czege writes about the future challenges of power-projection, offensive combat, and force protection. This trilogy discusses operational maneuver from strategic distances and the challenges of non-linear operations. He places air-mech operations in a larger joint and operational context. BG Grange describes how the Army can have an air-mech capability now using existing equipment to overcome the tyranny of restrictive terrain like he faced recently as commander of the 1st Infantry Division preparing to invade Kosovo. Further, in the April issue of *Military Review,* BG Grange explains how a 3D air/ground maneuver force can combine the synergy of combat systems to provide capabilities to commanders.

A key point of our book was to advocate. We believe that the U.S. Army needs to begin working on air-mech concepts soon. And we believe that an important transformation goal should be to the ability to insert one air mechanized division to operational depths in one night by 2020. Our views will mature as more join in the discussion of whether, when and how we pursue this goal. There will be other army priorities, but air mechanization will never be a reality until a consensus forms within the Army itself. Armor branch emerged during the 1930s. This was a period of miniscule army budgets, but concerned army personnel made enough conceptual progress that when the funds became available, the leaders of Army had a blueprint. We don't claim to have the blueprint. We have a rough draft (and a very rough draft, according to your reviewer). We need your help to improve it. Better yet, the Army itself needs to improve on it.

BG DAVID L. GRANGE, U.S. Army, Ret.
BG HUBA WASS DE CZEGE, U.S. Army, Ret.
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CAROL A. MURPHY, Computer Specialist

U.S. Troops Were Also Attacked Where GM 100 Met Its Fate

Dear Sir:

CPT Luedeke's article ("Death on the Highway: The Destruction of *Groupement Mobile 100*," Jan-Feb 2001 *ARMOR – Ed.*) hit home on a very personal basis with this old tanker. I had the good fortune of participating in the history honors program in my junior and senior years at Western Michigan University, a program requiring an honors thesis to graduate. The topic of my paper was "Vietnam....America's Future 'Street Without Joy'?" During my research in 1963-64, I had the distinct honor of interviewing and befriending Bernard B. Fall, renowned author of perhaps the most descriptive and accurate tomes on the French Indochina War: *Street Without Joy; Hell in a Very Small Place; Last Reflections on a War*, and others. Then a professor of International Studies at Howard University, Mr. Fall kindly afforded this fledgling historian some gritty, eye-opening visions of the war in Vietnam, what was and was to be. My thesis was a critical historical analysis of French strategy and tactics, especially as they involved small unit actions and the evolving Maoist approach to 'Revolutionary War' or guerrilla warfare. (Bernard Fall was killed on QL 1 in February, 1967.)

Little did I know that some three years hence, I would find myself explaining the tall, stark, white obelisks along what was known in 1967 as QL 19, dedicated to some unit called *Groupement Mobile 100,* to my tank crews. As I read the bronze plaques and described to them the actions in that place, the hair on my neck literally stood on end. Here, I was responsible for the relative security of this road on the same bloody ground where GM 100 bled its last. My tank platoon, 1st Platoon, A Company, 1st Battalion, 69th Armor, had been given the mission of securing the section of National Highway 19 between Mang Giang (Yang) pass (or old PK 22) and what was known as Bridge Check Point 25, beginning 7 December, as a lead-on force for the ultimate displacement of A Company and the battalion forward element to LZ Schuller and An Khe respectively. We provided daily strong points and reaction forces in support of the 60 or so daily convoys running between Pleiku in the Central Highlands and the coastal port of Qui Nhon. We called it 'ambush alley,' because the Viet Cong and North Vietnamese Army forces who cohabited the area with us chose to impede the progress of at least one convoy daily. The importance and need for our mission was constantly reinforced to my crews as they passed by the shattered hulks of the M24 tank platoon from GM 100.

The 95B Battalion of the NVA 95th Regiment attempted to repeat the events of 1954 with an attack on a U.S. Ordnance convoy on 10 April 1968, at almost the same location where GM 100 was destroyed. At that point in time, the entire force of A Company, with two additional tank companies within calling distance, was available to react to any road contingency in the area, indeed a far cry from the poor state of affairs facing GM 100, without air or artillery support, or any form of ground reinforcement. As A Company XO, I couldn't help but again reflect on those long past events, making it real scary at the time the action unfolded. However, A Company, 1/69 Armor was not GM 100 and all but destroyed the 95B Battalion as a fighting force, leaving nearly 300 enemy dead near PK 18 and 19. Indeed, I and many others had done a lot of hard swallowing during those months we worked that AO. The *Stars and Stripes* reporter who was in the area on 10 April asked me if I knew of the French GM destroyed there. That was some real heart-in-throat time for us all... but history did not repeat....

Speed and Power!

JIM WALKER
President
69th Armor Association
LTC, AUS (Ret.)

Why Choose the LAV, When M113s Are Already "On the Shelf"?

Dear Sir:

Roll on!? I find it mind-boggling that the LAV III has been selected to equip the new "medium" brigades (See "Roll On! Army Selects LAV III Variants to Equip New Interim Brigades, Jan-Feb 2001 *ARMOR*. –*Ed.*) While the LAV III family does provide some quite desirable characteristics — such as higher road speed, better fuel economy, and simplified maintenance requirements — it is also notably deficient in some traits that would seem vital to what is supposed to be a "full-spectrum" force.

Perhaps the most glaring deficiency is the relatively poor off-road capability exhibited by armored cars throughout the history of mechanized warfare, and — more importantly — by the LAV III during the evaluation process. A cavalry squadron commander was quoted in *Jane's Defense Weekly* as saying, "We've been surprised with the LAV IIIs where they've got stuck ... We thought it could go anywhere. [But] you've got to be very selective with where it goes." Does that sound like acceptable mobility for full-spectrum operations?

The LAV III Mobile Gun System employs the so-called "Low Profile Turret" developed for the XM8 program, not the conventional turret created for the USMC LAV Assault Gun. The Low Profile Turret (a misnomer, since the profile is actually taller than conventional turrets — "Small Frontal Area Turret" would be a more accurate descriptor) was previously rejected by the Army because half of the vehicle commander's field of view is blocked by the main gun. This design flaw was unacceptable a decade ago — why is it now okay?

At last report, the first brigade is not expected to be fully equipped with LAV IIIs until mid-2003. Had the M113 family been chosen, the medium brigades could have been formed immediately, from the existing inventory, ready to serve without delay. Why adopt an "off-the-shelf" system that will take years to get into service?

It is true that the LAV III offers better ballistic protection than does the M113, but the greatest threat in urban combat is not from 14.5mm machine guns, it is from antiarmor weapons like the RPG-7, which can easily punch through the LAV's applique armor (both LAV III and M113 require bolt-on armor to defeat the RPG threat). Is the LAV's heavier standard armor incurring a substantial weight penalty with minimal practical benefit?

Because the M113 (even with anti-RPG armor attached) weighs less than the standard LAV III, more M113s can be transported by each C-5 or C-17, thereby greatly increasing the ground combat power delivered per aircraft sortie. And isn't the whole idea behind the medium brigade concept to "get there fustest, with the mostest"?

When the Abrams was developed, fuel consumption was sacrificed in order to create the best possible tank for defending against an anticipated Soviet attack through the Fulda Gap. The decision to not use a fuel-efficient diesel engine later resulted in a severe strain on logistics during the large-scale ground offensive of Desert Storm. Today, the LAV III has been selected (at least in part) because it delivers excellent fuel economy, but at the expense of off-road capability. Will this decision also prove to be somewhat shortsighted and costly?

STANLEY C. CRIST
Lancaster, Calif.

Essay on Redefining CSM's Role Relates Best to Maneuver Units

Dear Sir:

CSM Jim DePriest's and COL Randy Anderson's essay, "Redefining the Role of the Command Sergeant Major in a Tactical Environment" in the March-April 2001 issue is a "must read" for mounted maneuver commanders and noncommissioned officers. They have clearly identified a hole in "How-to-Fight" doctrine, and have then recommended a solution. I believe that battalion commanders and their wingmen could use this as a guide to train and fight their formations. The authors' critical sites and leader tasks have been proven by their personal execution at numerous NTC rotations.

The USASMA Sergeants Major Course and the Command Sergeants Major Course are developed for the entire Army, and I believe this essay is only applicable for mounted maneuver outfits. Saying that, I would not recommend training the entire Noncommissioned Officer Corps. I would recommend that division and brigade CSMs use this or something of their own design to train the battalion CSMs until there is an appropriate doctrine developed. Their comments on leader books as a training management tool are a breath of fresh air. We all should reread *FM 25-101.*

JOHN BECK
CSM, U.S. Army

Three-Tank Platoons Raise Control, Deployment Questions

Dear Sir:

I must respond to the article "The Three Tank Platoon, A Consideration For Army XXI." (See March-April 2001 *ARMOR*. –*Ed*.) I must admit, I was trying to be objective when reading the article. The gentlemen who wrote the article make a compelling argument if you are a logistician, but as an Armor officer I find a couple of faults with their article. The first is the argument that armor platoon leaders will have an easier time controlling three tanks as opposed to four. I feel that there was no credible evidence to this argument. I have been a tank platoon leader with four tanks and a scout platoon leader with six Bradley CFVs, and I never had any problems controlling them. A greater problem, as I see it, is over-reliance on the digital suite on the M1A2, which cripples the platoon leaders when it goes down. In my opinion, we seem to be selling short the splendid armor lieutenants that we are producing. I have yet to have the opportunity to command M1A2s, but I do know how to track and control all the tanks I had as a platoon leader.

The next issue I had is deployability. When deploying an M1A2 on a C-5, you can fit only two on the airframe. Hmmm, something tells me that either way you will not have much capability in the event of separation on the airfield. You will have two tanks from one platoon together and the third one landing on the same bird with a tank from another platoon. I smell confusion in consolidation, especially if the airfield is compromised in any way. With the four-tank platoon you have two sections; at least they can defend much easier than two crews that have never functioned together before.

My last point is about the successful implementation of the three-tank platoon by the Swiss Army. When did they go to war with a three-tank platoon? I must have been sleeping during that one. Successful implementation comes from combat experience, not

Continued on Page 46

Mounted Force Initial Entry Training Update

by Major General B. B. Bell, Commanding General, U.S. Army Armor Center

While we are deeply engaged in Army Transformation, the most crucial element of Fort Knox and the Armor Center's mission remains the preparation of mounted force warriors for full-spectrum combat operations. The First Armored Training Brigade (1ATB), "America's Iron," does a really outstanding job preparing our initial entry scouts, tankers, and mechanics for service with field units. We should all be very proud of the job they do. This month's Commander's Hatch will update you on the exciting work going on these days in 1ATB.

Scouts. To say the least, 19D One Station Unit Training (OSUT) is a growth industry! First, we expanded the 5th Squadron, 15th United States Cavalry from five to seven Cavalry troops this past year to provide enough scouts to man TO&E units at 100% strength as well as to support the growing Interim Brigade Combat Team (IBCT) mission.

Second, we created a 19K to 19D reclassification program to support the first IBCT at Fort Lewis. This redistribution effort will provide critical NCO leadership as we form the new Reconnaissance, Surveillance, and Target Acquisition (RSTA) Squadrons.

Third, we continue to update our Program of Instruction (POI) to include the latest equipment. In the near future, scouts going to units equipped with the new M3A3 Bradley Cavalry Fighting Vehicle will receive a six-day block of instruction on the vehicle upon completion of their initial entry training. Additionally, we've developed a training plan for the Long Range Advanced Scout Surveillance System (LRAS3), a super system now coming on line.

Currently, we provide intensive training on the Army's latest technology, including the Javelin anti-tank weapon system and the Advanced System Improvement Program (ASIP) SINCGARS radio. We've also greatly upgraded call-for-fire training with the addition of the state-of-the-art GUARDFIST simulation system. These improvements ensure that as the number of scouts trained by 5-15 Cavalry increases, so does the quality of training.

Tankers. The requirement for every armor crewman to qualify with the M-16 rifle in addition to the 9mm pistol is the most notable recent change to 19K OSUT training. Many armor soldiers now serve as peacekeepers and peacemakers throughout the world and carry the M-16 rifle. Successful completion of M16 Basic Rifle Marksmanship (BRM) training gives today's tanker the competence and confidence necessary to complete all missions. This is also a soldierization issue which ensures our great tankers have the same basic combat skills as their infantry counterparts. Additionally, we recently completed a TRADOC review of our tank driver's training program that combines live driving experience with rigorous virtual training in our Tank Driving Simulators (TDS). Poole Hall, our TDS facility, is the only one of its kind in the world and continues to help us produce skilled drivers cost effectively. While we do not license our graduates, our program of instruction ensures the field receives a highly qualified apprentice driver who can quickly be trained and licensed.

Mechanics. Not only has the way we train our scouts and tankers improved, but we've updated our mechanic training as well. We no longer train separate turret and hull mechanics for the Abrams and the Bradley (MOSs 63E, 45E, 63T, and 45T). Instead, we now produce Multi-Capable Mechanics (MCMs), MOS 63A for the Abrams and MOS 63M for the Bradley. In addition to both hull and turret instruction, MCM graduates are also trained in selected direct support tasks that the Armor Force requested. We are also conducting MCM transition training for Skill Level 1 63/45Es and 63/45Ts. MCM transition training began in FY00 with the 4ID and continues in FY 01 with 4ID and 1CAV. Additionally, mechanics receive training on the M88A2 Hercules and the Forward Repair System (FRS). The FRS is loaded on a Palletized Load System (PLS) truck and has a 30 KW generator, an improved air compressor with air tools, and complete welding support. The Hercules offers improved survivability, a more powerful engine for better towing capacity and greater lifting ability, and a stronger main winch. We have also reinvented our 63A/M end-of-course Field Training Exercise. It is now a four-day, scenario-driven, all-weather, mounted FTX. Soldiers graduating from MCM Advanced Individual Training now get the full experience of troubleshooting and repairing real Bradleys and Abrams under difficult field conditions. When possible, BNCOC students are given leadership positions during these FTXs, making this a true multi-echelon training event. All these initiatives help ensure we send the best-trained mechanics possible to the field.

The 1ATB's primary focus is to develop skilled, highly motivated, physically fit, and well-disciplined warriors for the mounted force. Over the last two months, we have analyzed feedback from the field on how well our graduates are performing. A compilation of this feedback, as well as the complementary adjustments to our training programs, can be found at the Fort Knox web site at *http://knox-www.army.mil/*. After reading the results of the survey, I urge you to explore 1ATB's webpage to gain a fuller appreciation of the hard work and dedication it takes to turn a civilian into a soldier.

FORGE THE THUNDERBOLT
AND STRIKE FIRST!

TRADOC Assignments Can Broaden a Career

by CSM Carl E. Christian, Command Sergeant Major, U.S. Army Armor Center

In this issue's article, I'd like to share some insights about TRADOC assignments and how my impressions of them have changed since I arrived at Fort Knox. Many soldiers and NCOs feel cold chills running down their spines when they receive orders sending them to a TRADOC assignment at a post like Fort Knox, Kentucky. I was even one of them!

I asked myself many questions: "What had I done? Why did I have to be the one to go? Did my records look so bad that the assignment personnel at Armor Branch decided that I was already ALL I WAS GOING TO BE in this Army, so they sent me here?" When I received a phone call from my sponsor telling me that I was a valued asset, and that I had many good things to offer to the TRADOC Training System, I thought to myself, that must be the standard party line, code for, "Gotcha! Another one bites the dust."

After being here now for two years and being very involved in the TRADOC Training System, I can say I was as wrong as wrong could be about branch assignment personnel trying to end careers. In fact, it is exactly the opposite. I can only speak about what I have observed from the foxhole here at Fort Knox, but I believe that much of what you are about to read holds true at most any TRADOC assignment.

The Armor Branch NCOs manage the force in accordance with set guidelines. These guidelines can be found in the promotion board guidance that guides selection of the senior Armor NCOs, and the Armor Enlisted Career Map that shows all enlisted grades 'a way' to manage their career's in assignments, schools, promotions, and training. Both the promotion board guidance and the Career Map are on the Office of the Chief of Armor (OCOA) web site on the Fort Knox Home Page. When making assignments, the branch ensures that a soldier's assignment is complementary to the potential for advancement in accordance with the documents stated above.

Most of us feel we need to stay with troops if we want to be competitive for advancement. The map also recommends seeking and working in tough assignments. But the guidance also says that the Army needs soldiers who have performed well in varied types of assignments, read TO&E to TDA to TO&E. Tough assignments exist all over the Army, to include TRADOC. TRADOC assignments are good career builders, provided you do not do back-to-back TDA assignments.

But why are TRADOC assignments good career builders? Most soldiers and leaders know that TRADOC installations do training because we all went through these posts in Basic, Advanced Training, One Station Training, the Officer Basic or Advance courses, and training in the NCOES system. But did you also know that NCOs assigned to TRADOC also work in the Total Army Training System (TATS)? They work to ensure that reserve and active training supports our One Army. And Army transformation? TRADOC has the lead in laying out the Army's new path. There are many challenging assignments in TRADOC that are extremely vital to our Army. In the directorate that deals with future developments, the Directorate of Force Development (DFD), NCOs are directly involved in developing what the future combat fighting systems will look like and how they will perform. Others work on what future soldiers will wear or some of the equipment that integrates with the current and future platforms. Still others are working at modernizing current combat systems. At the Mounted Maneuver Battle Lab (MMBL), NCOs are helping model and work simulations for future ideas. In the Directorate of Training Development (DTDD), NCOs are writing the doctrine we are currently using, as well as writing the doctrine for the future. Also, NCOs are key advisors with industry in the development of new simulator training systems. And still others are developing new training methodologies that are helping to revolutionize the way we can do training and evaluations.

I can go on, and there are many more things that are going on here, but the bottom line is that being assigned to TRADOC here at Fort Knox provides you the chance to have an impact on what will happen to our Army in the years to come. If you have been in the line units, I need you to share your experience with the whole force, seek an assignment to Fort Knox or to other TDA positions. They will be both challenging and rewarding. If you are completing a TDA assignment, then get back to a TO&E organization to empower your troops with the knowledge you have gained working a TDA position.

Wherever you are, continue to make this the best Army in the world and remember to:

"FORGE THE THUNDERBOLT, BECAUSE TODAY IS THE BEST DAY TO BE A SOLDIER."

The Check Was in the Mail...

Mission to Boljevce

by Captain Douglas Huber

As members of Tactical Support Team 5, the Civil Affairs team that supports 1-35 Armor in Kosovo, we went up to the village of Novo Brdo to a meeting with the local "municipal coordinator" and representatives of some non-governmental organizations that are working there. We talked about some of the projects that were underway to improve life in this village, a tiny spot north of Gnjilane and east of Pristina. Before the meeting was over, we asked Ed Tawil, the municipal coordinator, if he had any further problems to discuss.

Tawil brought up the case of Desanka Milenkovic, a 91-year-old woman who had not been receiving the Social Security checks she was due. She had become eligible for the monthly payments because her husband had worked in the United States before he passed away in the late 1970s.

Among the casualties of the Allied bombing and the internal conflict in Kosovo, there was a breakdown in the province's postal service. Mrs. Milenkovic had not received a payment since around May 1999. After I volunteered to try to help her, Tawil gave me her form, a "Social Security Award Certificate" dated October 1979.

Once back at Camp Monteith, my first stop was the Information Superhighway, where I looked up *www.ssa.gov*. How I remembered that this address was the Social Security Administration Web Page, I will never know. Anyway, I got on the web site, found a 1-800-number, and called on a DSN line. It took me the better part of 15 minutes to get an operator, but once I did, Operator 2 from MacDill Air Force Base patched me through. Finally, on the other end, I caught the last three seconds of an English recording that quickly morphed into Spanish. The only part of the recording I understood was the dial tone at the end, just before it hung up on me.

Back to the Web! I looked up the local offices in Washington D.C. I found a 1-800-number. But it was the *same* as the other one that I'd found earlier! So, I looked up a branch in Dayton, Ohio. Again, it was the same damn 1-800-number! Moral: don't go to .gov sites if you want info. So, I turned to yahoo.com and went right to the yellow pages, typing in 'social security administration.' Once there, it asked me for a city, so I typed in Washington, D.C. and hit 'Enter.' Ten listings came up, all for 'US Social Security Adm.' I now had a real phone number, not 1-800-blow-you-off. The first listing was in Baltimore. That seemed close enough to Washington, close being a relative term. I called directly. Here are some excerpts of the phone call:

Commissioner (at least, that's how he introduced himself): "Commissioner." (See, I told you.)

Me: Hello sir, my name is Lieutenant Huber and I am calling from Kosovo. I am the civil military affairs officer for my battalion and I am calling about a situation we have here in Kosovo. (At this point, I explained everything about the meeting, and the woman, and the memo).

Commissioner: Let me have the claim number.

Me: Sure, its... (I read him the number.)

Commissioner: Uh, yes. I see. I don't think I can help you with this. Let me transfer you. Stand by.

Me: Thank you (I said to a ringing phone).

Some Woman (She also did not introduce herself): Hello?

Me: Hello, my name is Lieutenant Huber …. (I explained about the meeting, and the woman, and the memo, and how I was transferred).

SW: Okay, can I have the case number?

Me: Sure, its....

SW: Yeah, I don't think this is my lane, let me transfer you to International Claims.

Me: Thank you. (I don't know if she heard me, either.)

Some Guy: Hello?

Me: (Once again, I mentioned the meeting, the woman, the memo, the transfers …)

SG: I know I am going to have to transfer you, but stay on the line so I can get you to a real person.

Me: Thank you. (At this point I hear ringing, then voice mail; ringing, voice mail; ringing, voice mail.)

SG: Hold on, I am still trying to find someone for you.

Me: Thank you. (At this point I hear ringing, then voice mail; ringing, voice mail; ringing, voice mail.)

SG: Still trying ….

Me: Thank you. (At this point I hear ringing, then voice mail; ringing, voice mail; ringing, voice mail.)

C.P.: (I am using her initials here to protect her. I will explain why later.) Hello?

Me: (One more time: me, Kosovo, meeting, woman, memo, transfers, voice mail …) Can you help me?

C.P.: I think so, what is the claim number?

Me: (Thinking, "Here we go again.") The number is ….

C.P.: Okay, what is the problem?

Me: This woman hasn't gotten Social Security in over a year and a half. Is there any way you can send money by wire. Believe it or not, there is a Western Union in downtown Gnjilane.

C.P.: Let me check.

(*Muzak playing ...*)

C.P.: I just checked with the claims manager and we don't wire money. We can set up an EFT (electronic funds transfer) to a neighboring country, but we don't do that in Serbia or Kosovo.

Me: That is going to be tough (At this point, I was trying to visualize how this 91-year-old woman would get to Macedonia or Greece).

C.P.: And there is no mail there?

Me: The only way that mail comes in and out of this country is by U.S. Army airplane or U.S. Army helicopter.

C.P.: What is your address?

Me: (I gave her my address).

C.P.: I guess I could send it to you and you could give it to her.

The conversation continued and C.P. said that she would send the check out right away. (I'm calling her by her initials here because I fear she might be fired if her bosses actually knew that she was extremely helpful and very patient with me and was one of the most sincere, caring, government employees I have ever dealt with over the phone, and — for those of you who know that I can be sarcastic — I really do mean all of that.

She even asked how it was that I ended up talking to her. I explained the cruel game of pass the buck in which I was the buck. She said that it was sad how people would do whatever they could to get out of work. I again thanked her for her work, help, and trust in a man she had never met and claimed to be calling from Kosovo. She did ask me to confirm the woman's age (following the Reagan mantra of "Trust, but verify."). But once I did that, it was a done deal.

After getting off the phone, I happened to look at the Award Certificate that I had gotten from Ed and noticed that it had come from the same Baltimore office in 1979! Amazing. I don't know if any other branch would have been able to help me. But I do know that they wouldn't have treated me like C.P. did.

Civil Affairs in Kosovo

While Mrs. Milenkovic's check wends its way to our unit's mailroom in Kosovo, let me tell you what an S5 does. My job is unique in that I work with, or for, *four* field grade officers. I report to the battalion executive officer, but I work with the S3 in order to execute the battalion commander's intent. Finally, the tactical support team (Civil Affairs) OIC is a major and I work with her to manage, supervise, coordinate, and execute humanitarian assistance in sector. (That may sound pretty ethereal, but the less you understand, the more leeway I have. Nice.) Anyway, I do everything from act as the Task Force Falcon Contracting Officer's Representative on humanitarian projects that the U.S. Government funds, to getting sheet plastic from non-governmental organizations for farmers who want to cover their barns. There is no such thing as a typical day for an S5.

The whole KFOR effort rests upon the success of the humanitarian mission. We can stand guard on checkpoints all day, ("On point for the nation," as we are fond of saying here in USAREUR), but until these people can get (and keep) jobs, and have a sustainable economy with a quality of life above that of most American street cats, then we are never going to leave because there will always be problems.

About two weeks later, I got the check from the Social Security Administration. Mrs. Milenkovic was owed 14,082 big ones in back SSA payments. Not bad for a country that has an average annual income of around $900!

We coordinated with Ed Tawil to meet him in Novo Brdo. We planned to cash the check and take the woman her money; the only problem was that we had no way of cashing the check. First, I decided to check out MicroBank, one of Gnjilane's more upscale businesses. The woman behind the (bulletproof?) glass said that if we wanted to cash a check from the U.S. Treasury it would take a while. Because (and this is how she explained it), the bank would have to send the check back through a clearing house which, in turn, sends it back to the Treasury Department, which then blesses off on the check. Then, once the money is released, it has to stay in an account. The poor woman could not just cash the check. I asked how much this "service" might cost, and the woman said they had just done this same type of transaction for someone else and there was a DM 580 fee on the $600 check. Doing the math, it added up to almost half the check! We decided to look elsewhere.

Next, MAJ Hermsen, the Tactical Support Team officer in charge asked our finance office if they could cash it. SSG Lizardi, the noncommissioned officer in charge, said he would have to make a phone call to confirm. Later, he called back with two enthusiastic thumbs up. We were ready!

We all met in the Civil Affairs office. It was me, MAJ Hermsen, SSG Selby, SGT Indra, SPC Zolle (all from CA), SSG Lizardi and SPC Delgato (of Finance, complete with locked briefcase), SSG Schafer of Public Affairs (because the Army likes good press more than God hates a coward). Then there was Mario, the Serb interpreter, who is actually from Macedonia (but, then again, none of the Albanians in this country are from Albania, either) and Val, our Albanian interpreter. We were ready to go. After a quick briefing by the major, we saddled up and rolled out the gate.

We traveled 40 minutes to Novo Brdo where we were to meet Ed Tawil and his interpreter. We got there 20 minutes early (that's just what the Army does) and waited for Ed. He arrived promptly at 10 a.m., but said he wanted to pick up Mrs. Milenkovic's cousin on the way. No problemo. As we pulled away from the building, I was thinking that I was about 5 minutes away from mission accomplishment, handing off the money and making one little old lady very rich indeed. Well....

Five minutes later, we approached a turnoff that didn't look too inviting. We were traveling in two regular HMMWVs, one "up-armored" Humvee, and Ed's four-wheel drive Range Rover. Leading the way, Ed struggled to get up the hill, as the road was cut deep with ruts. SSG Selby tried next, and her heavy HMMWV could not make it. We dismounted, found a bypass through someone's garden, and got back on the road. The road began to climb and turn, not a great combo when dealing with a vehicle that is almost 5,000 pounds and over 6 feet wide. "The road clears up ahead. The only bad part is this first kilometer," Ed assured us. Right!

After the first kilometer, the road still sucked. As we approached a bend, Ed's vehicle and the two light HMMWVs made it with no problem, but then came the heavier up-armored vehicle. It started to slide, finally coming to a stop in the clearing that was below the road.

As we were jockeying the HMMWV around in the clearing, we saw some people about 2 kilometers out and Mario said, almost to himself, "It looks like they are in uniform. Maybe TMK?"

TMK (or KPC, depending on your ethnicity), used to be the UCK, a group of Albanian insurgents that gained the upper hand after the allies began the bombing campaign that forced the Serbs to leave. We didn't pay much attention to them as we struggled to get the HMMWV back up on the road, but then Mario said, "I think they have weapons."

Uh-oh.

As they got closer, I saw that these unidentified people in uniform did, indeed, have rifles slung across their backs. I was really, really wishing that I'd carried binoculars. As they got closer, we discerned their nationality... they were Russian! Why would there be Russian soldiers in our sector? Ten or 15 years ago, I might have been a little worried (my grandfather still has a hard time digesting that we run joint operations with the Russkies) but, having worked with the Russians in Bosnia at Camp Ugjlivic, I greeted the three soldiers with a hearty handshake and a loud "Hello."

They spoke more English that I do Russian, so they said "Hello" back and asked, in Russian, what the problem was. Ed Tawil started speaking with them in their native tongue. They helped us get the HMMWV back on the road, but then we faced another hill. SSG Selby started up the hill, but again slid back off the side of the road and got stuck.

At this point, one of the Russian soldiers tapped me on the soldier and said, "Man!" as he held out his hands in closed fists, as if he was driving. I couldn't wipe the smile off my face as I told SSG Selby that the Russian suggested that a male driver might be better able to get up the hill. Her reply? "Sir, do you know how to say 'f___ off' in Russian?"

On that note, I explained to the Russians (through very eloquent hand and arm signals) that SSG Selby would keep driving and that we would push. MAJ Hermsen did a quick risk assessment that consisted of little more than a genuflect and a silent prayer. We pushed and the HMMWV slowly moved up the hill until it got to the top!

The Russians were ready to leave, but not before I got a picture. We all huddled around the Humvee that we rescued and about 16 cameras (both Russian and American) appeared to capture this Kodak moment. So, after the pictures and another round of hearty handshakes, the Russians set off on foot and we were ready to roll.

A souvenir snapshot records the unexpected meeting with Russian troops who helped push the up-armored HMMWV back onto this muddy Kosovo road. Ed Tawil is at far left, and Mrs. Milenkovic's cousin is kneeling beside the author, who is standing at far right.

As we traveled higher into the mountains, we were making pretty good time until we got to another rough spot. The first three vehicles made it up around the bend with no problems. I told SPC Zolle to stop at the top of the hill to ensure that SSG Selby and MAJ Hermsen made it up behind us. As I was about to get out of the Humvee, a voice came across the radio, "We're stuck." I walked back down around the curve to see the Humvee with its left rear tire hanging off the edge of the road. After checking out the situation, all we had to do was keep it in first gear and creep forward, then straighten out the wheel. Only I pushed this time.

We were back on the road, but the road was still not good. Only four more kilometers to go, Ed assured us. So we continued up. Then we went down. Then we went up again. Now, most of the road had a near-vertical drop of about 150 to 200 meters on the right side, so I suggested to SPC Zolle that it might be good to keep left. Just a thought. We were now, officially, in the mountains, although at one point the road seemed to smooth out and we saw a village on the next hilltop. We drove up to the village, then through it, and continued down the other side of the mountain before encountering another one. I would have to say that the road got worse at this point. Soup would be a good word to describe the consistency of the top six inches of soil.

Once again, the heavier HMMWV slipped off the road, but this was a tad more precarious than before, considering the aforementioned cliff. She managed to drive the vehicle back onto the road without loss of life or limb. Slogging along at the top of a ridge line, we finally saw the small village of Boljevce. For those of you without a map, don't bother looking in an atlas. For those of you with a map, if you are looking for Boljevce, start in the Russian sector, because that is where we ended up.

As we got out of the HMMWVs in front of the woman's house, Ed mentioned that she lives with some of her family. In fact, she lived with her daughter, her son, her granddaughter, and a couple of great grandsons and daughters. To be perfectly honest, I lost count at the second or third generation.

In what is typical of Kosovar hospitality, all 11 of us were invited into their small house. We dropped our boots off in the first room, proceeded to the dining room, and all sat around a big table. After brief introductions, we explained the purpose of our visit. There were a lot of flashbulbs going off (God bless PAO), coffee was brewed, and glasses of Rakia were poured. Rakia is similar to grain alcohol. (In America, we would call this moonshine, Everclear,

Above, Mrs. Milenkovic's cousin helps her endorse the Social Security check with an "X" and a fingerprint.

Above right, SP Delgado cashes the benefits check and stacks the bills on the living room table.

At right, Desanka, her Deutsche Marks, and the author.

Below right, Mrs. Milenkovic's extended family, NGO representatives, and LT Huber's party pose for a snapshot before returning to Camp Montieth, mission accomplished.

or jet fuel.) According to Ed, the village of Boljevce makes the best Rakia in all of Kosovo. Of course, I wouldn't know, since KFOR guys and gals shrugged off the hard stuff in favor of an orange drink and coffee, but Ed and the family did no such shrugging and consumed their Rakia with glee.

We asked Desanka to sign the check, but it turned out that she is illiterate. So, she did what any illiterate person might do to endorse a check. She put a big 'X' on the back and used a stamp pad to put her fingerprint next to it. You can't really forge a fingerprint, can you? I didn't think so.

I am sure I heard the finance sergeant let out a sigh but, what the hell can you do? Since we'd already humped over 29,000 Deutsche Marks half-way across Kosovo, there wasn't any turning back now. The finance people took the check and filled out some more paperwork. I gave them my DD Form 2 ID card and then signed something to show I was exchanging the dollars for Deutsche Marks (I am sure that I will be hearing from the IRS next year). Then, SPC Delgado began putting the stacks of DMs on the table. Three six-inch piles later, all of the money was neatly stacked in front of Desanka. All she could say was "falla" (spelled phonetically for those of you trying to learn Serbian), or "thank you." We talked some more before we got one final group shot of all of us out front.

We asked if there was an easier way out of this place and, of course, there was. We headed east (over some better roads and, admittedly, we did ford a river) until we hit the "hardball" road that runs through Kamenica. We broke south through Kamenica and then west on Route Stag until we ended up back at Camp Monteith.

Just another day …

CPT Doug Huber graduated from Ohio State University with a BA in journalism. After graduating AOB in March 1998, he served as a platoon leader in Bosnia, then as a line company XO. He has completed 7 training deployments (4 Hohenfels, 3 Grafs). Currently the S5 in Kosovo, he begins ACCC in May.

A Taste of Life at Outpost SAPPER

Supporting Peace on a Volatile Border

by First Lieutenant Michael Scott

The main effort of Task Force Falcon in KFOR is a small outpost that sits on a saddle 300 meters from the provincial boundary separating Kosovo from the rest of Serbia. Outpost Sapper, named by the engineer company that first manned it, overlooks the tiny ethnic Albanian town of Dobrosin, located in the Ground Safety Zone established by UN Resolution 1034. Dobrosin is the headquarters for the UCPMB, a small guerrilla force determined to achieve independence for Kosovo. Twenty-four hours a day, seven days a week, four M1A1 tanks, four M2A2 Bradley Fighting Vehicles, two Avengers, a FIST-V, and approximately 45 U.S. soldiers overwatch this town. The unit's activities here give some good examples of the complex challenges today's junior leaders face during peace support operations.

Overwatching Dobrosin, on the Serbia-Kosovo border, is this M1A1 from Task Force Falcon's B 1-35 Armor.

OP Sapper is now in the sector controlled by A/2-6 IN, commanded by CPT Mark Jackson. The company is augmented by a tank platoon from B/1-35 AR. However, the task organization for this mission does not end at the company level; two of the platoons are task organized to the platoon level. Each of these platoons contains one tank section, one Bradley section, two dismount squads, two Avenger teams, a FIST team, and up to three medics. The two platoons rotate between OP Sapper and Camp Monteith, spending five days at each location. I am the tank platoon leader assigned to OP Sapper with my platoon sergeant, SFC Frank French. Our infantry counterparts are 1LT Steve Gutierrez and SFC John Bennett.

OP Sapper serves two purposes: to observe activity in the town, particularly regarding the UCPMB, and to control movement through the town. The operators of the vehicles work in two-man teams and rotate shifts throughout the day. One tank, one Bradley, one Avenger, and the FIST-V are always scanning into the Ground Safety Zone at any given time. When not operating the vehicles in the battle positions, the soldiers will conduct maintenance on the vehicles not scanning, improve their living conditions at the outpost, conduct physical training, and take some down time to relax, playing cards or watching a movie.

OP Sapper controls the only access road to Dobrosin from Kosovo. The dismounts operate a traffic control point for all traffic passing through. Since November 28, the boundary has been closed to all traffic except for those providing humanitarian aid. That would include anyone requiring immediate medical attention or families going to buy food. Those passing through must explain their reasons for leaving or returning to Dobrosin. OP Sapper has three medics on site, one belonging to the platoon and two from the support battalion for MEDEVAC. One of the medics screens anyone claiming to require medical attention from a doctor in one of the bigger towns in Kosovo. The medic makes an assessment and gives a recommendation to the leader on site. If the leader decides to let the individual pass, we notify them that they must have a diagnosis in writing signed by a doctor in order to return to Dobrosin. Likewise, families going to purchase food must have food when they return, but only enough for the family. If they have an extraordinary amount of food, we turn them back or confiscate suspicious items.

The road bisecting OP Sapper also provides access to Stublina, a village that lies in the province of Kosovo. People traveling to and from Stublina are permitted free access through the checkpoint. All residents in Kosovo have an identification card that shows their hometown, and this is our verification for their destination.

The soldiers operating the checkpoint conduct a thorough search of every person and vehicle passing through, regardless of origin or destination. We look for contraband items such as weapons, grenades, mines, explosives, military equipment and clothing, and other supplies. If they discover any contraband, the soldiers seize it and detain the personnel involved. We have two options for dealing with people we detain. One is to send them directly to Camp Bondsteel for confinement. The other option is to dispatch a Mobile Interrogation Team to question these individuals. We also attempt to improve our understanding of the situation in Dobrosin by running an information-gathering campaign. The soldiers at the checkpoint have talking points and questions prepared for residents in the village that help us learn about the disposition of the UCPMB in addition to conditions of the civilians in the area. The information we gather helps the chain of command decide policy for the area.

The platoon leader and platoon sergeant on site are responsible for the operations at OP Sapper. The platoon

leader is responsible for everything that happens or fails to happen at the site. I have established several areas of emphasis to ensure that the outpost operates to standard. The first area is the command post. The CP is the heart and brain of OP Sapper. The primary functions of the CP are communications and information-gathering. All SALUTE reports and reports of both boundary crossings and Stublina traffic are collected here and passed on to higher. This information goes into a database so it can be analyzed for consistencies, trends, or other observations to help intelligence personnel make interpretations and recommendations.

At the traffic control point, NCOs make most of the routine decisions.

The next area of emphasis is supervising the traffic control point. The responsibility for permitting people to cross the boundary lies with the platoon leader. After training the dismount NCOs who operate the checkpoint on the basic rules for allowing people to cross, they make all routine decisions. However, anything out of the ordinary requires platoon leader involvement.

Another important role of the platoon leader is that he is the KFOR representative to the people of Dobrosin. Often, the elected leadership of the town, one of whom is the village defense leader and a member of the UCPMB, will come to the checkpoint to complain about the boundary closure. They want us to allow all civilian villagers to cross, regardless of reason. The platoon leader at Sapper must meet with these people and explain our situation while maintaining as friendly relations as possible to avoid unnecessary confrontation. The platoon leader also gives the platoon sergeant his guidance and standards to be met in accomplishing his duties.

Another of the platoon leader's areas of emphasis is hosting and briefing VIPs that visit the site in the absence of the commander. Since December, visitors have included the Chief of Staff of the Army, the Supreme Allied Commander Europe, The Fifth Corps commander, the deputy commandant of the Marine Corps, and various senators and congressmen. The company commander gives them a tour of the site and briefs them on the situation from a hill overlooking Dobrosin. When the commander is not available to conduct the brief, the platoon leader must execute this operation, often with little notice.

The platoon sergeant essentially runs day-to-day operations at OP Sapper. His primary responsibility is security of the site to ensure force protection. He inspects the concertina wire and early warning devices that surround the site, establishes a 24-hour security plan, both within the wire and the surrounding area, and inspects soldiers, vehicles, equipment, weapons, and fighting positions. The platoon sergeant also establishes and supervises a maintenance plan for all vehicles.

Another important concern for the senior NCO at OP Sapper is the health and welfare of the soldiers. He establishes the detail schedule which ensures the cleanliness of all common areas, to include the mess tent, latrine, living area, and the grounds. The platoon sergeant also implements, through his junior NCOs, a solid physical fitness plan run at the section/squad level to maintain the ability to accomplish warfighting missions. SFC French has also created a cross-training plan so all the soldiers can learn from each other. The tank crews give classes on their equipment to the Bradley crewmen, dismounts, artillerymen, and air defense soldiers. Then each other section does the same. This fosters teamwork within the platoon and prepares young soldiers to be a part of a combined arms team later in their careers.

The five days the platoon spends back at Camp Montieth are far from rest days. The day we return from OP Sapper is a maintenance and recovery day for the two HMMWVs the tank section uses, along with the infantry company's 5-ton. The section leaders and squad leaders use this time to have their soldiers clean weapons and inventory ammunition.

For the next three days, the platoon conducts five patrols per day, two mounted and three dismounted, within the company sector. The company is responsible for approximately 70 square kilometers is eastern Kosovo, to include 16 kilometers of the provincial boundary. The task of the majority of the patrols is border interdiction. The mounted soldiers patrol routes in sector and the dismounts walk through terrain that can't be covered with a vehicle. The purpose is to apprehend individuals bypassing our checkpoints and possibly smuggling arms and supplies into the GSZ. The day prior to return to OP Sapper is another day reserved for maintenance and vehicle dispatching. The section sergeants also conduct troop-leading procedures to prepare for the five days at Sapper.

The patrols from Camp Monteith and operations at OP Sapper are interdependent. The patrols detain anyone crossing the boundary at any location other than Sapper, with the threat of sending them to Camp Bondsteel. The intent is to influence people to either go through Sapper or not cross the boundary at all. OP Sapper acts as a detainee collection point for the patrols, so they can drop off any suspects and then continue their mission.

Another duty of the platoon leader is that he is responsible for three small villages in the company sector, Lovce, Slubica, and Inatovce. They all lie within a few kilometers of the provincial boundary. During the war, most of the people who lived there fled to Albania and Macedonia, and returned only after stabilization by KFOR. The platoon leader attends town meetings and finds out what KFOR can do to help provide a more safe and secure environment for the residents of these towns. Mostly, they want assistance in improving infrastructure, such as elec-

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The PT-76 Concept...Firepower That Floats

Introduced by the Soviet Army in 1952, the PT-76 light tank is very lightly armored, with a large hull because of the volume required to maintain its buoyancy. Two water jets at the rear propel the vehicle during amphibious operations, which only require that a trim vane be erected at the front of the hull and that the hull bilge pumps be turned on before entering the water. Opening and closing the water jet ports on either side allow the vehicle to change direction while afloat. The crew of three includes a driver in the hull center front, and a loader and vehicle commander in the turret, where the TC also acts as gunner. The 76mm main gun dates back to the early T-34 cannon of WWII, but similar tanks built in China utilized a different turret and mount 85mm guns. The tank has been employed by the Soviet Army and marines and about 25 other countries.

This battle-weary PT-76, which has been used for instructional purposes at the NTC, is seen with its trim vane up and turret hatches open, at left. The rear view, at right, clearly shows the two paddle-shaped water jet vents at the rear of the hull and the boxy configuration of the hull itself, needed to provide sufficient flotation.

The PT-76 Light Tank In the India-Pakistan Wars:

The Amphibious Armor Advantage

by Adam Geibel

Sharp-eyed readers might have noticed the venerable PT-76 amphibious light tank during the 1999/2000 news coverage of the battle of Grozny. At about the same time, the PT-76 was also active half a world away, during Indonesia's period of civil unrest, as Indonesian Marines patrolled the streets of Ambon in four of the amphibious tanks.

While still useful as a patrol vehicle some fifty years after its introduction, the PT-76's heyday was at the peak of the Cold War. It saw action during the Vietnam and Arab-Israeli Wars, but it was during the 1971 India-Pakistani conflict that the PT-76 came closest to being employed as the Soviets had foreseen.

Setting The Stage — The 1965 War

The Indian 7th Light Cavalry was the first Indian Army unit to receive PT-76s, in late August 1965. The 7th had turned in ancient Stuart M-3 light tanks. By the beginning of September, conversion training for the crews had started, supervised by three regimental officers who had been taught in the Soviet Union.

On the day the regiment was to take their new tanks to the range to zero the main guns, they were ordered to confront the Pakistanis crossing the border. Without enough familiarization and without properly boresighted main guns, the Indians went to war. The sudden introduction of the new tank also caused considerable confusion among other Indian units that had not even seen the PT-76 and mistook them for Patton tanks.

As 'C' Squadron was advancing on Chattanwala on September 17th, seven PT-76s (including the tank of the

squadron commander, Major Chopra) became bogged down in deceptively solid-looking ground. The recovery operation took all day and Chopra's tank had to be left behind. A patrol destroyed the tank with demolition charges at 0200 hrs the next morning. (The Pakistani East Bengal Rifles recovered the hulk and kept it as a souvenir at their training center. The 7th recovered it at Chittagong in the '71 War and took it back to their cantonment after the fighting. Later, the Indian Ordnance Corps came to collect it, so all that remains is the Pakistani's brass capture plaque, now in the 7th's Officer's Mess.)

On September 21st, 'C' Squadron skirmished with a troop of Shermans and another of Pattons near Thatti Jaimal Singh, until a troop of Indian Centurions came up to chase off the Pakistanis. Despite exchanging rounds at 600m, only one Sherman, one Patton, and one PT-76 were damaged by gunfire that day.

After the 1965 conflict, the Indian army stationed two PT-76 regiments and two armored car squadrons under XXXIII Corps control in the Nagaland-Mozoram area for COIN operations.

In 1969, they concentrated all three PT-76 regiments in the east (45th Cav, 63rd Cav, and 69th Armor) and by the first week of August, 1970, they were under the control of the newly-raised HQ 3rd Independent Light Armored Brigade.

After that, the 69th was converted to T-55s and its PT-76s were passed on to two armored car squadrons.

The 1971 War

In 1971, relations between Pakistan and India deteriorated again. In East Pakistan (Bangladesh), bordered on three sides by Indian states and divided by three large rivers, the land was particularly marshy and impassable from May to October. This strongly favored the defense.

The Pakistanis' strategy was to withdraw into prepared defenses and fortresses, stocked with 45 days rations and 60 days ammunition, to delay the Indians as long as possible. Dug-in units were not to pull out unless they had suffered 75 percent casualties, and fortresses were to be defended to the last man. The Pakistani theory was that the Indians would have to devote so many resources to reducing the fortresses that they wouldn't have anything left to make a decisive move.

The East Pakistanis were primarily equipped with M24 Chaffees; one squadron was attached to the 9th ID, three squadrons of the 29th Cavalry Regiment to the 16th ID, and one *ad hoc* squadron of two troops to the 36th. Both the 39th ID and 56th Infantry Brigade had *ad hoc* squadrons (two troops). The 27th Infantry Brigade had a troop of PT-76s that had been raised from four captured from India in 1965 and the 39th ID had an *ad hoc* squadron of two troops.

This Indian Army PT-76 is typical of those used in the fighting against Pakistan.

For the invasion of East Pakistan that began on 4 December 1971, the Indian Army had hoped to use their PT-76s. The Indian II Corps had the 45th Cavalry and 'B' Squadron, 63rd Cavalry. XXXIII Corps had the rest of the 63rd, along with the 69th Armored Regiment. The 63rd had T-55s, while both the 45th and 69th had PT-76s. This combination would prove extremely useful in overwhelming the Pakistani defenses.

IV Corps had the 1st and 5th Independent Armored Squadrons. The 5th had a HQ, three troops, each with 11 PT-76s, and four troops, each with 14 Ferret armored cars. The PT-76 troops of the 5th were to support the 57th Mountain Division. The entire 1st Squadron was PT-76-equipped and assigned to the 23rd Mountain Division. Its critical supplies had arrived just in time, including HEAT rounds for the 76mm guns. The track links of the PT-76 fleet had worn out and had just been replaced as well.

Fighting Begins in East Pakistan

As the 57th Mountain Division advanced on Ahkaura, 5th Squadron provided armor support. The town was defended by the Pakistani 12th Field Force battalion (27th Inf Bde) supported by one troop of PT-76s, two companies of EPCAF irregulars, and a field artillery battery.

On the night of 1-2 December, a diversionary attack of eight PT-76s bogged down in a small marsh and were attacked by Pakistani aircraft the next day, but the planes scored no hits and the tanks were self-recovered by their crews on the night of 2-3 December. The squadron then attempted to support the attack on the town, but had trouble crossing the Titas River. Two Pakistani PT-76s were added to the squadron stable and the advance continued. As the 27th Pak Infantry Brigade was withdrawing, the 57th attempted to cut them off. On the night of 8-9 December, the 5th was ordered up to support the pinned-down 18th Rajputs, outside of Ashuganj. Stopped by an impassable nala (washout), they fired at maximum range and allowed the Rajputs to withdraw. Two Indian PT-76s were hit by RCL fire before the gun was knocked out. Other fire destroyed a third, and a fourth was abandoned when it became bogged down. The Pakistani actions allowed their 27th Brigade to cross the Meghna relatively intact.

By the 9th, the 14th Pakistani Division had withdrawn to the dead end at Bhairab Bazar. The bulk of the 57th Mountain Division was heli-lifted across the Mengha River, but armor support was needed to face the two troops of M24s. The PT-76 squadron

Like Soviet ground troops during World War II, these Indian infantrymen sometimes rode into combat on the decks of their their tanks, although this photo looks like it portrays a quieter moment after the battle.

was ordered to attempt a river crossing. and extensive reconnaissance commenced, but during the crossing on the 12th, the tanks' hull seals were found to be defective. Only two tanks had crossed by the time the operation was cancelled. The squadron moved overland and linked up late on the 14th.

With the 21st Mountain Division

On 4 December, 1st Squadron supported the 301st Mountain Brigade's advance on the Lalgarh-Bangalmuri-Mian Bazar area. This was defended by elements of the 25th Pakistani Field Force Regiment. When infantry got hung up on the Pakistani defenses at Lalgarh, 1st Squadron was ordered to take Mian Bazar, which was held by a rifle company and the 25th FF HQ.

Despite shelling and direct fire from 500m, the Pakistani troops hung on to their position. Then the four troops rushed the defenses at 1130 and by 1200 the Pakistanis had been overwhelmed. By 1205 the Indian forces had secured the town. Four tanks were knocked out by recoilless rifle fire and mines. Personnel losses were four wounded, one killed.

As a result of the squadron's actions, the defenders retreated right into a roadblock that had been set up by the 1/11th Gurkhas. The Pakistani commander, six officers, and 202 soldiers surrendered.

Along with their recoilless rifles, the Pakistanis had laid 250 AT mines. Until the arrival of the tanks, the Pakistani commander had been confident that his men could delay the Indians for 48 hours.

By the 6th, the 1st Squadron was on the road again, carrying 'D' Company, 1/11th Gurkha on their rear decks. One of the most interesting engagements of this war occurred on the 9th, as the 1st Squadron approached the docks at Chandpur. Three Pakistani gunboats with 450 troops on board were sailing down the Megha towards Dacca when the squadron opened fire. All three boats were sunk and 180 survivors were taken prisoner, but the Pakistani 39th Division's HQ did escape in a gunboat.

On the 11th, another gunboat foolishly opened fire with machine guns on a PT-76. It took 54 rounds to ground the gunboat on an islet 1,000 yards away. Then a platoon of 'D' Co., 1/11th Gurkha Rifles went out to take their surrender, but the Pakistanis opened fire. Between the fire of the Gurkhas and the tanks' 76mm fire, 83 Pakistani infantrymen were killed and 33 captured.

In the Northwest

By 10 December, XXXIII Corps sat across the Karatoya River from Gobindganj, which was defended by a Pakistani infantry battalion (32nd Baluch, less two companies, one company 30th Punjab, and one engineer company) with a 105mm field battery and three tanks in support. The Indian plan was to cross the river to the east and flank 55km around to take the town.

Elements of the 340th Mountain Brigade (69th Armored less one squadron, with 'A' Squadron, 63rd added and 5/11th Gurkhas, less one company riding the PT-76 decks) were committed to take the town. As the Indians approached their objective around 1500 hrs, a squadron of PT-76s with a company of Gurkhas peeled off to form a block behind the town.

The main body assaulted through the objective after artillery preparation, overran the Pak cannon, and forced the defenders to retreat — right into the blocking force. One Chaffee tank and two RCL guns were destroyed, and 55 three-ton trucks captured.

The advance continued on to Bogra, launching a similar attack on the town during the night of 11 December. The results were similar — Bogra fell by mid-morning of the 12th.

In the West

Prior to the start of the war, the Indians crossed the Kabadak river and moved their 42nd Brigade up to Graribpur in order to overwatch the Chaugacha-Jessore road.

On 20 November, the 14th Punjab and 'C' Squadron, 45th Cavalry were in position, though one tank was positioned too far forward. The Pakistanis started their response around 0000 hrs, 21 November. Two companies of the 6th Punjab (Pak) started from one direction, two companies of the 21st Punjab (Pak) with a tank squadron from another.

The 21st was within earshot of the Indians by 0400, but heavy fog limited visibility to 30m. Pakistani artillery support fell wide and the Indians waited until the Pakistanis were at point blank range. Two troops were leading. At ranges of 30 to 50m, six Chaffees and one PT-76 were destroyed. After hesitating, the remaining two troops and eight tanks of the squadron headquarters continued their assault. The Indians engaged them again.

By morning light, there were nine damaged tanks and two abandoned, apparently the squadron HQ tanks. In the days that followed, there were more

engagements, though none of consequence.

Tank Ambush at Kushtia

On 9 December, the 7th Brigade was advancing on Kushtia. The vanguard of the advance was 'A' Company, 22 Rajput, with two troops of 'A' Squadron, 45th Cavalry attached.

The 57th Pakistani Brigade had left a delaying force — an infantry company equipped with recoilless rifles and two tank troops, along with a small unit of irregulars ("Razakars"). Pakistani Majors Zahid (18 Punjab) and Sher ur Rahman (29 Cavalry) set up an ambush in or just beyond Kushtia where a road passed over a high embankment flanked by a marshy area. Beyond the open spaces were trees and buildings. To retreat, an Indian force would have to skyline itself.

Before the Indians had cleared the town, a helicopter landed near the 22 Rajput Battalion HQ. Generals Raina and Brar dismounted, then chided the commanders for their caution as the Pakistanis were obviously on the run.

The Indian advance continued, far less vigilant than before. Six tanks entered the Pak killing zone only 30m apart, and the infantry walked alongside with slung arms. The first shot from an M24 took out the fifth PT-76 in line and every Pakistani weapon joined in. The last tank neutral steered about and exited the kill zone at high speed. The two leading tanks returned fire and destroyed a Chaffee before being hit themselves.

The retreating tank and heavy fire panicked the following companies of the 22 Rajput. Within minutes the battalion ceased to be a viable fighting force. Apparently, the two remaining tanks — though trapped — kept up a sharp and effective fire for a while, but later that day, the crews were found shot, with their arms and legs bound.

All that the Indian 7 Brigade commander could do was to organize a defensive position with his second battalion behind a canal close to Kushtia. At last light, the Pakistanis blew up the canal bridge and withdrew to Paksay (under the beginning of a two-day strafing by the Indian Air Force). The ambush created a minor panic in the Indian command and the 4th Mountain Division's advance came to a halt.

Valuable time was lost while elaborate plans were laid to assault the now abandoned town with two brigades, who were forced to backtrack. However, the town was found to be clear on 11 December.

The Advance Continues

It wasn't until the 12th that 'A' Squadron reached the Hardinge bridge over the Ganges River. The Pakistanis had abandoned their elaborate defense works, many vehicles, and even an M24 on the bridge itself.

When the 9th (Indian) Division prepared to assault Daulatpur, they forced a crossing of the Bhairab River on 13-14 December. One objective was to take the ferry at Syamganj. The 45 Cavalry's tanks floated down the river and engaged targets while other tanks supported the infantry on the river banks. The town was captured by that afternoon. The 107th Paki Brigade surrendered with 3,700 men on the 15th.

By the 13th, an ad hoc force from the 9th Pakistani Division was defending a line along the 400m wide Madhumati River. On the night of 14-15, two troops of 'A' Squadron, 45th Cavalry crossed to the north of the Pakistanis (securing the Kumarkhali ferry site by first light). The two troops crossing to the south had trouble with the river approaches, so that only two tanks were across by 1030 the next morning.

However, the tanks — along with the infantry carried on their decks — set up roadblocks north and south of the Pakistani positions. This eventually forced the surrender of 50 officers and 343 soldiers.

Lessons Learned

Though the India-Pakistan War of '71 was one of the Cold War's underreported conflicts, the Indian Army light armor squadrons executed many of their missions with surprising ingenuity. It was a 'war on a budget,' but the Indians made textbook ideals and theories work for them. The poor logistical standing of the PT-76 units at the beginning of hostility would come back to haunt the Indians time and again during that short war, but they persevered with aggressive tactics.

The Indian PT-76s were usually deployed in squadron strength (the Pakistanis were usually deployed only by troops of three) and engaged targets at ranges under 1,000m. While this brought the Indians dangerously close to Pakistani AT weapons, the threat was less than it seemed: the WWII-era M24 Chaffee gun tubes were worn out, so that accuracy beyond 1,000 meters was impossible. The 106mm recoilless rifle's maximum range against stationary targets at the time was 800m, the M20 bazooka under 300.

While the M24's obsolete 75mm made short work of the PT-76, the Pakistani 106mm RCL HEAT rounds didn't cause the havoc that might have been expected, probably due to poor Pakistani handling. There were also rumors that these guns were delivered without manuals. Another factor was that the war was fought in the era before wide-spread Pakistani issue of the RPG-7. While Pakistan had U.S.-made 3.5-inch M20 bazookas, these appeared to have not been used much.

The Indians married their infantry closely with their tanks, which allowed rapid exploitation of any gaps they punched in Pakistani lines. The wide deck of the 76 could easily accommodate a 12-man squad, and even a platoon could be crammed aboard if the crossing was uncontested. This allowed foot-mobile infantry companies to be piggy-backed on ten-tank squadrons.

The Indian Army's repeated use of their amphibious capability allowed them to bypass soft ground and water obstacles that would have checkmated T-55-equipped armor units. Even in 1971, the PT-76 was approaching technological obsolescence but, "In the land of the blind, the one-eyed man is king."

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(Thanks to Professor Paul Walsh, for the loan of his personal library.)

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The Decline of Mars:

Change and Its Effect on the Warrior Spirit

by Major Gregory A. Daddis

"I see many soldiers; could I but see as many warriors!"

- F.W. Nietzche

In late January, 1944, as the Second World War was entering its fifth and most critical year, an ecstatic George S. Patton Jr. was notified of his selection to command the Third United States Army in the upcoming battle for France. While Patton had performed admirably at the head of the Seventh Army in Sicily, the notorious "slapping incidents" had led many to question his emotional stability and capacity for continued command. While not tagged to be included in the initial invasion forces of Normandy, Patton could at least find comfort in the fact that he still possessed a grand opportunity to fulfill his self-proclaimed destiny as one of history's great military commanders.

As the ex-cavalryman set about to form the Third Army into a unit capable of besting Hitler's legions on the European continent, he was dismayed at the fighting spirit of his men, who were soon to be grappling with experienced Wehrmacht troops. "He found everyone too complacent, 'willing to die but not anxious to kill'."[1]

Patton tirelessly made the rounds to divisional units and staffs — instructing, motivating, and often berating with colorful, if not downright vulgar, language. "As in all my talks," he noted, "I stressed fighting and killing."[2]

Patton's emphasis on killing certainly shocked many a citizen-soldier who had never before been in battle. But the Third Army commander realized, both from personal experience and a passionate ardor for military history, that untested troops required hardening before their initial taste of combat. While Patton may have held an anachronistic view of what it meant to be a warrior, his focus never wavered from preparing men to succeed on the field of battle.

Recent trends suggest that Patton's concerns are still quite valid today in regard to developing warriors able to survive and win on the modern battlefield. At a time when societal, technological, and strategic changes are all exerting immense pressures on the very organizational structure and outlook of the United States Army, especially in the combat arms, perhaps it is fitting to re-evaluate how we develop a warrior class in our military. This article attempts to delineate how historical evolution has affected the development of a fighting spirit in our combat soldiers and, more importantly, the need to continue stressing the value of such a spirit in an era of turbulent change.

The sheer brutality of the Civil War broke down traditional concepts of a warrior's courage. Rebel General Stonewall Jackson, scouting his own front after a great victory at Chancellorsville, died of wounds after being shot by his own men.

Societal Change

On the eve of the American Civil War, most professional soldiers and officers had relatively minor experience with combat. The war with Mexico (1846-48) was the baptism of fire for young captains and subalterns who would less than two decades later command armies, and there seemed little to alter their ideas of battle garnered from studying Napoleon's campaigns or Baron Antoine H. Jomini's analysis of the great battle captain. Ulysses S. Grant, suggesting the worth of the lessons learned in Mexico, would later note: "The Mexican army of that day was hardly an organization."[3] Conversely, the Civil War changed almost all of the participants' views on armed conflict. Within two years, soldiers once patriotic and willing to sacrifice all for their cause, came to view war as nothing more than a destructive abnormality. The totality of the combat, where civilian life and property were no longer safeguarded, impacted all aspects of society, noncombatant and military alike.

One of the soldiers who would usher in such changes was William Tecumseh Sherman. His admonition that "War is cruelty, and you cannot refine it" took a nation by horrid surprise. Men like Sherman, Grant, and Philip H. Sheridan were among the few Union generals who advocated a relentless style of warfare in which the enemy was awarded no respite. But such a strategy could prove expensive. Grant's frontal assaults at Cold Harbor in June of 1864 cost the Federal Army over 7,000 dead and wounded in less than an hour. Though criticized by many for being an unimaginative butcher, the future President was able to see beyond

the casualty lists and remain focused on his goal of defeating Robert E. Lee's Army of Northern Virginia. His dogged pursuit of victory would not be thwarted, for he felt that after any hard-fought battle, the side which "first renews the fight, is sure to win."[4]

Grant's perseverance, as noted, found censure in many quarters of the day. In large part, this was due to the change in how society defined a warrior's courage. Early in the war, soldiers in general, and officers in particular, were required to exhibit their fearlessness in battle to prove they were worthy of the uniform they wore. In fact, many "soldiers called combat the test of manhood…. A failure of courage in war was a failure in manhood."[5] By 1863, this unquestioning ideal was being challenged as casualties ravaged units to mere skeletons of the original regiments that marched to war. When Grant became General in Chief of the Union Armies in 1864, society had altered its outlook on what it meant to be a warrior. Death, which had become so commonplace in homes throughout the Union and the Confederacy, had lost its gallant significance. There no longer seemed to be any honor is dying on the battlefield simply to display one's courage.

These societal changes — perhaps described plainly as war weariness — had a tremendous impact on what were considered acceptable losses on the battlefield. Eighty years after Cold Harbor, American military leadership defined courage in quite different terms than their Civil War ancestors. "For Dwight Eisenhower, perseverance became courage; heroism, he declared, was 'the uncomplaining acceptance of unendurable conditions'."[6] The warrior spirit had changed dramatically in less than a century.

This is not to say that the soldiers of World War II were any less heroic than their ancestors in the Civil War. Anyone reading the exploits of the 1st Infantry Division on Omaha Beach or of the 101st at Bastogne will easily comprehend the hardships and terror experienced by those who fought. But by the middle of the 20th century, American society was not as willing to accept such losses as Grant had sustained in the Wilderness of Virginia in 1864. This acceptance, as John Keegan notes, has an unequivocal impact on a nation's armed forces. "For an army is, to resort to cliché, an expression of the society from which it issues. The purposes for which it fights, and the way it does so, will therefore be determined in large measure by what a society wants from a war and how far it expects its army to go in dealing with the outcome."[7]

"When Grant became General in Chief of the Union Armies in 1864, society had altered its outlook on what it meant to be a warrior. Death, which had become so commonplace in homes throughout the Union and the Confederacy, had lost its gallant significance."

There seems little argument that society's expectations of the soldier have changed dramatically since the days of Grant and Sherman. The basis of such change is far more debatable. Many would contend that technology, which has made war universally more destructive, has raised general fear regarding the application of force. More to the point of developing warriors, technology, in its course of improving our national quality of life and making our lives easier, has in the process made ours a less hardy society than that of our Civil War ancestors. Have we not become more "soft" as a nation? Still others would assert that, in our quest to create a more civilized society, we are less willing to use force to solve international impasses.

The Clausewitzean principle that war is an extension of politics is often challenged with the conviction that war is instead the bankruptcy of politics. In such light, it is better to define the military profession not as warfighters, but rather as peacekeepers.

American democracy has historically been uncomfortable with the existence and development of a warrior class. While today's military is one of the most trusted professions in the public's eye, martial endeavors have lived a tenuous existence inside the American way of life. And with society evolving, tolerance of human loss associated with combat has decreased dramatically. Could the United States public watching the Gulf War on television ever have accepted the 7,000 dead that Grant's army suffered in a single day at Cold Harbor? The uproar would have been instantaneous and damning. It seems a societal paradox that we are willing to acquiesce to the ever-increasing violence in our daily lives (the present debate in entertainment and video games an example of this), yet we are far less inclined to condone any loss of human life associated with most any military operation.

Nor should we ever be complacent about loss of life, in training or in battle. The American public would never consent to, and rightly so, the casualty rate sustained in German Waffen SS training, which sometimes reached ten percent during World War II.[8] But as professionals, we cannot afford to lose sight of our *raison d'être.* As historian Samuel P. Huntington aptly noted: "It must be remembered that the peculiar skill of the officer is the management of violence."[9] Managing violence involves risk, and as such, we must ensure that we develop leaders and soldiers who can scrupulously assume risk in the pursuit of becoming better warriors.

Societal changes have historically affected how the military approaches its profession and the overall management of violence. It will no doubt continue to have such an impact in the future, for society itself is affected by technological innovations that in turn influence the military. There are many pundits, for instance, who blame the military failure in Vietnam on the vociferous anti-war sentiment exacerbated by the coming of age of television. They argue that the media was swayed by enemy propaganda that led to the erosion of American public support for the war effort.

Yet one historian believes that most reporters honestly portrayed what they saw in Southeast Asia. "Much of what they saw was horrible, for that is the true nature of war. It was this horror, not the reporting that so influenced the American people."[10] Technology was making a certain impact on the way Americans viewed the battlefield.

Technological Change

"When you're well drilled and trained in your profession, you don't like something to come along that makes

you have to learn all over again, and the older you are in your profession, the more you resist change."[11] So commented General Carl Spaatz, the first chief of staff of the Air Force, in his testimony at the Billy Mitchell court-martial trial in 1925. Mitchell's scornful condemnation of the War and Navy Departments — charges of negligence, incompetence, and even treason — was spurred by two separate tragedies involving naval aviators. The technological advent of the airplane had thus necessitated a debate, a very public one thanks to Mitchell, on the establishment of a separate air force, the development of combat aircraft, and the role of air power in future wars. But senior army officials of the time strongly opposed Mitchell's views and even intimated to younger officers like Spaatz and Henry H. "Hap" Arnold that testifying on the defendant's behalf could seriously jeopardize their military careers.

Spaatz's courage in testifying not only exemplified the importance of character in the development of a warrior spirit, but also illustrated the difficulties new technology imposes on the relatively conservative military mind. In their management of violence, professional officers are required to be proficient in the use and coordination of the most advanced weaponry. Yet throughout history those same professionals have been wary of, if not entirely resistant to, new technology. Take for instance the impact of the rifle on the Civil War generation of American officers.

Thanks to the transition from the smoothbore to the rifled musket, which essentially doubled the effective range of the infantryman's basic arm, the Civil War included countless battles where the tactical defense was more than simply practical; it was essential to success. During the battle of Fredericksburg in December of 1862, Lee's Army of Northern Virginia entrenched themselves along the Rappahannock River, with Lieutenant General James Longstreet's First Corps positioning themselves along a sunken road and behind a stone wall on Marye's Heights. Armed with rifles, it was an almost impregnable position. The 12,600 Union dead and wounded (the Confederates lost fewer than 5,400 casualties) reflected the fact that the battle was never in serious question. Longstreet himself noted that the "unending flame from the wall created 'the most fearful carnage,'" while a Federal division commander exclaimed "that his ranks 'melted like snow coming down on warm ground.'"[12] Yet costly frontal attacks, with officers bludgeoning their troops against well-prepared defensive works, continued throughout the course of the war.

"Patton tirelessly made the rounds to divisional units and staffs — instructing, motivating, and often berating with colorful, if not downright vulgar, language. "As in all my talks," he noted, 'I stressed fighting and killing'."

Why did Civil War generals not appreciate the technological revolution of the rifle? Why did they continue to lose massive numbers of soldiers in headlong, sometimes reckless, assaults that now seemed to have offered little chance of success? While commanders in the Civil War had no precedents to guide them — the Crimean War (1854-1856) saw the first use of rifles, but not to the extent used a decade later — even with historical illustrations, military leaders have often failed to grasp the importance and potential of new technology. Generals in World War I took no heed of the lessons of the Civil War or of the Russo-Japanese War only ten years before, though the prominence of rifles, trenches and machine guns are only now too evident. Young officers in the interwar period, such as Patton and Dwight D. Eisenhower, realized at least the potential use of tanks in the next war, yet resistance to such ideas was widely prevalent. Eisenhower, commander of the wartime U.S. Tank Corps Training Center at Camp Colt, Pennsylvania, noted: "The future of the tank corps was uncertain. Many experienced officers thought tanks clumsy and slow, mechanically unreliable, expensive and tactically useless. On several accounts they were right. On the last they were wrong."[13]

Skill as a warrior on the modern battlefield is not guaranteed by appreciation for technology alone. A balance must be achieved in capably wielding the implements of war while also being able to train, motivate, and lead the human beings who will use those implements. Patton himself was fond of saying that wars may be fought with weapons, but they are won by soldiers. The Army appeared to garner such lessons coming out of the Second World War. Prior to the war, training often focused on small unit leadership in battle. "Combat confirmed the need for competent, inspirational leaders and showed that the outcome of engagements often hinged on the actions of a few influential leaders. Drawing from its leadership experiences in battle, the Army identified three essential qualities necessary for successful leadership: initiative, responsibility, and resourcefulness."[14]

With World War II being such a pivotal experience in the first half of the 20th century, it would seem that such battlefield lessons would become a focal point for training warriors of the future. But the most frightening of all technological innovations, the atomic bomb, changed everything. For over a decade after its successful introduction, the bomb dominated military thought in the United States. As Lieutenant General James M. Gavin, wartime commander of the 82nd Airborne Division, noted: "To some extent, military thinking seemed to be paralyzed by the

bomb, and the lessons of World War II were ignored or quickly forgotten…. Little that we learned in World War II, it was said, would have meaningful application in the future."[15] A slight twenty years after the end of the Second World War, a renewed importance on small unit leadership would surface in Southeast Asia. To those who believed there would be no true role for the Army to play in the nuclear age, the war in Vietnam harshly proved otherwise.

The doctrinal debate between the end of World War II and the Vietnam War clearly illustrates the impact technology has on the development of a warrior class in our military. And while technology has been an important factor in America's military dominance over the last quarter century, unfortunately its impact has not always been a positive one. With scientific advances creating a global interconnectivity unprecedented in the history of mankind, sophisticated technology has paradoxically caused a fragmentation in the officer corps. Specialization, an apparent outgrowth of technology and evidenced by the OPMS XXI career field designations for officers, has arguably done little to increase cohesion among professional warfighters.[16] While mastering technical skills is an important aspect of soldiering, it should never be considered an end unto itself. Instead, the skilful warrior utilizes technology to his advantage as a means to improving proficiency in the management of violence.

Strategic Change

We are in the midst of a strategically amorphous time. There are those who would argue that the Army has lost its collective mission focus, perhaps its strategic vision, and emphasis is no longer placed on managing violence. Is our mission to fight and win our nation's wars, or is it to keep the peace in trouble spots around the globe? Can we effectively do both as an organization without blunting the tip of the sword?

While changes in strategy have been a common thread running through the history of our nation's armed forces, so too has been the American penchant for annihilating its adversaries on the battlefield. Since George Washington first clashed with the professional troops of 18th century Great Britain, Americans have invariably sought decisiveness on the battlefield through destruction of the enemy's army. While the means may not always have been available to execute such a strategy, there always loomed the preference for annihilation over attrition.

In his significant work, *On War,* Carl von Clausewitz defined strategy as "the use of engagements for the object of war" and in essence, strategy can be divided into two distinct forms — annihilation and attrition.[17] Annihilation aims at using battlefield engagements in a decisive manner to quickly and effectively destroy an enemy's armed forces, while attrition can be likened to a form of erosion where an opponent's army is worn down through continuous assaults over an extended period of time. One of the central themes that runs throughout historian Russell F. Weigley's books on the American military, for example, is that the prevailing strategic preference has always been first and foremost that of annihilation. From the conception of the nation's first army, leaders have sought destruction of the enemy through climactic battle even when they had not the means to achieve such ambitions. While George Washington, who highly regarded the professional British army and sought to fashion his own force upon a similar model, employed a strategy of attrition throughout most of the Revolutionary War, his "was a generalship shaped by military poverty."[18] Weigley contends that Douglas MacArthur's indirect, leapfrogging approach in the Pacific theater of World War II was also influenced by limited resources, while Eisenhower was no less troubled by continuous supply problems in the European theater. What appears is an officer corps that seemed continually frustrated by insufficient means to achieve the desired goal of complete destruction of an adversary's army in battle.

Current frustration in the officer corps seems now focused less on materiel means than on overall purpose. And here is where study of the past is important, for as Patton was also fond of saying, war, as history, is cyclical. As an example, the 1928 Kellogg-Briand Pact, "by which nations renounced war as a means of policy" left the American military in a strategic dilemma.[19] If the army's purpose was to fight and win the nation's wars, how would such an organization fit into national policy if war itself had been officially forsaken? Officer promotions slowed to a snail's pace, training was listless and funding was a continual problem. In the inter-war period, the United States Army fell into such disrepair that it actually ranked eighteenth in the world behind such countries as Spain, Sweden, and Portugal. Officers like J. Lawton "Fighting Joe" Collins spent 17 years as a lieutenant and grew so discouraged he pondered resignation. Luckily, George C. Marshall was then deputy commandant at Fort Benning and he "taught professionalism, inspired hard work, and encouraged the brilliant, promising officers to be patient."[20]

That core of officers committed to their profession would later lead the United States Army to victory in Europe and the Pacific. As improvements in motorization, weaponry, and communications prompted constant changes in tactics and even strategy, men like Eisenhower, Marshall and Bradley persevered through the transitions, sometimes even at the risk of their careers. As a young officer, Eisenhower was at odds with senior infantry officials on the proper utilization of the fledgling tank corps. Ike was called before the Chief of Infantry and threatened with possible court-martial. "I was told that my ideas were not only wrong but dangerous and that henceforth I would keep them to myself. Particularly, I was not to publish anything incompatible with solid infantry doctrine."[21] Even with this riposte, Eisenhower resolved to continue studying doctrinal and tactical problems that were not advocated by senior Army officials. It no doubt made him a better officer.

In this current time of strategic transition and uncertainty, it is well that warriors follow in the footsteps of Eisenhower and Patton. While societal and technological changes may drive strategic reformations, there remain certain universal principles and functions which are time-honored in war. There are those who see future conflict "emphasizing aerospace power or ships at sea to threaten precision strikes from long range, with small, stealthy unmanned vehicles to collect information and deliver firepower, and they will be controlled by distant leaders using virtual command technologies."[22] But even with these dramatic changes, military axioms of striking, protecting, moving, and supplying will still be essential to success. And to properly execute these functions, victory will still be dependent on competent, professional soldiers. Leadership is ageless. Its study is imperative.

"Resistance to change, especially in the military, can be terribly damaging. Those conservative minds who discounted the importance of such weapons as the rifle, tank, or airplane most probably never led their soldiers in battle to their fullest potential."

Change and the Warrior Spirit

Resistance to change, especially in the military, can be terribly damaging. Those conservative minds who discounted the importance of such weapons as the rifle, tank, or airplane most probably never led their soldiers in battle to their fullest potential. But total acquiescence to change is never the right answer either. In our current period of transformation, where the very definition of war may be in flux, we cannot lose sight of how we define warriors. Societal, technological, and strategic changes should not be grounds for suppressing the warrior spirit in our soldiers and leaders. The profession of arms "requires a balance between the three roles of heroic leader, military manager, and military technologist."[23] An honorable and heroic leader is just as critical in a peacekeeping operation as he is in an attack against an entrenched enemy defense.

There is, of course, the difficulty in defining the true composition of an effective warrior. Some would argue toughness to be the preeminent characteristic, others courage, and still others competence. One historian has noted the problem of putting such a formula on paper. The masters of command, including Marshal de Saxe, Frederick the Great, and Napoleon, believed there existed something far less structured in defining a true warrior. "The great practitioners spoke of the *coup d'oeil* or sense (as we speak of baseball or football 'sense') that combined intuition and experience."[24] While intuition may be an inherent trait, experience is gained through doing and reading. And here lies the key to maintaining the warrior spirit in times of change and uncertainty.

Field Marshal Erwin Rommel was noted for, among other things, his remark that the best form of welfare for one's troops is tough, realistic training. As professionals we must remember that teaching warriorship is an integral part of our responsibilities — to ourselves and to our nation. There is a difference between teaching hate and teaching soldiers to defend themselves and their country. Patton may have been fond of stressing fighting and killing, but he tempered such pedagogy with an insistence on honor and discipline. Simply stated, warriors must be trained. If it cannot be done on the field of battle, whether real or simulated, it needs to be supplemented through the study of military history. In an era of change, maintaining the warrior spirit must remain a point of stability as we look towards an uncertain future.

Notes

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[11]Quoted in Edgar F. Puryear Jr., *American Generalship, Character is Everything: The Art of Command* (Novato: Presidio Press, 2000), 32.

[12]Jeffrey D. Wert, *General James Longstreet: The Confederacy's Most Controversial Soldier — A Biography* (New York, London, et al: Simon & Schuster, 1993), 221.

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[17]Carl von Clausewitz, *On War*, ed. and trans. Michael Howard and Peter Paret (Princeton: Princeton University Press, 1976), 146.

[18]Russell F. Weigley, *The American Way of War: A History of United States Military Strategy and Policy* (New York: Macmillan Publishing Co., 1973), 3.

[19]Henry Kissinger, Diplomacy (New York, London, et al: Simon & Schuster, 1994), 808-809.

[20]Edgar F. Puryear Jr., *Nineteen Stars: A Study in Military Character and Leadership* (Novato: Presidio Press, 1971), 57.

[21]Eisenhower, *At Ease*, 173.

[22]Wesley Clark, "How Will We Fight?" *Time*, 22 May 2000, 99.

[23]Morris Janowitz, *The Professional Soldier: A Social and Political Portrait* (Glencoe, Illinois: The Free Press, 1960), 21.

[24]Theodore Ropp, *War in the Modern World* (Durham: Duke University Press, 1959), 35.

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The New Chinese Type 98 MBT: A Second Look Reveals More Details

by James M. Warford

Chinese Type 98 tanks are seen in the first three ranks, followed by earlier Type 88CS in this parade photo.

Since the first article on the Chinese Type 98 MBT appeared in the May-June 2000 issue of *ARMOR* ("The Chinese Type 98 Main Battle Tank: A New Beast from the East"),[1] there has been additional information available regarding the tank's firepower, armor protection, and production-deployment status. This additional information actually confirms initial assessments and solidifies the serious threat posed by the Type 98.

Since it was first seen during the rehearsals for the massive 50th Anniversary parade held in Beijing on October 1, 1999, observers have tried to piece together the small bits of available information concerning the Type 98. Photographs and video footage from the parade confirmed that the tank is armed with a 125mm smoothbore main gun, but very little was known about the ammunition it fires. Now there have been a series of unconfirmed reports that the Type 98 (and other Chinese 125mm-armed MBTs) use Israeli-designed APFSDS ammunition and that the Chinese have developed depleted uranium (DU) rounds for their tanks. As far as the Israelis are concerned, they are certainly marketing their M711 125mm APFSDS round to somebody, and the Chinese are a likely customer. The solution to the DU part of this equation was apparently displayed during a recent military exhibition in China that included Chinese 100mm DU ammunition. Although not specifically intended for the Type 98, this DU development clearly indicates that DU ammunition is available to the PLA. Interestingly enough, published reports have also recently confirmed that Pakistan is currently marketing at least two DU tank rounds. Pakistan is a close Chinese ally and currently employs both the Chinese 125mm-armed Type 85-IIAP MBT as well as the new limited-production Al-Khalid MBT.

Some of the most heated discussions relating to the Type 98 involve the tank's turret frontal armor protection. External examination confirms a major change in frontal armor, incorporating composite armor arrays and armor cavities on each side of the main gun. Similar in many ways to the turret armor cavities used on the Russian T-80U, T-72B, and T-90S MBTs, the Type 98's armor cavities are easily accessible through two cover-plates fitted flush with the turret roof and held in-place by eight bolts. These two composite armor cavities apparently evolved from a design seen on early prototypes of the Type 98. Unlike the two large cavities used on the production Type 98, these prototypes were fitted with two small cavities on each side of the main gun. According to published reports, these smaller cavities provided access to the mounting bolts that attached the composite armor arrays or modules to the turret base armor. This would allow damaged or obsolete armor arrays to be replaced by the tank crew while in the field. In fact, the Type 98 is also fitted with six lifting "eyes" which could be used with a T-shaped lifting sling to facilitate the replacement of the turret frontal armor modules under field conditions.

While the two large armor cavities on the Type 98 may also be used to provide access to these internal mounting bolts, they most likely also provide storage for some kind of removable composite armor material. Although the design and configuration of the tank's composite armor remains unknown, published reports continue to hint at a relationship between the Type 98's armor and the armor protecting the Russian T-80U and T-80UK. While the "closeness" of this relationship is unknown, it's clear that the Chinese had complete knowledge of the armor protecting these two Russian tanks while they were working on the Type 98. The Type 98's armor configuration also implies that the Chinese may have received assistance from another source as well. The Israelis have done extensive work on updating the armor protecting their older tanks and the more modern Merkava MBT. The Merkava, in particular, is known to incorporate modular armor in its design. Several recently published photographs have appeared clearly showing Israeli Merkava Mk 3s in Lebanon fitted with new modular armor arrays unofficially called "Lebanon" armor. Published sources have confirmed that this Israeli modular armor is designed to be changed in the field.

One of the biggest mysteries surrounding the Type 98 is the tank's current production-deployment status. The

Two Type 98s on parade in October, 1999. The tank's 125mm main gun may be using depleted uranium ammunition, according to some reports.

fact that only 18 of the new tanks participated in the October 1st parade has led to additional speculation that the Type 98 may have only been produced in that quantity to make a point to parade observers. New information indicates, however, that the Type 98's role in the PLA may be much larger than these observers initially believed. The Chinese are currently mass producing two MBTs, the 105mm-armed Type 88B and the 125mm-armed Type 88C, at their primary tank production facility, Factory No. 617. Published photos have confirmed that the Type 98 is in limited production at this same factory. Reportedly, only about a battalion-set of Type 98s have been produced (31 tanks) to date. When deployment of these new tanks is considered, however, this small group may actually be part of a much larger production and deployment effort.

According to unconfirmed reports, the PLA currently deploys 10 active tank divisions, each one supporting a Group Army (GA). Of these, the 38th and 39th GAs are generally considered the highest priority and best-equipped organizations in the PLA. The 38th GA's tank division (the 6th Tank Division) is also known as the "Digital" Tank Division, and is based in the Beijing Military Region. Conflicting reports place Type 98s in the 6th "Digital" Tank Division, as well as the 8th Tank Division (of the 26th GA). Additionally, reports have associated the Type 98 with the 7th Tank Division, which is reportedly being reorganized in the Beijing Military Region as a "blue tank brigade." All of this information supports the contention that there are more Type 98s being produced and deployed than initially believed.

The key remaining question is, "Where will the Chinese go from here?" The secrecy surrounding the future of the Type 98 is still fairly intact, but there is enough information available to piece together what may be next for the Type 98. A model of this next step for the Type 98 is actually just starting to roll off the production lines in Pakistan. The tank in question is the Al-Khalid and it could very well represent, not the actual tank, but a critical cooperative relationship between the Chinese and the Ukrainians. The Al-Khalid is the result of a three-way development effort involving China, Pakistan, and Ukraine. While the level of Ukrainian participation is unconfirmed, published reports have confirmed that the Al-Khalid uses a Ukrainian engine and transmission, and that a number of these same components were recently supplied directly to China. As opposed to developing a new tank, the Ukrainians have been hard at work rebuilding and upgrading their existing MBT designs, with the T-72-120, T-72MP, and T-80UD/Object 478BEh clearly showing the results. In fact, the success of this effort can be seen by the recently completed delivery of 320 Ukrainian T-80UD/Object 478BEh MBTs to Pakistan, which makes Ukraine the world's leading exporter of T-80-series tanks.

Interestingly enough, at about the same time the Ukrainians announced the development of their new 120mm-armed T-84-120 MBT, information concerning a new variant of the Chinese Type 98 called the Type 98B began to appear. The T-84-120 "Oplot" is a new variant of the Ukrainian T-84 MBT that mounts one of apparently two or three different 120mm main guns in a new turret, fitted with a bustle-mounted autoloader. The incorporation of a turret bustle-mounted autoloader (instead of the Soviet/Russian style carousel autoloader) is a huge advance for Ukrainian tank design; and reaffirms the advantages and maturity of modern Ukrainian tanks over their Russian competitors. The T-84-120 (fitted with the Swiss Compact 120mm main gun) is the Ukrainian tank currently competing in the Turkish tank competition. This confirmed tank development relationship between China and Ukraine and the timely announcements revealing both the T-84-120 and the Type 98B, point to a relationship between these two designs. In fact, much of the speculation concerning the Type 98B includes its use of a bustle-mounted autoloader in a new turret.

The Type 98 is a significant tank for the Chinese and for their potential adversaries. It represents a modern heavy armor threat in an era where some countries seem to be moving away from the proven mobile protected firepower offered by the MBT. One thing is clear, the Type 98 is a post-Desert Storm tank that incorporates the lessons the Chinese learned from that conflict; lessons that will characterize the next battlefield.

[1]When the *ARMOR* article was reprinted in the February 2001 issue of the Chinese military magazine *WuChi* (*WEAPON)*, the article was re-titled from "New Beast from the East" to "Heroic Lions from the East." – Ed.

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Although this train is Swedish, it is typical of those employed by many European armies and factions in the years before and after WWI. This view clearly shows the train's make-up, with the vulnerable engine in the middle, protected by a leading flatcar that will set off any mines. The cannon is visible in elevation on the armored car at left.

Forging the Red Thunderbolt:

Armored Trains Provided Mobile Firepower During the Russian Revolution and After

by Major Alan R. Koenig, FA, USAR

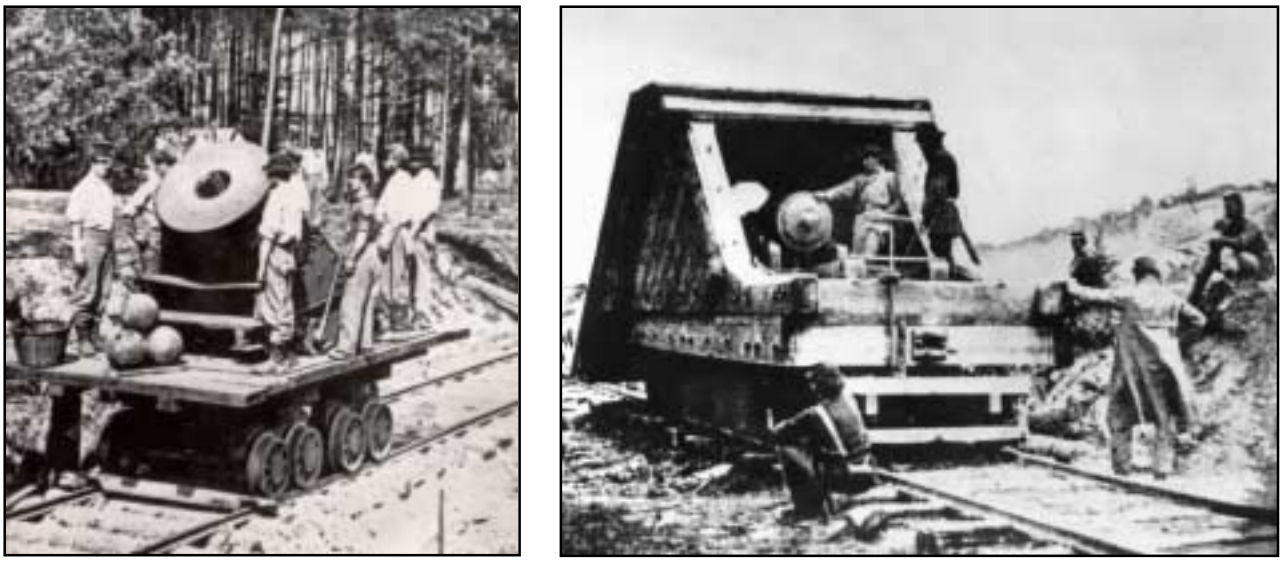
Long before there were tanks, armies used railroad rolling stock as armored fighting vehicles (AFVs), a practice that became common during the American Civil War.

Both Federals and Confederates used many of these predecessors to modern AFVs. To ease the employment of heavy artillery, commanders simply mounted artillery pieces on flatcars to produce the world's first railroad batteries. For defending railways against raiders, Federal forces built ironclad "railroad monitors," cars which carried light field artillery capable of wide fields of fire. Though bound to the rails, railroad monitors were similar to modern tanks, though only one apparently had a turret. In addition, there were rifle cars, which were simply armored boxcars with firing apertures for riflemen. They could support railroad monitors just as infantry fighting vehicles support tanks today. In some cases, individual railroad monitors and rifle cars might escort supply or construction trains, but they might also be coupled directly to a locomotive to serve as an independent maneuver unit. These were known as ironclad or armored trains.

The ultimate armored train had rifle cars on both sides of a locomotive and cannon-bearing railroad monitors on the ends. These "combined arms" armored trains proved useful for patrolling the rails and engaging Confederate forces. This arrangement of cars, or "march order," exploited train strengths while reducing weaknesses. The ironclad cars on both ends of the train protected the locomotive, which was the Achilles' heel of a train, and provided fearsome firepower. The placement of the artillery-bearing cars on the ends also gave them excellent fields of fire, while the rifle cars had significant small arms firepower that discouraged enemy boarders. This mix of weapons and logical march order remained a standard feature of armored trains since the American Civil War.

Americans also employed several other types of rolling stock for tactical missions. To check the tracks for breaks or mines, locomotives pushed loaded flatcars ahead of them. In later conflicts, a crewman sat on the flatcar's end to look for hazards. In so doing, he could monitor the tracks and control the progress of the train, hence the terms "monitor" or "control car" came to describe these expendable flatcars. Control cars also protected trains against rams, which were simply rolling stock, sometimes mined, unleashed against troops, opposing trains, and railroad facilities.

Control cars added much to a train's survivability, but handcars, a utilitarian self-propelled track maintenance vehicle, were good tactical vehicles in their own right, being especially useful for reconnaissance and maintaining com-



The U.S. Civil War popularized firepower on rails. At left, a 13-inch seacoast mortar. At right, a cannon with armored glacis.

munications. After the Civil War, armored trolleys replaced handcars in tactical situations, thereby improving crew survivability.

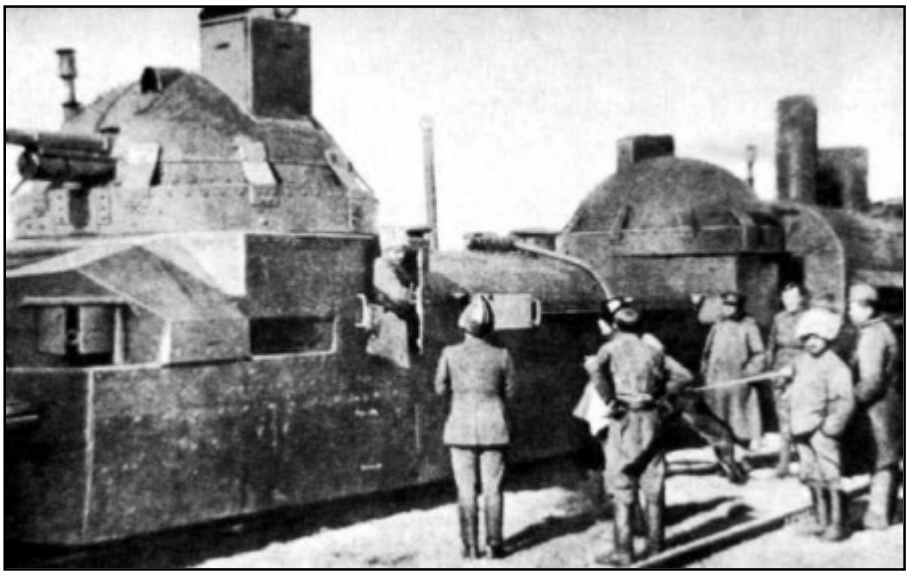
Handcars were good to have, but sometimes locomotives could perform some of their jobs faster. Commanders could rarely spare valuable locomotives for jobs other than train pulling, however, so — as an economy of force measure — the Federals also used steam passenger cars to patrol the rails and deliver pay.

Armed versions of these self-propelled cars were forerunners of another vehicle developed in 1916 by the U. S. and Russian armies. This was a self-propelled armored railroad car, or railroad cruiser, as the Russians aptly named it. While railroad cruisers were expensive, they were often more economical to employ than an entire armored train, and their small and efficient internal combustion engines were sheathed in heavy armor, unlike the large and vulnerable boiler of conventional steam locomotives.[1]

Having observed these developments, European powers improved on what Americans had wrought. The French introduced breech-loading artillery pieces to ironclad railroad cars, and they also mounted *mitrailleuses*, a forerunner of machine guns, on infantry cars, thereby reducing the number of riflemen needed to man the trains. The British also mounted heavy guns, turrets, and searchlights on the trains they used to fight Boers in South Africa. Observing these developments, the Russians realized that the armored trains used on the South African *veld* could also serve on the steppes.[2]

Not total strangers to this new type of weapon, the Russians had experimented with heavy artillery railroad mounts as early as 1885. They mounted a gun on a disappearing carriage so it would recoil inside an armored hull after every shot, but since Tsarist Russia was experiencing the growing pains of industrialization, it could not mass produce these cars, which cost 50,000 rubles per unit. Twenty years later, however, during the Japanese siege of Port Arthur, a Russian officer who had been an observer during the Boer War built several railroad batteries, and this set the precedent for a Russian tradition of using rolling stock for tactical missions. By 1917, the St. Petersburg Putilov works and the Izhor works had built seven standardized armored trains, all bearing machine guns with light and medium artillery. Units of Russian railroad troops, who constructed and operated military railroads, commanded these trains on the Eastern front during World War I. The military situation there, far more fluid than that of the Western Front, encouraged the use of armored trains as maneuver forces. Finally, by 1915, the Russians had also developed what was called a "track wolf," a device that could separate rails from ties at the rate of three to four kilometers per hour, thereby freeing soldiers from the labor-intensive task of destroying railroads.[3]

Such developments set the stage for the Russian Civil War, as the Reds defended their Bolshevik Revolution



This armored train, with turreted guns, was in use by the White Russian factions in the Russian Civil War. Both sides used these weapons, as did neighboring nations.

against counter-revolutionaries and interventionists. Perhaps the single most important Bolshevik advantage was their possession of St. Petersburg and Moscow. The possession of Moscow was especially important because it was at the center of Russia's railroad web. This allowed the Reds to dispatch armored trains and troops from front to front to meet each new menace.

At the vanguard of these forces were armored trains, since they were rather effective in the fluid tactical conditions of the Russian Civil War. Geographical factors demanded a long-range weapons system capable of operating in virtually all kinds of weather. Powerful, reliable, steam-powered railroad trains were appropriate for fighting a war in a nation united by rails, and combatants could construct, employ, and command armored trains with relative ease. In contrast, tanks and aviation, both powered by internal combustion engines, lacked sufficient power, reliability, and range to pose serious threats to armored trains.[4]

As one might expect, the best way to engage an armored train was with another armored train. The only other rival to armored trains was cavalry, which did not rely on tracks, thus its mobility could prove decisive. Even so, cavalry could not win a head-to-head encounter with an armored train, as evidenced by the slaughter of cavalrymen charging armored trains at Tsaritsyn' (Volgograd) in 1918.[5]

The Reds used about 103 armored trains during the war, and their historians later considered armored trains to be ancestors of their armored forces. At different times, the Bolsheviks faced anywhere from 47 to 79 counter-revolutionary armored trains, all of which belonged to a confusing array of opponents. Some trains belonged to non-Russians, such as the Allied interventionists or the Central Powers, all of whom opposed Bolshevism and wanted to nip it in the bud. Furthermore, nascent and reconstituted states on Russia's periphery, such as Finland, Latvia, and Poland, also sent armored trains against the Bolsheviks. Finally, the Reds faced Russian White (counter-revolutionary) and Green (anarchist, or peasant) armored trains. The latter also fought the Whites at times.[6]

While the Bolsheviks faced many different opponents, none of them coordinated their attacks properly. Yet a Red victory was not a foregone conclusion, especially considering the embryonic condition of the Red Army. During the opening days of the Russian Civil War, belligerents employed ex-Tsarist armored trains and improvised others. Railroad workshops near the scattered fronts unsystematically converted existing locomotives and rolling stock with expedient materials and available weaponry. In fact, the Soviet's first armored (and that was often a relative term) train simply had field guns and howitzers lashed onto flatcars and hopper cars. As the war progressed, the Reds built more substantial artillery cars, but many of these carried a motley collection of light and heavy machine guns. Bolshevik commanders naturally found such improvised trains difficult to employ and supply. Therefore, by the fall of 1918 the Reds patterned their factory-built armored trains on vintage 1915 Tsarist models to achieve uniformity and interoperability. In so doing, they built cars to accommodate specific types of armament and missions, and these standardized models ultimately replaced many of the improvised cars.[7]

The challenging task of supervising the large variety of trains, tanks, and the three hundred armored cars in the Bolshevik arsenal prompted the Reds to establish *Tsentrobron'* (Central Armor Command) in December 1917. To categorize its railborne assets, *Tsentrobron'* developed a lettering system. Class "A" trains had heavy armor and four 76mm guns for close combat. Class "B" trains carried guns of 107 or 122mm caliber, thus they were probably considered railroad artillery. Likewise, class "V" trains ("V" is the third letter of the Cyrillic alphabet) mounted 152 or 203mm guns. Class "B" and "V" trains used their superior range to stay out of harm's way, so they generally had light armor to protect themselves against small arms and shell fragments. These trains usually provided indirect fire for maneuver elements, which included other armored trains.[8]

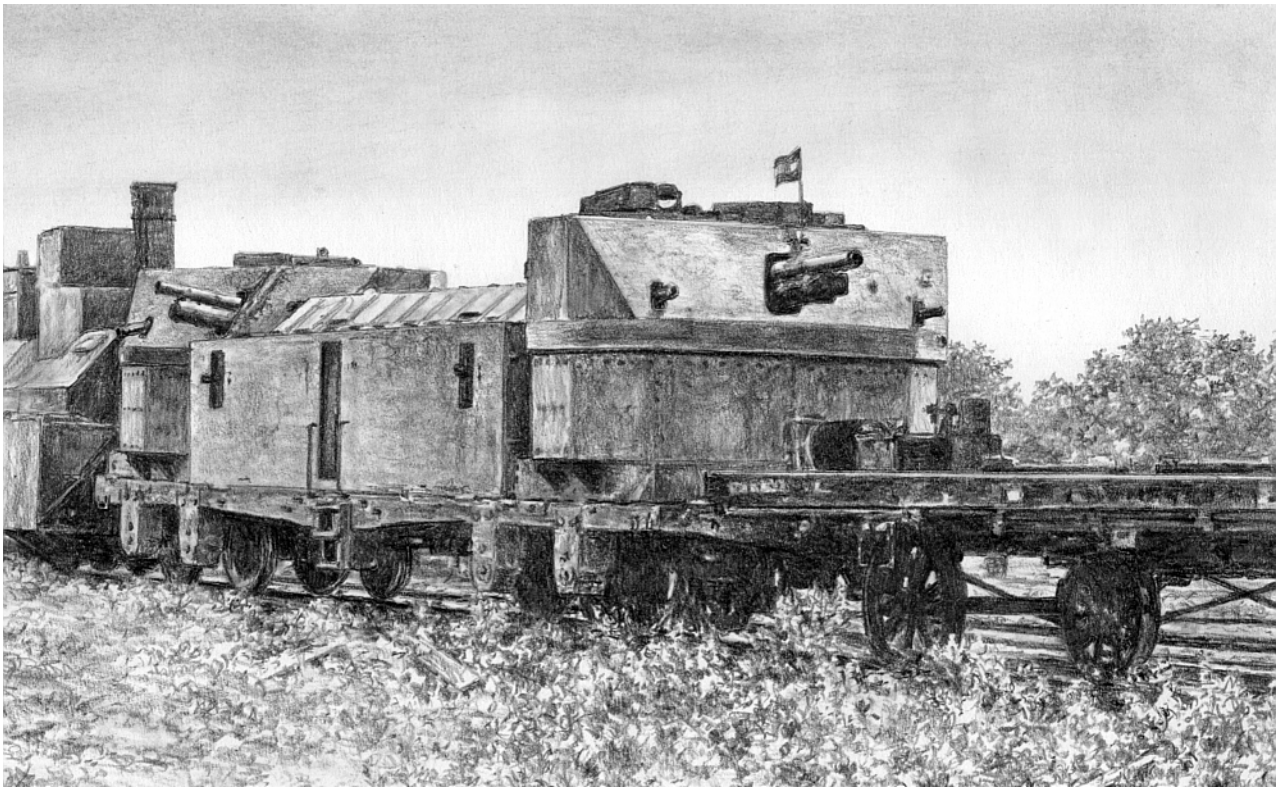
The type of armor varied according to availability, but commanders preferred to use layered steel sheets in a kind of sandwich. Each outer sheet was 10 to 15 millimeters thick, and corrugated sheets were placed in the middle to absorb shocks, working much like modern spaced armor arrays. One steel sheet could usually stop conventional rifle bullets and shell or bomb fragments. Several layers would defeat armor-piercing bullets and even 76mm shells if they were fired from over one thousand meters.[9]

Besides classifying trains by letters, *Tsentrobron'* named their trains for

heroes, revolutionary slogans, cities and geographical areas, natural phenomena, and so forth.[10]

For railroad weapons to operate effectively, *Tsentrobron'* authorized various devices for communications. For onboard communications, trains had electric bells, a hardened telephone system, and speaking trumpets to connect cars by a switchboard. Crewmen merely barked short, pre-designated commands, such as "forward," "halt," or "fire" to the recipient, who repeated commands back to insure they were understood. Trains could also contact other military units or headquarters from isolated areas by radio, telegraph, and telephone connected to established railroad nets. Signal flags or lanterns, messengers, homing pigeons, and trained dogs worked well if signalmen could not use the electronic net. In some instances, locomotive whistles blew Morse code, which was audible up to five to ten kilometers.[11]

Tsentrobron' also had the difficult task of finding effective crews for trains, so it first identified preferred train crew skills and character traits. The ideal armored train crewman had experience in both railroad operations and weapons. Personnel officers accordingly assigned army or naval artillerymen, as well as railroad and shop workers, to armored train crews. To reduce crew size, commanders often cross-trained their men. Even so, when the trains lost men through casualties,



skilled replacements were hard to find, and sometimes train commanders pressed local troops into service.[12]

Tsentrobron' established certain personnel preferences for the demanding service on armored trains. Since the crewman had to work within limited space, the ideal recruits were well built but not tall. Sighting and operating weapons demanded excellent eyesight, steady nerves, and a steadfast character. Moreover, mental and physical toughness were prerequisites for armored warfare, since shell concussions could damage crewmen's inner membranes, causing ears and noses to bleed. Exacerbating these unpleasant conditions were acrid gases from weapons and fires that could build up inside the cars and might render crewmen unconsciousness. Considering these factors, it took selective recruiting and on-the-job training to provide skilled armored train crewmen.[13]

The Bolsheviks insured that the chain of command on armored trains paralleled that of regular army companies or batteries. *Tsentrobron'* assigned company grade officers and noncommissioned officers to armored train command staffs. The commander was usually a captain or senior lieutenant. His assistant commanded in his absence, but the *politruk* (commissar) wielded considerable influence. Other command personnel served in a range of necessary specialties, including a chief of artillery, an adjutant, a communications chief, armored railroad car commanders and their assistants, a landing detachment commander, and a maintenance chief.[14]

To train this diverse group, *Tsentrobron'* established an armored train school in Moscow in 1918, and its curriculum logically focused on lessons learned at the front. To insure uniformity in training and political reliability, *Tsentrobron'* sent command personnel, to include seasoned veterans, to the school. Establishment of the school was a vast improvement over the beginning of the war, when many commanders and key personnel had to learn through on-the-job-training.[15]

Along with personnel matters and training, *Tsentrobron'* oversaw the logistical needs of its armored trains, a responsibility complicated by the immense distances over which these units operated. *Tsentrobron's* solution included base trains, which supported armored trains just as submarine tenders support submersibles hundreds of miles from their bases. A typical base train had an unarmored locomotive and six to twenty cars. A command element with a headquarters and staff worked in its cars, which carried ammunition, supplies, equipment, and accommodations for one armored train crew. During combat operations, the base train waited just out of hostile artillery's range, preferably at the closest railroad station. When the armored train and the base train were in rear areas, the base train pulled the armored train to reduce wear on its locomotive.

In a country beset by a shortage of rolling stock, the use of base trains to support armored trains is proof that the Bolsheviks considered the latter worth the allotment of scarce resources. Thus, to minimize danger to the prized armored train, *Tsentrobron'* authorized the employment of armored trolleys to reconnoiter the rails ahead of trains. Better to lose a few troops and one small vehicle to an ambush than an entire train, the loss of which was easily equivalent to the loss of an artillery battery. Furthermore, while not exactly plentiful, rail-adaptable armored cars could sometimes serve as trolleys.[16]

While trolleys were useful adjuncts to armored trains, two other types of railroad weapons served in roles for which armored trains were ill suited. The first, an "armored flyer," was a comparatively secure vehicle in which Bolshevik commanders such as Leon Trotsky, who came to be known as the "Father of the Red Army," could supervise operations on distant fronts. An armored flyer typically consisted of an armored locomotive, some base cars, an armored railway car, and one or two flatcars. Trotsky's flyer, for instance, had a radio, a map room, a printing press, a secretarial staff, his Rolls-Royce, ammunition, medicine, and a leather-clad security platoon. Dashing from front to front in the flyer, Trotsky transformed the faltering Red Army into an effec-

tive fighting force by coordinating the war effort from his train, delivering fiery speeches, and executing "enemies of the revolution." He believed that his armored flyer was the key to turning Red Guards into real soldiers:

"...the flabby, panicky mob would be transformed in two or three weeks into an efficient fighting force. What was needed for this? At once much and little. It needed good commanders, a few dozen experienced fighters, a dozen or so of Communists ready to make any sacrifice, boots for the barefooted, a bathhouse, an energetic propaganda campaign, food, underwear, tobacco, and matches. The train took care of all this."

Before hostilities ceased, Trotsky had commanded five million men from his armored flyer, traveling a total of 65,000 miles to supervise the war effort.[17]

Maintaining the morale and motivation of soldiers was of vital importance, but it was also desirable to win the "hearts and minds" of the people. Thus, a key ingredient in the ultimate Bolshevik victory was an effective propaganda and civil affairs campaign. To help conduct this campaign, Reds used a variety of propaganda tools, including five propaganda trains (*Agitpoezda* [Agitation trains]) to spread the Bolshevik gospel in conquered areas. These artistically painted trains bore murals, printing presses, movie projectors, theatrical props, and other propaganda tools. Unlike conventional railroad weapons, these trains conducted psychological warfare, using the pen rather than the sword to present Bolshevism as a legitimate ideology. In contrast, the Whites had no such trains, nor did they even attempt propaganda campaigns worthy of note. The Bolsheviks thus won the war for hearts and minds virtually by default.[18]

Propaganda trains spread Marxist-Leninism in the hinterlands, but it took armored trains to serve as the "big sticks." The fluid nature of the Russian Civil War encouraged the employment of armored trains in tactical missions broader than mere railroad defense. In order for the armored trains to succeed in these missions, however, they needed to conduct thorough reconnaissance beforehand. Along with employing trolleys to gain information, armored trains used German Parseval balloons, which could attain an altitude of 1,000 meters, while the French Caquot type could reach 1,300 meters. Other trains used aircraft, motorcycles, and searchlights to obtain information.[19]

Once commanders had conducted their reconnaissance and settled on a specific course of action, they used surprise whenever possible to improve their chances. Trains often departed covered or concealed positions at dawn's first light, burning smokeless coal, maintaining fire discipline, and refraining from blowing their whistles. If the tracks were wrecked, machine gun and artillery fire covered repair crews. When available, an armored trolley pushed a flatcar one to two kilometers ahead of the train to check the tracks for mines and guard against rams. Meanwhile, a second trolley followed one to two kilometers behind the train. The forward trolley was well manned, having the headquarters platoon leader, a senior telephonist, a railroad master (specialist), and two scouts. When it unexpectedly arrived at a station, the enemy opened fire on it. The armored train then let loose with as many weapons as it could bring to bear, surprising the enemy who thought the trolley was reconnoitering alone. To insure that the assault was successful, the train's guns also supported the attack of the landing detachment, infantry or cavalry forces that rode on the train until the commander ordered them to attack.[20]

Landing detachments projected an armored train's power far beyond the tracks, and were especially effective where wooded or hilly terrain restricted the armored train's fields of fire. These detachments normally had a cavalry reconnaissance platoon and three rifle companies, totaling 321 men. Their usefulness was obvious by October of 1920, when sixteen Red armored trains carried these maneuver units. Some armored trains even carried armored assault cars besides small cavalry or infantry units to assault enemy positions under the train's withering covering fire.[21]

Besides operating with their landing detachments, armored trains also worked with other branches of the Red Army. Infantry and artillery supported armored train attacks by distracting defenders for three to five minutes as a train pierced enemy lines. A train usually tried to pierce the opponent's flank just as German panzers spearheaded attacks in *schwerpunkt* fashion two decades later. Surprise was needed for success, so the crew concealed the train's approach until it was five hundred meters from the enemy.[22]

In some situations the roles were reversed, as armored trains supported infantry breakthroughs on enemy flanks. Their guns bombarded key enemy positions, and as the breakthrough progressed, trains displaced to support advancing troops. If the attack succeeded, armored trains pursued enemy forces.[23]

With trains pursuing it, a force might tear up the tracks. Sometimes this worked, but armored trains generally carried repair materials for such a contingency. In addition, both sides were loath to tear up tracks they might need later in a counteroffensive.[24]

Assaulting defensive lines in the field was not the only type of combat a train might expect. The fluid nature of the Russian Civil War resulted in both sides holding their ground at key features along the railroad tracks, conceding much of the vast expanses of the steppe to an opponent willing to operate in a virtual "no-man's land." Thus, many objectives, such as heavily fortified railroad yards, were often fifty or even one hundred kilometers distant. In these situations, commanders capitalized on the mobility of armored trains, dispatching groups of two or three to raid an enemy's rear areas when circumstances permitted. Multiple trains were necessary, since friendly forces were one to three days' march away. During the raid, each train performed a specific task. The first armored train, usually a class "A," unleashed its considerable firepower and drove ahead, while the second, probably a class "B," provided fire support with its railroad batteries. Meanwhile, the third train, possibly a class "C," protected the rear. This mix of armor and artillery often resulted in the capture of enemy rolling stock, since armored trains could still tow 10 to 15 freight cars. Sometimes armored trains might even capture their own kind in these raids.[25]

The same qualities that made armored trains good offensive weapons — firepower and mobility — also worked to their advantage in defensive operations. As the Whites advanced, the Bolsheviks often set up ambushes on their flanks and likely avenues of approach. Their ambush tactics called for two armored trains, one for close combat and the other for artillery support, to cooperate with a landing detachment. The landing detachment assumed a forward fighting position, allowing the Whites to pass by the heavy artillery train's extreme range. After the artillery bombardment, the close combat train

moved forward for the kill while the landing detachment enveloped the Whites from the rear, much like classic "hammer and anvil" enveloping tactics.[26]

By employing mobility, firepower, a combined arms approach, and special tactics, armored trains proved valuable in front line duties. Bolshevik armored trains also performed the more mundane task of protecting vital supply and communications lines from partisans and isolated enemy troops. Rather than endlessly cruise the rails, armored trains with landing detachments kept steam up at depots while maintaining contact with posts along the entire defended line. In this way they saved wear-and-tear on the train and kept crews fresh for action.[27]

Besides the noteworthy tactics used by the trains, the scope of their use was also remarkable. Several dozen armored trains operated in maneuver force roles on a greater scale than did their American and British predecessors. Moreover, they served in several operations over an area that spanned 11 time zones. The ultimate harvest of these rail-borne armored forces was a Bolshevik victory, an event that had far-reaching implications for world history. Reds were able to establish the USSR, an ill-conceived experiment in social engineering that failed miserably, causing immeasurable suffering and the lives of millions of people.

At the time of their victory, an immediate result was an attempt to foster world revolution by spreading Bolshevism to the West. As the Reds fought for Ukraine, they soon engaged rival Polish armies intent on re-establishing ancient Polish territorial claims. Both sides used large numbers of armored trains in the Russo-Polish conflicts of l9l9-21. It was fortuitous that Polish armored trains were available to fight the Reds, since the Poles had just built several trains for the Third Silesian Uprising. Elite Polish troops skilled in construction techniques and weapons infiltrated through German lands to ethnically Polish areas. These Poles cadred local units that built armored, or more precisely concrete trains, many of which contested more sophisticated German armored trains employed to quell the Polish insurgencies in Silesia. As a result of this building program, 70 Polish trains helped repel Red forces from Polish soil; in so doing, the Poles cut off and captured Red trains and perhaps saved Europe from Bolshevism.[28]

Fortunately, the same type of weapon that performed so admirably in the Russian Civil War ultimately proved capable of halting the Red threat to the West. Armored train effectiveness was nonetheless not lost on the Russian people, who even today are familiar with armored train actions of the bloody conflict. Soviet artists elevated armored trains to icons of the revolution, as several Russian Civil War battle portraits include armored trains. Playwright V. Ivanov portrayed an armored train as a potent weapon in his play "Armored Train # 14-69." Firmanov's Chapayev, a novel about the Russian Civil War, depicted armored trains in battle. Poets even found trains a fit subject for their work. One of them included a veiled threat within his artistry:

> Under the burning sun,
> Under the darkest night,
> We have been through much.
> We are a peaceful people,
> but our armored train stands
> (waiting) on the siding.

Considering that the Soviets experimented with trains capable of launching ICBMs in the 1980s, the last phrase takes on chilling undertones.[29]

Notes

[1]Alan R. Koenig, *Ironclads on Rails: American Civil War Railroad Weapons, 1861-65,* (University of Nebraska-Lincoln, 1994), 260-290.

[2]G. Balfour, *The Armoured Train: Its Development and Usage,* (London: B.T. Batsford, Ltd., 1981), 9-15, 19-21; Denis Bishop and Keith Davis, *Railways and War before 1918,* (New York: Macmillan, 1972), 107-11; Jay Stone and Erwin A. Schmidl, *The Boer War and Military Reforms,* (New York: University Press of America, 1988), 58, 322, 324, 326.

[3]Vladimir A. Potselyuyev, *Bronenostsy zheleznykh dorog (Ironclads of the Railroads),* (Moscow: Molodaya Gvardiya [Young Guards], 1982), 8; Tirrell J. Ferrenz, *Military Engineer,* 23, 137 (September-October, 1932), 471; *Grazhdanskaya Voyna i voyennaya Interventsiya v SSSR: Entsiklopedia (Civil War and Military Intervention in the USSR: Encyclopedia* [hereafter referred to as *GVVISE*]), (Moscow: *Sovetskaya Entsiklopediya,* 1983), *"Bronepoezd,"* (Armored train); Steven J. Zaloga, *Soviet Armour,* (Carrollton, Texas: Squadron/Signal, 1980), 24; *GVVISE,* s.v. *"Bronepoezd"* (Armored Train), *"Zheleznodorozhnye Voyska"* (Railroad Troops); Potselyuyev, 27.

[4]Zaloga, 24.

[5]Potselyuyev, 12; *GVVISE* "Bronepoezda" (Armored trains), Potselyuyev, 56.

[6]*GVVISE,* s.v. "Bronevye Sily RKKA," (Armored Forces of the R.K.K.A.), *"Bronepoezd."* (Armored Train).

[7]Potselyuyev, 18-27.

[8]*GVVISE,* s.v. *"Tsentrobron'"* (Central Armor Command); *"Bronepoezd"* (Armored Train).

[9]Potselyuyev, 22-25.

[10]Potselyuyev, 18-31; 48-92.

[11]Potselyuyev, 22-25.

[12]Potselyuyev, 22-25.

[13]Potselyuyev, 22-25, 29-32.

[14]Potselyuyev, 22-25, 29-32.

[15]Potselyuyev, 22-25, 29-32.

[16]Potselyuyev, 30; *GVVISE,* s.v. *"Bronedrezina."* (Armored Trolley).

[17]*Sovetskaya Voyennaya Entsiklopedia* (Soviet Military Encyclopedia), s.v. *"Bronepoezda"* (Armored Trains); Melvin C. Wren, *The Course of Russian History,* (New York: Macmillan, l979), 445; Gwyneth Hughes and Simon Welfare, *Red Empire,* (London: Weidenfeld and Nicolson, 1990), 58, 50.

[18]*GVVISE,* s.v. *"Agitparokhody i Agitpoezda."* (Propaganda River Steamers and Propaganda Trains).

[19]Potselyuyev, 26-41.

[20]Potselyuyev, 26-41.

[21]Potselyuyev, 26-41.

[22]Potselyuyev, 26-41.

[23]Potselyuyev, 26-41; *GVVISE,* s.v. *"Bronevye Sily RKKA"* (Armored Forces of the Red Army).

[24]Potselyuyev, 26-41.

[25]Potselyuyev, 12; *GVVISE "Bronepoezda"* (Armored trains); Potselyuyev, 56.

[26]Potselyuyev, 26-41.

[27]Potselyuyev, 41.

[28]*Pancerny Pociag "Zygmunt Powstaniec"* (Armored Train "Sigmund the Rebel"), (Warsaw: *Ministerstwo Oborony,* [Ministry of Defense] l982). 1-27; Adam Zamoyski, *The Battle for the Marchlands,* (Boulder: Eastern European Monographs, 1981), 26.

[29]Potselyuyev, 111.

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The Military Decision-Making Process: Applying the OPFOR's Approach

by Captain David Haines

*Decision-making is the knowing **if** to decide, then **when** and **what** to decide.*[1]

The OPFOR at the National Training Center enjoys many advantages. The OPFOR knows the terrain and it knows how its enemy will fight. To offset this, BLUEFOR brigades possess a decided advantage in equipment capability in all of the battlefield operating systems. The BLUEFOR brigade's battlefield capability in equipment alone clearly outstrips the OPFOR on a vehicle-to-vehicle basis. How does the OPFOR overcome this?

The critical element that is rarely mentioned is the OPFOR's unique application of the military decision-making process or MDMP. In fact, the orders process and the OPFOR's METL proficiency gained from intensive and repetitive training is the cornerstone for the OPFOR's flexibility and lethality on the NTC battlefield.

How does the OPFOR differ? Contrary to some beliefs, the OPFOR has no "playbook" that it uses for operations. The OPFOR executes a full-up orders process that is similar to that used by their BLUEFOR counterparts, but there are a few distinct and important differences:

- The Regiment does not commit to one COA, but is prepared to fight up to four wargamed COAs.
- COAs are not eliminated but closely connected to the enemy situation and refined as the situation changes.
- Wargaming is continuous, but it does not drive or derail the process.
- Refinement of the COAs is closely linked to the wargame and the combined arms rehearsal conducted by the regiment.
- The regiment is focused on understanding task and purpose in relation to terrain, enemy, and friendly situation as well as desired end state. In practice, many units emphasize the importance of technique, method, or process.
- A clear understanding of the commander's intent and aggressive, flexible, and violent action is the end state of the MDMP for the OPFOR.
- Staffs and sub-units are repetitively drilled on the fundamentals of the orders process and their battle drills.

OPFOR leaders game their approach to a coming NTC battle. They will use a shortened decision-making process and only commit to a course of action as the battle unfolds.

Is it possible for U.S. Army units to plan and fight in this manner? For well-trained units, the answer is "yes." A unit that is proficient in its METL can fight with greater flexibility without sacrificing synchronization by applying the techniques that the OPFOR uses. A unit that uses this technique will be able to match the OPFOR, or any enemy for that matter, in flexibility and synchronization, in addition to far exceeding the combat capability of that opponent. Imagine a brigade combat team or task force that could be as flexible in its application of mass as the OPFOR regiment — this unique application of the MDMP can get you there.

Doctrinal Versus OPFOR Methods

The goal of the MDMP as defined in *FM 101-5* is to produce an order. This order must be flexible, tactically sound, and fully integrated and synchronized. The MDMP gives the commander and staff a structured analytical process to assist them in reaching logical decisions. This process uses thoroughness, clarity, sound judgment, logic, and professional knowledge to reach a decision. It is a detailed, sequential and time-consuming process used to examine numerous friendly and enemy courses of action (COA).

The most detailed estimates cannot anticipate every possible branch or sequel, enemy action, unexpected opportunities, or changes in mission directed from higher headquarters.[2] Commanders and their staffs must continually analyze the enemy and friendly situation to identify or create opportunities as the situation develops.

The advantages of using the complete MDMP are that:

- It analyzes and compares multiple friendly and enemy COAs in an attempt to identify the best possible friendly COA and the best time and place to produce desired effects.
- It produces the greatest integration, coordination, and synchronization for an operation and minimizes the risk of overlooking any of its critical aspects.
- It results in task organization, priority intelligence requirements, the reconnaissance and surveillance plan, the fire support plan, and operations graphics. In short, a detailed operation order or operation plan.

A disadvantage is that it removes flexibility once the COA decision is

made. Instead of commanders and staffs focusing on the identification and exploitation of opportunities on the battlefield, the focus is on the synchronization and integration of the plan. The temptation (and often the result) is fighting the plan and not the enemy.

The Opposing Force (OPFOR) at the National Training Center uses a modified technique in applying the MDMP. The OPFOR follows the process as defined in *FM 101-5*, with one major exception — the COA decision is retained until the last possible moment on the battlefield. All courses of action are fully integrated and synchronized, and commanders and staff rehearse at least two of the COAs.

There are many advantages to retaining multiple COAs:

- The foremost advantage is the flexibility that it requires and allows the commanders and staff.
- In addition to focusing on integration, commanders and staff will be able to observe and assess what occurs on the battlefield in relation to the friendly and enemy situation to assist in making the best COA decision when the time is right.
- Subordinate commanders and staff will be able to assist the commander in making the best decision based on what is really happening, not on a template that is 24 to 48 hours old.
- Rehearsing multiple COAs also allows the commander to better express his intent through various COAs that may occur. He will better be able to answer the "what if" as it is addressed by his subordinates.
- Multiple COAs act as a forcing agent, requiring the S2 to continuously update and disseminate his situational template as information becomes available to facilitate the decision-making process. It forces commanders to be looking for conditions on the battlefield that would indicate a COA decision.
- Commanders will more readily recognize opportunity, and since there is no single COA determined yet, the commander may have the flexibility to capitalize on local opportunity. A unit may achieve some surprise during this local opportunity and the event broadens the chances for success for the entire unit.
- This technique emphasizes the importance of commander's intent over adhering to a COA.

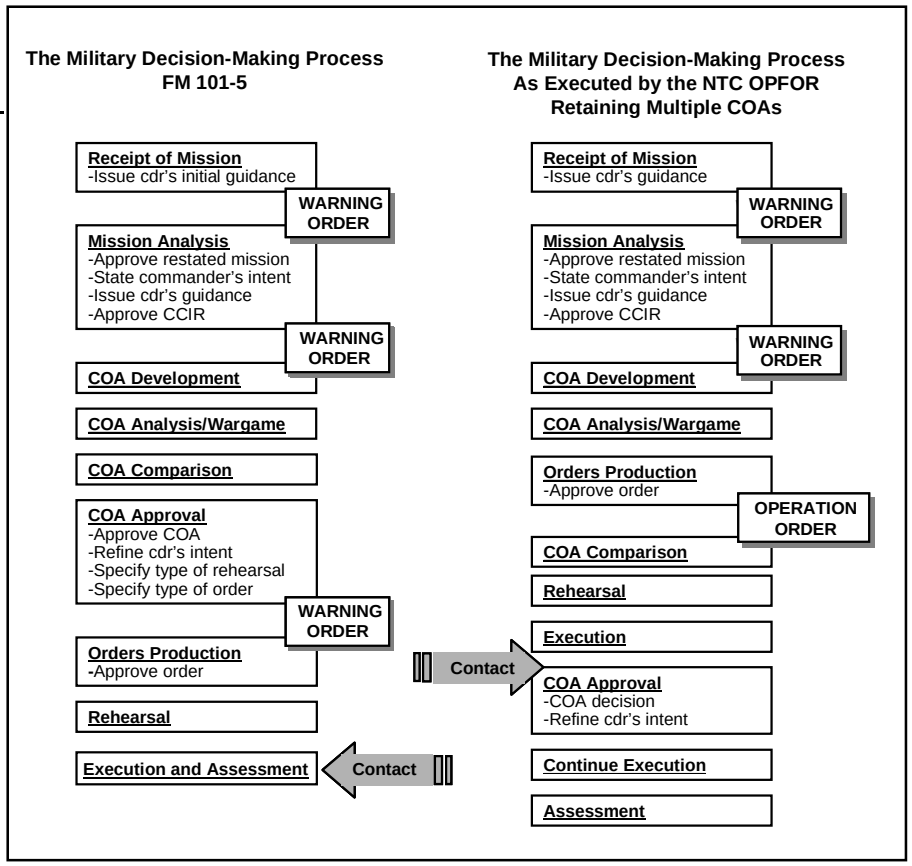

Figure 1.

This comparison chart tracks differences in the OPFOR and doctrinal orders process. The main difference is that the OPFOR decides its final course of action based on contact, while the doctrinal approach leads to a decision before contact with the enemy is made.

Disadvantages may be sacrificing some level of detail in the planning and integration. The key to minimizing this is to identify the similarities in the COA phases and decision points and ensuring the combat multipliers understand the overall commander's intent.

The commander must ensure that his staff clearly understands his intent for their particular battlefield operating system (BOS). Giving the combat multipliers their critical tasks for each phase does this. Likewise, the staff must ensure their plans and actions support the commander and his subordinate maneuver units.

The combined arms commanders do this during the rehearsal, briefing their scheme in detail on the terrain board as the units are executing. This technique is heavily dependent on a strong working relationship between all the key players in a unit. This is something that is best developed at home station, not on the battlefield.

Units can train to use this adaptation of the MDMP. It will require some fundamental changes in how the staff carries out the process, but with some training, it can be accomplished successfully. Some assumptions are required. The unit must have solid standard operating procedures that are read and understood at all levels; companies and platoons must be well trained in their basic battle drills; and lastly, the training needs to be repetitive at both the staff level and in the maneuver practiced at the platoon and company level.

THE OPFOR ORDERS PROCESS

Receipt of Mission/Mission Analysis

An explanation of the OPFOR orders process is probably required to understand how and where we adhere to the doctrinal MDMP and where we stray from it. The OPFOR Regiment receives combat battlefield instructions from Operations Group. This packet is the equivalent of an operations order from the regiment's division headquarters. The OPFOR's equivalent of warning order #1, the mission matrix, is issued

as quickly as possible. In this warning order or mission matrix is the combat power, task organization, and missions assigned to each motorized rifle battalion. The staff and commanders immediately begin their mission analysis. The OPFOR's mission analysis does not differ significantly from doctrinal guidelines. The S2 generates three to four unique enemy SITTEMPs for the mission analysis and in preparation for the wargame.

The commanders and staff may give feedback to the S2 on his SITTEMP. Mission analysis is completed and COAs are immediately developed following the briefing to the regimental commander. The commander's initial intent and guidance for wargaming constitute warning order #2.

Course of Action Development

There is one COA developed for each enemy SITTEMP. Normally 3-4 friendly COAs are developed using the S2's initial SITTEMPs and a generic array of forces for the OPFOR. These COAs are brief concepts of maneuver for the regiment that includes the MRBs and key combat multipliers. The regimental staff and commanders then begin wargaming the COAs. The line between COA development and wargaming blurs in this step as the staff is assessing the feasibility and suitability of each COA. The wargaming further tests these COAs and completes the initial plan. The focus of testing is not on whether or not it is feasible, but identifying under what conditions the COA would be feasible and its distinction from other COAs. In the wargame, the commanders and staff identify the critical tasks for each maneuver unit and the combat multipliers. Tentative decision points for maneuver, fires, and special munitions (chemical and FASCAM) are identified and recorded in a synchronization matrix by the staff. At this point, the initial integration and synchronization of the regiment has been planned and completed. The regimental commander is then briefed on the results of the wargame and the result of the COAs versus their respective enemy SITTEMP. The briefing includes advantage, disadvantages, decision points, and any critical issues in relation to the COAs.

Orders

A rotational operations order is published, which includes the most basic information about the operation. Weather and light data, enemy order of battle, coordination matrices for orders, briefings and aviation, combat service support, and command and signal information. Specifics on scheme of maneuver are not covered. This would best correlate to warning order #3.

Fragmentary orders are then published prior to the mission that give the mission, commander's intent, COA sketches, and scheme of maneuver for all elements of the regiment. This FRAGO is the basis for the orders brief given to the regiment the day prior to the mission. The staff briefs commanders on updated enemy situation and scheme of maneuver to include all BOS. The commanders then back brief the regimental commander on their task and purpose and any initial issues.

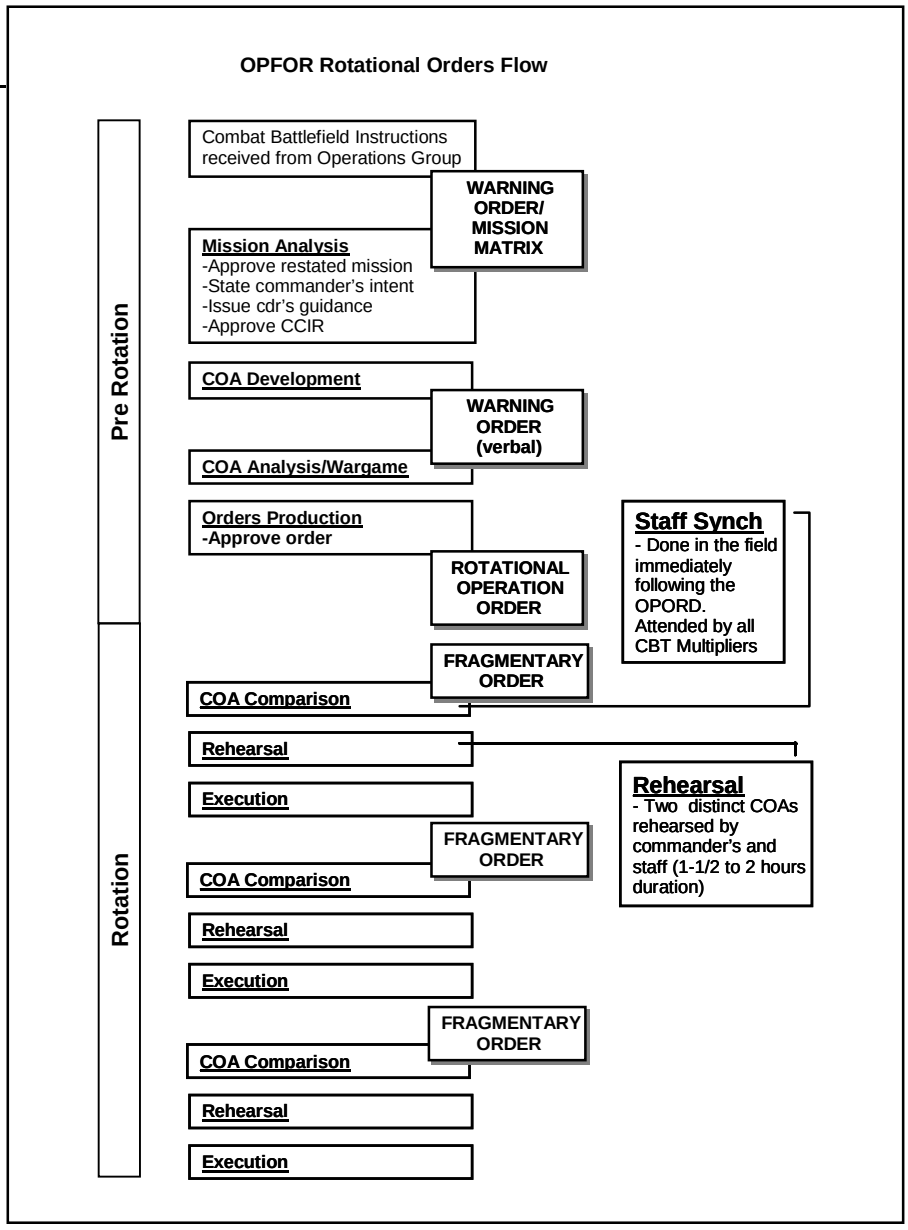

Figure 2.

Course of Action Comparison

Immediately following the back brief, the staff begins what should be considered the COA comparison for the regiment. Normally, it is still too early in the operation for COAs to be eliminated. The purpose of this meeting is to further refine the timeline, decision points, fires, and special munitions on the most recent enemy SITTEMP. The staff continually assesses feasibility as the enemy situation develops. CCIRs, HPTs, and HVTs are finalized and targeted.

The primary focus of this drill is continued refinement of all fires. When time allows, a decision support matrix is developed for the commanders that supports all COAs.

Combined Arms Rehearsal

The regiment conducts a terrain model rehearsal that takes about an hour and a half. It follows the rehearsal script as outlined in Annex G, *FM 101-5*. This rehearsal is conducted with all the key players in the battle (maneuver, fires, and other combat multipliers). The vehicle commanders of the regimental reconnaissance start the rehearsal on the terrain board, briefing their infiltration routes, positions, and reconnaissance focus. The S2 then briefs the first enemy situation. He will integrate whatever is known about the enemy up to this point into his setup. The players then follow a fixed agenda that goes through the battle, by critical events, by time once the regiment passes line of departure, and by individual combat multiplier. Once the S2 has finished his initial setup, all the players get on the terrain board. This includes the maneuver commanders, the fire support officer, air direction officer, engineers, electronic warfare, air defense, smoke platoon leader, and signal officer. Having all the players on the board facilitates the understanding of the entire battle and ensures that the combat multipliers understand the key events in maneuver that will trigger actions by them in support of the regiment.

The executive officer and the S3 are responsible for managing the agenda and the time, as well as capturing issues that need to be addressed. The executive officer will call off the time and the maneuver commanders brief their actions at that specific time. This brief includes location, combat power, actions, and anticipated actions preparing for the next turn. The combat multipliers briefing their actions will follow them. The fire support officer, air direction officer, and EW commander brief their focus of fires. The ADA commander will brief coverage, location, and anticipated actions similar to the maneuver commanders. The engineers will brief any key actions as needed. The smoke platoon leader and signal officer brief their support focus and retrans plan respectively. Commanders and combat multipliers will continue this process through the entire course of action. If there is no change for any element, "no change" is briefed. The regimental commander observes and refines his guidance as needed throughout the rehearsal. This is then repeated using another COA that is distinctive from the first one rehearsed. This one is somewhat shorter due to the basic similarities of all the COAs (i.e., scouts, approach march, and support scheme for some of the combat multipliers).

The regiment completes the rehearsal and is ready to execute. The S2 continually updates the commanders on the enemy situation to allow the commander to refine his guidance or intent.

The FRAGO/COA comparison/rehearsal process is repeated throughout the rotation for every regimental level battle.

The COA Decision in Contact

Execution

The movement or approach phase of execution is similar through all courses of action. There is a direct linkage between the critical events that occur before the commitment of the regiment. These events start with the movement of division and regimental reconnaissance and the regiment's truck mounted and air assault infantry. Division reconnaissance enters sector 36 to 48 hours ahead of the lead regiment of the division. Regimental reconnaissance moves into sector with the purpose of completing the picture for the regimental commander that was initially developed by divisional reconnaissance assets. Regimental assets are focused based on the success or reconnaissance "dead space" of division reconnaissance. Regimental reconnaissance is successful in routinely getting the commander a 90-95 percent solution on enemy locations. Additionally, regimental reconnaissance assets clear routes, landing zones, and dismount points in preparation for the infiltration of the light infantry. Reconnaissance assets establish observation throughout the depth of the battlespace, focusing on key terrain, avenues of approach, mobility corridors, large (company/team) enemy formations, high payoff and high value targets. The confidence in the ability of regimental reconnaissance to get this level of information is a critical factor in allowing the commander to retain multiple courses of action until the last possible moment. Regimental reconnaissance also serves as the primary "looker" for divisional and regimental indirect fires. These elements stay in sector, continually reporting and refining the enemy disposition. Near simultaneously, the regiment's light infantry is moving into sector to create further opportunities for the regiment.

The regiment normally employs two light infantry companies in the offense. The light infantry can have numerous tasks. Generally they are expected to destroy one company team each in the vicinity of key terrain to create weakness in the enemy formations. This will cause the enemy to reposition or react to the destruction of the company team. The infantry may also be tasked to clear or secure key terrain to allow the unhindered passage of the regiment. Once in sector, the infantry also becomes a valuable reconnaissance asset to the regiment. The success or failure of these units plays a large role in the focus of the next element of the regiment — the advance guard or forward detachment. This element is the first MRB-sized unit to move toward the enemy. It will move to capitalize on weakness created by the infantry or opportunities reported by regimental reconnaissance. At this point, the commander is prepared to begin eliminating courses of action, but he has still probably not made a course of action decision.

The regimental forward detachment (FD) or advanced guard (AG) is task organized to be decisive and self-sufficient. All the combat multipliers of the regiment are represented. Normal task organization consists of one tank company (+), a BMP I/II equipped motorized rifle battalion (+), 100 organic infantry, an anti-tank company, one to two mortar batteries, an SP artillery battery, mobility and counter-mobility assets, smoke vehicles, air defense assets, reconnaissance, command and control vehicles, and resupply. This large, powerful organization is focused on observed or created weakness. The commander of this organization knows it is his responsibility to maneuver his force to set conditions for deciding which course of action will be taken.

COA at the Decisive Point

The conditions that must be set at this point are fairly simple. Regardless of the operation, the commander must have a 90-percent solution on enemy disposition, down to company team level. A weakness must have been identified or created by the light infantry, the AG/FD, or fires. In other words, the enemy has begun to lose the initiative and is off-balance due to the previous actions of the regiment. In a meeting engagement, it is possible that the lead task force has been neutralized or destroyed. In an attack on a defense, the FD has created a point of penetra-

"The U.S. Army will never have the home field advantage against any future enemy. We should stop using it as an excuse for the success of the OPFOR."

At right, the Krasnovians begin their attack.

tion or breach in the enemy defense. Another possible condition is the seizure or control of key terrain in the enemy area of operations.

The AG/FD commander makes a recommendation to the regimental commander based upon his situation and how he sees the battlefield. It may or may not be accepted by the regimental commander. Ideally, the commander will be able to retain his course of action decision until the decisive point of the battle is reached — when the AG has destroyed approximately a task force, or the FD has achieved at least one or possibly two breaches in the enemy defense. Meanwhile the main body and main effort monitor the fight and maintain an adequate time or space distance to allow the fight to develop and be able to commit quickly into the battle. The reconnaissance patrols of the MRBs out of contact will move forward to provide first-hand reports of the situation to allow the main body commanders to start gaining situational awareness and assist the commander and staff in recognizing opportunities and recommending COAs. Simultaneously, as the AG or FD comes into contact, the S2 and the chief of staff will be utilizing all reconnaissance assets available to account for the enemy's remaining combat power.

Numerous things occur almost simultaneously at the course of action decision to support that decision. This is where the orchestration of the regiment is at its peak. Many of these assets may have gone uncommitted up to this point to ensure that they will be committed in support of the course of action decision. Collection assets continue to develop the enemy picture as the S2 and Chief of Staff disseminate a detailed enemy picture to the commanders and staff. In the close fight the AG/FD has gained a clear advantage in its area of operations and has employed its organic infantry to destroy remaining enemy forces in the area of a breach or on key terrain. Antitank assets and counter-mobility assets have been employed to protect a vulnerable flank of the AG/FD or the approaching main body. Mortar fires support the MRB and its infantry in the close fight. Artillery fires focus on destruction of forces to the immediate flank or rear of the fight to expand the breach or disrupt their maneuver. Rotary wing close air support will assist in expanding or exploiting the advantage created as well as serving as a mobile reserve to protect a vulnerable flank. Fixed wing close air support will destroy forces out of contact or forces repositioning on the regiment. Electronic warfare focus will switch from collection to jamming to disrupt command and control on identified nets. Air defense assets will focus on coverage of the close fight as well as the approach of the main body. Artillery and ground smoke will be used to obscure the breach as well as the approach of the main body. Persistent chemical agents and FASCAMs are employed to isolate identified forces to prevent their repositioning against the regiment. Non-persistent chemical agents will be used to disrupt command and control or maneuver of enemy forces. Simultaneously, the main body of the regiment is closing on the fight, committed to exploiting what the AG/FD and regimental combat multipliers have created.

Conclusion

The process works. After watching this process in action for over two years, first as an S3 Air, then as a troop and motorized rifle battalion commander, I am convinced that this process should not be dismissed as an "NTC-ism" or "OPFOR-ism." Where it will fail is if it is implemented without the necessary thought, preparation, training, and rehearsal in its execution.

Army units can train to use this technique. Through outlining the process the OPFOR uses, units should be able to better understand how they can apply this adaptation of the process to their own units. The requirement for units to be able to execute this process is fairly simple to identify and somewhat harder to achieve. It is a well-trained unit and staff that are proficient in their METL and battle tasks.

This process can be a key to flexibility if applied with a thorough understanding of the terrain and enemy. Army units can train to match the OPFOR's flexibility on the battlefield. The U.S. Army will never have the home field advantage against any future enemy. We should stop using it as an excuse for the success of the OPFOR. The U.S. Army is and will be the best-equipped force in the world today and the future. We simply need to be more flexible and the process the OPFOR has developed through years of doing the MDMP on a monthly basis will make us the most lethal *and flexible* combined arms force in the world.

Notes

[1]*FM 101-5, Staff Organization and Operations,* May 1997, p. 5-1.

[2]Ibid., p. 5-27.

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Light Cavalry Table X

Training a scout section in gunnery and other critical tasks

by Major Christopher D. Kolenda, Captain Raymond C. Zindell, and Staff Sergeant Mark A. Aide

For those of us accustomed to the tension, firepower, and drama of tank and Bradley gunnery, light cavalry gunnery — featuring .50-cal machine guns and MK-19 grenade launchers — can be a bit tiresome. Nevertheless, with a little imagination Light Cavalry Table X can be an exciting and demanding event that will pay huge dividends in enhancing the performance of light cavalry sections. This article outlines a way to get the most out of light cavalry gunnery and some lessons we learned that will increase the proficiency of light cavalry scouts.

The scout section is the base maneuver unit of any cavalry organization. As such, the focus of training must be at that level, rather than at the crew level. Since STRAC does not include a requirement to shoot section gunnery, we had to be a bit creative in allocating ammunition for the event while still meeting the standards for crew qualification. Furthermore, *FM 17-12-8, Light Cavalry Gunnery*, does not specify any standards for section gunnery, so we were starting from scratch. As we designed the training event, we wanted to focus on some critical tasks that we expect our scout sections to perform well. These tasks included dismounted patrolling, mounted reconnaissance, actions on contact, observation post occupation, call for fire, demolitions, and reporting. We also wanted to exercise our troop and squadron command posts, logistics, air-ground integration, and our indirect fire systems.

Event Design

Our Light Cavalry Table X was a demanding, 72-hour event. The section began the exercise in an assembly area with the section leader receiving an operations order. After conducting troop-leading procedures, the scout section executed a night dismounted reconnaissance patrol. The next day, the section conducted a mounted reconnaissance patrol, both day and night. On the third day, the section negotiated a day and night live-fire. The section had an after-action review after each event and a final AAR the morning after the night live-fire.

The dismounted reconnaissance patrol required the scout section to confirm or deny enemy presence in two Named Areas of Interest (NAIs). The patrol was approximately 2500m in length, and the section had four hours to complete the mission. The first NAI had no enemy presence; the second contained the squadron field trains. The order and the time constraint forced the section leader to conduct a thorough METT-T analysis to determine when his section needed to move rapidly and where he needed to invest time for a deliberate reconnaissance. The successful section leaders did the analysis and achieved reconnaissance results; the unsuccessful ones failed to reach the second objective in time.

The next day the sections conducted day and night mounted reconnaissance patrols. The lane was approximately 5kms in length. The sections had the mission to conduct a zone reconnaissance in four hours, with specified tasks to determine trafficability of a route and recon two NAIs, one of which was enroute while the other was at the limit of advance. The last NAI contained a suspected Motorized Rifle Platoon. Each lane featured an obstacle along the route that was overwatched by direct and indirect fire. The successful sections executed set-move and dismount drills at danger areas to standard, found the obstacle and the overwatch positions, then destroyed the enemy with indirect fire. The successful sections also planned enough time to place their vehicles in hide positions short of the last NAI and conducted a dismounted reconnaissance patrol to recon the MRP positions. As on the dismounted reconnaissance lane, the section leaders who conducted a thorough METT-T analysis and rehearsals had the best results. Embedded in each lane was time for a hotwash and re-run of each critical event. We found this method very beneficial. The sections had to conduct actions at the obstacle, NAI, and set-move and dismount drills to standard before continuing their mission. The sections then ran the same lane at night with a slightly different OPFOR set.

The last event was day and night live-fire. During the day, the scout sections conducted a zone reconnaissance, occupied an observation post, then displaced and gained contact with a CRP and FSE. During the zone reconnaissance, the scout sections engaged a DRT team, then encountered an obstacle overwatched by a BTR and dismounted troops. After destroying the vehicle and troops, the scouts called for smoke and breached the obstacle with a bangalore torpedo.

The sections continued their reconnaissance to their limit of advance, then occupied an observation post. At the observation post, the scouts called for and adjusted indirect fire, then engaged enemy dismounted troops with small arms, M203 grenade launchers and claymore mines. The sections then displaced, executed an abatis, and then set along a phase line to gain contact with the CRP and FSE. The sections reacted to a chemical attack, then engaged the FSE with indirect fire.

We had air scouts during several missions, which exercised the platoon leader's ability to coordinate the efforts of his scout sections and air scouts during the zone reconnaissance. On the night live-fire, the sections remained stationary and engaged enemy recon with direct and indirect fire. The design of this event was to hone the section's surveillance, target acquisition, actions on contact, and reporting skills.

We also had a robust observer controller package for Table X. Each section had an OC, and each platoon had a senior OC who conducted the formal AARs. We also had engineer OCs who ensured the scouts utilized the bangalore torpedo and demolitions for the abatis safely. The section OCs came from 2nd Squadron. The senior OCs

"A zone reconnaissance carries myriad implied tasks, such as reconning all lateral routes, key terrain, etc. If we fail to conduct a METT-T analysis and prioritize the efforts of the scouts, then they are likely to spend an inordinate amount of time on less important tasks."

were troop commanders and squadron staff officers.

The OCs evaluated the sections using score sheets that were specifically tied to reconnaissance results and proper execution of common tasks in order to eliminate the subjectivity often generated by TE&Os in the MTP manuals. For instance, the section earned points for submitting correct contact, spot, and obstacle reports. Each line of the report had points attached to it, and the section could earn full points only if the location was within 100m and the size of the enemy was at least 80% correct. The sections were also scored on tasks such as establishing the observation post to standard, call for fire, and emplacing the charges for the abatis.

Some Lessons Learned

Our Table X experience highlighted a number of lessons that are useful across the cavalry community.

- We had a commander's conference call at 0700 daily. The senior OCs reported on activities over the past 24 hours, sustains and improves for the sections, analysis of why the section performed as they did, the training focus for the next 24 hours (i.e., what specific tasks they wanted to see the sections improve), and issues with the training event overall. The squadron commander then outlined some specific areas upon which he wanted the OCs to focus.

The conference call was a high payoff event for us as it allowed us to discuss lessons, ideas, and TTPs that helped improve the performance of our sections throughout the training event. The payoff became even greater as the commanders had their platoon leaders eavesdrop on the conference call.

- The training event highlighted that we need to work on mission analysis at the section leader level. The best section leaders conducted a deliberate METT-T analysis, which enabled them to determine when they could increase the tempo of their reconnaissance, and when they needed to slow down and devote considerable amounts of time to the critical events, such as dismounted reconnaissance of NAIs. The thorough analysis also enabled the section leader to delegate tasks to his subordinates and generate concurrent rather than sequential activity.

For instance, the section had two hours to establish their OP on the day of live-fire. The best section leaders had delegated specific tasks to each member of the OP, and had also delegated abatis emplacement to another crew. These section leaders also identified the key events in each mission and rehearsed them thoroughly. They also explained the reasons behind their decisions so the subordinates could continue to perform in the absence of orders or when the section leader was killed or wounded. Unfortunately, only a handful of section leaders were at this level of proficiency.

- Table X also highlighted the age-old lesson of leadership from the front. A number of section leaders believed that their duty was to remain on the vehicle to send reports. As a result, they would send junior soldiers on dismounted patrols, to recon danger areas, or to establish the observation post. Such a technique was rarely successful. The best sections had the section leader out front on the patrols and at the observation post.

We tried to drive home several points here. First, the only purpose of the vehicles is to bring us rapidly to the next dismount point. Second, the most important thing happening for that section is forward with the dismounted patrol or the OP. In the case of 2 ACR, these scouts are the point men of the XVIII Airborne Corps. We cannot afford to send our junior soldiers alone and unafraid without leadership from the section sergeant. That NCO will be providing information that affects the troop, squadron, and regiment, and the most experienced soldier must be forward to make those critical assessments. Furthermore, a quick read of Grossman's *On Killing* or Ardant du Picq's *Battle Studies* reveals with stunning clarity human behavior in combat. Soldiers will only function in the face of the enemy when led from the front. The duty of the section leader is forward with his soldiers. The squad leader, or a smart driver armed with acetated report formats, can send reports to the platoon leader.

- Set-move drills improved significantly over the course of the exercise. Some sections had two vehicles moving simultaneously and paid the price at the obstacle. Deliberate set-move drills, when accompanied by dismount drills at danger areas, saved lives.

- Surveillance and target acquisition was another task that we needed to improve upon, across the board. Despite having thermal sights on the vehicles, a number of scouts elected not to use them and paid the price. Furthermore, several sections did not have a surveillance SOP to ensure 360-degree security, and missed several targets as a result. Furthermore, many sections did not use the MELIOS to its fullest capacity. When set in an overwatch position, the vehicle commander should lase TRPs to determine range for the gunner. This should also occur at the OP for the range cards on the M60 machine gun and M203.

- Another lesson that became apparent during the zone reconnaissance was the importance of clearly articulating the priorities of effort for scout platoons and scout sections. A zone reconnaissance carries myriad implied tasks, such as reconning all lateral routes, key terrain, etc. If we fail to conduct a METT-T analysis and prioritize the efforts of the scouts, then they are likely to spend an inordinate amount of time on less important tasks. Focusing their efforts will result in more time for a thorough reconnaissance of the areas the commander determines as most important.

- We experimented with liter ("smurf") rounds and found them to be a great asset. A liter round is a dummy artillery round that can be fired on most ranges and training areas. The fuse ignites on impact and gives off enough smoke to produce the visual effect of indirect fires. These rounds enable us to integrate indirect fires more effectively during training.

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Tips on Speeding Resupply, Improving Maintenance Responsiveness, and Evacuating Casualties

CSS and the Battalion Scout Platoon

by Sergeant First Class Harald Jeffery

Barlesius is awake in an instant. People are stirring around the other cars. The silhouettes of the soldiers stand out against the sky. All listen intently. There! They hear it quite plainly. The distant roar of engines; like the drone of bumblebees. "They're a long way off." Barlesius jumps to the ground and kneels with his ear close to the earth. There is no doubt about it. "Michel, start up! Bearing 43!" Barlesius swings into the car which starts up noiselessly. The darkness swallows them up. Compass in hand, the Oberfeldwebel tries in vain to pierce the surrounding blackness. They hear it plainly now — a low rumble mingled with a high squeaking. "Cars-about!" It is 0130 hours when the first radio transmission goes out: "Loud noise of engines from south and southeast. Ten kilometers distant."[1]

Thus began British General Archibald Wavell's Operation Battleaxe in North Africa during World War II. With the early warning provided by the German armored car outposts, General Wavell's troops lost any element of surprise, resulting in heavy losses and a British reversal. This battle demonstrated the need to keep scouts on the battlefield where they can provide the commander with the critical information needed for success. To increase the number of scouts available, we must first develop workable solutions for resupply, maintenance, and casualty evacuation (CASEVAC). Since the introduction of motorized transportation, scouts have become tied to their need for logistical support, and gone are earlier days of foraging for supplies. We will focus on the logistical system and attempt to introduce some useful techniques, used throughout history and relearned during our last NTC rotation.

Logistics resupply activities must take place as far forward as possible, and ideally during mission transition. During sustained security operations, when this is not possible, we are faced with two hard choices. We can pull the platoon back for resupply or maintain the counterreconnaissance screen. How do we handle this problem? By first understanding current doctrine and by developing supporting techniques.

Doctrinally, either the task force or the scout platoon sergeant facilitates resupply. If the task force is the primary facilitator, they have two methods. The battalion can dedicate a logistics package to the scout platoon. This LOGPAC slice is brought forward by the HHC 1SG, the support platoon leader, the HHC XO, or another responsible individual. Doctrinally, this is the best method for the scout platoon but the most difficult for the battalion.

Realistically, this does not work due to the two-hour turn-around time on the LOGPAC. In order to meet this time limit, the scout platoon must locate in an area close enough to the LRP to receive resupply, wasting valuable time that can be better used conducting reconnaissance. The second method calls for the scout platoon to use the nearest company team's CSS assets for resupply. This method requires the forward company's 1SG to pick up the scouts' LOGPAC and the scout platoon to move back to that company for resupply. This method permits the scouts to resupply at a more forward location. However, identifying the company team responsible for resupply and ensuring that the scouts can link up can prove difficult. This method also has the problem of the two-hour turn-around time.

The other doctrinal method is to use the scout platoon sergeant to facilitate the resupply. With this method, the PSG coordinates for supplies, picks up LOGPAC, distributes the supplies, and returns the LOGPAC to its parent-unit location. This is the easiest method of resupply for the battalion, but the worst for the scout platoon. Using this method stretches the platoon's ability to perform reconnaissance missions because it must operate without the platoon sergeant for extended periods of time. This method reduces the reconnaissance force by one team or forces a vehicle to operate independently and creates the danger of opening a hole in the reconnaissance net. The greatest advantage to this method is that the scout platoon has an individual with a vested interest handling the platoon's CSS needs.

In order to develop a better resupply system, we must sever the scout platoon's tie to the LOGPAC timeline. The easiest solution is to increase the supplies that the platoon can carry. To do this, our platoon used the rack described in the May-June 1999 issue of *ARMOR*.[2] This additional space allowed us to carry two extra 5-gallon cans of fuel, which increased our operational range by another 150 miles. We also added two extra water cans and two cases of MREs, giving us the ability to deploy unsupported for three to seven days.[3] This still left us enough room to carry mission-specific equipment and extra ammunition.

The next step is to eliminate the two-hour timeline. A workable technique is to create an independent push package for scout resupply. This would consist of fuel and water cans, MREs, maintenance parts, and ammunition. This package is loaded on a trailer and brought to the LRP by the HHC 1SG. It is then transferred to the 1SG of the forward-most deployed company team, and he moves it to his AA. It can then either be pushed forward or left for another scout element to pick up. Any unused supplies can be used by the scout platoon to establish a cache site. If the scout platoon cannot make link-up, the push package can be retained with the lead company or moved to the company team collection point (CTCP) for emergency resupply. The advantages are that this will support the scout platoon with the minimum supplies needed to continue operations and the push package is not locked into the two-hour timeline.

The difficulties with this system are ensuring the push package gets to where it needs to be and is properly resourced. At a minimum, it must consist of 10 gallons of fuel, 5 gallons of water, a two-day supply of MREs per vehicle, and spare batteries. Two trailers will be needed to support the scout package; one will be deployed with the

platoon, and the other brought forward for the next resupply and exchanged for the empty trailer. By using this technique, the scout platoon remains forward of the battalion, allowing all assets to stay focused on the reconnaissance mission.

Maintenance

Resupply is only one of the logistical challenges facing the scout platoon; maintenance is the second. During our deployment to the NTC, we were assigned a wheeled vehicle mechanic, complete with toolbox, manuals, and a light wheeled tow bar. This permitted deficiencies to be verified and the part number annotated on the 5988-E without bringing the platoon to a central location. Also, it gives the platoon the ability to conduct limited recovery to either a company team or maintenance collection point. By ordering the part on the A&L net, we were able to get it with the next LOGPAC. These techniques decreased a vehicle's down-time and, in several cases, the mechanic was able to make repairs and keep the vehicle in the fight. The task force also needs to pre-stock common repair parts. This includes two to three tires mounted on rims, half-shafts, half-shaft bolts, and generator belts. These items can then be quickly pushed forward.

A second technique is to establish a Maintenance Contact Team for the scout platoon. This consists of two mechanics and a "six-pack" HMMWV. This team would carry the tools necessary for larger repairs — an impact wrench, air compressor, and a tow bar. The contact team deploys with the forward company and, as needed, could be escorted to the disabled scout vehicle. This gives the platoon a dedicated maintenance team and permits repair as far forward as possible. Scouts in the BSA provide little intelligence value.

Medical/CASEVAC

CASEVAC is the most difficult task to accomplish and, historically at the CTCs, scout platoons suffer a 70-90 percent Died of Wounds rate. This greatly affects the scouts' ability to conduct follow-on missions and cannot be handled by the scout platoon alone. Combat lifesavers and assignment of a medic to the platoon greatly enhances the ability to provide medical assistance but does not get casualties off the battlefield any faster.

To increase casualty assistance and to speed up patient preparation time, each vehicle carries a combat lifesaver (CLS) kit and a litter. The PSG's vehicle also carries two to three extra CLS kits. As the PSG collects the casualties, he replaces used CLS kits and gives the crew an empty litter. Once the PSG gets to the Battalion Casualty Collection Point (CCP) he picks up another litter and restocks the used CLS kits. This ensures that there are enough medical supplies forward to render assistance.

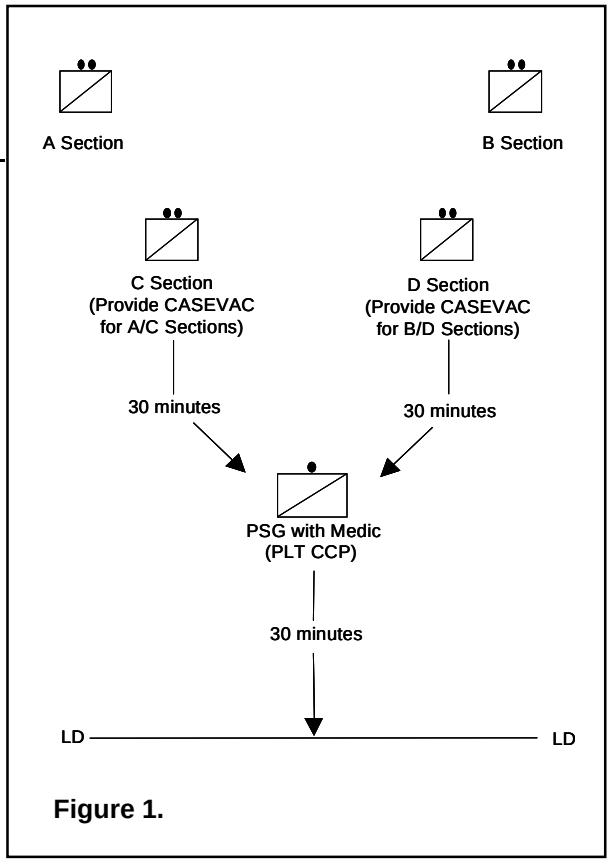

Figure 1.

Within the scout platoon, the PSG facilitates CASEVAC, and this forces him to shift his focus from reconnaissance. Once again, this reduces the platoon's reconnaissance platforms by one section or forces the PSG to operate independently. While it can be done for limited casualties, one litter and two walking-wounded per trip, it stretches the PSG's abilities. The problem escalates if there are casualties at multiple sites. Suppose, for example, that the PSG begins maneuvering to pick up a casualty from A Section (30-minute travel time) when B Section reports taking casualties. Once he has A Section's casualty loaded, he begins maneuvering to B Section (30 minute travel time). He then takes all casualties back to the Battalion CCP (1 hour travel time). Total time used for evacuation: 2 hours.

To begin fixing the CASEVAC problem, the platoon must develop an internal plan that is well understood and rehearsed. The plan used by our platoon began with developing dedicated CASEVAC platforms. To start, we crewed the PSG vehicle with a medic driver, a mechanic gunner, and myself. The two scouts normally assigned to the PSG's vehicle were then given to the Charlie and Delta sections. This gave these two sections the ability to man OPs, guard the vehicles, and still left enough personnel to crew CASEVAC vehicles. The PSG then deploys no further than a 30-minute travel time from the LD, battalion CCP, or he covers the nearest NAI. He then identifies the platoon's CCP. Charlie and Delta sections continue forward to a maximum distance of 30 minutes from the platoon's CCP or the next set of NAIs. They then become the primary evacuation platform for their teams (Figure 1) thus reducing the turn-around time for CASEVAC. By using the above method, we have cut the evacuation time by one hour and are in position to evacuate any additional casualties.

To further increase effectiveness, our platoon created an internal CASEVAC report called the "911 Report" (Figure 2). This report can be sent in one transmission to the PSG giving him enough information to start formulating his reports to higher and begin deploying CASEVAC assets.

Another alternative to enhance the platoon's CASEVAC capabilities is to augment the scout platoon with a dedicated CASEVAC vehicle. This should be either a six-pack HMMWV or a medical M113. The crew for this vehicle will consist of the PSG, a medic, and a wheeled mechanic. This technique would permit the PSG to focus solely on CSS while still providing the platoon with maximum reconnaissance

911 Report

Line 1: Vehicle bumper number and type of damage:

Zapped=Destroyed	Firepower
Maneuver	Commo

Line 2: Location.

Line 3: Crew position and type of casualty:

T=TC	1=KIA
D=Driver	2=Urgent
G=Gunner	3=Priority
X=Dismount	4=Routine

EXAMPLE: Red 4 this is Red 3, 911 follows, Red 2 Firepower grid 123456 T2 G3, over.

Figure 2

platforms. It would also provide the scout platoon with a vehicle capable of carrying multiple casualties and, equipped with a tow bar, it provides recovery capabilities.

While these techniques are a good first step, the task force must be proactive when supporting or augmenting the scout's CASEVAC. They must be willing to commit combat power to recover scouts or risk going into battle blind. Company team medic vehicles must be prepared to evacuate scout casualties while moving forward of the LD. The platoon plan must be integrated into the task force's CSS plan. CSS operations must be rehearsed so all players understand their roles.

Conclusion

On 17 March 1915, a British column of 45 vehicles, consisting of 12 armored cars, Ford tenders, and a string of ambulances, departed Sollum. Their mission was to travel 120 miles into the desert and conduct a raid on Bir Hacheim, rescue the crew of the *HMS Tara*, and return 120 miles to Sollum.[4] The success of this mission was due to the armored cars' ability to bring all their CSS needs with them. While we cannot send a fleet of trucks to meet the scout's logistical needs, we should ensure they have everything necessary to survive away from the task force.

Notes

[1]Perrett, Bryan, Bruce Culver, and Jim Laurier. *German Armored Cars and Reconnaissance Half-Tracks 1939-45.* Oxford, England: Osprey Publishing Ltd., 1999.

[2]Johnson, T.J. Captain. "The HMMWV Storage Rack." *ARMOR.* May-Jun 99, Back Cover.

[3]Edwards, John E., Major (Ret.). *Combat Service Support Guide 2nd Edition.* Harrisburg, Pa.: Stackpole Books, 1993.

[4]Zumbro, Ralph. *The Iron Cavalry.* New York: Pocket Books, 1998.

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tricity, sewage, and water systems, sanitation, and road repair. In most of these situations, the lieutenant passes the information to higher. Then the battalion refers the problems to a nongovernmental agency that can help the residents improve their quality of life. As the KFOR representative for these towns, the lieutenant must reinforce the fact that KFOR is here to provide a safe and secure environment, not rebuild the country.

The meetings also provide a platform for information sharing. The lieutenant passes along information from KFOR to help the people understand KFOR's needs, and then attempts to obtain information critical to the company mission, primarily concerning people bypassing the checkpoints and transporting weapons and supplies. This helps the company to focus its efforts on certain areas or people that may be of concern.

In addition to conducting peace support operations, soldiers in Kosovo cannot forget that American soldiers fight and win our nation's wars. In order to maintain their proficiency for high intensity conflict, we executed a training program to maintain their necessary skills. During their time back at Monteith, the tank commanders and gunners will spend time in the MCOFT to maintain gunnery skills. We also established a plan to train and test all soldiers on the TCGST skills required for all 19Ks, and the Bradley section sergeant executes similar training for Bradley crews. Dismount squad leaders conduct common skills and EIB training.

Peace Support Operations at Outpost Sapper reflect the versatility and flexibility of today's Army. Leaders must have the ability to expand their focus to ensure that all required tasks are trained and soldiers are capable of executing both peace support operations and high intensity conflict to standard. Sergeants and corporals routinely execute tasks that exceed the normal responsibilities given to junior leaders, which allows them to gain experience and develop the leadership skills they will use as senior NCOs.

Soldiers are also expected to conduct a difficult and complex mission that requires a great deal of intellect and compassion on a daily basis. They are required to conduct this mission in an unfamiliar environment, separated from family and loved ones for long periods of time, during holidays, working seven days a week. Each one of the soldiers at OP Sapper is doing an outstanding job representing themselves, their unit, KFOR and the United States. The performance of these soldiers makes the leader's job that much easier, and it truly displays the amazing depth of the U.S. soldier.

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"My next fight involved what may be the most notable issue surrounding the TACSOP today: doctrinal bloat — regurgitation of doctrinal information from field manuals so that the TACSOP will look all-inclusive when the OC asks to check it on the next NTC rotation."

Building the "Perfect" TACSOP

by Captain Brant Guillory

Twice now I have been charged with building a Tactical Standard Operating Procedure (TACSOP) from scratch. The first instance was for my tank platoon in the Test & Experimentation Command, an unlikely place to use much of the same information my brethren used in the rest of the Army. The second was for 1-149 AR, CAARNG, when the battalion traded in its M60A3 tanks for M1IPs. As one of the few officers in the battalion with any experience with M1 tanks, the S3, Major Mark Malanka, selected me to ensure that our TACSOP was accurate with regards to the (relatively) new world of the Abrams tank.

The Approach

Initially, I went straight to the Fort Knox supplemental reference for the tank platoon, figuring that I shouldn't need to reinvent the wheel. I also solicited input from the NCOs in the platoon based on their experience. Several of them were Gulf War veterans; together with a smart platoon sergeant, they provided enormous help with this task. In the end, we used little from the Fort Knox SOP, primarily because my NCOs had so much good information already on paper. But I kept it, and its company-level companion, should it ever become handy again down the line.

Developing an SOP for a platoon that does not often operate within a company/team was a challenge, but in TEXCOM, platoons often rolled to the field without other maneuver or support elements. Occasionally, only parts of the platoon deployed and the rest worked on another part of the test, often at another location. Consequently, our TACSOP was checklist-heavy. The intention was that any member of the platoon could pick up the book, and have the vehicles ready to operate, with all testing and tactical systems fully operational, without the platoon leader, platoon sergeant, or even a tank commander, handy. It wasn't perfect, but it was sufficient.

In early 1999, while a member of the 1-149 AR staff, the battalion S3 gave me a second opportunity to develop a TACSOP. As in the first instance, I was one of the few officers who had experience on M1 tanks, but more important was my degree in writing and editing, my civilian job as a desktop publisher. Remembering the experience at Fort Hunter Liggett, I searched for every TACSOP I could find, to gain useful knowledge and borrow as much as possible. The S3 had provided a copy of the TACSOP of the Vanguard Brigade of the 24th Division. I went straight for the 1-149 AR TACSOP from the M60 era, and also rounded up the Fort Knox BN/TF TACSOP, and at least four others, both armor and infantry.

Challenges – First, the Content

My next fight involved what may be the most notable issue surrounding the TACSOP today: doctrinal bloat — regurgitation of doctrinal information from field manuals so that the TACSOP will look all-inclusive when the OC asks to check it on the next NTC rotation. A BN/TF TACSOP does not need a sketch of a tank platoon column. Hell, a tank platoon TACSOP doesn't need it! We have an army-wide "TACSOP" for tank platoon movement formations. It's called *FM 17-15, Tank Platoon,* and since everyone in the army is supposed to use the same FMs, there is no need to put it in a book that is supposed to be specific to your battalion/task force.

What is important is to translate doctrinal information into a relevant tool for soldiers to use. For example, specific Troop Leading Procedures were outlined and described through each step as it related to the 1-149 AR: "Conduct Recon" involves *these* specific people conducting *these* minimum tasks, and *these* additional ones, if time and resources permit — the assistant S2 did the map recon for mobility issues while the S2 would check out the enemy situation, either by templating or by visual recon; the S3 Air was in charge of terrain management, freeing the S3 to go forward to look at the battlefield.

Another challenge was that many TACSOPs attempt to deal with every permutation of a situation, instead of establishing one procedure — a standard procedure — and dealing with case-by-case issues as they arise. "Employing ACE/Dozer" specifically addressed who within the 1-149 AR was responsible for moving engineer assets around the battlefield in the defense. The Vanguard Brigade TACSOP, for example, had left four options for "CINC Dozer": BN CSM, BN Master Gunner, Engineer Platoon Leader, or BN Liaison Officer, and left no provisions for determining which order those were to be used. The 1-149 AR TACSOP specified that CINC Dozer was the BN CSM, and if he was unavailable, the BN MG filled in. Beyond that, your TACSOP addresses specific scenarios that should be handled on a case-by-case basis. In a TACSOP, a unit cannot account for every instance when both the CSM and MG are out of the loop.

Organizing the Document

Most TACSOPs I read were simply confusing. In the Fort Knox sample, too many "cards" hiding in the wrong places only enhanced confusion. Organization by Battlefield Operation Systems (BOS) seemed logical. The "Organization for Combat" and "Cross-attachment Procedures" are under Command and Control. "Tactical Road Marches" are under the Maneuver heading, while "UMCP Operations" are in the CSS section. Added to the seven BOSs was a chapter for "Standards"

Figure 1
TF 1-149 AR
TEAL Report

Only those lines which have changed since last report are submitted by radio.

Written TEAL report is due every night at Commanders' meeting.

a. Current Slant report (Tanks/IFVs/other PCs)
b. Current location (reference friendly graphics)
c. Current Ammo/Fuel status (Green/Amber/Red/Black)
d. Enemy activity (either "none" or SALT format)
e. Sensitive items report (either "all accounted for" based on last Green 2 or "lost X items, Green 2 to follow)
f. MOPP Level (if changed)
g. Personnel present (include attachments, do not include detachments)

CO/TM & Callsign	SLANT	CDR's ASSMT	LOCATION	CSS STATUS (Green = 90-100% Amber = 70-90% Red = 50-70% Black = 0-50%)	TANKS	ITV/ TOW	IFV/ APC	INF SQDs	CSS TRACKS	GREEN TWO	MOPP STATUS	PERS
	A	Green / Amber / Red / Black	B	Green / Amber / Red / Black C	AUTH / PRES / MAINT	AUTH / PRES / MAINT	AUTH / PRES / MAINT	AUTH / PRES / MAINT	AUTH / PRES / MAINT	E	F	G

Because 1-149 AR's sister infantry battalion, 1-159 IN, is still equipped with M113-series vehicles, the TOC tracks ITV/TOW systems separately from standard troop-carrier M113s. CSS tracks, because they are not primary fighting systems, are a separate tracking item. However, when the CO/TM slant is reported, it comes in as "TANKS/TOWs/PCs/INF SQDs."

Figure 2
TF 1-149 AR
ORANGE Report & CSS Chart extract

Notice that the first five items on both charts are identical, which helps mulitple command posts track information that is vital to all players on the battlefield.

a. Number of personnel authorized (Officers/Warrants/ Enlisted)
b. Number of per present for duty (Officers/ Warrants/ Enlisted)
c. Number of vehicles authorized by type
d. Number of vehicles present by type
e. Number of vehicles in maintenance and estimated time of availability
f. Ammo needed by type
g. Fuel needed by type
h. Rations needed by type
i. Class IV needed by type

CO/TM & Callsign	SLANT	CDR's ASSMT	LOCATION	CSS STATUS (Green = 90-100% Amber = 70-90% Red = 50-70% Black = 0-50%)	Class I	Class III	Class V SMALL ARMS	Class V TANK	Class V OTHER	MAINT STATUS	MOPP STATUS	PERS
		Green / Amber / Red / Black		Green / Amber / Red / Black	A		5.56	SABOT	TOW			O
					B		7.62	HEAT	25mm			W
					C		50Cal	OTHER	Stinger			E

The ORANGE report does not replicate the CSS chart as closely as the TEAL replicates Tactical chart, because ORANGE reports are often sent out of contact when the RTOs in the CTCP have time to transpose information. ORANGE reports are required throughout the TACSOP: within 30 minute of establishing an assembly area, at any ROM or hasty LOGPAC, and at any XO's meeting. Only those lines which have changed are submitted; consequently, lines A and C are not often used, and lines F-I are only used during hot situations.

which dealt with field uniforms, packing lists, and equipment standards, as well as PCIs. A final chapter addressed reports.

Tie it all together

Having resolved the issue of what to include in the TACSOP, and how to organize it, the next step was to work on reporting. The operations sergeant major, SGM Ernesto Perez, and I were already in the midst of remaking our TOC charts. We intentionally designed both the charts and reports to dovetail. We developed a special report, known as the TEAL Report, that was mixture of "Blue" (operations) and "Green" (intel) reports. The tactical SITREP chart for our TOC followed this report exactly *(see Figure 1)*. As the companies called in their TEAL reports, the RTO simply wrote directly across each company's line: slant, location, CSS status, MOPP level, sensitive items, and enemy contact. Anyone receiving a report from a company could fill in the information directly across the status board. A similar report/chart combination for the CSS side mixed Red and Yellow reports to form the ORANGE report *(see Figure 2)*. We still used our red, yellow, blue, and green reports as required and scheduled, especially when forwarding information to the brigade. Our two new reports were designed to minimize air-time during the battle by providing the commander with a specific set of limited information as it actually happens.

The battalion now had a TACSOP and a set of TOC charts. Both had been through review by the staff sections and company commanders. It was time for trial by fire. Of course, National Guard units don't often get a rotation to the NTC, so we had to settle for the next best thing, a Janus exercise scheduled for the next month.

Trial by Fire

The mission for the Janus simulation was simple — BN/TF defense on the Yakima Training Center terrain. Everyone had their report formats, their TOC charts, their TACSOPs well in hand. The plan had been prepared; it was time to fight. The battle unfolded as expected when a regiment of T-80s and BMP-3s faced down a battalion whose battlefield calculus was predicated on T-72s and BMP-2s. It got ugly fast.

Editor's Note: The Tactical SITREPS and CSS Tracking Charts were too large to reproduce here, but they will be available, along with the TEAL and ORANGE Reports, under the "Back Issues" for May-June 2001 on our website: *www.knox.army.mil/armormag/*

However, the blessing of that mismatch was that we got a lot of work out of our TEAL and ORANGE reports, as well as finding lots of little things wrong in the TACSOP. For example, we had the wrong basic loads on the ammo trucks; the TACSOP failed to account for differences between offensive and defensive missions and class V pre-stocks in a mobile defense. The document had no provision for bringing up a "fifth flag" to act as a company HQ and control multiple platoons, so the scout platoon leader found himself with the mortars and a tank platoon under his control. Our TACSOP still needed work, but the one piece we were most unsure of — the TEAL and ORANGE reports — had worked out well for us, allowing every command post to maintain nearly identical battle tracking, with over 90 percent real-time accuracy, information vital to the commander for making decisions under the pressure of combat.

We had found a way to eliminate the lag between company reports coming into the TOC, the map getting updated, and the charts reflecting the tactical and CSS situations. And we were still able to extrapolate the relevant information from our TEAL and ORANGE reports to submit our appropriate red, yellow, blue, and green reports to the brigade.

Using Our New TACSOP

After scrubbing the TACSOP, we used it at Yakima Training Center that summer. We were encouraged when our AC/RC advisors asked for a copy of it and their eyes got big, as they were able to flip through it easily and naturally, and find almost everything they were looking for. The points they suggested, such as an improved casualty evacuation procedure, were incorporated into subsequent editions of the TACSOP.

The single best idea to emerge from the TACSOP development was the brainchild of then-CPT Bill Beane, our S3 Air. CPT Beane offered numerous tidbits of advice from his active-duty days with the 11th ACR on the inter-German border and his days with the 4th ID at Fort Carson. Every night, the battalion held a command and staff brief at the TOC, where all the staff sections, commanders, and other leaders (UMCP, scout platoon, battalion surgeon, etc.) would gather to report on that day's events and the plans for the next day. At the opening of every meeting, CPT Beane would hand out a sheet of paper to everyone in the tent and ask four questions, directly out of the TACSOP. The intention was two-fold: (1) to force the leaders of the battalion to crack the book and examine those same things they were asking their soldiers to know by heart, and (2) to bring to light controversial or questionable issues so that they could be discussed with all the principals present. A few examples of what we found:

- The CSS slice accompanying a cross-attached company was too small.
- Nowhere did the TACSOP specify who controlled the movement of the mortars during the battle and who told them when to displace and bound.
- The battalion TACSOP gave specific guidance to each company for the composition of its quartering party within the framework of the battalion quartering party, instead of simply saying "Minimum 1 track/squad per company" and allowing each company to specify who their quartering party would be.
- There was no specified medic support for the TOC or UMCP.

If you really want to make your TACSOP hum in this era of combined-arms operations, have an infantryman go through it. We updated our quartering party and assembly area procedures based on the advice of a career 11B/11M so that when the 1-149 AR gets that cross-attached infantry company, the TACSOP is ready for them.

Our TACSOP still wasn't perfect, but it was improving, and more importantly, *everyone* was helping make it better.

After Yakima, I gathered up all of the notes I compiled and started on my revisions. Since the 1-149 AR was so close to Silicon Valley, I had jokingly dubbed the Janus copy of the TACSOP the "beta" version, and after Yakima, I distributed "TACSOP 2.0" to the battalion, along with a complete set of all documents, report formats, and charts, all on disk so subsequent revisions would be easier. I left the 1-149 AR for South Carolina when my civilian job pulled me away, but I left knowing that we, as a battalion, had created a useful living document that people actually referred to instead of stashing it in their rucks in case an OC asks to see a copy of it.

Lessons Learned

If you really want to learn how a battalion task force is supposed to operate in combat, don't simply read the TACSOP, endeavor to write one. The most important lesson you learn is that the TACSOP changes — constantly. The real challenge is putting those changes in the hands of someone knowledgeable to update them throughout the unit. An officer or senior NCO who has been in the battalion long enough to see it maneuver and understand how it operates is essential for TACSOP development and updating.

The problems found while creating or revising TACSOPs are simple to describe, but difficult to rectify.

- The most serious issue is the inclusion of doctrinal information that is standard across the Army. A simple rule of thumb: if it's in a manual somewhere, it shouldn't be in the TACSOP, unless it identifies specific equipment and/or people to do those tasks (see the above example of the TLPs).
- Organize the TACSOP logically. Whatever method you employ should be universal and all-inclusive. The BOS method is not perfect — I still don't know where to put traffic control roadblocks that involve engineer assets creating tank scrapes — but it was better than the annoying "card" method used by Fort Knox that jumps around from point to point during the battle.
- Incorporate your battle tracking mechanisms. It is vital that the commander and his staff have accurate, timely information on the fight. How many of the battalion's standard reports correlate directly to the battle tracking charts used in the TOC? Can the RTO fill out the chart without an interpreter to show him where all the information goes? If not, then either the charts or the reports need to be redone.
- The last issue, training, is both vital and the easiest to rectify. Every officer and senior NCO in the battalion should be familiar with the TACSOP contents and should be validated to use the document by some form of test. CPT Beane one night jokingly asked as one of his questions, "What's the third item in the right column of the 'A' bag packing list?" Everyone chuckled, but when we all went to look it up, we found the MOPP suit in a duffel bag in the company 2½-ton truck instead of with the soldier in his ruck. That was quickly fixed.

CPT Brant Guillory was commissioned through ROTC at North Carolina State University and served 3½ years on active duty as a platoon leader, headquarters company executive officer, assistant operations officer, and liaison officer. Since joining the National Guard in 1998, he has served as a tactical intelligence officer, battalion S2, and battalion adjutant. He is currently the BMO of 1-263 Armor (SCARNG).

CPT Guillory would like to thank MAJ Russell Dewell and COL Ken Guillory for their help in developing this article.

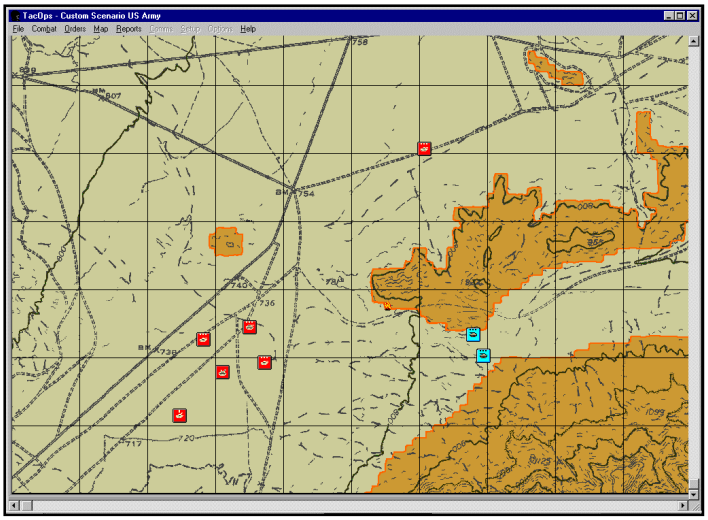
Fighting a Hundred Battles:

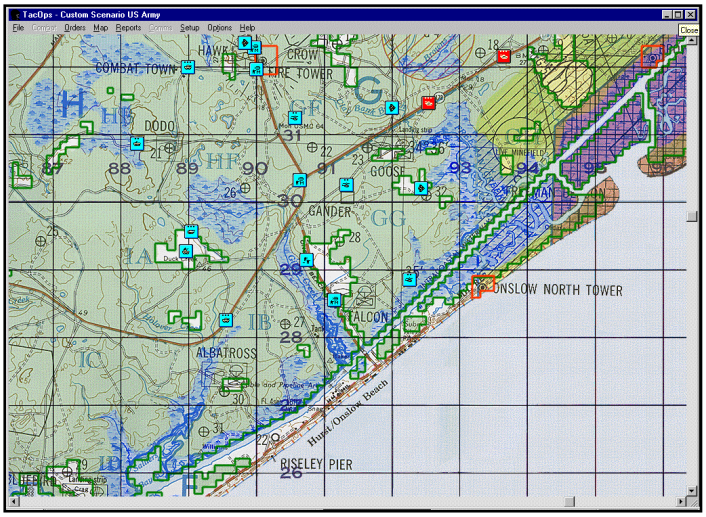
Using *TacOps* to Produce Experienced Captains for the Mounted Force

Major Wayne Cherry and Major Joseph McLamb

At 0700, the commander of the forward security element crosses Bicycle Lake, heading north toward his battalion's objective of Granite Pass. The situation is extremely unclear; he has no report of enemy contact. Shaking himself to overcome the fatigue of continuous operations, he looks at his digital map and sees that the CRP is moving north of the western entrance to Hidden Valley. He directs the remainder of the FSE to follow. The battalion command net crackles, and the company commander receives a FRAGO: seize Hill 876. He forwards the order to the CRP, mentally wondering if the enemy is already on the objective. Suddenly, a flank platoon reports contact to the east. An icon showing two enemy HMMWVs appears on the commander's digital map at the western end of Hidden Valley. The platoon in contact is engaging with ATGMs, but the commander's mind races to far more important conclusions. If the enemy has scouts in Hidden Valley... Almost frantically, the commander reorients his force to the east, but already the digital map shows two enemy tank platoons emerging from Hidden Valley, attacking into the FSE's open flank.

At 1300, the same commander looks at his digital map again. This time he sees that his friendly forces include a RSTA squadron recce troop, a platoon of MGSs, 6 OH-58D Kiowa Warriors, and four UAVs. As he mentally adjusts to this new task organization, he inspects the terrain on the map. The open spaces of the Mojave Desert have given way to the swampy lowlands of Camp Lejeune. As he tries to think through the effects of the change in terrain, the radio crackles: "FRAGO, enemy MIBN detected at AB123456, moving east..."



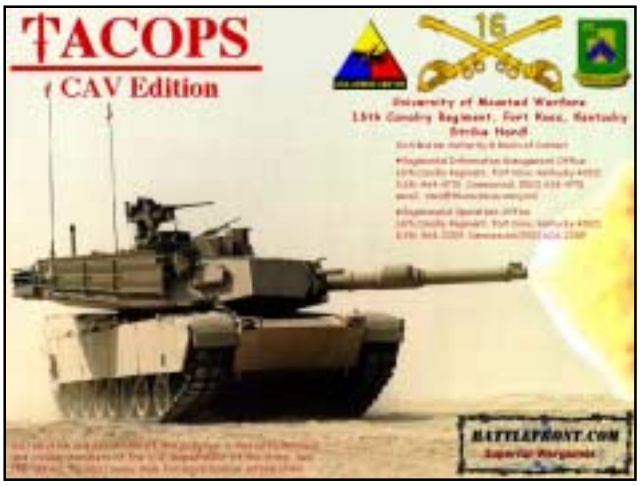


No, this poor commander is not trapped in the twilight zone or in a tactician's purgatory. In fact, both of these battles, and many others like them, occur within the walls of Skidgel Hall, home of the Armor Captains Course at Fort Knox, Kentucky. Using an off-the-shelf computer simulation and standard laptop computers, the course requires student officers to quickly adapt to a changing environment, assess the situation, make decisions quickly, and learn from the results.

Background

If you've ever given any thought to training captains, then you've probably concluded that the long pole in the tent is experience. While it is relatively easy to give a young captain all the information he needs to be successful, making him an experienced leader is much more difficult. It is so difficult, in fact, that we rely almost completely on "on-the-job training" to provide the necessary experience. In the vast majority of cases, when a young captain arrives at his first unit he has never had to put all his new knowledge to work in an environment marked by uncertainty and limited time. He is knowledgeable, but inexperienced; educated, but not confident.

Recently, the Armor Captains Course has taken a number of steps in an attempt to overcome this deficiency. Our goal is to place student officers into multiple tactical and leadership scenarios, in an environment of uncertainty, little time, and limited resources, and require the student to make decisions. If we force a student officer to do this once, we've made some progress. But if we can get him to do it one hundred times — each time with feedback within the scenario and from his small group instructor — against an enemy that is



The responses from both small group instructors and student officers have been very positive. TacOps *is easy to use, can be loaded on any standard laptop computer, provides visual and audio feedback, and is frequently described by student officers as "fun."*

trying hard to win, then we are well on our way to providing experienced captains to the force. Constructive simulations allow us to put a student into a hundred battles at almost no cost.

Constructive simulations have long been a part of officer training. In the Captains Course, we use Janus and BBS for large-scale CPXs and for one-on-one adaptive decision-making exercises. But such simulations are resource-intensive, require extensive coordination, and are not easy to use. For that reason, we recently bought the site license for *TacOps*.

TacOps 3.0 is a constructive simulation of modern tactical combat that can run on a standard PC. It was designed by a retired Marine officer, MAJ I. L. Holdridge, and has been purchased as a training device by the United States Marine Corps, and the armies of Australia, New Zealand, and recently Canada. The University of Mounted Warfare version, called *TacOpsCav*, should be available to all Army units within the next few months.

The responses from both small group instructors and student officers have been very positive. *TacOps* is easy to use, can be loaded on any standard laptop computer, provides visual and audio feedback, and is frequently described by student officers as "fun." It has tremendous potential for training captains, and can easily be used to train officers and NCOs within units.

First, the Shortfalls

TacOps has a lot to offer the trainer, but it has three major shortfalls that you must understand and accept from the beginning.

First, it requires some knowledge of the computer commands to get the results that you want. Before you can effectively use the program as a training tool, you must first be proficient with the program yourself. The program comes with a built-in tutorial, as well as a 200+ page on-line manual, so all the necessary information is easy to get. By spending some time working with the program in advance, you shorten the amount of time spent inputting orders to the units. Before trying to use *TacOps* for unit training, start with the tutorial. Small group instructors at the Captains Course report that they achieved a reasonable level of proficiency in 4-8 hours.

The second major shortcoming is that the Blue order of battle doesn't exactly match any current U.S. unit. The reason is very simple — since the Army doesn't a have single organization for all of our units, the game designer used a hybrid organization. You will also find that certain pieces of equipment are missing (the AVLM, for example), but that this is fairly easy to work around. In fact, the whole order of battle issue is overcome very simply by designing your own scenarios.

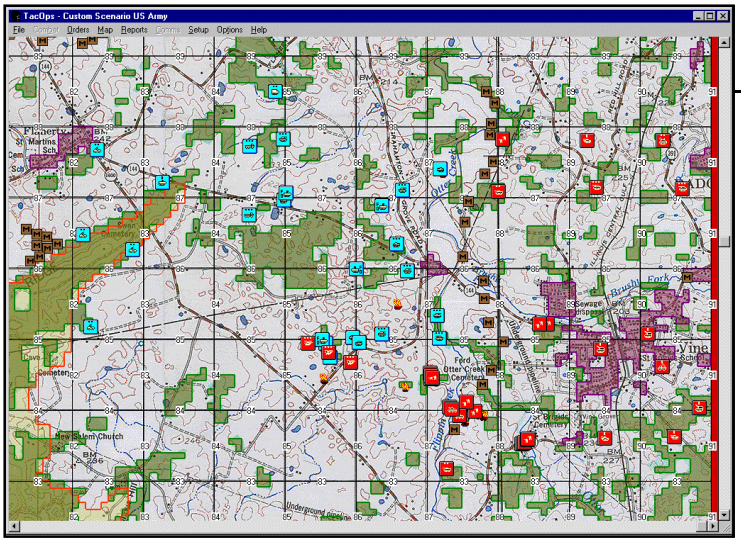
The third and most significant shortfall of *TacOps* is terrain modeling. The terrain in the program has only two levels — ground level and high terrain. The designer attempts to overcome this oversimplification by applying an abstraction to the problem. All terrain in *TacOps* is labeled by level of "roughness" – Rough0 through Rough4. These levels affect the mobility of the terrain, but have a much more important effect on line of sight. The level of roughness indicates the availability of intervisibility lines, small clumps of trees, etc., that would allow a stationary unit to find cover and concealment. A unit moving across Rough4 terrain, for example, might easily drop "out of sight" once it stopped moving. This abstraction isn't always exactly right for a given piece of terrain, but proves surprisingly accurate in most situations. Our experience so far has been that *TacOps* comes close enough to getting it right that you can conduct a TEWT in the morning on actual terrain, then fight that piece of terrain on *TacOps* in the afternoon with little loss of fidelity, as long as you accept the inability of the program to accurately reflect that individual IV line that you saw on the TEWT.

Making the Most of the Resource

At the Armor Captains Course, we use *TacOps* for a great number of activities, ranging from quick and simple to very complex. As you can see, some or most of these can easily be adapted to operational unit training.

1. Demonstrations of simple tactical concepts: Small group instructors use *TacOps* to reach the visual learners in the classroom. A common demonstration involves the use of intervisibility lines. The SGI places a single M2 platoon in a defensive posture, then launches an enemy tank company at it. The M2 platoon usually destroys three of four tanks before it is itself destroyed. In a second iteration, the SGI places the platoon at the crest of an IV line, with orders to fire, employ the vehicles' smoke grenades, and back off the IV line 200 meters. In this second scenario, the M2 platoon kills three or four tanks, then withdraws safely, usually without loss. This simple demonstration, which normally takes less than ten minutes, often clears up the mystery of intervisibility lines for the visual learners in the small group.

2. Tactical decision games: These short, relatively simple tactical problems have long been a part of leader training. *TacOps* allows SGIs to take the TDG one step further. In-



stead of debating student solutions, now small groups actually fight the battle. Learning is vastly enhanced because the student sees the results of his decisions played out on the battlefield, rather than simply discussed with his peers and instructor. Building a simple TDG on *TacOps* requires little overhead, and can usually be conducted and AAR'ed within an hour.

3. Force-on-force engagements: Using the local area network, two computers can fight the same *TacOps* battle simultaneously, one as the Blue force and one as the Red. Of all the uses of *TacOps*, this seems to generate the greatest level of student enthusiasm. Putting students in a head-to-head engagement verifies the old adage: Americans play to win! We've found that students try harder and learn more when we place them in direct tactical competition. These scenarios tend to be more involved, often taking two to three hours to conduct and AAR.

4. Rehearsals: Students have adapted *TacOps* to their own needs in several ways. One of the most successful has been in conducting rehearsals. Prior to conducting a company mission in CCTT, some small groups rehearse the operation in the classroom using *TacOps*. Across the board, the result has a company operation that was markedly better than those that did not include a *TacOps* rehearsal. At the task force level, small groups sometimes use *TacOps* as a tool during the course of action analysis to validate courses of action, access casualties as part of the wargame, etc. Several small groups have found *TacOps* to be particularly useful for planning and rehearsing reconnaissance and security operations. Finally, small groups often use *TacOps* to introduce additional enemy forces or courses of action into a scenario, exploring new options for friendly branch plans.

5. Command post exercise: This is definitely the most resource-intensive use of *TacOps* in the Captains Course. To exercise students as a task force staff, we place the company commanders in one location with the *TacOps* computer, and place the staff elsewhere with radios and TOC facilities. The staff receives only that information provided by the company commanders. Typically, we have both a Blue and a Red staff fighting each other. Again, student involvement and enthusiasm is remarkable. A standard task force exercise can run from four hours to a full day, and requires a TOC facility of some sort as well as radios. We often use handheld commercial radios for these exercises.

6. Tactics Award: Our course has for many years recognized the student officer who distinguished himself as a tactician over the length of the course. In the past, we selected this officer by means of a formal board. Appearing before a group of senior instructors, candidates for the award answered questions on doctrine and tactics, then prepared a verbal FRAGO for a company operation. Based on the collective input of the board members, one student officer was selected for the Tactics Award. Recently, we changed the methodology. Now, candidates for the Tactics Award face each other in short tactical engagements fought on *TacOps*. A candidate may find himself required to attack or defend, using U.S. or other equipment, on terrain that is extremely varied. The most recent winner of the Tactics Award was undefeated as a U.S. tank company, an OPFOR reinforced motorized infantry company, and a reinforced U.S. recce troop from a RISTA squadron.

Looking Down the Road

The site license purchased by 16th Cavalry Regiment includes several upgrades in the software that should be complete by early summer of 2001. The major improvements include:

- The inclusion of the M1A2 SEP in the unit database;
- Significant refinement in the ability of the simulation to replicate urban terrain, to include both major cities and urban sprawl;
- The inclusion of various forces other than the Blue and the Red force, to replicate civilians, non-governmental organizations, criminals, refugees, etc.; and
- Expansion of the LAN capability to allow more than two work stations in a given fight.

Even with these upgrades, *TacOps* will not match the battlefield fidelity of our better known constructive and virtual simulations. Its ease of use, minimal computer requirements, and extreme portability, however, make *TacOps* a valuable training tool in the hands of innovative and aggressive trainers within our training institutions and our units.

MAJ Joseph McLamb is an infantryman currently serving as the commander of O Troop, 3rd Squadron, 16th Cavalry Regiment. His previous assignments include observer/controller at the Joint Readiness Training Center, company commander in the 101st Airborne Division (Air Assault), and tours at the National Training Center and in Korea.

MAJ Wayne G. Cherry Jr. was commissioned a Distinguished Military Graduate from Mount Saint Mary's College, Md., in 1987. He served as tank platoon leader, scout platoon leader, adjutant, and Delta Company commander in 1-35 AR, Erlangen, Germany. Following Desert Storm, he was assistant S3, 1ATB, Ft. Knox, Ky. After AOAC, he served as S3 air and commander of Charlie Company and HHC/3-69 AR, 24th ID (M), Ft. Stewart, Ga. Additional assignments include observer controller at the NTC, Ft. Irwin, Calif; AOBC Division Chief, Ft. Knox, Ky.; and small group instructor, Armor Captains Career Course. MAJ Cherry is currently the Nomad Troop Commander for ACCC.

from training exclusively. To quell any argument, look at the three-tank platoon operations by the Russians in Afghanistan... it was abysmal.

ERIC D. SCHULTZE
CPT, Armor, NYARNG
S1, 1st Battalion, 108th Infantry

Some Additional Information On Israel's "Heavy APCs"

Dear Sir:

As an avid reader of *ARMOR* magazine, I enjoyed the interesting article in the March-April issue, *Deployable Versus Survivable,* by SFC Ira L. Partridge. I agree with most aspects of SFC Partridge's analysis, but as the author of a recent book on IDF tank-based carriers, I do have some disagreements with his description of these heavy APCs. (See *Military Briefs 2. Israeli Tank Based Carriers,* by Marsh Gelbart, Mouse House Enterprises, Woden, Australia. 2000. ISBN 0-9577586-1-8)

I do not believe that the IDF would classify the M113 with reactive armor, known as the Classical, as a heavy APC. Their heavy APCs are all tank-based and fall into three main categories.

- Those APCs based on the Centurion hull, the *Nagmashot, Nagmachon,* and most recently the *Nakpadon.*

These Centurion-based carriers are optimized for use in high threat, counter-insurgency operations in rough terrain. They are not suitable for combined operations, being too slow and unwieldy. In addition, these AFVs do not have adequate provision for infantry to disembark under fire. SFC Partridge's statement that "A modification allows troops to exit from the rear" is misleading. In fact, infantry have to clamber, one by one, out of a rather awkward and narrow hatch, onto the engine decking of the machine's hull and then disembark by jumping to the ground. Although special ballistic side-skirts can be hinged upwards, offering some protection whilst infantry are debussing, they remain terribly vulnerable to artillery airbursts.

- The T-55 tank-based carrier, the *Achzarit*, is designed for combined arms operations. It is intended to function as a heavy assault carrier. Rather than simply being used to "protect and deliver a squad of dismounted infantry to the battlefield" the *Achzarit* is intended to traverse that battlefield. It is capable, thanks to 14 tons of appliqué passive armor added to the baseline protection offered by its hull, of crossing through the fire-zone to deliver its infantry onto an objective. It can accomplish this journey with at least the same chance of survival as a top-of-the-range MBT.

As SFC Partridge points out, the *Achzarit* has a clamshell rear hatch. By virtue of this, infantry can disembark in relative safety when compared to the Centurion-based heavy APCs.

- The Centurion-based Puma combat engineer vehicle was overlooked in the article. Although heavily protected, the Puma is less cumbersome than the other Centurion-based carriers. It is a hybrid design, part combat engineer vehicle, and part kangaroo carrier. According to IDF tactical doctrine, the Puma would be used alongside the *Achzarit* in combined operations.

The enormous efforts the U.S. is making in developing light armored forces suitable for rapid deployment is perfectly understandable. It matches perceived political needs and real logistical constraints. It may prove to be a costly mistake. Even the most advanced LAV can be outfaced by some decrepit T-55 "Warlord Special." Perhaps it is too soon to write off heavy armor and, in particular, heavy APCs for peace enforcement missions. The Israeli (and Russian) development of heavy, survivable, infantry carriers flies in the face of current orthodoxy. Yet is the current orthodoxy a false doctrine? I hope I am wrong, but I can foresee a situation in which Western forces may "fly light, but die early."

MARSH GELBART

Correction

Editor's Note: SFC Ira Partridge's article included an illustration of the Israeli *Achzarit* APC that neglected to credit the photographer, Marsh Gelbart, who holds the copyright on the photo. We apologize for the error. Mr. Gelbart is the author of a recently-published book on heavy Israeli personnel carriers developed from obsolete tanks. This book is currently under review for the magazine's book column.

No Badges Needed for Esprit: Armor-Cav Is Elite Enough

Dear Sir:

In this whole EAB/CAB debate, it seems we're putting the cart before the horse. According to the *Army Officer's Guide,* 48th Edition, the Combat Infantryman's Badge "was created at the behest of Lieutenant General Leslie McNair, CG, Army Ground Forces during World War II. It was created for the formal recognition of the unique dangers and conditions of infantry duty in combat. The contributions made and hardships sustained by the other branches were considered *but were deemed to be sufficiently recognizable by existing awards.*" (p. 569) The Infantry Board at Fort Benning created the Expert Infantry Badge after World War II to establish a criterion of standards that rewarded those who proved they could pass a rigorous qualification test. The award was modeled after the CIB to enhance its prestige. For the past fifty years, the CIB and the EIB have become two of the most prestigious awards to adorn the American soldier's uniform. It seems that we question the wisdom of our forebears by advancing the notion of both a Combat Armor Badge and/or an Expert Armor Badge.

Do we really need an expert qualification or combat recognition badge in the armor and cavalry community? Since the dawn of mounted warfare, military leaders — and the empires they represented — viewed the cavalry forces as their elite troops. The cavalry was (and still is) the most expensive armed ground service to maintain. For this reason, only the best troops and leaders were considered for positions in the cavalry. As a result, the mounted arm has always been imbued with a sense of *élan*. "We are the best. Give us the toughest missions, and we will not let you down." The mission of the cavalry is the toughest in the army. The cavalry covers greater frontages and distances, operates over longer periods of time with little or no rest, providing security for the commander's scheme of maneuver. The reward of having such a mission is sublime. Being a part of the cavalry is its own reward. No other branch, to include the infantry, can claim such distinction. This is why I became an armor officer.

Historically, no one can say that being in the infantry is its own reward. There is no glamour or élan inherent in the world's oldest branch of arms. Therefore, to enhance the prestige of infantry service, the élan has to be created artificially. This is why our infantry brethren are notoriously "badge happy."

After my unit (4-7 Cav, 3AD) was redeployed back to Germany in my younger lieutenant days, we heard the rumors of a CAB being created. Like everyone else, I thought it was a good idea. "Boy...that'll look good on our uniforms!" We were all disappointed when the promise never came to fruition. Over time, it was forgotten. This recent debate has caused me to reflect on the question of why the proposal is being partially revisited. There are good intentions on both sides of the issue. The problem is that we seem to have forgotten why the CIB (and to a lesser extent, the EIB) was created and what it represents to a branch that deserves special recognition. Like Congresswoman Patricia Schroeder, who wanted to award the CIB to female MPs who participated in Panama, we are missing the point. It's not about participation in minor firefights, or about being sucked into the vortex of an intense tank battle. It's about recognizing the burden we place on the infantry grunt, most of whom did not choose to be where they were. The CIB/EIB seeks to (and succeeds in) recognizing the thankless and dirty chore of infantry duty. I tip my Stetson to my infantry brethren. But we do not need their badges or cords. For we have *jined the cavalry*. And that has made all the difference in the world.

The intent of the EAB is noteworthy. Test the skills of tankers and scouts. It is a right and good thing. But the creation of a qualification or a combat recognition badge is completely unnecessary.

ROBERT E. RICKS, III
CPT, Armor
O Troop/3-16 Cav

"World's Champion Tanker" Didn't Want an Armor Badge

Dear Sir:

As seems to happen every time we get a new Chief of Staff, certain parties have recently begun clamoring for an "Armor Badge" similar to the "Combat Infantryman's Badge." It is useful to know how General Creighton Abrams felt about the issue, one he had good credentials for addressing.

Abrams led the 37th Tank Battalion across Europe during the battles of World War II, earning a reputation as one of the Army's top young leaders. Said General George S. Patton: "I'm supposed to be the best tank commander in the Army, but I have one peer — Abe Abrams. He's the world's champion."

Later, serving as Vice Chief of Staff of the Army during one of the periodic efforts on someone's part to get a badge for non-infantrymen, Abrams wrote that "we have not only kept the infantry badge pure but have thwarted every attempt at another badge for other people so that the significance of the infantry badge would continue undiluted." He was not going to change that policy, Abrams said, a stance he continued during his later service as Chief of Staff.

That position was entirely congruent with the original objective of General George C. Marshall in approving a CIB for the infantryman. "I want his role made clear and exalted," said Marshall. That is still a good policy, one that tankers and other soldiers of all arms should support.

LEWIS SORLEY

Editor's Note: Lewis Sorley spent twenty years as an officer in tank and armored cavalry units, and is the author of "Thunderbolt: General Creighton Abrams and the Army of His Times."

Comments on Uniform Items Past and Present

Dear Sir:

My *ARMOR* Magazine is very instrumental in keeping me abreast of the mind-boggling technical advances we are making in my former combat field. It also makes me feel as if I am still "with the program." Although I retired in 1980 after 25 years, I am very active as a 1SG in the South Carolina State Guard... I enjoyed reading the letters regarding the controversy over an Expert Armor Badge and the latest demoralizing decision on berets, and also "Modern German Tank Development" by Rolf Hilmes.

If anyone is counting, chalk up a big yes in favor of the Badge. Since the infantry guys have been sporting their award for years, it's about time that tankers, who draw more fire than those guys in the grass, are authorized to wear something equal in rank and honor. As for the beret... bummer of a decision! It was bad enough to shed the venerable and super sharp ODs, where one could ID a tanker from the gold (earlier green) cap braid, and the fact that we wore our overseas cap on the left. Now we all wear the same generic "bus driver's" AG44 uniform, where no branch esprit is allowed. Now the COS is knocking morale in the head once more by degrading the value of the beret.

In regards to the article on German armor development, I was quite taken back by the way Mr. Hilmes put down the M-47. He makes it sound as if that tank was a poor performer. In my many years working with M-46s, 47s, and 48s, I would have to say that the M-47 was an outstanding tank in regards to maneuverability and dependability. He hit on two major deficiencies in the poor rangefinder system and the high silhouette. The stereo RF was not very good, but the only thing we had at the time. And at 11 ft. high, it did pose a good target. The most devastating deficiency, however, which he did not mention, was the totally absurd, idiotic ammo stowage. There were 11 ready rack rounds and 60 under the turret basket which, in a combat situation, were almost unavailable. A later development did away with the basket and totally revised the ammo system, but the M-47 was then on the way out. Outside of these deficiencies, the M-47 was an extremely maneuverable and dependable tank. The Israelis greatly modified it with the M-60's 105 and fire control, diesel engine, and modified ammo stowage. It was known as the M-47RKM and did exceptionally well against modern Soviet tanks at that time.

Mr. Hilmes really built up the M-48, but failed to compare the original early M-48 with later models. The A2 was still a big, fat awkward boat, but handled like a different tank. The Israelis threw away the M1 TC cupola and installed their Urdan cupola, which I wish we had done. In Vietnam, many M-1 cupolas had a cal .50 pintle welded on so the TC could have a functional machine gun. I disagree with his writing that the 48 surpassed the 47 in dependability and mobility. The 48A1s in Germany had to have racks installed behind the back deck to carry four 55-gal. fuel drums, copied from the Soviets, like the M-48 design was copied from the Soviet JS-3. I doubt that Mr. Hilmes is very familiar with either the M-47 or 48. Reading historical figures and books is not the same as being out there in the mud, ice, and dust, working with the artifact in question.

Thanks for an outstanding publication.

1SG W. CAMPBELL
via email

(Editor's Note: Author Hilmes personal experience as a German tanker goes back to the M-48 days.)

The Fight for Information Persisted Through the Ages

Dear Sir:

I wish to comment on the Commander's Hatch article, "Is Information Superiority All It's Cracked Up to Be?" (March-April 2001 *ARMOR* – Ed.)

Thinking of information superiority as though it is some new 21st century warfighting concept reveals a very shallow understanding of the history of warfare. Of course, information is important. Sun Tzu spelled it out 2,500 years ago. About 1,200 B.C., Odysseus disguised himself in order to enter and collect intel on Troy. The Bible tells us about Moses sending spies into the Promised Land in advance of the main body.

Tank Panel Set for Armor Conference

As part of this year's Armor Conference, there will be an International Tank Panel at Haszard Auditorium, Gaffey Hall, beginning at 1230 on May 22. Experts will make a brief presentation on each of five major main battle tanks, including the Abrams, the British Challenger II, German Leopard 2A5, French LeClerc, and the Russian T-90. Following the presentations, there will be an audience discussion period that will cover future tank requirements in the areas of lethality, survivability, mobility, command and control, and sustainability. The panel and discussion will be unclassified.

The subject matter experts will include LTC Ulf Bartels of Germany, LTC Shaun Wilson of the UK, LTC Martin Klotz speaking on the French LeClerc, COL James H. Nunn on the Abrams, and U.S. LTC John Paulson, who will do the presentation on the Russian T-90.

Sponsoring the event is TSM Abrams, Fort Knox.

Information correlates to security. The better the information the better the security. The problems come with the *accuracy* of the information and *capability* to act on it. Inaccurate reports, failure to detect, misidentification, disorientation, delayed or lost reports, decoys, disinformation, camouflage, counterreconnaissance patrols, and spoiling attacks have hamstrung "information operations" throughout history. And as our technical capabilities improve, so do the enemy's countercapabilities. That's why commanders can never blindly trust their information and must plan contingencies and anticipate surprises and reversals. Likewise, time and distance limit options. If the enemy can redeploy or reinforce faster than you can maneuver and strike, even perfect information helps little other than to suggest aborting the operation. Hence, the timeless need for sequential operations to set the secure base from which simultaneous strikes can be launched.

To suggest that there was an alternative to the "sequential" operations in Tunisia, Sicily, and Italy in WWII ignores real world limitations and the scale of the operation. The Allies could strike in any one of many places, but lacked the assets to launch *and sustain* simultaneous decisive attacks. By comparison, though Ia Drang in Vietnam was a small-scale operation, it plainly demonstrates the risk of trusting information and ignoring sequential operations. The initial airmobile (simultaneous) strike was successful, but was followed by a disastrous ambush due to inadequate security during the return to the landing zone.

Sequential and simultaneous operations are interdependent, not alternatives. Strategic and operational level warfare is sequential, while tactical operations can be simultaneous, and historic examples are countless. The key is to mass overwhelming combat power. The first step in massing is to determine enemy strength. That requires information that is accurate and reliable, and hence the challenge.

So what's new?

CHESTER A. KOJRO
LTC, AR, USAR (Ret.)

"An Infantryman's Thoughts...": A Point-by-Point Critique

Dear Sir:

Consider this letter a "tanker's response" to "An Infantryman's Thoughts on Armor" as appeared in the January-February issue of *ARMOR*. Being personally acquainted with Major Robert Bateman for over 13 years, I never counted myself among his detractors — those individuals he proudly characterizes as "annoyed" readers. On the contrary, I've found the majority of Major Bateman's articles to be interesting and thought-provoking. While I may not have always agreed with some of his assertions, I could not criticize his work on the basis of a flawed or incomplete foundation of facts. In my opinion, his most recent contribution to *ARMOR* completely departs from this sterling record of well-grounded observations.

The "famous triad of armor" cited by Major Bateman is actually "firepower, mobility, and shock effect." The triad is represented by the cannon, the track, and the lighting bolt as seen on the unit patch of the first mechanized brigade at Fort Knox in the late 1930s and the unit patches currently worn by the 1st and 49th Armored Divisions and the U.S. Army Armor Center. In his article, Major Bateman frames his thoughts under the words "armor," "firepower," and "maneuver." His choice of these terms confuses the issue. Having read his remarks carefully, I believe Major Bateman is attempting to address what would more accurately be described as the dynamics of armored fighting vehicles: survivability, lethality, and mobility. Using this terminology for the sake of clarity, several problems with Major Bateman's piece become readily apparent.

1. Survivability. Equating survivability (or "protection" in Major Bateman's words) solely in terms of armor thickness is a long-outdated practice. Survivability of an armored fighting vehicle is more commonly regarded as a synergistic result of several factors. Among these factors are: protection against direct and indirect fire, the ability to destroy the enemy outside the effective range of his weapons system and the capability to quickly reposition one's own system from a position of vulnerability to one which offers the optimal angle of fire. Most professionals who fight from an armored vehicle address survivability in regard to these factors. When Major Bateman asserts that he hears his "armored brethren" speak solely in terms of rolled homogeneous armor when discussing "protection," we can only wonder: who are these anonymous people and how current is their experience in the arena of armored warfare? I know of no tanker or mechanized infantryman who takes such an outmoded and simplistic view of survivability.

According to Major Bateman, our survivability (or "protection" in his parlance) means "jack****" to him "as an infantry soldier." He contends that survivability is "a 'nice to have' that slips in right behind 'mission accomplishment'" and adds that the Armor community should "focus" on the latter. Further on in his article, he states the following: "Without you and your armor, more of my boys will die." How does he reconcile these two statements? An armored vehicle without a crew is useless. A destroyed armored vehicle with a dead crew is equally useless. In light of this, survivability is more than "a nice to have." If Major Bateman is counting on the Armor community to prevent his "boys" from dying, he must recognize that combat-effective vehicles with combat-effective crews must get to the fight. In order to achieve "mission accomplishment," armored vehicles and their crews must survive. Therefore, the dynamic of survivability — in the modern sense of the term — is perhaps an issue that should mean "jack****" to him.

Major Bateman would have us believe that the dynamic of survivability is solely a concern of the Armor community. If he is correct, how does he explain the M2A3 Bradley Fighting Vehicle and "Land Warrior?" Were no improvements made to the Bradley which make the A3 more "survivable" than the A2? Again, let's look at the modern understanding of survivability. The M2A3 Bradley is equipped with second-generation FLIR, allowing it to acquire targets at a greater range than the A2. Does this capability increase not only the lethality, but also the survivability of the A3 Bradley and its crew? If the A3 crew can engage outside the effective range of the enemy's weapons systems, are they better "protected" than before? Of course they are. Is a "more lethal" soldier a better-protected one? If a soldier equipped with the "Land Warrior" suite can observe targets around the corner of a building, this represents an increase in the dynamics of lethality and survivability. As I understand it, both the A3 and the "Land Warrior" do not fall under proponent agencies of the "Armor community." It would appear then, that "other people" besides the "Armor community" are indeed "worrying about Force Protection."

2. Lethality. To a large degree, as has been previously mentioned, the line between the dynamics of survivability and lethality is blurred. A relative advantage gained in one of these dynamics generally results in a residual advantage in the other. On the subject of lethality (addressed in the article as "FIREPOWER"), Major Bateman seems to have a shortsighted view of what armored vehicles can do for him. "Terminal effects" are measured not only in terms of hitting "that fourth floor window," but also in terms of that convoy of trucks carrying dismounts to reinforce that "fourth floor window" and all the other windows around it. If an armored vehicle "can accurately ID and hit" those trucks "at 5 km, or 15 km" outside Major Bateman's city or town, isn't that a greater terminal effect for him and his infantry than the ability to elevate and blast the 4th floor at 250 meters? We need to ensure we're using the right tools for the right job. Have the mortars tackled that building yet? Where are the M203s? Have they been apportioned against that window? These avenues need to be explored and exhausted before bringing *any* armored vehicle in to deal with the problem. Additionally, Major Bateman seems to forget that there are already weapons on certain armored vehicles that can achieve the necessary elevation at the range he cites (i.e., the 25mm on the Bradley).

A final note on lethality. Contrary to Major Bateman's inferences, the current main battle tank of the United States Army can indeed "shoot through walls, or knock down walls or buildings." In the near future, the Armor community will also be fielding a canister round, which, if used correctly, can facilitate the operations of a combined arms team in numerous tactical environments. We can indeed "remodel" a building for you, if that is how you choose to "maximize" our capabilities. No mounted soldier I know "whines" about the use of armor in cities and built-up areas. If anything we may, as thoughtful professionals who are fully aware of the advantages our vehicle brings to the battlefield, question the wisdom of expending such a valuable asset in the pursuit of a "home improvement project."

3. Mobility. In the subsection entitled "MANEUVER," Major Bateman is actually discussing mobility, not maneuver. He talks exclusively about getting from Point A to Point B, mentioning nothing about fires (supporting or otherwise); his use of the operational term "maneuver" is therefore inappropriate. He limits his discussion of mobility to the strategic and operational levels of war and I will do the same. Major Bateman assures us the "either the Navy or the Air Force will take us to the dance." Will they really? Do they have the requisite number of lift aircraft or roll-on/roll-off ships to carry a sizeable force to any dance, anywhere at anytime? Ignoring the subject of heavy armor for a minute, what can they do? How many light armored vehicles can they carry at this exact moment? What size force does that translate into? I purposely used the word "can" and not "could." I'm not interested in what "could" be accomplished, as that generally entails prerequisites that are infeasible (i.e. *if* we used every aircraft in the fleet we *could*....). I want to know what they *can* do right now. I suspect that the answer would cause Major Bateman to be a little less confident in transportation to "the dance." My point is not to cast aspersions on our sister services. I do believe, however, that strategic mobility is not simply the responsibility or purview of the "Armor community." Maybe the Army is not the only service that should explore force structure transformation.

Regarding operational mobility, what threat is Major Bateman's force facing? Heavy, modern, world class armor? Then bridges are not a problem; the enemy must be able to cross them as well. Granted, if he's equipped with former Warsaw Pact equipment, those bridges will require some improvement to accommodate our armor. It should be noted, however, that this was the same problem we faced in Central Europe for years outside of the Federal Republic of Germany during the Cold War. Had a limited counterattack been necessary into the German Democratic Republic back then, we were prepared to reinforce the bridges. Why are we so resistant to this potential necessity now? Obsolete armor? Light armor? Theoretically, defeating such a threat should be within the capabilities of the intermediate force; bridging is not an issue in this scenario.

Major Bateman gives considerable shrift to logistical support for an armored force. Unless someone develops a solar-powered armored fighting vehicle, any mechanized force (tank, Bradley or LAV-equipped) is going to require fuel. That being said, is Major Bateman aware of the various measures currently being implemented by the "Armor community" in order to decrease the length of our logistical tail? One of these initiatives is the Abrams-Crusader Common Engine Program. Through this program, every tank in the fleet will be retrofitted with a new turbine engine. The newer engines have a higher rate of reliability and fuel-efficiency (resulting in reduced CLIX demands and lower fuel consumption rates for a deployed force).

As a final comment on "An Infantryman's Thoughts on Armor," I should like to roundly reject Major Bateman's characterization of the Armor community's response to transformation. As an Armor officer I take exception to his accusation that we, "as a branch," are not supporting transformation "100 percent." He would do well to avoid sweeping generalizations, particularly those pregnant with inferences of recalcitrance (at best) and disloyalty (at worst). I believe that the Armor community has embraced the idea of a force that would bridge the current gap between light and heavy units. Has there been professional discussion and debate on the topic? Absolutely. Most of this discussion revolves around system platforms for the force and is framed in the dynamics of survivability, lethality, and mobility. Is such discussion healthy and appropriate? Absolutely. Among professional soldiers, constructive discourse is always healthy and should not be confused with recalcitrance. I would think, that given his long history of (frequently controversial) literary contributions to the profession, Major Bateman, above all others, would understand the difference.

RONALD J. BASHISTA
MAJ, Armor
Fort Hood, Texas

Correction

An article in the March-April issue of *ARMOR* ("Armor, Cavalry, and Transformation...") stated that the new Long Range Advanced Scout Surveillance System (LRAS3) could be used to designate targets for laser spot-homing weapons like the Copperhead artillery round and Hellfire missile. This is not correct, as the present version of the LRAS3 does not have this capability.

Table X from Page 36

Cavalry Table X was a great training event for our squadron, and the methodology and insights we hope will be useful across the Armor and Cavalry community. Most importantly, the exercise highlighted once again the fundamentals of METT-T analysis, PCIs, rehearsals, battle drills, and noncommissioned officers leading from the front. The focus on scout sections, the fundamental maneuver unit in the squadron, and the level at which information is won or lost, also enabled the squadron leadership to get a first-hand assessment of the quality of training at that level.

MAJ Christopher D. Kolenda is currently the regimental S3, 2nd Armored Cavalry Regiment, after serving as the S3 of 3rd Squadron. A 1987 graduate of the Military Academy, his assignments include tank platoon leader, scout platoon leader, and troop XO in 3rd Squadron, 11th ACR. After the Advanced Course, he was the squadron motor officer of 1-7 Cavalry, then commander of A Troop, 1-7 Cavalry at Fort Hood, Texas. He holds a Master's Degree in History from the University of Wisconsin-Madison, and taught History at the United States Military Academy.

CPT Raymond C. Zindell is commander, K Troop, 3/2 ACR, after recently serving as the assistant S3 of the squadron. He is a 1995 graduate of Gannon University in Erie, Pa., with a BA in Criminal Justice. His assignments include tank platoon, task force scout platoon leader, and battalion liaison officer for 1st Battalion, 63rd Armor in Vilseck, Germany.

SSG Mark A. Aide is the senior small group instructor for 1st Platoon, 19D BNCOC at Fort Knox, Ky. He recently was the master gunner of 3/2 ACR. He served in Desert Storm with HHT, 1st Squadron, 4th Armored Cavalry (Division Cavalry) out of Ft. Riley; as a section sergeant with B Troop, 3rd Squadron, 4th Armored Cavalry (Division Cavalry) in Schweinfurt, Germany; and as a section sergeant and platoon sergeant with I Troop, 3rd Squadron, 2nd ACR at Ft. Polk.

REVIEWS

Dunkirk Defeat Was a Factor in Final Victory

Dunkirk: From Disaster to Deliverance, Battleground Europe Series, by Patrick Wilson, Combined Publishing, Conshohocken, Pa., 1999, 192 pages, maps, photographs, bibliography, index, ISBN 1-58097-046-X, $16.95 (paper).

On 5 June 1940, as the last of 338,226 defeated British and Allied soldiers escaped continental Europe through the French port of Dunkirk, Winston Churchill held no illusions. "We must be very careful not to assign to this the attributes of a victory," he warned. "Wars are not won on evacuations." True enough, yet because it made further resistance to Hitler possible, the "Miracle of Dunkirk" — Operation Dynamo — quickly assumed some of those attributes and has retained them. In this latest of the *Battleground Europe* series, Patrick Wilson not only demythologizes the Dunkirk experience but provides an up-to-date, well illustrated, and easy-to-follow battlefield guidebook.

Readers not already familiar with the events of May and June 1940 will find enough historical background on the Phony War and Case Yellow in the opening chapter. Here, Wilson's myth-busting sometimes relies on German commentaries, for example, Heinz Guderian's view of the much heralded British stand at Calais as irrelevant to the action at Dunkirk. Next comes a three-chapter recapitulation of the fighting along the escape corridor and on the perimeter, in which Imperial War Museum Sound Archives interviews of Dunkirk veterans figure prominently. Only with the strategic and operational contexts set do we see the Dynamo evacuation, first from the beaches east of Dunkirk and then from the eastern mole at Dunkirk harbor. A separate chapter focusing on the Royal Navy's perspective emphasizes the immense logistical problems.

Although Dunkirk was not a tanker's fight, *ARMOR* readers will appreciate this book's numerous glimpses of leaders under stress. Lord Gort made the "miracle" possible in the first place by withdrawing his British Expeditionary Force to the coast on his own authority rather than reinforce a doomed French army. Over the next two weeks, as infantry platoons along the escape corridor fought from encirclement and depleted battalions hunkered down on the perimeter, few expected a successful evacuation; when the BEF deployed to France, there had been no contingency plan for one. Once the need became apparent, Churchill predicted that only 30,000 soldiers would escape. And if many of those soldiers hoped that they would be the lucky ones, all knew the defeat was a certainty. In these circumstances, many officers and men rose to the challenge, as the mythology of Dunkirk has long held, but others — not all of them French or Belgian — "lost it." In numerous cases, officers averted mass panic only by shooting disobedient troops and, as the BEF boarded ships for home, beach masters sometimes shot combat arms officers who attempted to rush the gangplanks ahead of their men.

Readers wishing to track down the author's sources will have trouble with his partial citations. Also, because this history book is also a guidebook, a few current full-page color maps would have helped. Those shortcomings aside, however, Wilson has provided a brief but well-balanced history, and one that makes the wages of poor discipline and poor planning abundantly clear.

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Panzertaktik: German Small-Unit Armor Tactics by Wolfgang Schneider, translated by Fred Steinhardt, J.J. Fedorowicz Publishing, Inc., Winnepeg, Canada, 2000, 512 pages, 600+ black and white photographs, with maps and diagrams, $85.00 (hardback), ISBN 0-921991-52-5.

Panzertaktik is a large book covering a broad topic — German armor tactics at battalion level and below during World War II. The author organized the book along the same lines as our *FM 71*-series of tactics manuals, with chapters covering the offense, defense, unit movements, and reconnaissance, as well as command and control, logistics, and training topics.

Each chapter contains a brief introduction of the topic, followed by a detailed description of formations, tactical principles, and common phases of that type of mission. Several maps or sketches of German battle plans reinforce the tactical doctrine described in the text. The sketches are annotated in German, with English captions. Numerous photographs follow each chapter, again with English captions describing a tactical point of emphasis.

The book accomplishes its mission of describing German small unit armor tactics. It clearly explains the "how-to" of small unit operations. But it does not back up the textbook-style descriptions with examples of these tactics in use. Each sketch describes a tactical plan, but does not show the results of the execution of that plan, or the things that went right and wrong with the particular implementation of armored tactics. The reader must refer to other sources for examples of these tactics in actual use.

The highlights of this book are the numerous photographs at the end of each chapter. They show German tanks and soldiers in action, with a caption describing what is right or wrong with the scene displayed. For example, a photo of a tank column approaching a burning village includes in the caption "Tanks have no business there!" (p. 53) The author does not, however, consistently identify the equipment, unit, or operation shown in each photo. The foreword does state that the book assumes that the reader understands German ranks and vehicle terminology.

This book provides an excellent background on German armor tactics at battalion level and below. It adds a valuable theoretical background to the existing works describing specific battles or units. The many photographs of tanks and soldiers in action also make this book worthwhile to modelers and anyone interested in a close-up look at the German Army in World War II .

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Men of Steel, I SS Panzer Corps, The Ardennes and Eastern Front, 1944-45 by Michael Reynolds, Sarpedon, New York, 1999. Maps, Acknowledgments, Preface, Guide to Abbreviations and German Words, Author's Note, Appendices, Bibliography, Index, 354 pages, $27.50.

Men of Steel, by Michael Reynolds, is the second in a series of books about the 1st SS Panzer Corps and its subordinate units, the 1st and 12th SS Panzer Divisions. The book focuses from the Battle of the Bulge until the end of the war. Reynolds also dedicates a chapter to the leaders of the units after the war, to include captivity and war crimes trials. As both books have related subjects, Reynolds covers some of the same topics from the previous book. With this book, Reynolds completes, within limits, the history of the 1st SS Panzer Corps.

Reynolds draws on Allied and German accounts to detail the actions of the corps from the Bulge to the end of the war. He includes a guide to abbreviations and German names to assist the reader. In the second half of the book, which concerns

combat against the Soviets, he uses comparable unit size designations to provide a clear force comparison. For example, the Soviet First Guards Tank Army (Corps) relates the size of Soviet units to German units. There are numerous maps and photos throughout the book. Many of the photos are from the author's personal collection and show most of the senior leadership mentioned in the book. The maps are more like illustrations, consolidated at the end of the book. This arrangement makes for awkward reading, if one refers to the maps as they apply to the text. Reynolds also uses official unit histories, personal diaries, and other historical references to complete this work.

The strengths of this book are obvious. Reynolds has done an excellent job of recounting the history of not only the 1st SS Panzer Corps, but the two subordinate divisions as well. He meticulously details the unit strengths and activities by cross checking his sources and getting the right information. Along with this attention to detail, Reynolds sorts through the sources and determines what actually may have occurred if events are unclear or information conflicting. He also corrects any mistakes in his sources or personal accounts, revealing a much more realistic account than most previous works. While sorting through these sources, limited more so on the Eastern Front, he maintains fairness toward the units. He mentions the atrocities of individuals or leaders. He does not ignore the war crimes committed by the leaders and units. This approach leads to a stark, telling account of the awesome challenges faced by a unit in continuous combat on two fronts in the final months of World War II.

The only real shortcomings in this book stem from the arrangement and use of the maps and some speculation forced by source limitations. The maps, despite an apology from the author, are all at the end of the book. This forces the reader to flip from his reading to reference a map. Also, the maps are numbered and arranged chronologically. However, in some instances the references in the text do not follow the numerical or chronological sequence, making visualization even harder for the reader. The other shortcoming comes from the nature of the book itself. The author had already covered the corps' Ardennes history in a separate work. Yet, he dedicates half of the book to this same campaign. The only new material that comes from this effort, are a couple of corrections from the previous account or new source information. The book at this point feels more like a supplement than a new work. The second half of the book regarding the Eastern Front suffers severely from a lack of information from both combatants. Reynolds works very hard to give as complete an account as possible, but the lack of information leaves the reader wanting more detail. He does not have enough information to provide a detailed account comparable to the Bulge portion of the book.

I recommend this book to all readers. Reynolds provides great insight into a unit fighting in terrible conditions. He manages to take the unit strengths and weaknesses and presents them in such a way that readers can feel the desperate situation of the 1st SS Panzer Corps at the end of World War II. Despite the stated shortcomings, his history still opens up new facts about the last months of the war outside of Germany. *Men of Steel* completes his series on the 1st SS Panzer Corps, not by breaking new ground, but by completing the story he started in his first book.

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Providence Their Guide, The Long Range Desert Group, 1940-45 by Major-General David Lloyd Owen, CB, DSO, OBE, MC; Leo Cooper, Barnsley, South Yorkshire, Great Britain; 2000; 238 pages, $36.95 (hardback).

First published in Great Britain in 1980 by George G. Harrap & Co., this is a revised edition 2000 imprint of Pen & Sword Books, 47 Church Street, Barnsley, South Yorkshire, S70 2AS, Great Britain.

As the title indicates, the Long Range Desert Group (LRDG) existed from June 1940 until August 1945. The book covers the organization and operations of the LRDG during its limited life span in the Mediterranean theater during World War II. A very special force, its very specialization led to its short history. This story of its life, almost a legend, tells in a straightforward manner the invaluable, often heroic, seldom widely recognized, service rendered to the British commands that it served.

The book also tells of the fate that can befall such a specialized organization. Once it fulfilled its original mission, as the LRDG certainly did in a superb manner, to radically change its basic organization and mission was not an easy task. Particularly if the higher command echelons fail to understand its capabilities and limitations.

The concept for such an organization was that of Major (later Brigadier) Ralph Bagnold, a British officer with extensive experience and knowledge of the little known African deserts. In the Mediterranean theatre of World War II, both friendly and enemy land forces operated relatively close to the coast of Northern Africa, avoiding the vastness of the deserts to the south. Bagnold's concept, in brief, was that a long-ranging reconnaissance force could take advantage of the unused desert areas to travel deep into the enemy rear to keep the British command informed of what the Italians (and later on the Germans) were doing and create a threat to their lines of communications. General Wavell approved Bagnold's ideas in June 1940 and directed that he be given full support and a free hand in the formation of the units for this mission.

Bagnold developed four fundamentals for the formation and operations of the LRDG units: the most careful and detailed planning, first class equipment, a sound and simple communication system, and selected high quality personnel. The total authorized strength was 25 officers and 278 other ranks. Approved in June 1940, the first reconnaissance patrols departed in September 1940. The patrol structure — personnel, equipment, and general operating techniques — are covered in the interesting Chapter 2 of the book.

Operational patrols are covered in Chapters 3 through 11. Their wide-ranging travels covered areas of Egypt, the Sudan, Libya, Chad, Cyrenaica, Tripolitania, and Tunisia. Operating initially from Egypt, forward bases were established at various times at Fayoum and Siwa (Egypt), Kufra (with Free French help) and Jalo in Libya, and Zella and Hon in Tripolitania. At times the patrols operated as far as 800 miles behind enemy lines. In fact, the base at Kufra was 800 miles from Cairo. Record patrols were one of 2,500 miles and another of 3,500 miles total travel.

With the end of German resistance in North Africa in 1943, the original role of the LRDG was no longer valid. The change in role was a major one. The unit was to be reorganized in small elements capable of operating on foot for a distance of 100 miles behind enemy lines while accomplishing their reconnaissance mission. They would carry a ten-day food supply and their communications equipment on their backs. New training was required, including mountain crafts, skiing, parachuting, and the German and Greek languages. Numerous changes in personnel were required by this mode of operation. The LRDG adventures and misfortunes in the new role are covered in Chapters 12 through 20.

The first operational missions were involved with the Aegean Campaign of September-November 1943. The LRDG now started moving by sea rather than sand. Island hopping from Castellarosso to Leros to Calinos, the unit there received, on 3 October, orders to attack, using locally obtained boats, to recover the island of Cos on which the Germans had landed in force. Cos was some 30 miles long and the LRDG numbered less than 300 men. These orders were soon cancelled, and the LRDG returned to Leros Island. From here, patrols were sent out to various islands to report on enemy air and ship movements. Next, the unit was ordered to retake a small island called Levita, supposedly held by a few Germans. Limited to a force of 50 men for this operation, only eight were recovered with the Germans still holding the island. On 12 November the Germans landed on

Leros and five days later were in complete control. About 70 LRDG personnel escaped from the island after the surrender.

In December 1943, the LRDG was reorganized again as two squadrons, each of eight patrols of one officer and ten men. Unit training began in January 1944, to include small boat handling, mountain warfare, and parachuting. These were initially to be employed in Italy. By late February, 1944, the unit had been moved to Italy. After a number of operations in support of Eighth Amy had been planned and then cancelled, the LRDG became associated with Force 266, an organization coordinating support for the partisans in the Balkans. The first operational patrol went out in May to the Corfu area. Patrol missions ran the gamut from location and destruction of a radar site, with Royal Navy assistance, to arranging support for partisans. Operations continued successfully in Yugoslavia, the Dalmatian Islands, Albania, Istria, and Greece until the Communist influence in the partisan units began to interfere with the patrols, even to the extent of arresting members under various pretexts. By late April 1945, the patrols were all withdrawn, except for one in Istria which remained to the end of the war.

As the war was about to end in May 1945, Allied Forces Headquarters in Italy recommended the LRDG go as a unit to the Far East. On 16 June, the War Office requested it be returned to England as a unit, regroup and have leave. But less than a week later, the War Office ordered the unit disbanded.

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War in the Pacific: Pearl Harbor to Tokyo Bay, edited by Bernard C. Nalty, Technical Advisor: Russ A. Pritchard, Salamander Books Limited, London, 2000, 304 pages, $27.96 online.

The attack on Pearl Harbor and VJ Day are defining dates in American history. This book acts as a perfect starting point to understand the importance of these dates and the intricacies of the battles between them. The authors explain the origins of the Pacific conflict from an American perspective, illustrate the battles with some detail, and explain Japan's capitulation. This volume is also a good reference for those who are more familiar with the subject.

Because the book does not contain any form of reference notation, readers may assume that it is not a scholarly work. On the contrary, the historical basis of this book is very sound. The authors of the chapters are reliable and, in most cases, acclaimed military historians. The editor and author of five chapters, Bernard C. Nalty, is a member of the Office of Air Force History and a former member of the Marine Corps Historical Branch. Russ A. Pritchard, the technical advisor, serves on the Board of Governors for the Civil War Library and Museum and is a consultant for the Museum of the Confederacy in Richmond. Furthermore, there is a substantial bibliography of solid sources, although most of them are not primary in nature.

There are 116 color illustrations and 214 historical photographs — each one appropriate and of high quality. The maps are exceptionally useful and plentiful throughout the book as are the historical photographs and illustrations. There are also numerous pictures of individual equipment with a corresponding description; thus, the reader can visualize the appearance of the soldiers, sailors, and airmen of all belligerents. As a whole, the graphic aids really make this book.

Most one-volume histories are rarely worth owning; however, this book is an exception. Whether you are unfamiliar with the war against Japan or you want to know what the U.S. rifle Model 1903A1 used at Guadalcanal looked like, this book is well worth having in your professional library.

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Doniphan's Epic March: The 1st Missouri Volunteers in the Mexican War by Joseph G. Dawson III, University of Kansas Press, Lawrence, Kan., 1999; xii & 325 pages; $35.00.

What is so significant about a book that focuses on the exploits of one volunteer colonel and his regiment of Missouri volunteers during the Mexican War? Colonel Alexander Doniphan's campaign through Colorado, New Mexico, and Old Mexico is not the most widely known exploit in that conflict, and it did not include trials and tribulations that are exceptional in the annals of military history. But Joseph G. Dawson, Associate Professor of History at Texas A&M University, is correct in emphasizing the significance of this small campaign. In *Doniphan's Epic March: The 1st Missouri Volunteers in the Mexican War*, Dawson relates the story of this forgotten campaign. It is not, however, through a one-dimensional narrative that the author captivates the reader. The modern military officer will find Doniphan's actions enlightening and his ideas relevant to present-day concerns. This campaign not only provides a lesson in the ingenuity and determination of a committed commander, but, more importantly, demonstrates the importance of a strong relationship between professional military leaders and volunteer force commanders in developing a successful civil-military operation.

The title of the book is somewhat misleading in that this is not solely the story of Doniphan on campaign, but the story of the operations of the 1st Missouri Regiment. Doniphan led the regiment, to be sure, but Dawson focuses more on the unit and the integration of volunteer soldiers into the regular army apparatus. While there were problems during the service period of these troops, such as lack of discipline and problems with local authorities, Doniphan and his subordinates must be commended for curbing any serious breaches of discipline. Doniphan's mutually respectful relationship with his immediate commander, Brigadier General Stephen W. Kearny, contributed to success in maintaining discipline. Kearny was quite willing to give his subordinate wide latitude in commanding his troops, while Doniphan was eager to learn from his professional superior. Dawson writes that Kearny served as Doniphan's "tutor and mentor as well as commanding officer," and exerted a "positive influence on Doniphan's military service."

Study of the campaign also contributes to the understanding of civil-military affairs at a time when the concept was unknown. As Dawson notes, "no one in the 1840s could call Doniphan's experiences textbook examples of military government because they were the earliest of their kind and predated the textbooks." The critical importance of a just and fair military government was apparent as Doniphan led his small army through a number of hostile towns, such as Santa Fe, El Paso, and Chihuahua City, which needed to somehow be pacified and negated as a potential threat to American interests. The best example of Doniphan's work in this regard is his creation of the Kearny Code of military law for occupied territories, which "formed the foundation for the [New Mexico] territory's transition to democracy."

There are few faults in this work, none of which detract from its overall worth. The one map of the entire campaign is very basic, and has minor discrepancies with dates and locations. Also, there is little examination of Doniphan's leadership in battle. These, however, are tangential issues to the ultimate importance of this man and his campaign. Dawson articulates and relates the challenges of leading a volunteer force, the importance of good civil-military relationships, and the problems of setting up successful military governments throughout a long military campaign. By analyzing Doniphan's campaign in this light, one both arrives "at some conclusions about how America won its first overseas war and how Mexico lost half of his dominion," and learns how American professional soldiers can work with their counterparts called up in time of crisis.

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Steel Beasts by eSim Games. Price $39.95 plus shipping. (For more information, a demo, or to order, go to *www.esimgames.com).*

System Requirements: 266 Mhz Pentium, 32 MB RAM, 2MB SVGA card, 220 MB available hard disk space, Mouse, CD-ROM, Microsoft Windows 95 or Windows 98 installed, Microsoft DirectX version 7.0 (or better) installed. Joystick recommended, but not required. Network card or modem required for multiplayer.

Reviewer's Platform: Celeron 466 Mhz, Windows 98, 128 MB RAM; Voodoo 3 2000 Video card; 24x CD-ROM.

For those of you who have been searching for a realistic, challenging, useful, and detailed PC-based tank simulator, your search is over. The game is Al Delaney's *Steel Beasts,* currently available exclusively online at *www.shrapnelgames.com.* Buy it now. You will not be disappointed.

Steel Beasts allows the player to command (and gun) from both the M1A1 and the Leopard 2A4. The game accurately models both the obvious and the subtle differences between the tanks so well that the in-game differences are not just cosmetic. The two steel beasts prove to be vastly different, and require different tactics for success — not to mention different gunnery and threat detection techniques. Both tanks are a joy to play, as each has been lovingly detailed by real-world tankers who know and love their respective tanks.

Players will command either (or both) of these types of tank in single missions which range from platoon- to battalion-size. The simulation models the gunner's control panel (with working switches), GPS, unity sight, and GAS (both sabot and HEAT reticles); and the GPSE (periscope on the Leo) and TC's position (buttoned and unbuttoned) for each of the tanks. Neither the driver's nor loader's stations are modeled. Exterior views are available for all friendly vehicles, the list of which is pretty inclusive, and growing steadily with each patch. Except in certain scenarios, the player can command all friendly vehicles, but currently the only interior positions modeled are for the Abrams and Leo.

In practice, players will spend a good deal of time at the powerful map screen setting waypoints and watching the developing tactical situation as spot reports come in. When designating routes for friendly units, a variety of command features allows you to order units to move at various levels of aggression; to set default reactions to contact; and to set speeds, formations, and spacing. A good example would be a route where you set the unit tactics to SCOUT. In this mode, the selected unit (whatever its composition) will move slowly along the route, stopping periodically to scan from the halt. The unit will not engage enemies with direct fire unless they are themselves engaged; rather, upon enemy contact, the unit will seek a turret-down position and call artillery on the enemy unit — all without further orders from the player. At long last, computer-controlled units can be trusted to react intelligently and thoroughly according to the orders you give them.

A powerful "triggers" feature further allows you to pre-plan responses for your units based on enemy or friendly actions, locations, damage levels, composition, disposition, or strength. In the rough equivalent of sending out a code-word on the FM, you then only need to activate the trigger to have your selected units take any of a series of actions. The customization available means that with a little effort, you can practically give your AI an OPORD — and expect them to follow your orders effectively.

Gunnery plays out very well and, true to form, *Steel Beasts* gunnery is hyper-realistic. Round trajectories, ranges, and efficacy vary by type, and seem to be accurately modeled in all respects. One nice feature of the gunnery is a palm switch button: M1A1 gunners actually must dump lead between engagements, or accuracy will degrade, just as it should. Other subtle touches are equally nice: when in the gunner's seat, you must manually switch between Sabot and HEAT if the computer-controlled TC designates a new ammunition type.

Edward Williams deserves recognition for his work on the *Steel Beasts* sounds. Inside the tank, you will hear the turbine whine; the TIS clack; the turret brake squeal with sharp maneuvering; the hydraulics kick in appropriately; the breach slamming shut and open; AFTCAPs clanging around; and rounds impacting the tank. When the TC reloads his .50 after firing a box of ammo (yes, 100 rounds each), you will clearly hear each and every step in the reloading process, even the box of ammo being sprung open. AI gunners and TCs call out proper fire commands and procedures: and they won't just say "FIRE!" or "ON THE WAY!" either. You will hear them announce "GUNNER SABOT TANK!" or even "GUNNER HEAT TANK, FIRE, FIRE SABOT!" as well as "CALIBER FIFTY!" and "TC COMPLETE!" When you are on the move, the TC actually issues abbreviated fire commands. And by the way, there is a delay between the flash of a weapon firing and the sound of it going off. As you can imagine, all of this makes the immersion factor in *Steel Beasts* go through the roof. No tank sim has even come close to this level of detail and excellence in sound.

Steel Beasts includes several features tankers have always dreamed about in a tank sim. For example, the drivers are actually intelligent: they can automatically seek out hull-down positions; they will automatically conduct berm drills while you engage enemy vehicles and move out of the beaten zone of artillery strikes (No, I am not making this up). Forests consist of individual trees that can be, well, driven through, adding a hefty dose of realism to the virtual world. Vehicles which skyline themselves will be more easily spotted by AI gunners. Artillery includes smoke, HE, ICM, and FASCAM; players can easily make fire missions point or area targets. Damage modeling is sophisticated and thorough: if you lose your hydraulics, you must put the FCS into manual and repeatedly tap the arrow keys to move the main gun, simulating turning the manual cranks. Finally, and you may not have always dreamed about this one, infantry in *Steel Beasts* are both useful and dangerous. Hard to spot and bearing some dangerous weapons, they can really ruin your day.

Multiplayer tanking also reaches new levels in *Steel Beasts.* Not only can you and your buddies play as wingmen: one of you can gun while the other plays TC in the same tank. Other options include head-to-head (M1/Leo vs. OPFOR, or M1/Leo vs. M1/Leo) or even "death match" in arena-like maps. By far, I most enjoyed multiplayer games where one player acted as CO (with his own track, of course) while others commanded platoons and sections of that company/troop/team. Players can even send graphic control measures to the other players for some truly realistic interaction. LAN and Internet play are possible for a large number of players; and net play is rock-steady, even over phone lines.

OK, so it's not perfect.

Steel Beasts currently does not support air units of any type. Frankly, you won't miss them (I usually pretend that budget restrictions have grounded all aircraft). Anyway, future editions of the game may include air units. There is no campaign mode, the inclusion of which might have been nice, but the stand-alone missions are much more detailed and creative as a consequence. Also, some people complain about the graphics and, admittedly, they are a little blocky. Yet the overall effect looks and feels so real that you probably won't mind at all. All in all, however, the shortcomings of this game are minor in contrast to the outstanding virtues in gameplay and realism.

In short, *Steel Beasts* belongs on every tanker's PC. Unlike previous civilian tank simulation offerings, *Steel Beasts* even has solid training value for gunners and TCs (anyone else kind of tired of COFT?) as well as for platoon-, company-, and troop-level tactics training. Add to all of this an incredible mission editor that allows for custom map and scenario building, and you have the tanker's dream for a PC tank simulation.

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Threat Branch
Fort Knox, Kentucky

Stridsvagn 122

Swedish Main Battle Tank*

Threat Branch
Fort Knox, Kentucky

Characteristics

Crew Size	**4**	**Max Road Range**	**470km**
Combat Weight	**62,000kg**	**Fuel Capacity**	**1,200 liters**
Height (to turret top)	**2.64m**	**Max Road Speed**	**72km/h**
Length (gun forward)	**9.97m**	**Armament (main gun)**	**120mm**
Length (gun rear)	**8.74m**	**Armament (coaxial)**	**7.62mm**
Width (over skirts)	**3.81m**	**Armament (anti-aircraft)**	**7.62mm**

Using countries: Sweden *** Swedish Army designation for Leopard 2-S (Leopard 2A5)**

Photographs courtesy of 1st Lt Mattias Brehag, Swedish Army

Poster produced by Threat Branch, USAARMC, Fort Knox, Kentucky 40121 19 January 2001

A color version of this poster appears on the Threat Branch website at: *www.knox.army.mil/center/threat/intel.htm.*

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